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

TSGRP#7(00)0099

Title: **Agreed CRs to TS 25.423**

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
R3-000028	25.423	003		Editorial Improvements of RNSAP version 3.0.0	D	agreed	3.0.0	3.1.0
R3-000254	25.423	004		Editorial changes to 25.423	D	agreed	3.0.0	3.1.0
R3-000026	25.423	005		Missing BLER in RL RECONFIGURATION REQUEST	F	agreed	3.0.0	3.1.0
R3-000218	25.423	006		Adding of the PCCPCH Power within Neighbouring TDD Cell Information	F	agreed	3.0.0	3.1.0
R3-000227	25.423	007		Aligned definition of reported measurement values concerning ranges and resolutio	F	agreed	3.0.0	3.1.0
R3-000126	25.423	008		RNSAP extendibility	C	agreed	3.0.0	3.1.0

R3-000016	25.423	009		Repetition of compressed mode information elements.	F	agreed	3.0.0	3.1.0
R3-000255	25.423	010		Changing Eb/N0 to SIR	B	agreed	3.0.0	3.1.0
R3-000139	25.423	011		TPC Step Size defined for TDD	F	agreed	3.0.0	3.1.0
R3-000385	25.423	014	1	Removal of an out of date statement about a specifc order of IEs within RNSAP messages.	F	agreed	3.0.0	3.1.0
R3-000083	25.423	013		Addition of DRX description in Paging procedure description text and addition of new information elements in PAGING REQUEST message.	F	agreed	3.0.0	3.1.0
R3-000299	25.423	015		Modification to RADIO LINK ADDITION procedure and related parameters	F	agreed	3.0.0	3.1.0
R3-000351	25.423	016		Rearrangement of Neighbouring Cell Information	F	agreed	3.0.0	3.1.0

				group				
R3-000483	25.423	021		Clarification of UL/DL signalling transfer proc. and Uu interface	F	agreed	3.0.0	3.1.0
R3-000488	25.423	023		Clarification on measurement characteristics	C	agreed	3.0.0	3.1.0
R3-000493	25.423	024		Alignment to R3 definition of puncturing limit range and step size	F	agreed	3.0.0	3.1.0
R3-000536	25.423	035		Introduction of ‘Presence’ information element for Extension	F	agreed	3.0.0	3.1.0
R3-000466	25.423	038		Clarification on the "BLER" parameter	F	agreed	3.0.0	3.1.0
R3-000511	25.423	027		Enhancement of the description of the message type IE	C	agreed	3.0.0	3.1.0
R3-000472	25.423	017		Primary CPICH Power	C	agreed	3.0.0	3.1.0

3GPP TSG-RAN Meeting #7
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***Document* R3-000028**
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.

25.423	CR	003	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	for approval	X	Strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*

(U)SIM		ME		UTRAN / Radio	X	Core Network	

Source: TSG-RAN WG3 **Date:** 24-28 Jan. 2000

Subject: Editorial Improvements of RNSAP version 3.0.0

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
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	X		Release 99	X
				Release 00	

Reason for change: The current version of RNSAP contains some editorial deficiencies and incorrect descriptions that need to be corrected.

Clauses affected: 2, 3.3, 5.2, 6, 7, 8.1, 8.2.1, 8.2.2, 8.2.3, 8.3.1, 8.3.2, 8.3.4, 8.3.7, 8.3.8, 8.3.11, , 8.3.15, 8.4.2, 9.1.2, 9.1.3, 9.1.4, 9.1.6.1, 9.1.7.2, 9.1.11.1, 9.1.18, 9.1.19, 9.1.19.2, 9.1.36.1, 9.1.38, 9.2.1.7, 9.2.1.8, 9.2.1.11, 9.2.1.16, 9.2.1.38, 9.2.1.53, 9.2.1.55, 9.2.1.57, 9.2.1.61, 9.2.2.2, 9.2.2.7, 9.2.2.9, 9.2.2.11, 9.2.2.16, 9.2.2.18, 9.2.2.20, 9.2.2.22, 9.2.2.35, 9.2.3.1, 9.2.3.5, 9.3.4, and 9.4.

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:

3G TS 25.423 V3.0.0 (2000-01)

Technical Specification

3rd Generation Partnership Project;
Technical Specification Group Radio Access Network;
UTRAN Iur Interface RNSAP Signalling
(3G TS 25.423 version 3.0.0 Release 1999)

Reference
3TS/TSGR-0325423U

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Postal address

3GPP support office address
650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet
http://www.3gpp.org

Contents

Foreword

This Technical Specification has been produced by the 3GPP.

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

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 Indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document specifies the radio network layer signalling procedures between RNCs in UTRAN.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[1] 3G TS 25.413: "UTRAN Iu Interface RANAP Signalling".

[2] 3G TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams".

[3] 3G TS 25.427: "UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams"..

[4] 3G TS xx.yyy: "Specification containing different Identifiers for UMTS (to be identified)".

[5] 3G TS 25.101: "UE Radio transmission and Reception (FDD)"

[6] 3G TS 25.~~105~~102: "UTRA (~~BS~~UE) TDD; Radio Transmission and Reception".

[7] 3G TS 25.211: "Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)".

[8] 3G TS 25.212: "Multiplexing and Channel Coding (FDD)

[9] UMTS 25.214, Physical Layer Procedures (FDD)".

[10] 3G TS 25.215: "Physical Layer – Measurements (FDD)".

[11] 3G TS 25.221: "Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)".

[12] 3G TS 25.223: "Spreading and Modulation (TDD)".

[13] 3G TS 25.225: "Physical Layer – Measurements (TDD)".

[14] 3G TS 25.331: "RRC Protocol Specification".

[15] 3G TS 25.402: "Synchronisation in UTRAN, Stage 2".

[16] X.680 (12/94): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[17] X.681 (12/94): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification

[18] X.691 (12/94), Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".

[Editor's note: The dating of reference [18] needs to be verified. It has been included from the ITU-T list of recommendations in force. The dating of the reference is FFS.]

[Editor's note: The reference [4] needs to be identified. Until then the description of the parameters CN PS Domain Identifier, CN CS Domain Identifier, and CRNC ID contains more information than otherwise may be needed.]

3 Definitions, symbols and abbreviations

3.1 Definitions

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

Elementary Procedure: The RNSAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between two RNCs. 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 RNSAP is FFS. To de sorted out when discussing the details of the error cases.

Class 2 EPs are considered always successful.

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~~
BLER	Block Error Rate
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel
CCTrCH	Coded Composite Transport Channel
CFN	Connection Frame Number
CN	Core Network
CRNC	Controlling RNC
CPICH	Common Pilot Channel
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRNC	Drift RNC
DRNS	Drift RNS

DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
~~FN~~	~~Frame Number~~
FP	Frame Protocol
IE	Information Element
MAC	Medium Access Control
PDU	Protocol Data Unit
PSCH	Physical Synchronisation Channel
RAB	Radio Access Bearer
RL	Radio Link
RLC	Radio Link Control
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
SDU	Signalling Data Unit
SFN	System Frame Number
SRNC	Serving RNC
SRNS	Serving RNS
SSDT	Site Selection Diversity Transmit
TDD	Time Division Duplex
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
UARFCN	~~UMTS~~ UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area
UTRAN	UMTS Terrestrial Radio Access Network

4 General

4.1 Procedure Specification Principles

The principle for specifying the procedure logic is to specify the functional behaviour of the CRNC exactly and completely. The SRNC functional behaviour is left unspecified. The EP Physical Channel Reconfiguration is an exception from this principle.

4.2 Forwards and Backwards Compatibility

The forwards and backwards compatibility of the protocol is assured by a mechanism where all current and future messages, and IEs or groups of related IEs, include Id and criticality fields that are coded in a standard format that will not be changed in the future. These parts can always be decoded regardless of the standard version.

4.3 Source Signalling Address Handling

The sender of an RNSAP messages shall include the Source Signalling Address, i.e. the Signalling Address of the sending node.

5 RNSAP Services

The RNSAP offers the following services:

5.1 RNSAP Procedure Modules

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

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

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

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

The Common Transport Channel Procedures module contains procedures that are used to control common transport channel data streams over Iur interface.

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

5.2 Parallel Transactions

Unless explicitly indicated in the procedure ~~description~~specification, at any instance in time one protocol peer shall have initiated maximum one ongoing RNSAP DCH procedure related to a certain UE.

6 Services Expected from Signalling Transport

The ~~Signalling~~ signalling transport shall provide two different service modes for the RNSAP.

1. Connection oriented data transfer service. This service is supported by a signalling connection between two RNCs. It shall be possible to dynamically establish and release signalling connections based on the need. Each active UE shall have its own signalling connection. The signalling connection shall provide in sequence delivery of RNSAP messages. RNSAP shall be notified if the signalling connection breaks.
2. Connectionless data transfer service. RNSAP shall be notified in case a RNSAP message did not reach the intended peer RNSAP entity.

7 Functions of RNSAP

The RNSAP protocol has the following functions:

- Radio Link Management. This function allows the SRNC to manage radio links using dedicated resources in a DRNS.
- Physical Channel Reconfiguration. This function allows the DRNC to reallocate the physical channel resources for a Radio Link.
- Radio Link Supervision. This function allows the DRNC to report failures and restorations of a Radio Link.
- Compressed Mode Control [FDD]. This function allows the SRNC to control the usage of compressed mode within a DRNS

- Measurements on Dedicated Resources. This function allows the SRNC to initiate measurements on dedicated resources in the DRNS. The function also allows the DRNC to report the result of the measurements.

- DL Power Drifting Correction [FDD]. This function allows the SRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links.

- CCCH Signalling Transfer. This function allows the SRNC and DRNC to pass information between the UE and the SRNC on a CCCH controlled by the DRNS.

- Paging. This function allows the SRNC to page a UE in a URA or a cell in the DRNS.

- Common Transport Channel Resources Management. This function allows the SRNC to utilise Common Transport Channel Resources within the DRNS (excluding DSCH resources for FDD).

- Relocation Execution. This function allows the SRNC to finalise a Relocation previously prepared via other interfaces.

- Reporting of ~~general~~ General ~~error~~ Error ~~situations~~Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.

The mapping between the above functions and RNSAP elementary procedures is shown in the table 1:

Table 1: Mapping between functions and RNSAP elementary procedures

Function	Elementary Procedure(s)
Radio Link Management	a) Radio Link Setup b) Radio Link Addition c) Radio Link Deletion d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation
Physical Channel Reconfiguration	Physical Channel Reconfiguration
Radio Link Supervision	a) Radio Link Failure b) Radio Link Restoration
Compressed Mode Control [FDD]	a) Compressed Mode Preparation b) Compressed Mode Commit c) Compressed Mode Cancellation
Measurements on Dedicated Resources	a) Measurement Initiation b) Measurement Reporting c) Measurement Termination d) Measurement Failure
DL Power Drifting Correction [FDD]	Downlink ~~Link~~ Power Control
CCCH Signalling Transfer	a) Uplink Signalling Transfer b) Downlink Signalling Transfer
Paging	Paging
Common Transport Channel Resources Management	a) Common Transport Channel Resources Initiation b) Common Transport Channel Resources Release
Relocation Execution	Relocation Commit
Reporting of General Error Situations	Error Indication

~~These functions are implemented by one or several RNSAP elementary procedures described in the following section.~~

8 RNSAP Procedures

8.1 Elementary Procedures

In the following tables, all EPs are divided into Class 1 and Class 2 EPs:

Table 2: Class 1

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP 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	
Physical Channel Reconfiguration	PHYSICAL CHANNEL RECONFIGURATION REQUEST	PHYSICAL CHANNEL RECONFIGURATION COMMAND	PHYSICAL CHANNEL RECONFIGURATION FAILURE	
Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE	
Compressed Mode Preparation [FDD]	COMPRESSED MODE PREPARE	COMPRESSED MODE READY	COMPRESSED MODE FAILURE	
Common Transport Channel Resources Initiation	COMMON TRANSPORT CHANNEL RESOURCES REQUEST	COMMON TRANSPORT CHANNEL RESOURCES RESPONSE	COMMON TRANSPORT CHANNEL RESOURCES FAILURE	

The need for Timers will be defined on a per procedure basis. The content of this column is thus FFS.

Table 3: Class 2

Elementary Procedure	Initiating Message
Uplink Signalling Transfer	UPLINK SIGNALLING TRANSFER INDICATION
Downlink Signalling Transfer	DOWNLINK SIGNALLING TRANSFER REQUEST
SRNS Relocation Commit	SRNS RELOCATION COMMIT
Paging	PAGING REQUEST
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCEL
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Measurement Reporting	DEDICATED MEASUREMENT REPORT
Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Commit [FDD]	COMPRESSED MODE COMMIT
Compressed Mode Cancellation [FDD]	COMPRESSED MODE CANCEL
Common Transport Channel Resources Release	COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST
Error Indication	ERROR INDICATION

8.2 Basic Mobility Procedures

8.2.1 Uplink SignallingTransfer

8.2.1.1 General

The procedure is used by the SRNC to request to the DRNC the transfer of a Uu message. When used, the procedure is in response to a received Uplink Signalling Transfer procedure.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.1.2 Successful Operation

When the CRNC receives an Uu message where the UE addressing information is the S-RNTI and SRNC-ID, and the SRNC ID identifies another RNC than the CRNC, the CRNC shall send the UPLINK SIGNALLING TRANSFER INDICATION message to the SRNC identified by the SRNC-ID received from the UE.

The CRNC shall include in the message the URA Identity of the URA where the Uu message was received, an indication on whether or not the accessed cell belongs to multiple URAs, and the RNC Identity of all other RNCs that are having at least one cell within the URA where the Uu message was received.

If the message received from the UE was the first message from that UE in the CRNC, the CRNC shall include the D-RNTI and the identifiers for the CN CS Domain and CN PS Domain that the CRNC is connected to in the UPLINK SIGNALLING TRANSFER INDICATION message. These CN Domain Identifiers shall be based on the LAC and RAC respectively of the cell where the message was received from the UE.

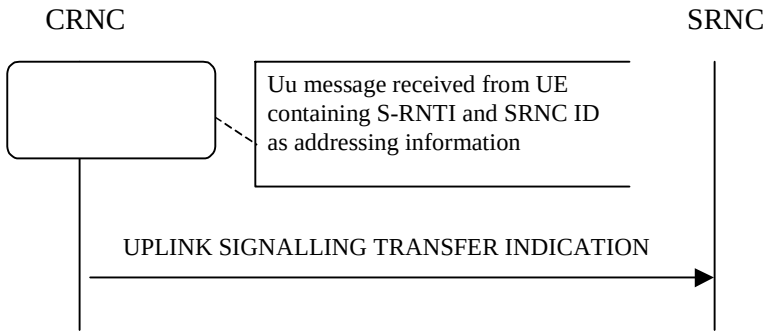

Figure 1: Uplink Signalling Transfer procedure, Successful Operation.

8.2.1.3 Abnormal Conditions

-

8.2.2 Downlink SignallingTransfer

8.2.2.1 General

The procedure is used by the SRNC to request to the DRNC the transfer of a Uu message. When used, the procedure is in response to a received Uplink Signalling Transfer procedure.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.2.2 Successful Operation

The procedure consists of the DOWNLINK SIGNALLING TRANSFER REQUEST message sent by the SRNC to the DRNC.

The message contains the Cell Identifier (C-Id) contained in the received UPLINK SIGNALLING TRANSFER INDICATION message and the D-RNTI.

At the reception of the message, the DRNC shall send the L3 Information to the UE identified by the D-RNTI.

If the *D-RNTI Release Indication* IE ~~D-RNTI release indication parameters indicates~~ is set to ~~'release~~ "Release D-RNTI"~~'~~, the D-RNTI and thus the UE Context and any DRNS resource allocated to the UE Context shall be released at the reception of the UPLINK SIGNALLING TRANSFER INDICATION message.

Figure 2: Downlink Signalling Transfer procedure, Successful Operation

8.2.2.3 Abnormal Conditions

If the user identified by the D-RNTI is not camping in the cell identified by the *C-Id* IE ~~C-Id~~ in the UPLINK SIGNALLING TRANSFER INDICATION ~~RNSAP~~ message, the message shall be ignored.

If the D-RNTI is allocated to one UE context whose status does not allow the sending of the L3 information from the DRNC, then the UPLINK SIGNALLING TRANSFER INDICATION message shall be ignored.

8.2.3 Relocation Commit

8.2.3.1 General

The Relocation Commit ~~RELOCATION COMMIT~~ procedure is used by target RNC to execute the Relocation. This procedure supports the Relocation procedures described in [1].

This procedure shall use the signalling bearer mode specified below.

8.2.3.2 Successful Operation

The source RNC sends the RELOCATION COMMIT message to the target RNC to request the target RNC to proceed with the Relocation. When the UE is utilising one or more radio links in the DRNC the message shall be sent using the connection oriented service of the signalling bearer and no further identification of the UE context in the DRNC is required. If on the other hand, the UE is not utilising any radio link the message shall be sent using the connectionless service of the signalling bearer and the *D-RNTI* IE shall be included in the message to identify the UE context in the DRNC.

At reception of the RELOCATION COMMIT message from the source RNC the target RNC finalises the Relocation. If the message contains the transparent *RANAP Relocation Information* IE the target RNC shall use this information when finalising the Relocation.

Figure 3: Relocation Commit procedure, Successful Operation

8.2.3.3 Abnormal Conditions

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8.2.4 Paging

8.2.4.1 General

This procedure is used by the SRNC to indicate to a CRNC that a UE shall be paged in a cell or URA that is under the control of the CRNC.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.4.2 Successful Operation

Figure 4: Paging procedure, Successful Operation

The procedure is initiated with a PAGING REQUEST message sent from the SRNC to the CRNC.

If the message contains the *C-Id* IE, the CRNC shall page in the indicated cell. Alternatively, if the message contains the *URA-Id* IE, the CRNC shall page in all cells that it controls in the indicated URA.

[Editor's note: If the *DRX parameter* IE is required, and any explanation is required for how to react to it, then this should be included here.]

8.2.4.3 Abnormal Conditions

-

8.3 DCH procedures

8.3.1 Radio Link Setup

8.3.1.1 General

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

This procedure shall use the connection-oriented service of the signalling bearer.

8.3.1.2 Successful Operation

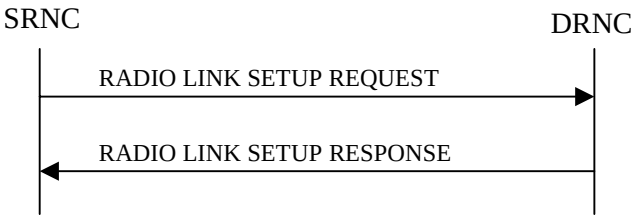

Figure 5: Radio Link Setup procedure: Successful Operation

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

The message is also used to establish the connection-oriented service of the signalling bearer in the DRNC. The message includes the S-RNTI associated to the UE, and, if the UE context is already present in the DRNC, the corresponding D-RNTI.

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

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

[FDD - If the *Initial DL TX Power* IE and *Uplink~~L~~ Eb/No Target* IE ~~[FDD]~~ are present in the message, the DRNS shall use the indicated DL TX Power and Uplink~~L~~ Eb/No Target ~~[FDD]~~ as initial value.]

If the *Primary CPICH Ec~~b~~/No* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] is present, the DRNC should use them when deciding the Initial DL TX Power.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH, the DRNS shall treat all DCHs with the same value of this IE as a set of co-ordinated DCHs.The included *RLC Mode* IE of the DCH may be used by the DRNS to optimise the power control.

The *Allocation/Retention Priority* IE defines the priority level that should be used by the DRNS to prioritise the allocation and the retention of the resources used by the DCH. The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise the discard/delay of the data frames of the DCH.

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH as the new DCH FP Mode in the Uplink of the user plane for this DCH.

The DRNS shall use the included *ToAWS* IE for a DCH as the new Time of Arrival Window Start Point in the user plane for this DCH.

The DRNS shall use the included *ToAWE* IE for a DCH as the new Time of Arrival Window End Point in the user plane for this DCH.

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

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

If the *Initial DL TX Power* and the *Uplink~~L~~ Eb/No Target* IEs are not present in the RADIO LINK SETUP REQUEST message, then DRNC shall include the suggested initial Uplink~~L~~ and Downlink Eb/No Targets ~~and the DL Eb/No Target~~ in the RADIO LINK SETUP RESPONSE message.

In the case of combining one or more RLs the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the Diversity Indication that the RL is combined with another RL. In this case the Reference RL ID shall be included to indicate with which RL the combination is performed. The Reference RL ID shall be included for all but one of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.

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

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

[FDD - Irrespective of SSDT activation, the DRNS shall include in the RADIO LINK SETUP RESPONSE message an indication concerning the capability to support SSDT on this RL. Only if the RADIO LINK SETUP REQUEST message requested SSDT activation and the RADIO LINK SETUP RESPONSE message indicates that the SSDT capability is supported for this RL, SSDT is activated in the DRNS.]

The DRNS shall also provide the SRNC with the UTRAN Cell Identifier (UC-Id) and information of the neighbouring cells to the cell(s) where the radio link(s) are added.

If a neighbouring cell is controlled by another RNC, the DRNC shall report also the node identifications (i.e. RNC, CN domain nodes) of the RNC controlling the neighbouring cell.

If there was no UE context for this UE in the DRNS before the RADIO LINK SETUP REQUEST message was received the DRNC shall include the node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell), and the D-RNTI in the RADIO LINK SETUP RESPONSE message.

8.3.1.3 Unsuccessful Operation

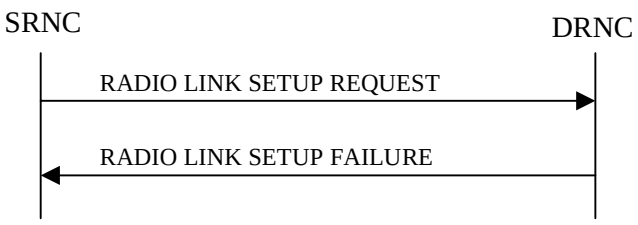

Figure 6: Radio Link Setup procedure: Unsuccessful Operation

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

indicate this in the RADIO LINK SETUP FAILURE message in the same way as in the RADIO LINK SETUP RESPONSE message.

Typical cause values are:

Radio Network Layer Causes:

- UL Scrambling Code Already in Use
- DL Radio Resources not Available
- UL Radio Resources not Available
- Unknown C-ID
- Macrodiversity Combining not Possible
- Requested Configuration not Supported
- Cell not Available
- Power Level not Supported

Transport Layer Causes:

- Transport Link Failure

Protocol Causes:

- Transaction not Allowed

Miscellaneous Causes:

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

8.3.1.4 Abnormal Conditions

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

8.3.2 Radio Link Addition

8.3.2.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more additional RLs towards a UE when there is already at least one RL established to the concerning UE via this DRNS.

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

8.3.2.2 Successful Operation

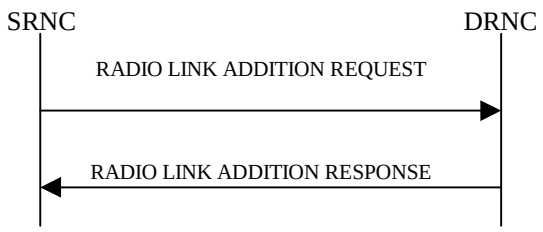

Figure 7: Radio Link Addition procedure: Successful Operation

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNS 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 indicates for each RL whether the DRNS shall combine the new RL with existing RL(s) or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.]

If the *Primary CCPCH Ec/Io* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] measured by the UE is included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power. If the *Primary CCPCH Ec/Io* IE is not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.

[FDD - The DRNS shall use the provided Uplink~~L~~ Eb/No Target value as the current target for the inner-loop power control.]

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, SSDT may be activated for the concerned new RL, with the indicated SSDT Cell Identity used for that RL.]

The DRNS shall activate any feedback mode diversity according to the received settings.

If all requested RLs are successfully added, the DRNC shall respond with a RADIO LINK ADDITION RESPONSE message.

In the case of combining an RL with existing RL(s) the DRNC 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.

In the case of not combining an RL with existing RL(s), the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the DRNC 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.

In case of co-ordinated 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 DRNS 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 DRNS.]

For any cell neighbouring of a cell in which a RL was added, the DRNC shall provide in the RADIO LINK ADDITION RESPONSE message the UTRAN Cell Identifier (UC-Id), the Frequency Number, the Primary Scrambling Code and the node identification of CN nodes connected to the RNC controlling the neighbouring cell if the neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the CPICH Power level and Frame Offset of the neighbouring cell.

The DRNC shall also provide the configured uplink Maximum Eb/No and UL Minimum Eb/No for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

The DRNC shall also provide the selected scrambling~~,~~ and channelisation codes of the new RLs in order to enable the SRNC to inform the UE about the selected codes.

After sending of the RADIO LINK ADDITION RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The DRNS shall start transmission on the new RL after synchronisation is achieved in the Iur user plane as specified in ref. [3].

8.3.2.3 Unsuccessful Operation

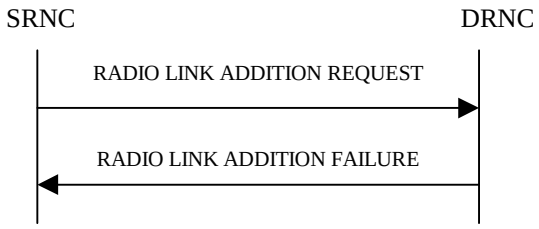

Figure 8: Radio Link Addition procedure: Unsuccessful Operation

If the establishment of at least one RL is unsuccessful, the DRNC shall send a RADIO LINK ADDITION FAILURE as response.

If some RL(s) were established successfully, the DRNC 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:

Radio Network Layer Causes:

- DL Radio Resources not Available
- UL Radio Resources not Available
- Unknown C-ID
- Macrodiversity Combining not Possible
- Cell not Available
- Power Level not Supported

Transport Layer Causes:

- Transport Link Failure

Miscellaneous Causes:

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

8.3.2.4 Abnormal Conditions

-

8.3.3 Radio Link Deletion

8.3.3.1 General

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

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

8.3.3.2 Successful Operation

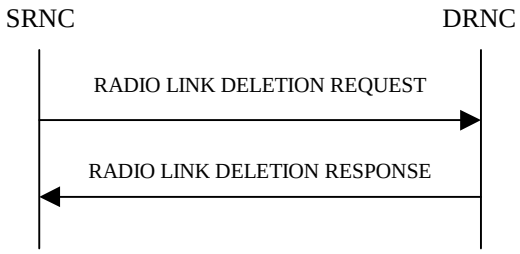

Figure 9: Radio Link Deletion procedure, Successful Operation

The procedure is initiated with a RADIO LINK DELETION REQUEST message sent from the SRNC to the DRNC.

Upon receipt of this message, the DRNS shall delete the radio link(s) identified in the message and release all associated resources and respond to the SRNC with a RADIO LINK DELETION RESPONSE message.

If the radio link(s) to be deleted represent the last radio link(s) for the UE in the DRNS then the DRNC shall also release the UE context, unless the UE is using common resources in the DRNS.

8.3.3.3 Unsuccessful Operation

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8.3.3.4 Abnormal Conditions

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8.3.4 Synchronised Radio Link Reconfiguration Preparation

8.3.4.1 General

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

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

8.3.4.2 Successful Operation

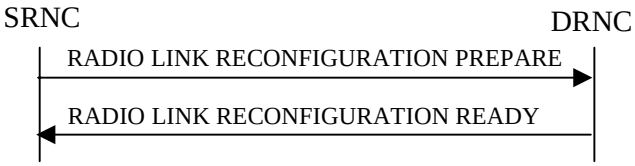

Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

DCH Modification :

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allocation/Retention Priority* IE for a DCH to be modified, the DRNS should use this information when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL ~~DCH~~ FP Mode* IE for a DCH to be modified, the DRNS 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 on the *ToAWS* IE for a DCH to be modified, the DRNS shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes on the *ToAWE* IE for a DCH to be modified, the DRNS 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 DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE 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 co-ordinated 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 DRNS should use the *Allocation/Retention Priority* IE received for a DCH to be added when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

The DRNS 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 DRNS 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 DRNS 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 PREPARE message includes any DCH to be deleted from the Radio Link(s), the DRNS shall not include this DCH in the new configuration.

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

Physical Channel Modification:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Uplink Scrambling Code* IE, the DRNS 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 DRNS shall apply the new Uplink Channelisation Code(s) in the new configuration.

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Spreading Factor of Channelisation Code (DL)* IE, for each *Spreading Factor of Channelisation Code (DL)* IE the DRNS shall allocate one new Downlink Channelisation Code per Radio Link and apply the new Downlink Channelisation Code(s) to the new configuration. Each Downlink Channelisation Code allocated for the new configuration shall be included as a *Channelisation Code (DL)* IE in the RADIO LINK RECONFIGURATION READY message when sent to the SRNC.]

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

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Mean Bit Rate* ~~*(UL)*~~ IE for the UL, the DRNS should use this information when reserving resources for the Uplink of the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Mean Bit Rate* ~~*(DL)*~~ IE for the DL, the DRNS should use this information when reserving resources for the Downlink of the new configuration.

[Editor's note: There is presently no clear definition of the *Mean Bit Rate* IEs. The handling of these IEs is thus regarded as FFS.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCH Structure* IE, group the DRNS shall apply the new Uplink DPCCH Structure to the new configuration.]

SSDT Activation/Deactivation:

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

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the SSDT Indication IE set to "SSDT not Active in the UE", the DRNS shall deactivate SSDT in the new configuration.]

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

The DRNS decides the maximum and minimum Eb/No for the uplink of the Radio Link(s) and shall return this in the *Maximum Uplink Eb/No* IE and *Minimum Uplink Eb/No* IE for each Radio Link in the RADIO LINK RECONFIGURATION READY message.

[TDD – The DRNC shall include all the IEs corresponding to the new physical channel parameters for the DL DPCH and/or the UL DPCH to be reconfigured in the RADIO LINK RECONFIGURATION READY message.]

[Editor's note: Which information in the RL RECONFIGURATION PREPARE message triggers the DRNC to include any of the following *Optional* TDD information?:
a) DL DPCH Group
b) UL DPCH Group
c) TDD Physical Channel Offset, *Repetition* Length, and TFCI Presence IEs as part of the DL DPCH Group
d) TDD Physical Channel Offset, *Repetition* Length, and TFCI Presence IEs as part of the UL DPCH Group.]

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *DCH to be Added* IE group or the *DCH to be Modified* IE group shall be included only for one of the DCHs in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS the *DCH to be Added* IE group and the *DCH to be Modified* IE group shall be included only for one of the combined Radio Links.

8.3.4.3 Unsuccessful Operation

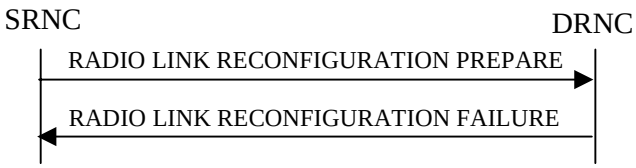

Figure 11: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the DRNS cannot reserve the necessary resources for all the new DCHs of ~~one~~ a set of co-ordinated 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 DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure.

In which cases to include only the *Cause* IE on message level and in which cases the *Cause* IE also shall be included for a specific RL is FFS.

Typical cause values are:

Radio Network Layer Causes:

- UL Scrambling Code Already in Use
- DL Radio Resources not Available
- UL Radio Resources not Available
- Requested Configuration not Supported

Protocol Causes:

- Transaction not Allowed

Miscellaneous Causes:

- Control Processing Overload
- Not enough User Plane Processing Resources

8.3.4.4 Abnormal Conditions

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

8.3.5 Synchronised Radio Link Reconfiguration Commit

8.3.5.1 General

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

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

8.3.5.2 Successful Operation

Figure 12: Synchronised Radio Link Reconfiguration Commit procedure, Successful Operation

The DRNS shall switch to the new configuration previously prepared by the Synchronised RL Reconfiguration procedure at the CFN requested by the SRNC when receiving the RADIO LINK RECONFIGURATION COMMIT message from the SRNC.

8.3.5.3 Abnormal Conditions

8.3.6 Synchronised Radio Link Reconfiguration Cancellation

8.3.6.1 General

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

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

8.3.6.2 Successful Operation

Figure 13: Synchronised Radio Link Reconfiguration Cancellation procedure, Successful Operation

The DRNS 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 SRNC.

8.3.6.3 Abnormal Conditions

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

8.3.7 Unsynchronised Radio Link Reconfiguration

8.3.7.1 General

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

The procedure is used when there is no need to synchronise the time of the switching from the old to the new radio link configuration in the cells used by the UE-UTRAN connection within the DRNS.

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

8.3.7.2 Successful Operation

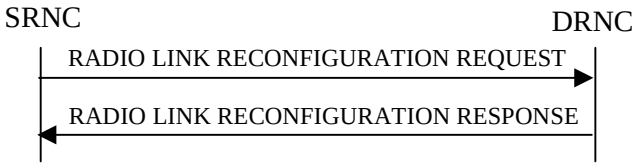

Figure 14: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION REQUEST message to the DRNC.

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.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Allocation/Retention Priority* IE for a DCH to be modified, the DRNS should use this information when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

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

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *UL* ~~*DCH*~~ *FP Mode* IE for a DCH to be modified, the DRNS 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 on the *ToAWS* IE for a DCH to be modified, the DRNS shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *ToAWE* IE for a DCH to be modified, the DRNS 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 DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

If the 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 co-ordinated 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 DRNS should use the *Allocation/Retention Priority* IE received for a DCH to be added when allocating resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

The DRNS 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 DRNS 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 DRNS 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 DRNS shall not include this DCH in the new configuration.

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

Physical Channel Modification:

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

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Mean Bit Rate ~~(UL)~~* IE for the UL, the DRNS should use this information when reserving resources for the Uplink of the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Mean Bit Rate ~~(DL)~~* IE for the DL, the DRNS should use this information when reserving resources for the Downlink of the new configuration.

[Editor's note: There is presently no clear definition of the *Mean Bit Rate* IEs. The handling of these IEs is thus regarded as FFS.]

f the requested modifications are allowed by the DRNS, the DRNS has successfully allocated the required resources, and changed to the new configuration it shall respond to the SRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

The DRNS decides the maximum and minimum Eb/No for the uplink of the Radio Link(s) and shall return this in the IEs *Maximum Uplink Eb/No* and *Minimum Uplink Eb/No* for each Radio Link in the RADIO LINK RECONFIGURATION RESPONSE message.

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *DCH to be Added* IE group or the *DCH to be Modified* IE group shall be included only for one of the DCH in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS the *DCH to be Added* IE group and the *DCH to be Modified* IE group shall be included only for one of the combined Radio Links.

8.3.7.3 Unsuccessful Operation

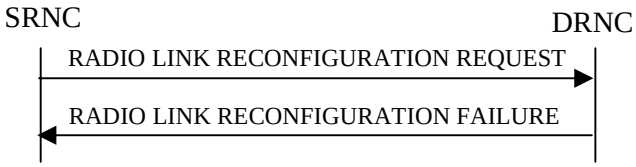

Figure 15: Unsynchronised Radio Link Reconfiguration procedure, Unsuccessful Operation

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

If the requested Unsynchronised Radio Link Reconfiguration procedure fails for one or more Radio Link(s) the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure.

Typical cause values are:

Radio Network Layer Causes:

- UL Scrambling Code Already in Use
- DL Radio Resources not Available
- UL Radio Resources not Available
- Requested Configuration not Supported

Protocol Causes:

- Transaction not Allowed

Miscellaneous Causes:

- Control Processing Overload
- Not enough User Plane Processing Resources

8.3.7.4 Abnormal Conditions

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

8.3.8 Physical Channel Reconfiguration

8.3.8.1 General

Physical Channel Reconfiguration procedure is used by the DRNC to request to SRNC the reconfiguration of one of its physical channels.

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

8.3.8.2 Successful Operation

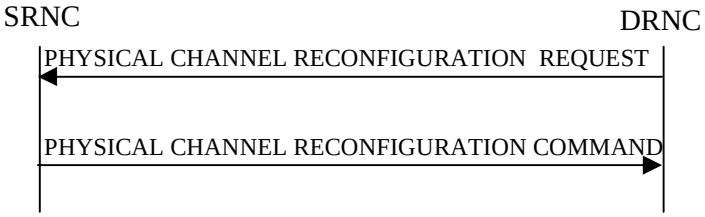

Figure 16: Physical Channel Reconfiguration procedure, Successful Operation

When the DRNC detects the need to modify one of its physical channels, it sends a PHYSICAL CHANNEL RECONFIGURATION REQUEST to the SRNC.

The message contains the new value of the physical channel parameter(s) that shall be reconfigured and in which radio link.

Upon reception of the PHYSICAL CHANNEL RECONFIGURATION REQUEST, the SRNC decides appropriate execution time for the change. It informs the UE and responds with the PHYSICAL CHANNEL RECONFIGURATION COMMAND to the DRNC that includes the CFN indicating the execution time. ~~The message is sent over the dedicated signalling connection.~~

At the ~~specified time~~CFN, the DRNS shall switch to the new configuration that has been requested, and release the resources related to the old physical channel configuration.

8.3.8.3 Unsuccessful Operation

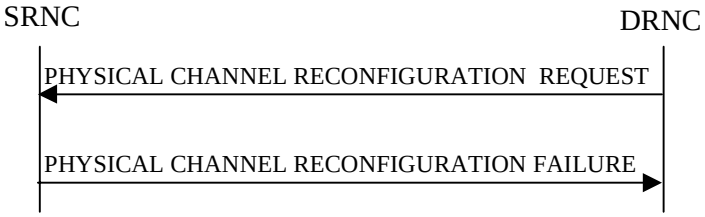

Figure 17: Physical Channel Reconfiguration procedure, Unsuccessful Operation

If the SRNC can not accept the reconfiguration request it will send the PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the DRNC, that included the cause for the failure.

Typical cause values are:

Radio Network Layer Causes:

- Reconfiguration not Allowed

8.3.8.4 Abnormal Conditions

If the DRNC receives any of the messages RADIO LINK RECONFIGURATION PREPARE, RADIO LINK RECONFIGURATION REQUEST, or RADIO LINK DELETION REQUEST while waiting for the PHYSICAL CHANNEL RECONFIGURATION COMMAND message, this shall be regarded as a Physical Channel Reconfiguration failure. These messages thus override the DRNC request for physical channel reconfiguration.

8.3.9 Radio Link Failure

8.3.9.1 General

This procedure is started by the DRNS when one or more radio links are no longer available.

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

The DRNC may initiate the Radio Link Failure procedure at any time after establishing a Radio Link.

8.3.9.2 Successful Operation

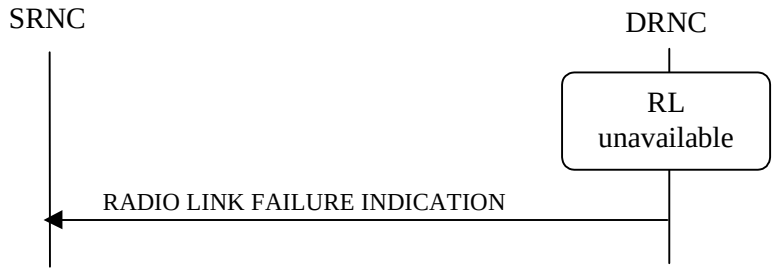

Figure 18: RL Failure procedure, Successful Operation

When DRNC detects that a one or more Radio Links are no longer available, it shall send the RL FAILURE INDICATION message to the SRNC. The message indicates the failed radio links with the most appropriate cause values defined in the *Cause* IE.

When the RL Failure procedure is used to notify the non achievement or loss of UL synchronisation: the message shall be sent when the UL synchronisation of the radio link is not achieved after any of the procedures RL Setup or RL Addition. The message shall also be sent if the UL synchronisation it is lost during an active connection.

Typical cause values are:

Radio Network Layer Causes:

- Synchronisation Failure

Miscellaneous Causes:

- Control Processing Overload
- HW Failure
- O&M Intervention

8.3.9.3 Abnormal Conditions

-

8.3.10 Radio Link Restoration

8.3.10.1 General

This procedure is used to notify of re-establishment of UL synchronisation after that the RL Failure procedure has been used to notify the loss of the synchronisation.

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

The DRNC may initiate the Radio Link Restoration procedure after establishing a Radio Link.

8.3.10.2 Successful Operation

Figure 19: RL Restoration procedure, Successful Operation

If the UL synchronisation is re-established, the DRNC shall send the RADIO LINK RESTORE INDICATION message to the SRNC. The message shall be sent only if the RL Failure procedure has been previously used to notify the loss of UL synchronisation of the same Radio Link(s), and it shall not be sent if a RL Deletion procedure have been activated in the DRNC after the RL Failure has been sent.

8.3.10.3 Abnormal Conditions

-

8.3.11 Measurement Initiation

[Editor's note: According to TSGR#5 (99)564, the following measurements shall also be considered:
* Time of Arrival
* Frequency Offset
* Round Trip Time
* RX Timing Deviation

Whether these measurements shall be dedicated or common measurements have so far not been considered by TSG RAN WG3 and are thus not incorporated.]

8.3.11.1 General

This procedure is used by an SRNS to request the initiation of measurements in a DRNS.

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

8.3.11.2 Successful Operation

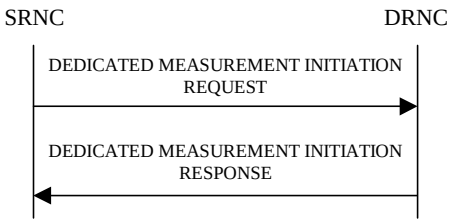

Figure 20: Measurement Initiation procedure, Successful Operation

The procedure is initiated with a DEDICATED MEASUREMENT INITIATION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNC 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 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 UE Context. If RL Information is provided in the request, the measurement request shall apply for the requested radio links individually.

The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed.

If the *Report Characteristics* IE is set to ~~indicates~~ 'On-Demand', the DRNS shall report the measurement result immediately.

If the *Report Characteristics* IE is set to ~~indicates~~ 'Periodic', the DRNS shall periodically initiate a Measurement Report procedure for this measurement, with the requested report periodicity~~frequency~~.

If the *Report Characteristics* IE is set to ~~indicates~~ 'Event A', the DRNS 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 DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to ~~indicates~~ 'Event B', the DRNS 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 DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to ~~indicates~~ 'Event C', the DRNS 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 is set to ~~indicates~~ 'Event D', the DRNS 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 is set to ~~indicates~~ 'Event E', the DRNS 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 DRNS 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 Periodicity ~~Frequency~~* IE is provided, the DRNS shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the DRNS shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the DRNC shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to ~~indicates~~ 'Event F', the DRNS 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 DRNS 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 Periodicity ~~Frequency~~* IE is provided, the DRNS shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the DRNS shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the DRNC 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 DRNS shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as specified in the DEDICATED MEASUREMENT INITIATION REQUEST message~~in normal operation~~.

If the DRNS was able to initiate the measurement requested by the SRNS it shall respond with the DEDICATED MEASUREMENT INITIATION RESPONSE message ~~using the connection-oriented service of the signalling bearer~~. The message shall include the same Measurement Id that was used in the measurement request.

Only in the case when the *Report Characteristics* IE is set to ~~indicated~~ "On-Demand", the DEDICATED 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.

8.3.11.3 Unsuccessful Operation

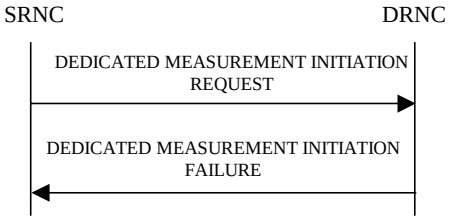

Figure 21: Measurement Initiation procedure, Unsuccessful Operation

If the requested measurement can not be initiated, the DRNC shall send a DEDICATED MEASUREMENT INITIATION FAILURE message ~~using the connection oriented service of the signalling bearer~~. The message shall include the same Measurement Id that was used in the DEDICATED MEASUREMENT INITIATION REQUEST message ~~measurement request~~ and the *Cause* IE set to an appropriate value.

Typical cause values are:

Radio Network Layer Causes:

- Measurement not Supported For The Object

Miscellaneous Causes:

- Control Processing Overload
- HW Failure

8.3.11.4 Abnormal Conditions

-

8.3.12 Measurements Reporting

8.3.12.1 General

This procedure is used by the DRNS to report results of measurements requested by the SRNS with the Measurement Initiation procedure.

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

The DRNC may initiate the Measurement Reporting procedure at any time after establishing a Radio Link.

8.3.12.2 Successful Operation

Figure 22: Measurement Reporting procedure, Successful Operation

If the requested measurement reporting criteria are met, the DRNS shall initiate a Measurement Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Dedicated Measurement Id* IE shall be set to the Dedicated Measurement Id provided by the SRNS when initiating the measurement with the Measurement Initiation procedure.

8.3.12.3 Abnormal Conditions

-

8.3.13 Measurement Termination

8.3.13.1 General

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

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

8.3.13.2 Successful Operation

Figure 23: Measurement Termination procedure, Successful Operation

This procedure is initiated with a DEDICATED MEASUREMENT TERMINATION REQUEST message, sent from the SRNC to the DRNC.

Upon reception, the DRNS shall terminate reporting of measurements corresponding to the received Dedicated Measurement Id.

8.3.13.3 Abnormal Conditions

-

8.3.14 Measurement Failure

8.3.14.1 General

This procedure is used by the DRNS to notify the SRNS that a measurement previously requested by the Measurement Initiation procedure can no longer be reported.

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

The DRNC may initiate the Measurement Failure procedure at any time after establishing a Radio Link.

8.3.14.2 Successful Operation

Figure 24: Measurement Failure procedure, Successful Operation

This procedure is initiated with a DEDICATED MEASUREMENT FAILURE INDICATION message, sent from the DRNC to the SRNC, to inform the SRNC that a previously requested measurement no longer can be reported.

Typical cause values are:

Miscellaneous Causes:

- Control Processing Overload
- HW Failure
- O&M Intervention

8.3.14.3 Abnormal Conditions

-

8.3.15 Downlink ~~Link~~ Power Control [FDD]

8.3.15.1 General

The purpose of this procedure is to balance the DL transmission powers of the radio links for one UE.

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

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

8.3.15.2 Successful Operation

Figure 25: Downlink ~~Link~~ Power Control procedure, Successful Operation

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

If the message contains the *DL Reference Power* IE, the DRNC shall perform the power balancing (see below) for all radio links for the UE context.

Alternatively, if the message contains the *DL Reference Power Information* IE, the DRNC shall perform the power balancing (see below) for all radio links addressed in the message.

The DRNS performs the power balancing by using the received desired DL Reference Power as a reference for adjusting the applied DL power.

[Editor's note: The exact mechanism is FFS.]

8.3.15.3 Abnormal Conditions

If the DNRC receives the DL POWER CONTROL REQUEST message after a request to delete the last radio link in the DRNC has been received, the DRNC shall ignore the message.

8.3.16 Compressed Mode Preparation [FDD]

8.3.16.1 General

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

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

8.3.16.2 Successful Operation

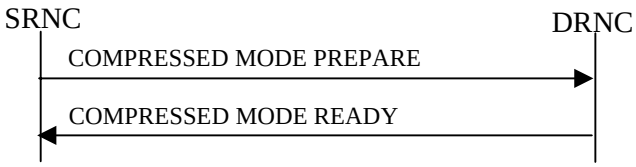

Figure 26: Compressed Mode Preparation procedure, Successful Operation

The Compressed Mode Preparation procedure is initiated by the SRNC by sending the COMPRESSED MODE PREPARE message to the DRNC.

If the proposed modifications are allowed by the DRNS and the DRNC has successfully initialised the required resources, the DRNC shall respond to the SRNC with COMPRESSED MODE READY message.

If the *Compressed Mode Method* IE is set to 'None', the DRNS shall terminate the compressed mode even if the COMPRESSED MODE PREPARE message was received before the end of the compressed mode period.

8.3.16.3 Unsuccessful Operation

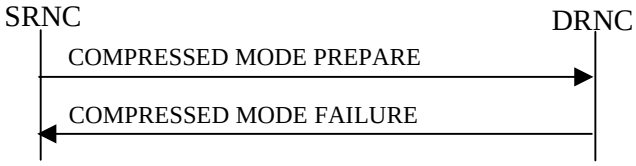

Figure 27: Compressed Mode Preparation procedure, unsuccessful case

If the requested reconfiguration fails for one or more RLs the DRNC shall abort the procedure and send the COMPRESSED MODE FAILURE message to the SRNC, 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

8.3.16.4 Abnormal Conditions

-

8.3.17 Compressed Mode Commit [FDD]

8.3.17.1 General

The Compressed Mode Commit procedure is used to activate the compressed mode in the DRNS for one UE-UTRAN connection. This procedure shall use the signalling bearer connection for the relevant UE context.

8.3.17.2 Successful Operation

Figure 28: Compressed Mode Commit procedure, Successful Operation

The DRNS shall initiate the compressed mode in accordance with the settings prepared by the Compressed Mode Preparation procedure at the CFN requested by the SRNC when receiving the COMPRESSED MODE COMMIT message from the SRNC.

8.3.17.3 Abnormal Conditions

-

8.3.18 Compressed Mode Cancellation [FDD]

8.3.18.1 General

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

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

8.3.18.2 Successful Operation

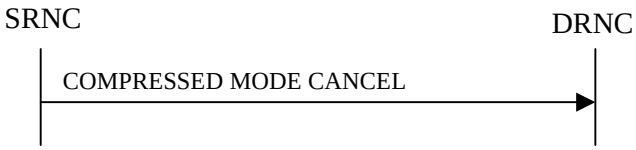

Figure 29: Compressed Mode Cancellation procedure, Successful Operation

The DRNS shall abort the compressed mode if it receives the COMPRESSED MODE CANCEL message.

8.3.18.3 Abnormal Conditions

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8.4 Common Transport Channel Procedures

8.4.1 Common Transport Channel Resources Initialisation

8.4.1.1 General

The Common Transport Channel Resources Initialisation procedure is used by the SRNC for the initialisation of the Common Transport Channel user plane towards the DRNC and/or for the initialisation of the UE context in the DRNC.

This procedure shall use the connectionless mode of the signalling bearer.

8.4.1.2 Successful Operation

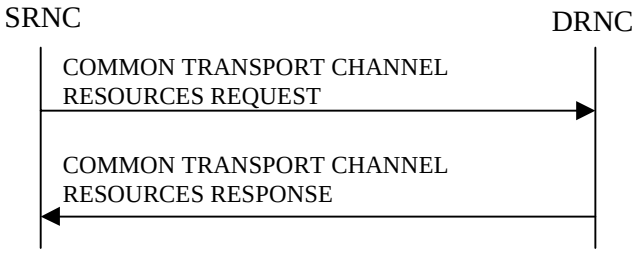

Figure 30: Common Transport Channel Resources Initialisation procedure, Successful Operation

The SRNC initiates the procedure by sending the message COMMON TRANSPORT CHANNEL RESOURCES REQUEST to the DRNC.

Upon reception of the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall respond by sending a COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message to the SRNC.

If the value of the *Transport Bearer Request Indicator* IE is set to "Bearer Requested", the DRNC shall store the received *Transport Bearer ID* IE and include the *Binding Identity* and *Transport Layer Address* IEs in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

If the value of the *Transport Bearer Request Indicator* IE is set to" Bearer not Requested", the DRNC shall use the transport bearer for the indicated by the *Transport Bearer ID* IE.

The DRNC shall include the *FACH Priority Indicator* IE and *FACH Initial Window Size* IE for each priority class that the DRNC has determined shall be used. The DRNC may include several *MAC-c SDU Length* IEs for each priority class.

If there exists multiple Secondary CCPCHs in the cell where the UE is located, the DRNC may include in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message the *FACH Info for optional S-CCPCH* IE group to be used by the UE which is different from the Secondary CCPCH used by the UE at reception of the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message. If the DRNC includes the *FACH Info for optional S-CCPCH* IE group, then it shall also include the *FACH Priority Indicator* IE and *FACH Initial Window Size* IE for each priority class for the new Secondary CCPCH.

8.4.1.3 Unsuccessful Operation

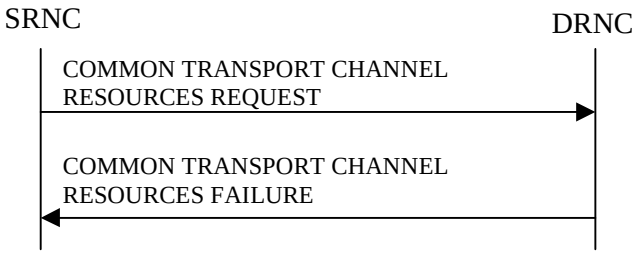

Figure 31: Common Transport Channel Resources Initialisation procedure, Unsuccessful Operation

If the *Transport Bearer Request Indicator* IE is set to "Bearer Requested" and the DRNC is not able to provide a Transport Bearer, the DRNC shall respond to the SRNC with the COMMON TRANSPORT CHANNEL RESOURCES FAILURE message, indicating the cause of the failure.

8.4.1.4 Abnormal Conditions

If the DRNC receives the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message for an unknown D-RNTI it shall respond to the SRNC with the COMMON TRANSPORT CHANNEL RESOURCES FAILURE message, indicating the cause of the failure.

8.4.2 Common Transport Channel Resources Release

8.4.2.1 General

This procedure is used by the SRNC to request release of Common Transport Channel Resources for a given UE in the DRNS. The SRNC uses this procedure either to release the UE context from the DRNC (and thus both the D-RNTI and the C-RNTI) or to release only the ~~-~~C-RNTI.

This procedure shall use the connectionless mode of the signalling bearer.

8.4.2.2 Successful Operation

Figure 32: Common Transport Channel Resources Release procedure, Successful Operation

The SRNC initiates the Common Transport Channel Resources Release procedure by sending the message COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST to the DRNC. The SRNC may include the *C-RNTI* IE ~~C-RNTI~~ in the message to request the release of an individual C-RNTI.

At the reception of the message, if the *C-RNTI* IE ~~C-RNTI~~ is not present in the message, the DRNC shall release the whole UE context identified by the D-RNTI.

If the *C-RNTI* IE ~~C-RNTI~~ is included in the message, the DRNC shall release only the indicated C-RNTI.

8.4.2.3 Abnormal Conditions

If the DRNC receives the COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST messages for an unknown D-RNTI the message shall be ignored.

If the D-RNTI is known but the C-RNTI does not exist for that D-RNTI (UE context) the message shall be ignored.

8.5 Global Procedures

8.5.1 Error Indication

8.5.1.1 General

The Error Indication procedure is initiated by a node to report detected errors in one incoming message, provided they cannot be reported by an appropriate failure message.

This procedure shall use the signalling bearer mode specified below.

8.5.1.2 Successful Operation

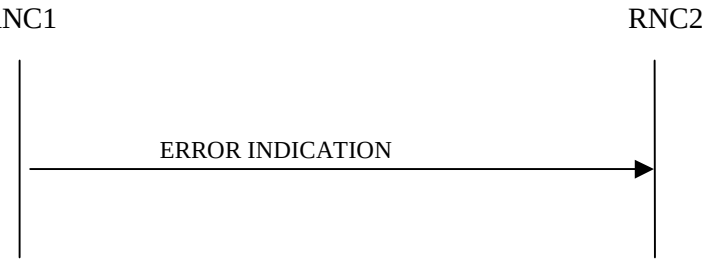

Figure 33: Error Indication procedure, Successful Operation

When the conditions defined in chapter 10 are fulfilled, the Error Indication procedure is initiated by an ERROR INDICATION message sent from the receiving node. This message shall use the same mode of the signalling bearer and the same signalling bearer connection (if connection oriented) as the message that triggers the procedure.

Typical cause values for the ERROR INDICATION message are:

Protocol Causes:

- Transfer Syntax Error
- Abstract Syntax Error ('Reject)
- Abstract Syntax Error (Ignore and Notify)
- Message not Compatible with Receiver State
- Unspecified

8.5.1.3 Abnormal Conditions

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9 Elements for RNSAP Communication

9.1 Message Functional Definition and Content

9.1.1 General

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

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

All the RNSAP messages are listed in the following table:

Message name	Reference
RADIO LINK SETUP REQUEST	9.1.3
RADIO LINK SETUP RESPONSE	9.1.4
RADIO LINK SETUP FAILURE	9.1.5
RADIO LINK ADDITION REQUEST	9.1.6
RADIO LINK ADDITION RESPONSE	9.1.7
RADIO LINK ADDITION FAILURE	9.1.8
RADIO LINK DELETION REQUEST	9.1.9
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9.1.2 Message Contents

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

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

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

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
D-RNTI	O			
Allowed Queuing time	O			
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 the UL.
UL Transport Format Combination Set	M			
UL DPCCH Slot Format	M			
Uplink~~L~~ Eb/No Target	O		Uplink Eb/No	
Diversity mode	M			
D Field Length	C-FB			
SSDT Cell ID Length	O			
S Field Length	O			
Mean Bit Rate	O			For the UL.
DL DPCH Information		*1*		
Transport Format Combination Set	M			
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.
TPC Downlink Step Size	M			
Mean Bit Rate	O			For the DL.
DCH Information		*1..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			

RL Information		*1…<maxnoofRLs>*		
RL ID	M			
C-ID	M			
Frame Offset	M			
Chip Offset	M			
Propagation Delay	O			
Diversity Control Field	C – NotFirstRL			
Initial DL TX Power	O		DL Power	
Primary CPICH Ec/Io	O			
SSDT Cell ID	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.
SlotFormat	This IE is only present if the DL DPCH Slot Format is equal to any of the values 12 to 16.
NotFirstRL	This IE is present only if the RL is not the first one in the **RL Information**.

Range bound	Explanation
MaxnoofDCHs	Maximum number ~~no.~~ of DCHs for one UE.
MaxnoofRLs	Maximum number ~~no.~~ of RLs for one UE.

9.1.3.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
D-RNTI	O			
Allowed Queuing time	O			
Mean Bit Rate	O			For the UL.
Mean Bit Rate	O			For the DL.
UL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			For the UL.
TFCI Coding	M			
Puncture Limit	M			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			For the DL.
TFCI Coding	M			
Puncture Limit	M			
DCH Information		*1..<maxnoofDCHs>*		
DCH ID	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			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
RL Information		*1*		
RL ID	M			
C-ID	M			
Frame Offset	M			
Primary CCPCH RSCP	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number ~~no.~~ of DCHs for one UE.
MaxnoofCCTrCHs	Maximum number ~~no.~~ of CCTrCH for one UE.

9.1.4 RADIO LINK SETUP RESPONSE

9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1..<maxnoofRLs>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	C-NotFirstRL			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofTDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Uplink Eb/No Target	O		Uplink Eb/No	

Downlink Eb/No Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the ~~Node B~~DRNS.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the ~~Node B~~DRNS.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum number ~~no.~~ of RLs for one UE.
MaxnoofDCHs	Maximum number ~~no.~~ of DCHs for one UE.
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell.
MaxnoofTDDneighbours	Maximum number of neighbouring TDD cell for one cell.

9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Uplink Eb/No Target	O		Uplink Eb/No	
Downlink Eb/No Target	O			
UL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Neighbouring FDD Cell Information	O	*0..<maxnoofFDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			

Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofTDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDPCHs	Maximum number ~~no.~~ of DPCHs for one CCTrCH.
MaxnoofDCHs	Maximum number ~~no.~~ of DCHs for one UE.
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell
MaxnoofTDDneighbours	Maximum number of neighbouring TDD cell for one cell
MaxnoofCCTrCHs	Maximum number ~~no.~~ of CCTrCH for one UE.

9.1.5 RADIO LINK SETUP FAILURE

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Unsuccessful RL Information Response		*1...<maxnoofRLs>*		
RL ID	M			
Cause	M			
Successful RL Information Response		*0..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	M			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Neighbouring FDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case3			
PSCH Time Slot	C-Case2&3			
Uplink Eb/No Target	O		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink	

			Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Downlink Eb/No Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the ~~Node B~~DRNS.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the ~~Node B~~DRNS.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum number ~~no.~~ of RLs for one UE.
MaxnoofDCHs	Maximum number ~~no.~~ of DCHs for one UE.

9.1.5.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1*		
RL ID	M			
Cause	M			
Criticality Diagnostics	O			

9.1.6 RADIO LINK ADDITION REQUEST

9.1.6.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Uplink Eb/No Target	M		Uplink Eb/No	
RL Information		*1..<maxnoofRLs-1>*		
RL ID	M			
C-Id	M			
Frame Offset	M			
Chip Offset	M			
Diversity Control Field	M			
Primary CPICH Ec/Io	O			
SSDT Cell Identity	O			

Range bound	Explanation
MaxnoofRLs	Maximum number of radio links for one UE

9.1.6.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information		*1*		
RL ID	M			
C-Id	M			
Frame Offset	M			
Diversity Control Field	M			
Primary CCPCH RSCP	O			

9.1.7 RADIO LINK ADDITION RESPONSE

9.1.7.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL Scrambling Code	M			
DL Channelisation Code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information

9.1.7.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
UL CCTrCH Information		*1..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<maxnoOfDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
DL DPCH information		*1..<maxnoOfDPCHs>*		
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			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			

Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range Bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information
MaxnoOfDPCHs	Maximum number of DPCH in one CCTrCH
MaxnoofCCTrCHs	Number ~~no.~~ of ~~-~~CCTrCH for one UE.

9.1.8 RADIO LINK ADDITION FAILURE

9.1.8.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
Cause	M			
Succesfull RL Information Response		*1..<maxnoofRLs-2>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL scrambling code	M			
DL channelisation code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information

9.1.8.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1*		
RL ID	M			
Cause	M			
Criticality Diagnostics	O			

9.1.9 RADIO LINK DELETION REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information		*1..<maxnoofRLs>*		
RL ID	M			

Range bound	Explanation
MaxnoofRLs	Maximum number of radio links for one UE

9.1.10 RADIO LINK DELETION RESPONSE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Criticality Diagnostics	O			

9.1.11 RADIO LINK RECONFIGURATION PREPARE

9.1.11.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
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 the UL.
TFCS	O			TFCS for the UL.
UL DPCCH Slot Format	O			
SSDT Cell Identity Length	O			
S-Field Length	O			
Mean Bit Rate	O			For the UL.
DL DPCH Information		*0..1*		
TFCS	O			TFCS for the DL.
DL DPCH Slot Format	O			
TFCI Signalling Mode	O			
TFCI Presence	C-SlotFormat			
Multiplexing Position	O			
Mean Bit Rate	O			For the DL.
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Indicator	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			
RL Information		*0..<maxnoofRLs>*		
RL ID	M			

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 values 12 to 16.

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

9.1.11.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
Mean Bit Rate	O			For the UL
Mean Bit Rate	O			For the DL
UL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	O			For the UL.
TFCI Coding	O			
Puncture Limit	O			
DL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	O			For the DL.
TFCI Coding	O			
Puncture Limit	O			
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
CCTrCH Id	O			UL CCTrCH in which the DCH is mapped.
CCTrCH Id	O			DL CCTrCH in which the DCH is mapped
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoofDCHs>*		
DCH ID	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 Indicator	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

9.1.12 RADIO LINK RECONFIGURATION READY

9.1.12.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
RL Information Response		*0..<maxnoofRLs>*		
RL ID	M			
Maximum Uplink Eb/No	O		Uplink Eb/No	
Minimum Uplink Eb/No	O		Uplink Eb/No	
Downlink Code Information		*0..<maxnoofDLCodes>*		
DL Scrambling Code	M			
DL Channelisation Code	M			
DCH to be Added		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality Diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs.
MaxnoofRLs	Maximum number of RLs for a UE.
MaxnoofDLCodes	Maximum number of Downlink Channelisation Codes.

9.1.12.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
RL Information Response		*0..1*		
RL ID	M			
Maximum Uplink Eb/No	O		Uplink Eb/No	
Minimum Uplink Eb/No	O		Uplink Eb/No	
UL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<maxnoofDPCHs>*		
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			
DL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<maxnoofDPCHs>*		
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			
DCH to be Added		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			

Criticality Diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
Maxnoof DPCHs	Maximum number of DPCHs in one CCTrCH.

9.1.13 RADIO LINK RECONFIGURATION COMMIT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
CFN	M			

9.1.14 RADIO LINK RECONFIGURATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Cause	M			
RLs Causing Reconfiguration Failure		*0..<maxnoofRLs>*		
RL ID	M			
Cause	M			
Criticality Diagnostics	O			

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

9.1.15 RADIO LINK RECONFIGURATION CANCEL

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			

9.1.16 RADIO LINK RECONFIGURATION REQUEST

9.1.16.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
UL DPCH Information		*0..1*		
TFCS	O			TFCS for the UL.
Mean Bit Rate	O			
DL DPCH Information		*0..1*		
TFCS	O			TFCS for the DL.
TFCI Signalling Mode	O			
Mean Bit Rate	O			
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to add		*0..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.

9.1.16.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
Mean Bit Rate	O			For the UL
Mean Bit Rate	O			For the DL
UL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			
DL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
CCTrCH ID	O			UL CCTrCH in which the DCH is mapped.
CCTrCH ID	O			DL CCTrCH in which the DCH is mapped
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoofDCHs>*		
DCH ID	M			
RLC 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.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

9.1.17 RADIO LINK RECONFIGURATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
RL Information Response		*0..<maxnoofRLs>*		
RL ID	M			
Maximum Uplink Eb/No	O		Uplink Eb/No	
Minimum Uplink Eb/No	O		Uplink Eb/No	
DCH to be Added		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality Diagnostics	O			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofRLs	Maximum number of RLs for a UE.

9.1.18 RADIO LINK FAILURE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information	M	*1 .. <MaxnoofRLs>*		
RL ID	M			
Cause	M			

Range bound	Explanation
MaxnoofRLs	Maximum number ~~no.~~ of RLs for one UE.

9.1.19 RADIO LINK RESTORE INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information		*1 .. <MaxnoofRLs>*		
RL ID	M			

Range bound	Explanation
MaxnoofRLs	Maximum number ~~no.~~ of RLs for one UE.

9.1.20 DL POWER CONTROL REQUEST [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
CHOICE *procedure scope*				
"ALL RL"				
DL Reference Power	M			
"Individual RLs"				
DL Reference Power Information		*1..<maxnoofRLs>*		
RL ID	M			
DL Reference Power	M		DL Power	The SRNS requested downlink power to be used by the downlink inner loop power control to eliminate the power drifting problem.

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

9.1.21 PHYSICAL CHANNEL RECONFIGURATION REQUEST

9.1.21.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information		*1*		
RL ID	M			
DL Code Information		*1 .. <maxnoofDLCodes>*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			

Range bound	Explanation
MaxnoofDLcodes	Maximum number of DL codes for one UE

9.1.21.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information		*1*		
RL ID	M			
UL CCTrCH Information		*1.. <maxnoofCCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<MaxnoofDPCHs>*		
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			

Range bound	Explanation
MaxnoofDPCHs	Maximum number ~~no.~~ of DPCHs for one CCTrCH.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

9.1.22 PHYSICAL CHANNEL RECONFIGURATION COMMAND

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
CFN	M			
Criticality Diagnostics	O			

9.1.23 PHYSICAL CHANNEL RECONFIGURATION FAILURE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality Diagnostics	O			

9.1.24 UPLINK SIGNALLING TRANSFER INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
UC-ID	M			
SAI	M			
C-RNTI	M			
S-RNTI	M			
D-RNTI	O			
L3 Information	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
URA ID	M			
Multiple URAs Indicator	M			
RNCs with Cells in the Accessed URA		*0 .. <MaxRNCinURA-1>*		
RNC-Id	M			

Range bound	Explanation
MaxRNCinURA	Maximum number of RNC in one URA

9.1.25 DOWNLINK SIGNALLING TRANSFER REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
C-Id	M			
D-RNTI	M			
L3 Information	M			
D-RNTI Release Indication	M			

9.1.26 RELOCATION COMMIT

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
RANAP Relocation Information	O			

9.1.27 PAGING REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
CHOICE *paging area*				
"URA"				
URA-Id	M			
"Cell"				
C-Id	M			
SRNC-Id	M		RNC-Id	
S-RNTI	M			
DRX Parameter	M			

9.1.28 DEDICATED MEASUREMENT INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Dedicated Measurement Object Type	M			
CHOICE *Dedicated Measurement Object Type*				
"RL"				
RL Information		*1..<maxnoofRLs>*		
RL-id	M			
DPCH Id	O			
Dedicated Measurement Type	M			
Measurement Characteristics	M			
Report Characteristics	M			

Range bound	Explanation
MaxnoofRLs	Maximum number of individual RLs a measurement can be started on.

9.1.29 DEDICATED MEASUREMENT INITIATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			Are both transaction id and Measurement id needed ?
Measurement Id	M			
CHOICE *Dedicated Measurement Object Type*				Dedicated Measurement Object Type the measurement was initiated with
"RL"				
RL Information		*1..<maxnoofRLs>*		
RL-id	M			
DPCH Id	O			
Dedicated Measurement Value	M			
"ALLRL"				
Dedicated Measurement Value	M			
CFN	O			Dedicated Measurement Time Reference
Criticality Diagnostics	O			

Range bound	Explanation
MaxnoofRLs	Maximum number of individual RLs the measurement can be started on.

9.1.30 DEDICATED MEASUREMENT INITIATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Cause	M			
Criticality Diagnostics	O			

9.1.31 DEDICATED MEASUREMENT REPORT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Measurement Id	M			
CHOICE *Dedicated Measurement Object Type*				Dedicated Measurement Object Type the measurement was initiated with
"RL"				
RL Information		*1..<maxnoofRLs>*		
RL-Id	M			
DPCH Id	O			
Dedicated Measurement Value	M			
"ALLRL"				
Dedicated Measurement Value	M			
CFN	O			Dedicated Measurement Time Reference

Range bound	Explanation
MaxnoofRLs	Maximum number of individual RLs the measurement can be started on.

9.1.32 DEDICATED MEASUREMENT TERMINATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Measurement Id	M			

9.1.33 DEDICATED MEASUREMENT FAILURE INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Cause	M			

9.1.34 COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	M			
C-RNTI	O			Release of an individual C-RNTI.

9.1.35 COMMON TRANSPORT CHANNEL RESOURCES REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	M			
Transport Bearer Request Indicator	M			Request a new transport bearer or to use an existing bearer for the user plane.
Transport Bearer ID	M			Indicates the Iur transport bearer to be used for the user plane.

9.1.36 COMMON TRANSPORT CHANNEL RESOURCES RESPONSE

9.1.36.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
FACH Info for S-CCPCH coupled to PRACH				
Priority Indicator & Initial Window Size		*1..16*		Provide Information for each priority class used
FACH Priority Indicator	M			
MAC-c SDU Length		*1..<MaxNbMACc SDULength>*		
MAC-c SDU Length	M			
FACH Initial Window Size	M			
FACH Info for optional S-CCPCH	O			
FDD S-CCPCH Offset	M			Corresponds to: $\tau_{S\text{-}CCPCH,k}$, see ref. [7]
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			
MultiplexingPosition	M			
STTD Indicator	M			
Priority Indicator & Initial Window Size		*1..16*		Provide Information for each priority class used
FACH Priority Indicator	M			
Data Frame Size		*1..<MaxNbMACc SDULength>*		
……MAC-c SDU Length	M			
FACH Initial Window Size	M			
Transport Layer Address	O			
Binding Identity	O			
Criticality Diagnostics	O			

Range Bound	Explanation
MaxNbMACcSDULength	Maximum number of different MAC-c SDU Lengths.

9.1.36.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
FACH Info for S-CCPCHs coupled to PRACH		*0 .. 1*		
Priority Indicator & Initial Window Size		*1 .. 16*		Provide Information for each priority class used
FACH Priority Indicator	M			
MAC-c SDU Length		*1..< MaxNbMACcSDU Length>*		
MAC-c SDU Length	M			
FACH Initial Window Size	M			
FACH Info for optional group of S-CCPCHs		*0 .. 1*		
TFCS	M			For DL CCTrCH supporting several Secondary CCPCHs
Secondary CCPCH	M	*1.. <MaxnoofSCCPCHs>*		
TDD Channelisation Code	M			
Time Slot	M			
Burst Type	M			
Midamble shift	M			
TDD Physical Channel Offset	M			
Repetition Period	M			
Repetition Length	M			
STTD Indicator	M			
Priority Indicator & Initial Window Size		*1..16*		Provide Information for each priority class used
FACH Priority Indicator	M			
Data Frame Size		*1..< MaxNbMACcSDU Length>*		
……MAC-c SDU Length	M			
FACH Initial Window Size	M			
Transport Layer Address	O			
Binding Identity	O			
Criticality Diagnostics	O			

Range Bound	Explanation
MaxNbMACcSDULength	Maximum number of different MAC-c SDU Lengths.
MaxnoofSCCPCHs	TBD

9.1.37 COMMON TRANSPORT CHANNEL RESOURCES FAILURE

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
Cause	M			
Criticality Diagnostics	O			

9.1.38 COMPRESSED MODE PREPARE [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				
Transaction ID				
TGP1	M		Gap Period	Applies only to the first and all the subsequent odd gaps if TGP2 is present, see ref. [10].
TGP2	O		Gap Period	
TGL	M			
TGD	M			
PD	M			
UL/DL Compressed Mode Selection	M			
Compressed Mode Method	M			
Gap Position Mode	M			
SN	C-Flex			
Downlink Frame Type	M			
Scrambling Code Change	C-SF/2			
Power Control Mode	M			
Power Resume Mode	M			
Uplink Delta Eb/No	M			
Uplink Delta Eb/No After	M			

Condition	Explanation
Flex	This IE is present only if "Gap position Mode" equals to 'flexible'.
SF/2	This IE is present only if Compressed Mode Method equals toSF/2

9.1.39 COMPRESSED MODE READY [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Criticality Diagnostics	O			

9.1.40 COMPRESSED MODE FAILURE [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Cause	M			
Criticality Diagnostics	O			

9.1.41 COMPRESSED MODE COMMIT [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
CFN	M			

9.1.42 COMPRESSED MODE CANCEL [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			

9.1.43 ERROR INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Cause	C_ifalone			
Criticality Diagnostics	C_ifalone			

Condition	Explanation
C_ifalone	At least either of Cause IE or Criticality Diagnostics IE shall be present.

9.2 Information Element Functional Definition and Contents

9.2.1 Common Parameters

This chapter contains parameters that are common to FDD and TDD.

9.2.1.1 Allocation/Retention Priority

This parameter indicates the priority level in the allocation and retention of DCH resources in DRNS.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
9.2.1.1 Allocation/Retention Priority			Frame Handling Priority	

9.2.1.2 Allowed Queuing Time

This parameter specifies the maximum queuing time that is allowed in the DRNS. The default value is no queuing.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Allowed Queuing Time			INTEGER(0. .60)	Seconds

9.2.1.3 Binding ID

The Binding ID is the identifier of a user data stream. It is allocated at the DRNS and it is unique for each transport bearer under establishment to/from the DRNS. The length of this parameter is variable.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Binding ID			Octetstring (1..4,…)	

9.2.1.4 BLER

This Block Error Rate defines the radio interface Transport Block Error Rate that shall be guaranteed to the DCH by the SRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
BLER			INTEGER (-63..0)	Step 0.1. (Range –6.3…0). It is the Log10 of the BLER

9.2.1.5 Cause

The purpose of the cause information element is to indicate the reason for a particular event for the whole protocol.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Cause Group	M		ENUMERATED (Radio Network Layer, Transport Layer, Protocol, Misc)	
CHOICE *cause group*				
Radio Network Layer				
Radio Network Layer Cause	M		ENUMERATED (Unknown C-ID, Cell not Available, Power Level not Supported, UL Scrambling Code Already in Use, DL Radio Resources not Available, UL Radio Resources not Available, Measurement not Supported For The Object, Macrodiversity Combining Not Possible, Reconfiguration not Allowed, Requested Configuration not Supported Synchronisation Failure, Unspecified)	
Transport Layer				
Transport Layer Cause	M		ENUMERATED (Transport link failure, Transmission port not available, Unspecified)	
Protocol				
Protocol Cause			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)	
Misc				
Miscellaneous Cause	M		ENUMERATED (Control Processing Overload Hardware Failure, O&M Intervention, Not enough User Plane Processing Resources, Unspecified)	

9.2.1.6 Cell Identifier (C-Id)

The C-ID (Cell Identifier) is the identifier of a cell in one RNS.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
C-ID			INTEGER (0…65535)	

9.2.1.7 Cell Parameter ID

The Cell Parameter ID identifies unambiguously the Code Groups, Scrambling Codes, Midambles and Toffset (see table 9 of ref. [12]).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Cell Parameter ID			INTEGER (0…127)	

9.2.1.8 CFN

Connection Frame Number for the radio connection, see ref. [15].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CFN			INTEGER (0… 255)	

9.2.1.9 CN CS Domain Identifier

Identification of the CN node in the CS Domain.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CN PS Domain Identifier				
PLMN Id	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN-ID consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
LAC	M		OCTET STRING (3)	0000 and FFFE not allowed

9.2.1.10 CN PS Domain Identifier

Identification of the CN Node in the PS Domain.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CN PS Domain Identifier				
PLMN Id	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN-ID consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
LAC	M		OCTET STRING (2)	0000 and FFFE not allowed
RAC	M		OCTET STRING (1)	

9.2.1.11 Criticality Diagnostics

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Criticality Diagnostics				
Procedure Code	O		INTEGER (0..255)	Procedure code is to be used if Criticality diagnostics is part of Error Indication procedure, and not within the response message of the same operation that caused the error
Triggering Message	O		ENUMERATED(initiating message, successful outcome, unsuccessful outcome, outcome)	The Triggering Message is used only if the Criticality diagnostics is part of Error Indication except when the procedure code is not understood.
Criticality Response	O		ENUMERATED(reject, ignore, notify)	This Criticality response IE is used for reporting the Criticality of the Triggering message
Transaction Id	O		INTEGER (0..255)	
Information Element Criticality Diagnostics		*1..<maxnoof errors>*		
Criticality Response	M		ENUMERATED(reject, ignore, notify)	The Criticality response IE is used for reporting the criticality of the triggering IE. The value 'Ignore" shall never be used.
IE Id	M		INTEGER (0..65535)	The IE Id of the not understood IE as defined in the ASN.1 part of the specification.

Range bound	Explanation
maxnooferrors	Maximum number ~~no.~~ of IE errors allowed to be reported with a single message. The value for maxnooferrors is 256.

9.2.1.12 C-RNTI

C-RNTI (Cell RNTI) is the UE identifier in the CRNC to be used over the radio interface. It is unique in the cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
C-RNTI			INTEGER(0. .65535)	

9.2.1.13 DCH Combination Indicator

The DCH Combination Indicator is used to indicate the multiplexing of more than one DCH on transport bearer. The value should be unique for each group of coordinated DCH's per request message.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DCH Combination Ind			INTEGER (0..255)	

9.2.1.14 DCH ID

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

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DCH ID			INTEGER (0..255)	

9.2.1.15 Dedicated Measurement Object Type

The Dedicated Measurement Object type indicates the type of object that the measurement is to be performed on.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Object Type			ENUMERATED (RL,ALLRL, …)	

9.2.1.16 Dedicated Measurement Type

The Dedicated Measurement Type identifies the type of measurement that shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Type			ENUMERATED (SIR, SIR Error, Transmitted Code Power, RSCP,…)	RSCP is used by TDD only.

NOTE: For definitions of the measurement types refer to ref. [10] and [13].

9.2.1.17 Dedicated Measurement Value

The Dedicated Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated measurement Value				
SIR value	O		Enumerated(-10 .. 20), step 0.1 dB	
SIR error Value	O		Enumerated (-10 .. 10), step 0.1 dB	If SIRerror<=-10, SIR error Value shall be set to –10 If SIRerror=>10, SIR error Value shall be set to 10
Transmitted Code Power Value	O		Enumerated (-35 .. 15), step 0.1 dB	Relative to CPICH
RSCP	O		TBD	TDD only.

<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>

9.2.1.18 Downlink Eb/No Target

It is the Target Downlink Eb/No that shall be used as initial value by the UE.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Downlink Eb/No Target			Uplink Eb/No	

9.2.1.19 D-RNTI

D-RNTI is the UE context identifier in the DRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
D-RNTI			Integer(0..2^ 20 –1)	

9.2.1.20 D-RNTI Release Indication

The D-RNTI Release Indication indicates whether or not a CRNC shall release the D-RNTI allocated for a particular UE.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
D-RNTI Release Indication			ENUMERATED (Release D-RNTI, not Release D-RNTI)	

9.2.1.21 DRX Parameter

[Editor's note: This parameter needs to be defined. Contributions are invited.]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DRX Parameter			TBD	

9.2.1.22 FACH Initial Window Size

Indicates the initial number of MAC-c SDUs that may be transmitted before an acknowledgement is received from the DRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FACH Initial Window Size			INTEGER (0..255)	Number of framesMAC-c SDUs. 255 = Unlimited number of FACH data frames.

9.2.1.23 FACH Priority Indicator

Indicates the relative priority of the FACH data frame. Used by the DRNC when scheduling FACH traffic.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FACH Priority Indicator			INTEGER (0..15)	Relative priority of the FACH data frame: 0=Lowest Priority … 15=Highest Priority

9.2.1.24 Frame Handling Priority

This parameter indicates the priority level to be used during the lifetime of the DCH/DSCH for temporary restriction of the allocated resources due overload reason.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Frame Handling Priority			INTEGER (0..15)	0=Lowest Priority, … 15=Highest Priority

9.2.1.25 Frame Offset

Frame Offset is the required offset between the dedicated channel downlink transmission frames (CFN, Connection Frame Number) and the broadcast channel frame offset (Cell Frame Number). The Frame_offset is used in the translation between Connection Frame Number (CFN) on Iub/Iur and least significant 8 bits of SFN (System Frame Number) on Uu. The Frame Offset is UE and cell specific.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Frame Offset			INTEGER (0..255)	Frames

9.2.1.26 MAC-c SDU Length

Indicates the MAC-c SDU Length. There may be multiple data frame sizes per priority class.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
MAC-c SDU Length			INTEGER (1..5000)	Size of the MAC-c SDU in number of bits.

9.2.1.27 Mean Bit Rate

It is the mean user data rate that is expected to be carried by the transport channels of one radio link.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Mean Bit Rate			INTEGER (1…2000)	Kbit/seconds

9.2.1.28 Measurement Characteristics

The Measurement Characteristics indicates how the measurement shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement Characteristics				
Measurement Frequency	M		TBD	
Averaging Duration	M		TBD	

Editors Note: The exact definition and structure is this information element awaits decisions in TSG RAN WG2.

9.2.1.29 Measurement ID

The Measurement Id uniquely identifies any measurement on dedicated resources requested over RNSAP.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement ID			Integer(0 .. 2^20-1)	

9.2.1.30 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type			ENUMERATED (RL Setup Request, RL Setup Response, RL Setup Failure, RL Addition Request, RL Addition Response, RL Addition Failure, RL Deletion Request, RL Deletion Response, RL Reconfiguration Prepare, RL Reconfiguration Ready, RL Reconfiguration Commit, RL Reconfiguration Failure, RL Reconfiguration Cancel, RL Reconfiguration Request, RL Reconfiguration Response, RL Failure Indication, RL Restore Indication, DL Power Control Request, Physical Channel Reconfiguration Request, Physical Channel Reconfiguration Command, Physical Channel Reconfiguration Failure, UL Signalling Transfer Indication, DL Signalling Transfer Request, Relocation Commit, Paging Request, Dedicated Measurement Initiation Request, Dedicated Measurement Initiation Response, Dedicated Measurement Initiation Failure, Dedicated Measurement Report, Dedicated Measurement Termination Request, Dedicated Measurement Failure Indication, Common Transport Channel Resources Release Request, Common Transport Channel Resources Request, Common Transport Channel Resources Response, Common Transport Channel Resources Failure, Compressed Mode Prepare, Compressed Mode Ready, Compressed Mode Failure, Compressed Mode Commit, Compressed Mode Cancel, Error Indication, …)	Future extensions shall be possible

9.2.1.31 Multiple URAs Indicator

The Multiple URAs Indicator indicates whether the accessed cell has multiple URAs.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Multiple URAs Indicator			Enumerated (Multiple URA s exist, Single URA Exists)	

9.2.1.32 Payload CRC Present Indicator

This parameter indicates whether FP payload 16 bit CRC is used or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Payload CRC Presence Indicator			ENUMERATED (CRC Included, CRC not included)	

9.2.1.33 Primary CPICH Power

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Primary CPICH power			ENUMERATED (-15..40)	Unit dBm Granularity 0.1 dB.

9.2.1.34 Primary Scrambling Code

The Primary scrambling code to be used in the cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Primary Scrambling Code			INTEGER (0 .. 511)	

9.2.1.35 PSCH Time Slot

The PSCH Time Slot is only applicable if the value of *Sync Case* IE is Case 2 or 3.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PSCHTime Slot			INTEGER(0..6)	

9.2.1.36 Puncture Limit

The maximum amount of puncturing for a transport channel in rate matching.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Puncture Limit			INTEGER (0..100)	%

9.2.1.37 RANAP Relocation Information

This parameter is transparent to the RNSAP. The parameter contains information for the Relocation procedure as defined in [1].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RANAP Relocation Information			Bit String	The contents is defined in ref. [1].

9.2.1.38 Report Characteristics

The report characteristics, defines how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Report characteristics				
Report characteristics type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F)	
~~..~~ **Periodic Report Information**	C – Periodic			
Report Periodicity	M		ENUMERATED (10ms…1min) step 10ms, (1min…1hr) step 1min	The periodicity ~~frequency~~ with which the ~~Node B~~DRNS shall send measurement reports. First working assumption!
~~..~~ **Event A**	C – Event A			
Measurement Threshold	M		TBD	The threshold for which the ~~Node B~~DRNS shall trigger a measurement report.
Measurement Hysteresis Time	O		ENUMERATED (10ms…1min) step 10ms,…	
Event B	C – Event B			
Measurement Threshold	M		TBD	The threshold for which the ~~Node B~~DRNS shall trigger a measurement report.
Measurement Hysteresis Time	O		ENUMERATED (10ms…1min) step 10ms,…	
Event C	C – Event C			
Measurement Increase Threshold	M		TBD	
Measurement Change Time	M		ENUMERATED (10ms…1min) step 10ms,…	The time within which the measurement entity shall rise ~~on (in ms)~~, in order to trigger a measurement report.
Event D	C – Event D			
Measurement Decrease Threshold	M		TBD	
Measurement Change Time	M		ENUMERATED (10ms…1min) step 10ms,…	The time within which the measurement entity shall fall ~~(in ms)~~, in order to trigger a measurement report.
Event E	C – Event E			
Measurement Threshold 1	M		TBD	
Measurement Threshold 2	O		TBD	

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 periodicity ~~frequency~~ with which the ~~Node B~~DRNS shall send measurement reports.
Event F	C – Event F			
Measurement Threshold 1	M		TBD	
Measurement Threshold 2	O		TBD	
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 periodicity ~~frequency~~ with which the ~~Node B~~DRNS shall send measurement reports.

Editors note: Encoding of threshold TBD.

Condition	Explanation
C-Periodic	Valid if *Report Characteristics Type* IE indicates "periodic"
C-Event A	Valid if *Report Characteristics Type* IE indicates "Event A"
C-Event B	Valid if *Report Characteristics Type* IE indicates "Event B"
C-Event C	Valid if *Report Characteristics Type* IE indicates "Event C"
C-Event D	Valid if *Report Characteristics Type* IE indicates "Event D"
C-Event E	Valid if *Report Characteristics Type* IE indicates "Event E"
C-Event F	Valid if *Report Characteristics Type* IE indicates "Event F"

9.2.1.39 RL ID

The RL ID is the unique identifier for one RL associated with a UE.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RL ID			INTEGER (0..31)	

9.2.1.40 RLC Mode

This parameter defines the RLC mode of the logical channels multiplexed on the transport channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RLC Mode			ENUMERATED(Acknowledged Mode, Unacknowledged Mode, Transparent Mode)	

9.2.1.41 RNC-Id

This is the identifier of one RNC in UTRAN.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RNC Id			INTEGER (0..4095)	

9.2.1.42 Service Area Identifier (SAI)

This information element is used to uniquely identify an area consisting of one or more cells belonging to the same Location Area. Such an area is called a Service Area and can be used for indicating the location of a UE to the CN.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SAI				
PLMN Id	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN-ID consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
LAC	M		OCTET STRING (2)	0000 and FFFE not allowed
SAC	M		OCTET STRING (2)	

9.2.1.43 S-RNTI

S-RNTI is the UE context identifier in the SRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
S-RNTI			Integer(0..2^20 –1)	

9.2.1.44 Sync Case

The PSCH and PCCPCH in a TDD cell are mapped on one or two downlink slots per frame. There are three cases of Sync Case as follows:

Case 1) PSCH and PCCPCH allocated in a single TS#k

Case 2) PSCH in two TS and PCCPCH in the same two TS: TS#k and TS#k+8

Case 3) PSCH in two TS, TS#k and TS#k+8, and the PCCPCH in TS#i, pointed by PSCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Sync Case			ENUMERATED (Case1, Case2, Case3)	

9.2.1.45 TFCI Presence

The TFCI Presence parameter indicates whether the TFCI shall be included.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI presence			ENUMERATED (Present, not present)	

9.2.1.46 Time Slot

The Time Slot represents the time interval assigned to a Physical Channel referred to the start of a Radio Frame.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Time Slot			INTEGER (0..14)	

9.2.1.47 ToAWE

ToAWE is the window endpoint. DL data frames are expected to be received before this window endpoint. ToAWE is defined with a positive value relative Latest Time of Arrival (LToA). A data frame arriving after ToAWS gives a Timing Adjustment Control frame response.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
ToAWE			INTEGER (0..2559)	msec.

9.2.1.48 ToAWS

ToAWS is the window startpoint. DL data frames are expected to be received after this window startpoint. ToAWS is defined with a positive value relative Time of Arrival Window Endpoint (ToAWE). A data frame arriving before ToAWS gives a Timing Adjustment Control frame response.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
ToAWS			INTEGER (0..1279)	msec.

9.2.1.49 Transaction ID

The Transaction ID is used to associate all the messages belonging to the same pending procedure of the same RNSAP procedure type (e.g. Radio Link Addition), i.e. the Request-, Response-, Confirm-type of messages have the same Transaction ID. The messages belonging to different pending procedures have different Transaction IDs.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transaction ID			INTEGER (0..255)	Since the scope is not clear, the range of this parameter is to be considered a working assumption

9.2.1.50 Transport Bearer ID

The Transport Bearer ID uniquely identifies an Iur transport bearer.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transport Bearer ID			INTEGER (0..4095)	

9.2.1.51 Transport Bearer Request Indicator

Indicates whether an Iur transport bearer needs to be established for carrying the FACH data stream(s), or whether an existing transport bearer will be used.

IE/Group Name	Presence	Mult	IE type and reference	Semantics description
Transport Bearer Request Indicator			ENUMRATED(Bearer Requested, Bearer not Requested)	

9.2.1.52 Transport Layer Address

Transport Layer Address defines the transport address of the DRNS. For details on the Transport Address used see [2].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transport Layer Address			Bit string(1…160, …)	

9.2.1.53 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.
CTFC	M		INTEGER(0..MaxCTFC-1)	Integer number calculated according to ref. [14].

Range bound	Explanation
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 ref. [14].

9.2.1.54 Transport Format Set

The Transport Format Set is defined as the set of Transport Formats associated to a Transport Channel, e.g. DCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transport Format Set				
Dynamic Transport Format Information		1..<maxTFcount>		
Number of Transport blocks	M		INTEGER (0..4095)	
Transport Block Size	C – Blocks		INTEGER (1..5000)	Bits
CHOICE *mode*				
TDD				
Transmission time interval	C-TTIdynamic	1..<maxTTIcount>	Enumerated(10, 20, 40, 80)	
Semi-static Transport Format Information				
Transmission time interval	C-TTIsemistatic		ENUMERATED (10, 20, 40, 80)	msec
Type of channel coding	M		ENUMERATED (No coding, Convolutional, Turbo)	
Coding Rate	C – Coding		ENUMERATED (1/2, 1/3)	
Rate matching attribute	M		INTEGER (1..maxRM)	
CRC size	M		ENUMERATED (0, 8, 12, 16, 24)	
CHOICE *mode*				
TDD				
2nd interleaving mode	M		Enumerated (Frame related, Timeslot related)	

Condition	Explanation
Blocks	This IE is only present if "Number of Transport Blocks" is greater than 0.
Coding	This IE is only present if IE "Type of channel coding" is "Convolutional" or "Turbo"
TTIdynamic	This IE is mandatory if not defined as semistatic parameter. Otherwise it is absent.
TTIsemistatic	This IE is mandatory if not defined as dynamic parameter. Otherwise it is absent.

Range bound	Explanation
MaxTFcount	The maximum number of different transport formats that can be included in the Transport format set for one transport channel is 32.
MaxRM	The maximum number that could be set as rate matching attribute for a transport channel is 256.
MaxTTIcount	The amount of different TTI that are possible for that transport format is 4.

9.2.1.55 UARFCN

The UTRA~~N~~ Absolute Radio Frequency Channel Number defines the carrier.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UARFCN			INTEGER (0..698, …)	Corresponds to: 1885.2~~MHz~~..2024.8 MHz For FDD range see ref. [5]. For TDD range see ref. [6].

9.2.1.56 UL FP Mode

This parameter defines if normal or silent mode of the Frame Protocol shall be used for the UL.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL FP mode			ENUMERATED(Normal, Silent)	

9.2.1.57 Uplink Eb/No

The Uplink~~L~~ Eb/No indicates a received Uplink~~L~~ Eb/No.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Eb/No			INTEGER (0..255)	Resolution is 0.1 dB, range 0-25.5 dB.

9.2.1.58 UL Interference Level

The parameter indicates the UL Interference Level in a cell. The UL Interference Level is used by the UE to calculate its initial UL power for the cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL Interference Level			ENUMERATED (-128..-60)	Unit: dBm, Step size=0.1 dB

9.2.1.59 URA ID

IE/Group Name	Presence	Range	IE type and reference	Semantics description
URA ID			INTEGER (0..65 535)	

9.2.1.60 UTRAN Cell Identifier (UC-Id)

The UC-ID (UTRAN Cell identifier) is the identifier of a cell in one UTRAN.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UC-ID		1		
RNC-ID	M		INTEGER (0…4095)	
C-ID	M		C-ID	

9.2.1.61 L3 Information

This parameter contains the Layer 3 Information from a Uu message as received from the UE over the Uu interface or the Layer 3 Information for a Uu message to be sent to a UE by the CRNC, as defined in ref. [14].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
L3 Information			Bit String	The content is defined in ref. [14].

9.2.2 FDD Specific Parameters

This chapter contains parameters that are specific to FDD.

9.2.2.1 Chip Offset

The Chip Offset is defined as the radio timing offset inside a radio frame. The Chip Offset is used as offset for the DL DPCH relative to the Primary CPICH timing.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Chip Offset			INTEGER (0..38399)	Chips

9.2.2.2 Compressed Mode Method

Defines the method for generating the downlink compressed mode gap, as described in ref. [8].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Compressed Mode Method			ENUMERATED (None, Puncturing, SF/2, ~~Gating~~Higher Layer Scheduling)	None = restore the normal mode

9.2.2.3 D-Field Length

Defines the D Field size of the UL DPCCH slot.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
D Field Length			ENUMERATED (1, 2)	

9.2.2.4 Diversity Control Field

The Diversity Control Field indicates if the current RL may, must or must not be combined with the already existing RLs.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Control Field			ENUMERATED(May, Must, Must not)	

9.2.2.5 Diversity Indication

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Indication			ENUMERATED (Combined, Not Combined)	

Define the diversity mode to be applied.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Mode			ENUMERATED(None, STTD, Closed loop mode 1, Closed loop mode2)	

9.2.2.7 DL DPCH Slot Format

Indicates the slot format used in DPCH in DL, according to ref. [7].

The Diversity Indication indicates if the RL has been or has not been combined with another RL.

9.2.2.6 Diversity Mode

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DL DPCH Slot Format			INTEGER (0..16)	

9.2.2.8 DL Scrambling Code

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

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DL Scrambling Code			INTEGER (0..15)	0= Primary scrambling code of the cell 1…15= Secondary scrambling code

9.2.2.9 Downlink Frame Type

This parameter defines if frame type 'A' or 'B' shall be used in downlink compressed mode. This is defined in [8].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Downlink Frame Type			ENUMERATED (TypeA, TypeB)	

9.2.2.10 FDD DL Channelisation Code Number

The DL Channelisation Code Number indicates the DL Channelisation Code number for a specific DL physical channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FDD DL Channelisation Code Number	M		INTEGER(0. . 255)	The maximum value is equal to the DL spreading factor –1

9.2.2.11 Gap Position Mode

The gap position can be fixed or adjustable, as defined in ref. [8].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Gap Position Mode			ENUMERATED (Fixed, Flexible)	

9.2.2.12 Gap Period (TGP)

Gap Period is the period of repetition of a set of consecutive frames containing up to 2 transmission gaps.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Gap Period			INTEGER(0. .255)	Frames

9.2.2.13 Gap Starting Slot Number (SN)

It defines the slot number when the transmission gap starts.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SN			Time Slot	

9.2.2.14 Max Number of UL DPDCHs

This parameter is an UE Radio Access Capability parameter which is needed in rate matching algorithm.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Max Number of UL DPDCHs			INTEGER (1..6)	

9.2.2.15 Min UL Channelisation Code Length

Minimum UL channelisation code length (spreading factor) of a DPDCH which is supported by UE. Needed by rate matching algorithm.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Min UL Channelisation Code Length			ENUMERATED(4,8,16, 32,64,128, 256)	

9.2.2.16 Multiplexing Position

Multiplexing Position specifies whether fixed or flexible positions of transport channels shall be used in the physical channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Multiplexing Position ~~Position~~			ENUMERATED(Fixed, Flexible)	

9.2.2.17 Pattern Duration (PD)

Pattern duration is the total time of then compressed mode pattern (all consecutive TGPs) expressed in number of frames.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PD			INTEGER(0. .2047, …)	Frames

9.2.2.18 Power Control Mode (PCM)

Power Control Mode specifies the uplink power mode applied during recovery period after each transmission gap in compressed mode. PCM can take 2 values (0 or 1). The different power control modes are described in ref. [9].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Control Mode			ENUMERATED (0, 1,..)	

9.2.2.19 Power Offset

This IE defines a power offset respect the Downlink transmission power of a DPCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Offset			INTEGER (0…24)	Step 0.25 dB, range 0-6 dB

9.2.2.20 Power Resume Mode (PRM)

Power Resume Mode selects the uplink power control method to calculate the initial transmit power after the gap. PRM can take two values (0 or 1) and is described in ref. [9].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Resume Mode			ENUMERATED (0, 1,..)	Described in ref. [9].

9.2.2.21 Primary CPICH Ec/No

Energy per chip divided by the power density per band measured on the Primary CPICH by the terminal.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Primary CPICH Ec/No			INTEGER (-30…+30)	dB, step 1 dB

9.2.2.22 Propagation Delay (PD)

Propagation delay is the one-way propagation delay of the radio signal from the ~~MS~~ UE to the Node B.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Propagation Delay			INTEGER (0..255)	Chips. Step size is 3 chips. 0=0 chips, 1=3 chips, …

9.2.2.23 S-Field Length

The UE uses the S Field of the UL DPCCH slot to send the SSDT Cell ID to the network.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
S Field Length			ENUMERATED (1, 2)	

9.2.2.24 Scrambling Code Change

This parameter indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Scrambling Code Change			ENUMERATED (Change, No change)	

9.2.2.25 Slot Number (SN)

It defines the slot number when the transmission gap starts.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SN			Time Slot	

9.2.2.26 SSDT Cell Identity

The SSDT Cell ID is a temporary ID for SSDT assigned to a cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Cell Identity			ENUMERATED (a, b.., h)	

9.2.2.27 SSDT Cell Identity Length

The SSDT Cell ID Length parameter shows the length of the SSDT Cell ID.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Cell ID Length			ENUMERATED(Short, Medium, Long)	

9.2.2.28 SSDT Indication

The SSDT Indication indicates whether SSDT is in use by the UE or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Indication			ENUMERATED(SSDT Active in the UE, SSDT not Active in the UE)	

9.2.2.29 SSDT Support Indicator

The SSDT Support Indicator indicates whether a RL supports SSDT or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Support Indicator			ENUMERATED (SSDT Supported, SSDT not supported).	

9.2.2.30 TFCI Signalling Mode

This parameter indicates if the normal or split mode is used for the TFCI.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI Signalling Mode			ENUMERATED (Normal, Split)	

9.2.2.31 TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TPC Downlink step size			ENUMERATED (0.5, 1)	

9.2.2.32 Transmission Gap Distance (TGD)

Transmission Gap Distance is the duration of transmission between two consecutive transmission gaps within a transmission gap period, expressed in number of frames. 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..255)	Frames

9.2.2.33 Transmit Gap Length (TGL)

Transmission Gap Length is the duration of no transmission, expressed in number of slots.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TGL			INTEGER (3,4,7,10,14)	Slot

9.2.2.34 UL/DL Compressed Mode Selection

This parameter specifies whether compressed mode is used in UL only, DL only or both UL and DL

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL/DL Compressed Mode Selection			ENUMERATED (in UL only, DL only or both UL and DL)	

9.2.2.35 UL DPCCH Slot Format

Indicates the slot format used in DPCCH in UL, according to ref. [7].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL DPCCH Slot Format			INTEGER (0..5)	

9.2.2.36 UL Scrambling Code

The UL Scrambling Code is the scrambling code used by UE. Every UE has its specific UL Scrambling Code.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL scrambling code				
UL Scrambling Code Number	M		INTEGER (0.. 2^{24}-1)	
UL Scrambling Code Length	M		ENUMERATED(Short, Long)	

9.2.2.37 Uplink Delta Eb/No

The delta in uplink Eb/No that shall be added to the Eb/No target used during compressed mode frames.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Delta Eb/No			Enumerated (-6..+10dB)	Step 0.1 dB.

9.2.2.38 Uplink Delta Eb/No After

The delta in uplink Eb/No target that shall be added to the Eb/No target used one frame after the compressed mode frames.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Delta Eb/No after			Enumerated (-6..+10dB)	Step 0.1 dB.

9.2.3 TDD Specific Parameters

This chapter contains parameters that are specific to TDD.

9.2.3.1 Burst Type

Defines the burst type of the physical channel, see ref. [11].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Burst Type			ENUMERATED (Type1, Type2)	

9.2.3.2 CCTrCH ID

The CCTrCH ID identifies unambiguously a CCTrCH inside a Radio Link.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CCTrCH ID			INTEGER (0..15)	

9.2.3.3 DPCH ID

The DPCH ID identifies unambiguously a DPCH inside a Radio Link.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DPCH ID			INTEGER (0..239)	

9.2.3.4 Midamble Shift

Different bursts transmitted simultaneously, using the same midamble code shall use different Midamble Shifts.

The 256 chip midamble supports 3 different time shifts, the 512 chips midamble may support 8 or even 16 time shifts.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Midamble Shift			INTEGER (0..15)	

9.2.3.5 Primary CCPCH RSCP

Received Signal Code Power is the received power on PCCPCH of the target cell after despreading. The reference point for the RSCP is the antenna connector at the UE, see ref. [13].

9.2.3.6 Repetition Length

The Repetition Length represents the number of consecutive Radio Frames inside a Repetition Period in which the same Time Slot is assigned to the same Physical Channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Repetition Length			INTEGER(1..63)	

9.2.3.7 Repetition Period

The Repetition Period represents the number of consecutive Radio Frames after which the same assignment scheme of Time Slots to a Physical Channel is repeated. This means that if the Time Slot *K* is assigned to a physical channel in the Radio Frame *J*, it is assigned to the same physical channel also in all the Radio Frames *J+n*Repetition Period* (where *n* is an integer).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Repetition Period			ENUMERATED (1,2,4,8,16,32,64)	

9.2.3.8 TDD Channelisation Code

The Channelisation Code Number indicates which Channelisation Code is used for a given Physical Channel. In TDD the Channelisation Code is an Orthogonal Variable Spreading Factor code, that can have a spreading factor of 1, 2, 4, 8 or 16.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD Channelisation Code			ENUMERATED ((1/1), (2/1), (2/2), (4/1),…(4/4), (8/1), (8/8), (16/1)… (16/16))	

9.2.3.9 TDD Physical Channel Offset

The TDD Physical Channel Offset represents the phase information for the allocation of a physical channel. (SFN mod Repetition Period = TDD Physical Channel Offset).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD Physical Channel Offset			INTEGER (0..63)	

9.2.3.10 TFCI Coding

The TFCI Coding describes how the TFCI bits are coded. By default 1 TFCI bit is coded with 4 bits, 2 TFCI bits are coded with 8 bits, 3-5 TFCI bits are coded with 16 bits and 6-10 TFCI bits are coded with 32 bits.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI Coding	M		Enumerated (4, 8, 16, 32)	

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 multivendor 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 Elementary Procedure Definitions

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

RNSAP-PDU-Descriptions -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Criticality,
    ProcedureID,
    TransactionID
FROM RNSAP-CommonDataTypes
```

```
    CommonTransportChannelResourcesFailure,
    CommonTransportChannelResourcesRequest,
    CommonTransportChannelResourcesReleaseRequest,
    CommonTransportChannelResourcesResponseFDD,
    CommonTransportChannelResourcesResponseTDD,
    CompressedModeCancel,
    CompressedModeCommit,
    CompressedModeFailure,
    CompressedModePrepare,
    CompressedModeReady,
    DedicatedMeasurementFailureIndication,
    DedicatedMeasurementInitiationFailure,
    DedicatedMeasurementInitiationRequest,
    DedicatedMeasurementInitiationResponse,
    DedicatedMeasurementReport,
    DedicatedMeasurementTerminationRequest,
    DL-PowerControlRequest,
    DownlinkSignallingTransferRequest,
    ErrorIndication,
    PagingRequest,
    PhysicalChannelReconfigurationCommand,
    PhysicalChannelReconfigurationFailure,
    PhysicalChannelReconfigurationRequestFDD,
    PhysicalChannelReconfigurationRequestTDD,
    PrivateMessage,
    RadioLinkAdditionFailureFDD,
    RadioLinkAdditionFailureTDD,
    RadioLinkAdditionRequestFDD,
    RadioLinkAdditionRequestTDD,
    RadioLinkAdditionResponseFDD,
    RadioLinkAdditionResponseTDD,
    RadioLinkDeletionRequest,
    RadioLinkDeletionResponse,
    RadioLinkFailureIndication,
    RadioLinkReconfigurationCancel,
    RadioLinkReconfigurationCommit,
    RadioLinkReconfigurationFailure,
    RadioLinkReconfigurationPrepareFDD,
    RadioLinkReconfigurationPrepareTDD,
    RadioLinkReconfigurationReadyFDD,
    RadioLinkReconfigurationReadyTDD,
    RadioLinkReconfigurationRequestFDD,
    RadioLinkReconfigurationRequestTDD,
    RadioLinkReconfigurationResponseFDD,
    RadioLinkReconfigurationResponseTDD,
    RadioLinkRestoreIndication,
    RadioLinkSetupFailureFDD,
    RadioLinkSetupFailureTDD,
    RadioLinkSetupRequestFDD,
    RadioLinkSetupRequestTDD,
    RadioLinkSetupResponseFDD,
```

```
    RadioLinkSetupResponseTDD,
    RelocationCommit,
    UplinkSignallingTransferIndication
FROM RNSAP-PDU-Contents

    id-commonTransportChannelResourcesInitiationFDD,
    id-commonTransportChannelResourcesInitiationTDD,
    id-commonTransportChannelResourcesRelease,
    id-compressedModeCancellationFDD,
    id-compressedModeCommitFDD,
    id-compressedModePrepareFDD,
    id-downlinkPowerControl,
    id-downlinkSignallingTransfer,
    id-errorIndication,
    id-measurementFailure,
    id-measurementInitiation,
    id-measurementReporting,
    id-measurementTermination,
    id-pagingRequest,
    id-physicalChannelReconfiguration,
    id-privateMessage,
    id-radioLinkAddition,
    id-radioLinkDeletion,
    id-radioLinkFailure,
    id-radioLinkRestoration,
    id-radioLinkSetup,
    id-srnsRelocationCommit,
    id-synchronisedRadioLinkReconfigurationCancellation,
    id-synchronisedRadioLinkReconfigurationCommit,
    id-synchronisedRadioLinkReconfigurationPrepare,
    id-unSynchronisedRadioLinkReconfiguration,
    id-uplinkSignallingTransfer
FROM RNSAP-Constants;

-- **************************************************************
--
-- Interface Elementary Procedure Class
--
-- **************************************************************

RNSAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage              ,
    &SuccessfulOutcome              OPTIONAL,
    &UnsuccessfulOutcome                OPTIONAL,
    &Outcome                    OPTIONAL,
    &procedureID            ProcedureID     UNIQUE,
    &criticality            Criticality     DEFAULT ignore
}
WITH SYNTAX {
    INITIATING MESSAGE      &InitiatingMessage
    [SUCCESSFUL OUTCOME     &SuccessfulOutcome]
```

```
    [UNSUCCESSFUL OUTCOME       &UnsuccessfulOutcome]
    [OUTCOME            &Outcome]
    PROCEDURE ID            &procedureID
    [CRITICALITY            &criticality]
}

-- **************************************************************
--
-- Interface PDU Definition
--
-- **************************************************************

RNSAP-PDU ::= CHOICE {
    initiatingMessage   InitiatingMessage,
    succesfulOutcome    SuccessfulOutcome,
    unsuccesfulOutcome  UnsuccessfulOutcome,
    outcome         Outcome,
    ...
}

InitiatingMessage ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&InitiatingMessage   ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

SuccessfulOutcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome   ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

UnsuccessfulOutcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

Outcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&Outcome     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

-- **************************************************************
--
-- Interface Elementary Procedure List
```

```
--
-- **************************************************************

RNSAP-ELEMENTARY-PROCEDURES RNSAP-ELEMENTARY-PROCEDURE ::= {
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-1         |
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-2         |
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-3         ,
    ...
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-1 RNSAP-ELEMENTARY-PROCEDURE ::= {
    radioLinkSetupFDD                   |
    radioLinkSetupTDD                   |
    radioLinkAdditionFDD                    |
    radioLinkAdditionTDD                    |
    radioLinkDeletion                   |
    synchronisedRadioLinkReconfigurationPreparationFDD  |
    synchronisedRadioLinkReconfigurationPreparationTDD  |
    unSynchronisedRadioLinkReconfigurationFDD       |
    unSynchronisedRadioLinkReconfigurationTDD       |
    physicalChannelReconfigurationFDD           |
    physicalChannelReconfigurationTDD           |
    measurementInitiation                   |
    compressedModePreparationFDD                |
    commonTransportChannelResourcesInitiationFDD        |
    commonTransportChannelResourcesInitiationTDD        ,
    ...
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
    uplinkSignallingTransfer                |
    downlinkSignallingTransfer              |
    srnsRelocationCommit                    |
    paging                              |
    synchronisedRadioLinkReconfigurationCommit      |
    synchronisedRadioLinkReconfigurationCancellation    |
    radioLinkFailure                    |
    radioLinkRestoration                    |
    measurementReporting                    |
    measurementTermination                  |
    measurementFailure                  |
    downlinkPowerControlFDD                 |
    compressedModeCommitFDD                 |
    compressedModeCancellationFDD               |
    commonTransportChannelResourcesRelease          |
    errorIndication                     |
    privateMessage                      ,
    ...
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-3 RNSAP-ELEMENTARY-PROCEDURE ::= {
```

```
    ...
}

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

radioLinkSetupFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureFDD
    PROCEDURE ID        { procedureCode id-radioLinkSetup, ddMode fdd }
    CRITICALITY     ignore
}

radioLinkSetupTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureTDD
    PROCEDURE ID        { procedureCode id-radioLinkSetup, ddMode tdd }
    CRITICALITY     ignore
}

radioLinkAdditionFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkAdditionRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkAdditionResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureFDD
    PROCEDURE ID        { procedureCode id-radioLinkAddition , ddMode fdd }
    CRITICALITY     ignore
}

radioLinkAdditionTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkAdditionRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkAdditionResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureTDD
    PROCEDURE ID        { procedureCode id-radioLinkAddition , ddMode tdd }
    CRITICALITY     ignore
}

radioLinkDeletion RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkDeletionRequest
    SUCCESSFUL OUTCOME  RadioLinkDeletionResponse
    PROCEDURE ID        { procedureCode id-radioLinkDeletion, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationPreparationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReadyFDD
```

```
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationPrepare, ddMode fdd }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationPreparationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReadyTDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationPrepare, ddMode tdd }
    CRITICALITY     ignore
}

unSynchronisedRadioLinkReconfigurationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode fdd }
    CRITICALITY     ignore
}

unSynchronisedRadioLinkReconfigurationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode tdd }
    CRITICALITY     ignore
}

physicalChannelReconfigurationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PhysicalChannelReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  PhysicalChannelReconfigurationCommand
    UNSUCCESSFUL OUTCOME    PhysicalChannelReconfigurationFailure
    PROCEDURE ID        { procedureCode id-physicalChannelReconfiguration, ddMode fdd }
    CRITICALITY     ignore
}

physicalChannelReconfigurationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PhysicalChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  PhysicalChannelReconfigurationCommand
    UNSUCCESSFUL OUTCOME    PhysicalChannelReconfigurationFailure
    PROCEDURE ID        { procedureCode id-physicalChannelReconfiguration, ddMode tdd }
    CRITICALITY     ignore
}

measurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementInitiationRequest
    SUCCESSFUL OUTCOME  DedicatedMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    DedicatedMeasurementInitiationFailure
    PROCEDURE ID        { procedureCode id-measurementInitiation, ddMode common }
    CRITICALITY     ignore
```

```
}

compressedModePreparationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CompressedModePrepare
    SUCCESSFUL OUTCOME  CompressedModeReady
    UNSUCCESSFUL OUTCOME    CompressedModeFailure
    PROCEDURE ID        { procedureCode id-compressedModePrepareFDD, ddMode fdd }
    CRITICALITY     ignore
}

commonTransportChannelResourcesInitiationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesRequest
    SUCCESSFUL OUTCOME  CommonTransportChannelResourcesResponseFDD
    UNSUCCESSFUL OUTCOME    CommonTransportChannelResourcesFailure
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesInitiationFDD, ddMode common }
    CRITICALITY     ignore
}

commonTransportChannelResourcesInitiationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesRequest
    SUCCESSFUL OUTCOME  CommonTransportChannelResourcesResponseTDD
    UNSUCCESSFUL OUTCOME    CommonTransportChannelResourcesFailure
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesInitiationTDD, ddMode common }
    CRITICALITY     ignore
}

uplinkSignallingTransfer RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  UplinkSignallingTransferIndication
    PROCEDURE ID        { procedureCode id-uplinkSignallingTransfer, ddMode common }
    CRITICALITY     ignore
}

downlinkSignallingTransfer RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DownlinkSignallingTransferRequest
    PROCEDURE ID        { procedureCode id-downlinkSignallingTransfer, ddMode common }
    CRITICALITY     ignore
}

srnsRelocationCommit RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RelocationCommit
    PROCEDURE ID        { procedureCode id-srnsRelocationCommit, ddMode common }
    CRITICALITY     ignore
}

paging RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PagingRequest
    PROCEDURE ID        { procedureCode id-pagingRequest, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationCommit RNSAP-ELEMENTARY-PROCEDURE ::= {
```

```
    INITIATING MESSAGE  RadioLinkReconfigurationCommit
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationCommit, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationCancellation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCancel
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationCancellation, ddMode common }
    CRITICALITY     ignore
}

radioLinkFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkFailureIndication
    PROCEDURE ID        { procedureCode id-radioLinkFailure, ddMode common }
    CRITICALITY     ignore
}

radioLinkRestoration RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkRestoreIndication
    PROCEDURE ID        { procedureCode id-radioLinkRestoration, ddMode common }
    CRITICALITY     ignore
}

measurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementReport
    PROCEDURE ID        { procedureCode id-measurementReporting, ddMode common }
    CRITICALITY     ignore
}

measurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementTerminationRequest
    PROCEDURE ID        { procedureCode id-measurementTermination, ddMode common }
    CRITICALITY     ignore
}

measurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementFailureIndication
    PROCEDURE ID        { procedureCode id-measurementFailure, ddMode common }
    CRITICALITY     ignore
}

downlinkPowerControlFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DL-PowerControlRequest
    PROCEDURE ID        { procedureCode id-downlinkPowerControl, ddMode fdd }
    CRITICALITY     ignore
}

compressedModeCommitFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CompressedModeCommit
    PROCEDURE ID        { procedureCode id-compressedModeCommitFDD, ddMode fdd }
    CRITICALITY     ignore
```

```
}

compressedModeCancellationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CompressedModeCancel
    PROCEDURE ID        { procedureCode id-compressedModeCancellationFDD, ddMode fdd }
    CRITICALITY     ignore
}

commonTransportChannelResourcesRelease RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesReleaseRequest
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesRelease, ddMode common }
    CRITICALITY     ignore
}

errorIndication RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  ErrorIndication
    PROCEDURE ID        { procedureCode id-errorIndication, ddMode common }
    CRITICALITY     ignore
}

privateMessage RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PrivateMessage
    PROCEDURE ID        { procedureCode id-privateMessage, ddMode common }
    CRITICALITY     ignore
}

END
```

9.3.3 PDU Definitions

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

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

BEGIN

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

IMPORTS
    AllocationRetentionPriority,
    AllowedQueuingTime,
    BLER,
```

```
    BindingID,
    BurstType,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CPICH-EcIo,
    CPICH-Power,
    Cause,
    CellParameterID,
    ChipOffset,
    CompressedModeMethod,
    CriticalityDiagnostics,
    D-FieldLength,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-CombinationInd,
    DCH-ID,
    DL-ChannelisationCode,
    DL-DPCCH-SlotFormat,
    DL-DPCH-SlotNumber,
    DL-EbNo,
    DL-EbNoTarget,
    DL-FrameType,
    DL-Power,
    DL-ScramblingCode,
    DPCH-ID,
    DRX-Parameter,
    DedicatedMeasurementValue,
    DiversityControlField,
    DiversityMode,
    FACH-DataFrameSize,
    FACH-InitialWindowSize,
    FACH-PriorityIndicator,
    FDD-DL-ChannelisationCodeNumber,
    FDD-S-CCPCH-Offset,
    FrameHandlingPriority,
    FrameOffset,
    GapPeriod,
    GapPositionMode,
    L3-Information,
    MAC-c-SDU-Length,
    MaxNrOfUL-DPCHs,
    MeanBitRate,
    MeasurementCharacteristics,
    MeasurementID,
    MidambleShift,
    MinUL-ChannelisationCodeLength,
    MultipleURAsIndicator,
```

```
    MultiplexingPosition,
    Offset,
    PD,
    PSCH-PCCPCH-TimeSlot,
    PSCH-TimeSlot,
    PayloadCRC-PresenceIndicator,
    PilotBitsUsedIndicator,
    PowerControlMode,
    PowerOffset,
    PowerResumeMode,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    RANAP-RelocationInformation,
    RL-ID,
    RLC-Mode,
    RNC-ID,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    S-FieldLength,
    S-RNTI,
    SAI,
    SN,
    SRNC-ID,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    ScaledUL-InterferenceLevel,
    ScramblingCode,
    ScramblingCodeChange,
    SecondaryCCPCH-SlotFormat,
    SyncCase,
    TDD-ChannelisationCode,
    TDD-PhysicalChannelOffset,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TGD,
    TGL,
    TPC-StepSize,
    TimeSlot,
    ToAWE,
    ToAWS,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TransportFormatCombinationSet,
```

```
    TransportFormatSet,
    TransportLayerAddress,
    UARFCN,
    UC-ID,
    UL-DL-CompressedModeSelection,
    UL-DPCCH-SlotFormat,
    UL-EbNo,
    UL-EbNoTarget,
    UL-FP-Mode,
    UL-ScramblingCode,
    URA-ID
FROM RNSAP-IEs

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

    maxNoOfDL-Codes,
    maxNrOfCCTrCHs,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDPCHs,
    maxNrOfFACH-FD-Size,
    maxNrOfFDD-Neighbours,
    maxNrOfMACcSDU-Length,
    maxNrOfTDD-Neighbours,
    maxNrOfRLs,
    maxNrOfSCCPCHs,
    maxRNCinURA,

    id-AllowedQueuingTime,
    id-BindingID,
    id-C-ID,
    id-C-RNTI,
    id-CCTrCH-ID,
    id-CFN,
    id-CN-CS-DomainIdentifier,
    id-CN-PS-DomainIdentifier,
    id-Cause,
    id-CompressedModeMethod,
    id-CriticalityDiagnostics,
    id-D-RNTI,
    id-D-RNTI-ReleaseIndication,
```

```
    id-DCH-AddItem,
    id-DCH-AddItem-RL-ReconfPrepFDD,
    id-DCH-AddItem-RL-ReconfPrepTDD,
    id-DCH-AddItem-RL-ReconfReadyFDD,
    id-DCH-AddItem-RL-ReconfRqstFDD,
    id-DCH-AddItem-RL-ReconfRqstTDD,
    id-DCH-AddList-RL-ReconfPrepFDD,
    id-DCH-AddList-RL-ReconfPrepTDD,
    id-DCH-AddList-RL-ReconfRqstFDD,
    id-DCH-AddList-RL-ReconfRqstTDD,
    id-DCH-DeleteItem-RL-ReconfPrepFDD,
    id-DCH-DeleteItem-RL-ReconfPrepTDD,
    id-DCH-DeleteItem-RL-ReconfRqstFDD,
    id-DCH-DeleteItem-RL-ReconfRqstTDD,
    id-DCH-DeleteList-RL-ReconfPrepFDD,
    id-DCH-DeleteList-RL-ReconfPrepTDD,
    id-DCH-DeleteList-RL-ReconfRqstFDD,
    id-DCH-DeleteList-RL-ReconfRqstTDD,
    id-DCH-Information-RL-SetupReqFDD,
    id-DCH-InformationItem-RL-SetupReqFDD,
    id-DCH-InformationItem-RL-SetupReqTDD,
    id-DCH-InformationList-RL-SetupReqTDD,
    id-DCH-ModifyItem,
    id-DCH-ModifyItem-RL-ReconfPrepFDD,
    id-DCH-ModifyItem-RL-ReconfPrepTDD,
    id-DCH-ModifyItem-RL-ReconfReadyFDD,
    id-DCH-ModifyItem-RL-ReconfRqstFDD,
    id-DCH-ModifyItem-RL-ReconfRqstTDD,
    id-DCH-ModifyList-RL-ReconfPrepFDD,
    id-DCH-ModifyList-RL-ReconfPrepTDD,
    id-DCH-ModifyList-RL-ReconfRqstFDD,
    id-DCH-ModifyList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-Information-RL-ReconfPrepTDD,
    id-DL-CCTrCH-Information-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD,
    id-DL-CCTrChInformationItem-RL-SetupReqTDD,
    id-DL-CCTrChInformationList-RL-SetupReqTDD,
    id-DL-CodeInformation-PhyChReconfRqstFDD,
    id-DL-DPCH-Information,
    id-DL-DPCH-Information-RL-SetupReqFDD,
    id-DL-DPCH-InformationList-PhyChReconfRqstTDD,
    id-DL-DPCH-InformationList-RL-ReconfReadyTDD,
    id-DL-EbNoTarget,
    id-DL-FrameType,
    id-DL-MeanBitRate,
    id-DL-ReferencePowerInformation-DL-PC-Rqst,
    id-DRX-Parameter,
    id-DedicatedMeasurementObjectType-DM-Rprt,
    id-DedicatedMeasurementObjectType-DM-Rqst,
    id-DedicatedMeasurementObjectType-DM-Rspns,
```

```
    id-FACH-InfoForOptionalGroupS-CCPCH,
    id-FACH-InfoForOptionalS-CCPCH,
    id-FACH-InfoForS-CCPCH-CoupledToPRACH,
    id-GapPositionMode,
    id-L3-Information,
    id-MeasurementCharacteristics,
    id-MeasurementID,
    id-MultipleURAsIndicator,
    id-PD,
    id-PagingArea-PagingRqst,
    id-PowerControlMode,
    id-PowerResumeMode,
    id-ProcedureScope-DL-PC-Rqst,
    id-RANAP-RelocationInformation,
    id-RL-Information-PhyChReconfRqstFDD,
    id-RL-Information-PhyChReconfRqstTDD,
    id-RL-Information-RL-AdditionRqstFDD,
    id-RL-Information-RL-AdditionRqstTDD,
    id-RL-Information-RL-DeletionRqst,
    id-RL-Information-RL-FailureInd,
    id-RL-Information-RL-ReconfPrepFDD,
    id-RL-Information-RL-RestoreInd,
    id-RL-Information-RL-SetupReqFDD,
    id-RL-Information-RL-SetupReqTDD,
    id-RL-InformationItem-DM-Rprt,
    id-RL-InformationItem-DM-Rqst,
    id-RL-InformationItem-DM-Rspns,
    id-RL-InformationItem-RL-SetupReqFDD,
    id-RL-InformationList-RL-AdditionRqstFDD,
    id-RL-InformationList-RL-DeletionRqst,
    id-RL-InformationList-RL-FailureInd,
    id-RL-InformationList-RL-ReconfPrepFDD,
    id-RL-InformationList-RL-RestoreInd,
    id-RL-InformationResponse-RL-AdditionRspTDD,
    id-RL-InformationResponse-RL-ReconfReadyTDD,
    id-RL-InformationResponse-RL-SetupRspTDD,
    id-RL-InformationResponseItem-RL-AdditionRspFDD,
    id-RL-InformationResponseItem-RL-ReconfReadyFDD,
    id-RL-InformationResponseItem-RL-SetupRspFDD,
    id-RL-InformationResponseList-RL-AdditionRspFDD,
    id-RL-InformationResponseList-RL-ReconfReadyFDD,
    id-RL-InformationResponseList-RL-SetupRspFDD,
    id-RL-ReconfigurationFailure-RL-ReconfFail,
    id-RL-ReconfigurationFailureList-RL-ReconfFail,
    id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind,
    id-ReportCharacteristics,
    id-S-RNTI,
    id-SAI,
    id-SN,
    id-SRNC-ID,
    id-ScramblingCodeChange,
```

```
    id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
    id-TGD,
    id-TGL,
    id-TGP1,
    id-TGP2,
    id-TransportBearerID,
    id-TransportBearerRequestIndicator,
    id-TransportLayerAddress,
    id-UC-ID,
    id-UL-CCTrCH-Information-RL-ReconfPrepTDD,
    id-UL-CCTrCH-Information-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD,
    id-UL-CCTrChInformationItem-RL-SetupReqTDD,
    id-UL-CCTrChInformationList-RL-SetupReqTDD,
    id-UL-DL-CompressedModeSelection,
    id-UL-DPCH-Information,
    id-UL-DPCH-Information-RL-SetupReqFDD,
    id-UL-DPCH-InformationList-PhyChReconfRqstTDD,
    id-UL-DPCH-InformationList-RL-ReconfReadyTDD,
    id-UL-DeltaEbNo,
    id-UL-DeltaEbNoAfter,
    id-UL-EbNoTarget,
    id-UL-MeanBitRate,
    id-URA-ID,
    id-UnsuccessfulRL-InformationResponse,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
    id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD
FROM RNSAP-Constants;

-- **************************************************************
--
-- Common Container List
--
-- **************************************************************

DCH-IE-ContainerList     { RNSAP-PROTOCOL-IES : IEsSetParam}    ::= ProtocolIE-ContainerList { 1, maxNrOfDCHs,     { IEsSetParam } }
RL-IE-ContainerList      { RNSAP-PROTOCOL-IES : IEsSetParam}    ::= ProtocolIE-ContainerList { 1, maxNrOfRLs,      { IEsSetParam } }
CCTrCH-IE-ContainerList  { RNSAP-PROTOCOL-IES : IEsSetParam}    ::= ProtocolIE-ContainerList { 1, maxNrOfCCTrCHs,  { IEsSetParam } }
DL-Code-IE-ContainerList { RNSAP-PROTOCOL-IES : IEsSetParam}    ::= ProtocolIE-ContainerList { 1, maxNrOfDL-Codes, { IEsSetParam } }

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

```
-- **************************************************************

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

RadioLinkSetupRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                    PRESENCE mandatory } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional   } |
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE optional   } |
    { ID id-UL-DPCH-Information-RL-SetupReqFDD  CRITICALITY ignore  TYPE UL-DPCH-Information-RL-SetupReqFDD      PRESENCE mandatory   } |
    { ID id-DL-DPCH-Information-RL-SetupReqFDD  CRITICALITY ignore  TYPE DL-DPCH-Information-RL-SetupReqFDD      PRESENCE mandatory   } |
    { ID id-DCH-Information-RL-SetupReqFDD      CRITICALITY ignore  TYPE DCH-InformationList-RL-SetupReqFDD      PRESENCE mandatory   } |
    { ID id-RL-Information-RL-SetupReqFDD       CRITICALITY ignore  TYPE RL-InformationList-RL-SetupReqFDD   PRESENCE mandatory   },
    ...
}

UL-DPCH-Information-RL-SetupReqFDD ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode,
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPCHs                 MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4 -- ,
    ul-PunctureLimit                PunctureLimit,
    ul-TransportFormatCombinationSet        TransportFormatCombinationSet,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat,
    ul-EbNoTarget                   UL-EbNoTarget           OPTIONAL,
    diversityMode                   DiversityMode,
    d-FieldLength                   D-FieldLength           OPTIONAL
    -- This IE is present only if Feed Back mode diversity is activated -- ,
    sSDT-CellIdLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    ul-meanBitRate                  MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information-RL-SetupReqFDD ::= SEQUENCE {
    transportFormatCombinationSet           TransportFormatCombinationSet,
    dl-DPCH-SlotNumber              DL-DPCH-SlotNumber,
    tFCI-SignallingMode             TFCI-SignallingMode,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE is present if Slot Format is from 12 to 16 --,
    multiplexingPosition                MultiplexingPosition,
    powerOffsetInformation              SEQUENCE {
        po1-ForTFCI-Bits                PowerOffset,
```

```
        po2-ForTPC-Bits                 PowerOffset,
        po3-ForPilotBits                PowerOffset,
        ...
    },
    dl-TPC-StepSize                 TPC-StepSize,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationList-RL-SetupReqFDD          ::= DCH-IE-ContainerList { {DCH-InformationItemIEs-RL-SetupReqFDD} }

DCH-InformationItemIEs-RL-SetupReqFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationItem-RL-SetupReqFDD  CRITICALITY ignore  TYPE DCH-InformationItem-RL-SetupReqFDD   PRESENCE mandatory   },
    ...
}

DCH-InformationItem-RL-SetupReqFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    rLC-Mode                    RLC-Mode,
    ul-transportFormatSet               TransportFormatSet,
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationItem-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationItem-RL-SetupReqFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-SetupReqFDD           ::= RL-IE-ContainerList { {RL-InformationItemIEs-RL-SetupReqFDD} }

RL-InformationItemIEs-RL-SetupReqFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-SetupReqFDD   CRITICALITY ignore  TYPE RL-InformationItem-RL-SetupReqFDD      PRESENCE mandatory   },
    ...
}

RL-InformationItem-RL-SetupReqFDD ::= SEQUENCE {
```

```
    rL-ID                       RL-ID,
    uC-ID                       C-ID,
    frameOffset                 FrameOffset,
    chipOffset                  ChipOffset,
    propagationDelay                PropagationDelay        OPTIONAL,
    diversityControlField               DiversityControlField       OPTIONAL
    -- This IE is present only if the RL is not the first one in the RL-InformationList-RL-SetupReqFDD --,
    dl-InitialTX-Power              DL-Power            OPTIONAL
    -- Initial DL transmission power -- ,
    cPICH-EcIo                  CPICH-EcIo          OPTIONAL,
    sSDT-CellID                 SSDT-CellID         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-RL-SetupReqFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

RadioLinkSetupRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                     PRESENCE mandatory } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional   } |
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE optional   } |
    { ID id-UL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate                PRESENCE optional } |
    { ID id-DL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate                PRESENCE optional } |
    { ID id-UL-CCTrChInformationList-RL-SetupReqTDD CRITICALITY ignore  TYPE UL-CCTrChInformationList-RL-SetupReqTDD  PRESENCE mandatory   } |
    { ID id-DL-CCTrChInformationList-RL-SetupReqTDD CRITICALITY ignore  TYPE DL-CCTrChInformationList-RL-SetupReqTDD  PRESENCE mandatory   } |
    { ID id-DCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE DCH-InformationList-RL-SetupReqTDD   PRESENCE mandatory   } |
    { ID id-RL-Information-RL-SetupReqTDD       CRITICALITY ignore  TYPE RL-Information-RL-SetupReqTDD     PRESENCE mandatory   },
    ...
}

UL-CCTrChInformationList-RL-SetupReqTDD         ::= CCTrCH-IE-ContainerList { {UL-CCTrChInformationItemIEs-RL-SetupReqTDD} }

UL-CCTrChInformationItemIEs-RL-SetupReqTDD RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-UL-CCTrChInformationItem-RL-SetupReqTDD CRITICALITY ignore  TYPE UL-CCTrChInformationItem-RL-SetupReqTDD  PRESENCE mandatory  },
    ...
}

UL-CCTrChInformationItem-RL-SetupReqTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-TFCS                     TransportFormatCombinationSet,
    tFCI-Coding                 TFCI-Coding,
    ul-PunctureLimit                PunctureLimit,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrChInformationList-RL-SetupReqTDD         ::= CCTrCH-IE-ContainerList { {DL-CCTrChInformationItemIEs-RL-SetupReqTDD} }

DL-CCTrChInformationItemIEs-RL-SetupReqTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrChInformationItem-RL-SetupReqTDD CRITICALITY ignore  TYPE DL-CCTrChInformationItem-RL-SetupReqTDD  PRESENCE mandatory   },
    ...
}

DL-CCTrChInformationItem-RL-SetupReqTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-TFCS                     TransportFormatCombinationSet,
    tFCI-Coding                 TFCI-Coding,
    dl-PunctureLimit                PunctureLimit,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationList-RL-SetupReqTDD          ::= DCH-IE-ContainerList { {DCH-InformationItemIEs-RL-SetupReqTDD} }

DCH-InformationItemIEs-RL-SetupReqTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationItem-RL-SetupReqTDD  CRITICALITY ignore  TYPE DCH-InformationItem-RL-SetupReqTDD     PRESENCE mandatory   },
    ...
}

DCH-InformationItem-RL-SetupReqTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-cCTrCH-ID                    CCTrCH-ID, -- UL CCTrCH in which the DCH is mapped
    dl-cCTrCH-ID                    CCTrCH-ID, -- DL CCTrCH in which the DCH is mapped
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    rLC-Mode                    RLC-Mode,
    ul-transportFormatSet               TransportFormatSet,
```

```
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationItem-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationItem-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-SetupReqTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    primaryCCPCH-RSCP               PrimaryCCPCH-RSCP       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

RadioLinkSetupResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional  } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponseList-RL-SetupRspFDD
```

```
                        CRITICALITY ignore  TYPE RL-InformationResponseList-RL-SetupRspFDD
                                                    PRESENCE mandatory  } |
    { ID id-UL-EbNoTarget               CRITICALITY ignore  TYPE UL-EbNoTarget              PRESENCE optional } |
    { ID id-DL-EbNoTarget               CRITICALITY ignore  TYPE DL-EbNoTarget              PRESENCE optional } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-SetupRspFDD       ::= RL-IE-ContainerList { {RL-InformationResponseItemIEs-RL-SetupRspFDD} }

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

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-SetupRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-SetupRspFDD

DL-CodeInformationItem-RL-SetupRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupRspFDD      DCH-InformationResponseList-RL-SetupRspFDD   OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
```

```
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupRspFDD

DCH-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupRsp

NeighbouringFDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupRsp

NeighbouringTDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    c-ID                        C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
```

```
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot            OPTIONAL
    -- This IE is present only if SyncCase is Case1 -- ,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    ul-EbNo                     UL-EbNo             OPTIONAL,
    dl-EbNo                     DL-EbNo             OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional  } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  TYPE RL-InformationResponse-RL-SetupRspTDD PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    ul-EbNoTarget                   UL-EbNo                     OPTIONAL,
    dl-EbNoTarget                   DL-EbNo                     OPTIONAL,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-SetupRspTDD,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-SetupRspTDD,
```

```
    dCH-InformationResponse             DCH-InformationResponseList-RL-SetupRspTDD,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-SetupRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-InformationItem-RL-SetupRspTDD

-- **NOTE: UL-DPCH-InformationItem-RL-SetupRspTDD and DL-DPCH-InformationItem-RL-SetupRspTDD
--         are currently similar. Combine them? **
UL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-SetupRspTDD
```

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

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

-- ** NOTE: Shall this be made as an IE container? **
DL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-InformationItem-RL-SetupRspTDD

DL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                    ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationResponseList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupRspTDD

DCH-InformationResponseItem-RL-SetupRspTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                    ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

-- **************************************************************
```

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

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

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

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }

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

```
    ...
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-SetupFailureFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupFailureFDD OPTIONAL,
    ul-EbNoTarget                   UL-EbNo,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    dl-EbNoTarget                   DL-EbNo,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}
-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-SetupFailureFDD

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

DL-CodeInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupFailureFDD      DCH-InformationResponseList-RL-SetupFailureFDD OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupFailureFDD

DCH-InformationResponseItem-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
```

```
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringTDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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

-- **************************************************************
--
-- RADIO LINK SETUP FAILURE TDD
--
-- **************************************************************

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

RadioLinkSetupFailureTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD
                           CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD
                                                    PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

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

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

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST FDD
--
-- **************************************************************

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

```
RadioLinkAdditionRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-EbNoTarget               CRITICALITY ignore  TYPE UL-EbNo                      PRESENCE mandatory   } |
    { ID id-RL-InformationList-RL-AdditionRqstFDD   CRITICALITY ignore  TYPE RL-InformationList-RL-AdditionRqstFDD  PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-AdditionRqstFDD           ::= RL-IE-ContainerList { {RL-Information-RL-AdditionRqstFDD-IEs} }

RL-Information-RL-AdditionRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstFDD   CRITICALITY ignore  TYPE RL-Information-RL-AdditionRqstFDD    PRESENCE mandatory   },
    ...
}

RL-Information-RL-AdditionRqstFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    chipOffset                  ChipOffset,
    diversityControlField               DiversityControlField,
    primaryCPICH-EcNo               PrimaryCPICH-EcNo       OPTIONAL,
    sSDT-CellID                 SSDT-CellID         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST TDD
--
-- **************************************************************

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

RadioLinkAdditionRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstTDD   CRITICALITY ignore  TYPE RL-Information-RL-AdditionRqstTDD    PRESENCE mandatory   },
    ...
}

RL-Information-RL-AdditionRqstTDD ::= SEQUENCE {
```

```
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    chipOffset                  ChipOffset,
    diversityControlField               DiversityControlField,
    primaryCCPCH-RSCP               PrimaryCCPCH-RSCP,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- **************************************************************

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

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional  } |
    { ID id-RL-InformationResponseList-RL-AdditionRspFDD
                            CRITICALITY ignore  TYPE RL-InformationResponseList-RL-AdditionRspFDD
                                                     PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-AdditionRspFDD        ::= RL-IE-ContainerList { {RL-InformationResponseItemIEs-RL-AdditionRspFDD} }

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

RL-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
```

```
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-AdditionRspFDD

DL-CodeInformationItem-RL-AdditionRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-AdditionRspFDD  OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-AdditionRspFDD

DCH-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRsp

NeighbouringFDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRsp

NeighbouringTDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

```
--
-- **********************************************************

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

RadioLinkAdditionResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional  } |
    { ID id-RL-InformationResponse-RL-AdditionRspTDD
                            CRITICALITY ignore  TYPE RL-InformationResponse-RL-AdditionRspTDD   PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-AdditionRspTDD,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-AdditionRspTDD,
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-AdditionRspFDD  OPTIONAL
        }
    }                                       OPTIONAL,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-AdditionRspTDD    OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-AdditionRspTDD OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-AdditionRspTDD

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

```
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-InformationItem-RL-AdditionRspTDD

UL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    tDD-ChannelisationCode              TDD-ChannelisationCode,
    burstType                   BurstType,
    midambleShift                   MidambleShift,
    timeSlot                    TimeSlot,
    offset                      Offset,
    tDD-PhysicalChannelOffset           TDD-PhysicalChannelOffset,
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tFCI-Presence                   TFCI-Presence,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-AdditionRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
DL-DPCH-InformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-InformationItem-RL-AdditionRspTDD

DL-DPCH-InformationItem-RL-AdditionRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD

NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD

NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

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

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- **************************************************************

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

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  } |
    { ID id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }
```

```
SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                                                                    PRESENCE mandatory  },
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionFailureFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-AdditionFailureFDD

DL-CodeInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    dl-ChannelisationCode               DL-ChannelisationCode,
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionFailureFDD       DCH-InformationResponseList-RL-AdditionFailureFDD   OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-AdditionFailureFDD
```

```
DCH-InformationResponseItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    cPICH-Power                 CPICH-Power         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

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

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE TDD
--
-- **************************************************************

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

RadioLinkAdditionFailureTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponse  CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse     PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

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

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

-- **************************************************************
--
-- RADIO LINK DELETION REQUEST
--
-- **************************************************************

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

```
RadioLinkDeletionRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-DeletionRqst  CRITICALITY ignore  TYPE RL-InformationList-RL-DeletionRqst      PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-DeletionRqst          ::= RL-IE-ContainerList { {RL-Information-RL-DeletionRqst-IEs} }

RL-Information-RL-DeletionRqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-DeletionRqst      CRITICALITY ignore  TYPE RL-Information-RL-DeletionRqst    PRESENCE mandatory   },
    ...
}

RL-Information-RL-DeletionRqst ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-DeletionRqst-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-DeletionRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- RADIO LINK DELETION RESPONSE
--
-- **************************************************************

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

RadioLinkDeletionResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

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

```
-- **************************************************************

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

RadioLinkReconfigurationPrepareFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE mandatory  } |
    { ID id-UL-DPCH-Information         CRITICALITY ignore  TYPE UL-DPCH-Information            PRESENCE optional   } |
    { ID id-DL-DPCH-Information         CRITICALITY ignore  TYPE DL-DPCH-Information            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-RL-InformationList-RL-ReconfPrepFDD CRITICALITY ignore  TYPE RL-InformationList-RL-ReconfPrepFDD  PRESENCE mandatory   },
    ...
}

UL-DPCH-Information ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode       OPTIONAL,
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength  OPTIONAL,
    maxNrOfUL-DPDCHs                MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4 --,
    ul-PunctureLimit                PunctureLimit           OPTIONAL,
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat     OPTIONAL,
    sSDT-CellIDLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information ::= SEQUENCE {
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    dl-DPCCH-SlotFormat             DL-DPCCH-SlotFormat     OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode     OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE is present if Slot Format is from 12 to 16 --,
    multiplexingPosition                MultiplexingPosition        OPTIONAL,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

DCH-ModifyList-RL-ReconfPrepFDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfPrepFDD-IEs} }

DCH-Modify-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfPrepFDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfPrepFDD     PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-TransportformatSet               TransportFormatSet      OPTIONAL,
    dl-TransportformatSet               TransportFormatSet      OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority     OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority       OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode          OPTIONAL,
    toAWS                       ToAWS               OPTIONAL,
    toAWE                       ToAWE               OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-AddList-RL-ReconfPrepFDD                ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfPrepFDD-IEs} }

DCH-Add-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfPrepFDD        CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfPrepFDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}
```

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

DCH-DeleteList-RL-ReconfPrepFDD             ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfPrepFDD-IEs} }

DCH-Delete-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfPrepFDD     CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfPrepFDD     PRESENCE mandatory   },
    ...
}

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

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

RL-InformationList-RL-ReconfPrepFDD         ::= RL-IE-ContainerList { {RL-Information-RL-ReconfPrepFDD-IEs} }

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

RL-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sSDT-Indication                 SSDT-Indication     OPTIONAL,
    sSDT-CellIdentity               SSDT-CellID     OPTIONAL
    -- The IE may be present if the sSDT-Indication is set to 'sSDT-active-in-the-UE' --,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

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

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

RadioLinkReconfigurationPrepareTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime            PRESENCE optional  } |
    { ID id-UL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate               PRESENCE optional } |
    { ID id-DL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate               PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD
                            CRITICALITY ignore  TYPE UL-CCTrCH-InformationList-RL-ReconfPrepTDD PRESENCE mandatory } |
    { ID id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD
                            CRITICALITY ignore  TYPE DL-CCTrCH-InformationList-RL-ReconfPrepTDD PRESENCE mandatory } |
    { ID id-DCH-ModifyList-RL-ReconfPrepTDD     CRITICALITY ignore  TYPE DCH-ModifyList-RL-ReconfPrepTDD     PRESENCE mandatory   } |
    { ID id-DCH-AddList-RL-ReconfPrepTDD        CRITICALITY ignore  TYPE DCH-AddList-RL-ReconfPrepTDD     PRESENCE mandatory   } |
    { ID id-DCH-DeleteList-RL-ReconfPrepTDD     CRITICALITY ignore  TYPE DCH-DeleteList-RL-ReconfPrepTDD     PRESENCE mandatory   },
    ...
}

UL-CCTrCH-InformationList-RL-ReconfPrepTDD      ::= CCTrCH-IE-ContainerList { {UL-CCTrCH-Information-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-Information-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-ReconfPrepTDD  CRITICALITY ignore  TYPE UL-CCTrCH-Information-RL-ReconfPrepTDD PRESENCE mandatory   },
    ...
}

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

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

DL-CCTrCH-InformationList-RL-ReconfPrepTDD      ::= CCTrCH-IE-ContainerList { {DL-CCTrCH-Information-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-Information-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-Information-RL-ReconfPrepTDD  CRITICALITY ignore  TYPE DL-CCTrCH-Information-RL-ReconfPrepTDD PRESENCE mandatory   },
    ...
}

DL-CCTrCH-Information-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TransportFormatCombinationSet       OPTIONAL,
```

```
    tFCI-Coding                 TFCI-Coding             OPTIONAL,
    puncture Limit                  PunctureLimit               OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-Information-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-ModifyList-RL-ReconfPrepTDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfPrepTDD-IEs} }

DCH-Modify-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfPrepTDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfPrepTDD     PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    dl-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    ul-TransportformatSet               TransportFormatSet  OPTIONAL,
    dl-TransportformatSet               TransportFormatSet  OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority   OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode      OPTIONAL,
    toAWS                       ToAWS           OPTIONAL,
    toAWE                       ToAWE           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-AddList-RL-ReconfPrepTDD                ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfPrepTDD-IEs} }

DCH-Add-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfPrepTDD        CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfPrepTDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    ul-CCTrCH-ID                    CCTrCH-ID,
    dl-CCTrCH-ID                    CCTrCH-ID,
    dCH-CombinationInd              DCH-CombinationInd  OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
```

```
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-DeleteList-RL-ReconfPrepTDD             ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfPrepTDD-IEs} }

DCH-Delete-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfPrepTDD     CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfPrepTDD     PRESENCE mandatory   },
    ...
}

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

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

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

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--
-- RADIO LINK RECONFIGURATION READY FDD
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RadioLinkReconfigurationReadyFDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container       {{RadioLinkReconfigurationReadyFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkReconfigurationReadyFDD-Extensions}}                  OPTIONAL,
    ...
}

RadioLinkReconfigurationReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfReadyFDD
```

```
                        CRITICALITY ignore  TYPE RL-InformationResponseList-RL-ReconfReadyFDD
                                                    PRESENCE optional   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-ReconfReadyFDD        ::= RL-IE-ContainerList { {RL-InformationResponse-RL-ReconfReadyFDD-IEs} }

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

RL-InformationResponseItem-RL-ReconfReadyFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    max-UL-EbNo                 UL-EbNo,
    min-UL-EbNo                 UL-EbNo,
    dCHsToBeAdded                   DCH-AddList-RL-ReconfReadyFDD           OPTIONAL,
    dCHsToBeModified                DCH-ModifyList-RL-ReconfReadyFDD        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-AddList-RL-ReconfReadyFDD               ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfReadyFDD-IEs} }

DCH-Add-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfReadyFDD       CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfReadyFDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfReadyFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-AddItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-ModifyList-RL-ReconfReadyFDD            ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfReadyFDD-IEs} }

DCH-Modify-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-DCH-ModifyItem-RL-ReconfReadyFDD    CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfReadyFDD    PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfReadyFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifyItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

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

RL-InformationResponse-RL-ReconfReadyTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    max-UL-EbNo                 UL-EbNo,
    min-UL-EbNo                 UL-EbNo,
    ul-CCTrCH-Information               UL-CCTrCH-InformationList-RL-ReconfReadyTDD     OPTIONAL,
    dl-CCTrCH-Information               DL-CCTrCH-InformationList-RL-ReconfReadyTDD OPTIONAL,
    dCHsToBeAdded                   DCH-AddList-RL-ReconfReadyTDD           OPTIONAL,
    dCHsToBeModified                DCH-ModifyList-RL-ReconfReadyTDD        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}
```

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

UL-CCTrCH-InformationList-RL-ReconfReadyTDD         ::= CCTrCH-IE-ContainerList { {UL-CCTrCH-InformationList-RL-ReconfReadyTDD-IEs} }

UL-CCTrCH-InformationList-RL-ReconfReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CCTrCH-ID               CRITICALITY ignore  TYPE CCTrCH-ID                  PRESENCE mandatory } |
    { ID id-UL-DPCH-InformationList-RL-ReconfReadyTDD
                            CRITICALITY ignore  TYPE UL-DPCH-InformationList-RL-ReconfReadyTDD
                                                     PRESENCE mandatory  },
    ...
}

UL-DPCH-InformationList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF
    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,
        iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
        ...
    }

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

DL-CCTrCH-InformationList-RL-ReconfReadyTDD         ::= CCTrCH-IE-ContainerList { {DL-CCTrCH-InformationList-RL-ReconfReadyTDD-IEs} }

DL-CCTrCH-InformationList-RL-ReconfReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CCTrCH-ID               CRITICALITY ignore  TYPE CCTrCH-ID                  PRESENCE mandatory } |
    { ID id-DL-DPCH-InformationList-RL-ReconfReadyTDD
                            CRITICALITY ignore  TYPE DL-DPCH-InformationList-RL-ReconfReadyTDD
                                                     PRESENCE mandatory  },
    ...
}

DL-DPCH-InformationList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF
    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,
        iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
        ...
    }

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

DCH-AddList-RL-ReconfReadyTDD               ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfReadyTDD-IEs} }

DCH-Add-RL-ReconfReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem             CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfReadyTDD      PRESENCE mandatory },
    ...
}

DCH-AddItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-ModifyList-RL-ReconfReadyTDD            ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfReadyTDD-IEs} }

DCH-Modify-RL-ReconfReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem              CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfReadyTDD    PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

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

RadioLinkReconfigurationReadyTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION COMMIT
--
-- **************************************************************

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

RadioLinkReconfigurationCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE mandatory   },
    ...
}

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

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION FAILURE
--
-- **************************************************************

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

RadioLinkReconfigurationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-RL-ReconfigurationFailureList-RL-ReconfFail
                            CRITICALITY ignore  TYPE RL-ReconfigurationFailureList-RL-ReconfFail
                                                PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-ReconfigurationFailureList-RL-ReconfFail     ::= RL-IE-ContainerList { {RL-ReconfigurationFailure-RL-ReconfFail-IEs} }

RL-ReconfigurationFailure-RL-ReconfFail-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-ReconfigurationFailure-RL-ReconfFail CRITICALITY ignore  TYPE RL-ReconfigurationFailure-RL-ReconfFail   PRESENCE mandatory   },
    ...
}
```

```
RL-ReconfigurationFailure-RL-ReconfFail ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions                   ProtocolExtensionContainer { {RL-ReconfigurationFailure-RL-ReconfFail-ExtIEs} } OPTIONAL,
    ...
}

RL-ReconfigurationFailure-RL-ReconfFail-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION CANCEL
--
-- **************************************************************

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

RadioLinkReconfigurationCancel-IEs RNSAP-PROTOCOL-IES ::= {
    ...
}

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

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- **************************************************************

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

RadioLinkReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE mandatory } |
    { ID id-UL-DPCH-Information         CRITICALITY ignore  TYPE UL-DPCH-Information-RL-ReconfRqstFDD   PRESENCE optional } |
    { ID id-DL-DPCH-Information         CRITICALITY ignore  TYPE DL-DPCH-Information-RL-ReconfRqstFDD   PRESENCE optional } |
```

```
    { ID id-DCH-ModifyList-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-ModifyList-RL-ReconfRqstFDD     PRESENCE mandatory   } |
    { ID id-DCH-AddList-RL-ReconfRqstFDD        CRITICALITY ignore  TYPE DCH-AddList-RL-ReconfRqstFDD     PRESENCE mandatory   } |
    { ID id-DCH-DeleteList-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-DeleteList-RL-ReconfRqstFDD     PRESENCE mandatory   },
    ...
}

UL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    meanBitRate                 MeanBitRate     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode OPTIONAL,
    meanBitRate                 MeanBitRate     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-ModifyList-RL-ReconfRqstFDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfRqstFDD-IEs} }

DCH-Modify-RL-ReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfRqstFDD     PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfRqstFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-TransportformatSet               TransportFormatSet  OPTIONAL,
    dl-TransportformatSet               TransportFormatSet  OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority   OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode      OPTIONAL,
    toAWS                       ToAWS           OPTIONAL,
    toAWE                       ToAWE           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifyItem-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

DCH-AddList-RL-ReconfRqstFDD                ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfRqstFDD-IEs} }

DCH-Add-RL-ReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfRqstFDD        CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfRqstFDD      PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfRqstFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    dCH-CombinationInd              DCH-CombinationInd  OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-AddItem-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstFDD             ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfRqstFDD-IEs} }

DCH-Delete-RL-ReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfRqstFDD      PRESENCE mandatory   },
    ...
}

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

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

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

-- **************************************************************
```

```
--
-- RADIO LINK RECONFIGURATION REQUEST TDD
--
-- **********************************************************

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

RadioLinkReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime            PRESENCE optional  } |
    { ID id-UL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate               PRESENCE optional } |
    { ID id-DL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate               PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD
                            CRITICALITY ignore  TYPE UL-CCTrCH-InformationList-RL-ReconfRqstTDD PRESENCE mandatory } |
    { ID id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD
                            CRITICALITY ignore  TYPE DL-CCTrCH-InformationList-RL-ReconfRqstTDD PRESENCE mandatory } |
    { ID id-DCH-ModifyList-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-ModifyList-RL-ReconfRqstTDD     PRESENCE mandatory   } |
    { ID id-DCH-AddList-RL-ReconfRqstTDD        CRITICALITY ignore  TYPE DCH-AddList-RL-ReconfRqstTDD     PRESENCE mandatory   } |
    { ID id-DCH-DeleteList-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-DeleteList-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

UL-CCTrCH-InformationList-RL-ReconfRqstTDD      ::= CCTrCH-IE-ContainerList { {UL-CCTrCH-Information-RL-ReconfRqstTDD-IEs} }

UL-CCTrCH-Information-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-ReconfRqstTDD  CRITICALITY ignore  TYPE UL-CCTrCH-Information-RL-ReconfRqstTDD PRESENCE mandatory   },
    ...
}

UL-CCTrCH-Information-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TransportFormatCombinationSet,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-RL-ReconfRqstTDD      ::= CCTrCH-IE-ContainerList { {DL-CCTrCH-Information-RL-ReconfRqstTDD-IEs} }

DL-CCTrCH-Information-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-Information-RL-ReconfRqstTDD  CRITICALITY ignore  TYPE DL-CCTrCH-Information-RL-ReconfRqstTDD PRESENCE mandatory   },
    ...
}

DL-CCTrCH-Information-RL-ReconfRqstTDD ::= SEQUENCE {
```

```
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TransportFormatCombinationSet,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-ModifyList-RL-ReconfRqstTDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfRqstTDD-IEs} }

DCH-Modify-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfRqstTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    dl-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    ul-TransportformatSet               TransportFormatSet  OPTIONAL,
    dl-TransportformatSet               TransportFormatSet  OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority   OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode      OPTIONAL,
    toAWS                       ToAWS           OPTIONAL,
    toAWE                       ToAWE           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifyItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-AddList-RL-ReconfRqstTDD                ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfRqstTDD-IEs} }

DCH-Add-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfRqstTDD        CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfRqstTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    ul-CCTrCH-ID                    CCTrCH-ID,
    dl-CCTrCH-ID                    CCTrCH-ID,
    dCH-CombinationInd              DCH-CombinationInd  OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
```

```
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-AddItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstTDD             ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfRqstTDD-IEs} }

DCH-Delete-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

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

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

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

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE FDD
--
-- **************************************************************

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

RadioLinkReconfigurationResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}
```

```
RadioLinkReconfigurationResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE TDD
--
-- **************************************************************

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

RadioLinkReconfigurationResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

-- **************************************************************
--
-- RADIO LINK FAILURE INDICATION
--
-- **************************************************************

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

RadioLinkFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-FailureInd    CRITICALITY ignore  TYPE RL-InformationList-RL-FailureInd    PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-FailureInd            ::= RL-IE-ContainerList { {RL-Information-RL-FailureInd-IEs} }

RL-Information-RL-FailureInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-FailureInd        CRITICALITY ignore  TYPE RL-Information-RL-FailureInd     PRESENCE mandatory   },
    ...
}

RL-Information-RL-FailureInd ::= SEQUENCE {
    rL-ID                       RL-ID,
```

```
    cause                       Cause,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


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

-- **************************************************************
--
-- RADIO LINK RESTORE INDICATION
--
-- **************************************************************

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

RadioLinkRestoreIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-RestoreInd    CRITICALITY ignore  TYPE RL-InformationList-RL-RestoreInd    PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-RestoreInd            ::= RL-IE-ContainerList { {RL-Information-RL-RestoreInd-IEs} }

RL-Information-RL-RestoreInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-RestoreInd        CRITICALITY ignore  TYPE RL-Information-RL-RestoreInd     PRESENCE mandatory   },
    ...
}

RL-Information-RL-RestoreInd ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkRestoreIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- DOWNLINK POWER CONTROL REQUEST
--
-- **************************************************************

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

DL-PowerControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-ProcedureScope-DL-PC-Rqst       CRITICALITY ignore  TYPE ProcedureScope-DL-PC-Rqst       PRESENCE mandatory   },
    ...
}

ProcedureScope-DL-PC-Rqst ::= CHOICE {
    allRLs                      DL-Power,
    individualRLs                   DL-ReferencePowerInformationList-DL-PC-Rqst,
    ...
}

DL-ReferencePowerInformationList-DL-PC-Rqst         ::= RL-IE-ContainerList { {DL-ReferencePowerInformation-DL-PC-Rqst-IEs} }

DL-ReferencePowerInformation-DL-PC-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-ReferencePowerInformation-DL-PC-Rqst CRITICALITY ignore  TYPE DL-ReferencePowerInformation-DL-PC-Rqst   PRESENCE mandatory   },
    ...
}

DL-ReferencePowerInformation-DL-PC-Rqst ::= SEQUENCE {
    rL-ID                       RL-ID,
    dl-Power                    DL-Power,
    iE-Extensions                   ProtocolExtensionContainer { {DL-ReferencePowerInformation-DL-PC-Rqst-ExtIEs} } OPTIONAL,
    ...
}

DL-ReferencePowerInformation-DL-PC-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-PowerControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST FDD
--
-- **************************************************************
```

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

PhysicalChannelReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-PhyChReconfRqstFDD   CRITICALITY ignore  TYPE RL-Information-PhyChReconfRqstFDD    PRESENCE mandatory   },
    ...
}

RL-Information-PhyChReconfRqstFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    dl-CodeInformations             DL-CodeInformationList-PhyChReconfRqstFDD,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-PhyChReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-PhyChReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CodeInformationList-PhyChReconfRqstFDD       ::= DL-Code-IE-ContainerList { {DL-CodeInformation-PhyChReconfRqstFDD-IEs} }

DL-CodeInformation-PhyChReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CodeInformation-PhyChReconfRqstFDD   CRITICALITY ignore  TYPE DL-CodeInformation-PhyChReconfRqstFDD  PRESENCE mandatory   },
    ...
}

DL-CodeInformation-PhyChReconfRqstFDD ::= SEQUENCE {
    dl-scramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformation-PhyChReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformation-PhyChReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST TDD
--
-- **************************************************************
```

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

PhysicalChannelReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-PhyChReconfRqstTDD   CRITICALITY ignore  TYPE RL-Information-PhyChReconfRqstTDD    PRESENCE mandatory   },
    ...
}

RL-Information-PhyChReconfRqstTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    ul-CCTrCH-Information              UL-CCTrCH-InformationList-PhyChReconfRqstTDD,
    dl-CCTrCH-Information              DL-CCTrCH-InformationList-PhyChReconfRqstTDD,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationList-PhyChReconfRqstTDD        ::= CCTrCH-IE-ContainerList { {UL-CCTrCH-InformationList-PhyChReconfRqstTDD-IEs} }

UL-CCTrCH-InformationList-PhyChReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CCTrCH-ID               CRITICALITY ignore  TYPE CCTrCH-ID                  PRESENCE mandatory } |
    { ID id-UL-DPCH-InformationList-PhyChReconfRqstTDD
                            CRITICALITY ignore  TYPE UL-DPCH-InformationList-PhyChReconfRqstTDD
                                                     PRESENCE mandatory  },
    ...
}

-- List items have same criticality as parent
UL-DPCH-InformationList-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF
    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,
        iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationList-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
        ...
    }

UL-DPCH-InformationList-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

DL-CCTrCH-InformationList-PhyChReconfRqstTDD        ::= CCTrCH-IE-ContainerList { {DL-CCTrCH-InformationList-PhyChReconfRqstTDD-IEs} }

DL-CCTrCH-InformationList-PhyChReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CCTrCH-ID               CRITICALITY ignore  TYPE CCTrCH-ID                  PRESENCE mandatory } |
    { ID id-DL-DPCH-InformationList-PhyChReconfRqstTDD
                            CRITICALITY ignore  TYPE DL-DPCH-InformationList-PhyChReconfRqstTDD
                                                     PRESENCE mandatory  },
    ...
}

-- List items have same criticality as parent
DL-DPCH-InformationList-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF
    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,
        iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationList-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
        ...
    }

DL-DPCH-InformationList-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

PhysicalChannelReconfigurationCommand-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
```

```
    ...
}

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

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

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

PhysicalChannelReconfigurationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

-- **************************************************************
--
-- UPLINK SIGNALLING TRANSFER INDICATION
--
-- **************************************************************

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

UplinkSignallingTransferIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UC-ID                   CRITICALITY ignore  TYPE UC-ID                  PRESENCE mandatory  } |
    { ID id-SAI                 CRITICALITY ignore  TYPE SAI                    PRESENCE mandatory   } |
    { ID id-C-RNTI                  CRITICALITY ignore  TYPE C-RNTI                 PRESENCE mandatory  } |
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                 PRESENCE mandatory  } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional   } |
    { ID id-L3-Information              CRITICALITY ignore  TYPE L3-Information             PRESENCE mandatory   } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier       PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier       PRESENCE optional } |
    { ID id-URA-ID                  CRITICALITY ignore  TYPE URA-ID                 PRESENCE mandatory  } |
```

```
    { ID id-MultipleURAsIndicator          CRITICALITY ignore  TYPE MultipleURAsIndicator       PRESENCE mandatory   } |
    { ID id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind
                           CRITICALITY ignore  TYPE RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind
                                                    PRESENCE mandatory  },
    ...
}

-- All RNC-IDs share same criticality!
RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind ::= SEQUENCE (SIZE (1..maxRNCinURA)) OF
    SEQUENCE {
        rNC-ID                      RNC-ID,
        iE-Extensions                   ProtocolExtensionContainer { {RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind-ExtIEs} } OPTIONAL,
        ...
    }

RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- DOWNLINK SIGNALLING TRANSFER REQUEST
--
-- **************************************************************

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

DownlinkSignallingTransferRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-C-ID                    CRITICALITY ignore  TYPE C-ID                   PRESENCE mandatory  } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE mandatory  } |
    { ID id-L3-Information              CRITICALITY ignore  TYPE L3-Information             PRESENCE mandatory   } |
    { ID id-D-RNTI-ReleaseIndication        CRITICALITY ignore  TYPE D-RNTI-ReleaseIndication       PRESENCE mandatory   },
    ...
}

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

-- **************************************************************
--
-- RELOCATION COMMIT
--
```

```
-- **************************************************************

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

RelocationCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE mandatory  } |
    { ID id-RANAP-RelocationInformation     CRITICALITY ignore  TYPE RANAP-RelocationInformation     PRESENCE mandatory   },
    ...
}

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

-- **************************************************************
--
-- PAGING REQUEST
--
-- **************************************************************

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

PagingRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-PagingArea-PagingRqst           CRITICALITY ignore  TYPE PagingArea-PagingRqst       PRESENCE mandatory   } |
    { ID id-SRNC-ID                 CRITICALITY ignore  TYPE SRNC-ID                    PRESENCE mandatory } |
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                 PRESENCE mandatory  } |
    { ID id-DRX-Parameter               CRITICALITY ignore  TYPE DRX-Parameter              PRESENCE mandatory   },
    ...
}

PagingArea-PagingRqst ::= CHOICE {
    uRA                         URA-ID,
    cell                            C-ID,
    ...
}

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

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
```

```
--
-- **************************************************************

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

DedicatedMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-DedicatedMeasurementObjectType-DM-Rqst  CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rqst PRESENCE mandatory   } |
    { ID id-MeasurementCharacteristics      CRITICALITY ignore  TYPE MeasurementCharacteristics      PRESENCE mandatory   } |
    { ID id-ReportCharacteristics           CRITICALITY ignore  TYPE ReportCharacteristics        PRESENCE mandatory   },
    ...
}

DedicatedMeasurementObjectType-DM-Rqst ::= CHOICE {
    rLs                     RL-InformationList-DM-Rqst,
    ...
}

RL-InformationList-DM-Rqst                  ::= RL-IE-ContainerList { {RL-Information-DM-Rqst-IEs} }

RL-Information-DM-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rqst      CRITICALITY ignore  TYPE RL-InformationItem-DM-Rqst      PRESENCE mandatory   },
    ...
}

RL-InformationItem-DM-Rqst ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION RESPONSE
--
-- **************************************************************

DedicatedMeasurementInitiationResponse ::= SEQUENCE {
```

```
    protocolIEs                     ProtocolIE-Container       {{DedicatedMeasurementInitiationResponse-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{DedicatedMeasurementInitiationResponse-Extensions}}                  OPTIONAL,
    ...
}

DedicatedMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-DedicatedMeasurementObjectType-DM-Rspns CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rspns   PRESENCE mandatory   } |
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

DedicatedMeasurementObjectType-DM-Rspns ::= CHOICE {
    rLs                     RL-InformationList-DM-Rspns,
    allRL                       AllRL-Information-DM-Rspns,
    ...
}

RL-InformationList-DM-Rspns                 ::= RL-IE-ContainerList { {RL-Information-DM-Rspns-IEs} }

RL-Information-DM-Rspns-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rspns     CRITICALITY ignore  TYPE RL-InformationItem-DM-Rspns     PRESENCE mandatory   },
    ...
}

RL-InformationItem-DM-Rspns ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID             OPTIONAL,
    dedicatedMeasurementValue           DedicatedMeasurementValue,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-DM-Rspns-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rspns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

AllRL-Information-DM-Rspns ::= SEQUENCE {
    dedicatedMeasurementValue           DedicatedMeasurementValue,
    iE-Extensions                   ProtocolExtensionContainer { {AllRL-Information-DM-Rspns-ExtIEs} } OPTIONAL,
    ...
}

AllRL-Information-DM-Rspns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

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

DedicatedMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

-- **************************************************************
--
-- DEDICATED MEASUREMENT REPORT
--
-- **************************************************************

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

DedicatedMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-DedicatedMeasurementObjectType-DM-Rprt  CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rprt PRESENCE mandatory   } |
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE optional },
    ...
}

DedicatedMeasurementObjectType-DM-Rprt ::= CHOICE {
    rLs                     RL-InformationList-DM-Rprt,
    allRL                       AllRL-Information-DM-Rprt,
    ...
}

RL-InformationList-DM-Rprt                  ::= RL-IE-ContainerList { {RL-Information-DM-Rprt-IEs} }
```

```
RL-Information-DM-Rprt-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rprt      CRITICALITY ignore  TYPE RL-InformationItem-DM-Rprt      PRESENCE mandatory   },
    ...
}

RL-InformationItem-DM-Rprt ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID             OPTIONAL,
    dedicatedMeasurementValue           DedicatedMeasurementValue,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

AllRL-Information-DM-Rprt ::= SEQUENCE {
    dedicatedMeasurementValue           DedicatedMeasurementValue,
    iE-Extensions                   ProtocolExtensionContainer { {AllRL-Information-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

AllRL-Information-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- DEDICATED MEASUREMENT TERMINATION REQUEST
--
-- **************************************************************

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

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

DedicatedMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- DEDICATED MEASUREMENT FAILURE INDICATION
--
-- **************************************************************

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

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

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

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST
--
-- **************************************************************

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

CommonTransportChannelResourcesReleaseRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE mandatory  } |
    { ID id-C-RNTI                  CRITICALITY ignore  TYPE C-RNTI                 PRESENCE optional   },
    ...
}

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

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES REQUEST
--
-- **************************************************************
```

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

CommonTransportChannelResourcesRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE mandatory  } |
    { ID id-TransportBearerRequestIndicator     CRITICALITY ignore  TYPE TransportBearerRequestIndicator     PRESENCE mandatory   } |
    { ID id-TransportBearerID           CRITICALITY ignore  TYPE TransportBearerID              PRESENCE mandatory },
    ...
}

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

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RESPONSE FDD
--
-- **************************************************************

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

CommonTransportChannelResourcesResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                 PRESENCE mandatory  } |
    { ID id-FACH-InfoForS-CCPCH-CoupledToPRACH  CRITICALITY ignore  TYPE FACH-InfoForS-CCPCH-CoupledToPRACH     PRESENCE mandatory   } |
    { ID id-FACH-InfoForOptionalS-CCPCH     CRITICALITY ignore  TYPE FACH-InfoForOptionalS-CCPCH     PRESENCE optional } |
    { ID id-TransportLayerAddress           CRITICALITY ignore  TYPE TransportLayerAddress       PRESENCE optional } |
    { ID id-BindingID               CRITICALITY ignore  TYPE BindingID                  PRESENCE optional  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

FACH-InfoForS-CCPCH-CoupledToPRACH ::= SEQUENCE {
    priorityIndicatorAndInitialWindowSizes      PriorityIndicatorAndInitialWindowSizeList,
    iE-Extensions                   ProtocolExtensionContainer { {FACH-InfoForS-CCPCH-CoupledToPRACH-ExtIEs} } OPTIONAL,
    ...
}

FACH-InfoForS-CCPCH-CoupledToPRACH-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityIndicatorAndInitialWindowSizeList ::= SEQUENCE (SIZE (1..16)) OF
    SEQUENCE {
```

```
        fACH-PriorityIndicator              FACH-PriorityIndicator,
        mAC-c-SDU-Lengths                MAC-c-SDU-LengthList,
        fACH-InitialWindowSize              FACH-InitialWindowSize,
        iE-Extensions                    ProtocolExtensionContainer { {PriorityIndicatorAndInitialWindowSizeList-ExtIEs} } OPTIONAL,
        ...
    }

PriorityIndicatorAndInitialWindowSizeList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

MAC-c-SDU-LengthList ::= SEQUENCE (SIZE (1..maxNrOfMACcSDU-Length)) OF
    SEQUENCE {
        mAC-c-SDU-Length                 MAC-c-SDU-Length,
        iE-Extensions                    ProtocolExtensionContainer { {MAC-c-SDU-LengthList-ExtIEs} } OPTIONAL,
        ...
    }

MAC-c-SDU-LengthList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-InfoForOptionalS-CCPCH ::= SEQUENCE {
    fDD-S-CCPCH-Offset              FDD-S-CCPCH-Offset,
    dl-ScrablingCode                DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    dl-TFCS                     TransportFormatCombinationSet,
    secondaryCCPCHs                 SecondaryCCPCH-List,
    pilotBitsUsedIndicator              PilotBitsUsedIndicator,
    multiplexingPosition                MultiplexingPosition,
    sSDT-Indication                 SSDT-Indication,
    priorityIndicatorAndInitialWindowSizeList   PriorityIndicatorAndInitialWindowSizeList,
    fACH-DataFrameSize              FACH-DataFrameSize,
    fACH-InitialWindowSize              FACH-InitialWindowSize,
    iE-Extensions                   ProtocolExtensionContainer { {FACH-InfoForOptionalS-CCPCH-ExtIEs} } OPTIONAL,
    ...
}

FACH-InfoForOptionalS-CCPCH-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SecondaryCCPCH-List ::= SEQUENCE (SIZE (1..maxNrOfSCCPCHs)) OF
    SEQUENCE {
        tDD-ChannelisationCode              TDD-ChannelisationCode,
        timeSlot                    TimeSlot,
        burstType                   BurstType,
        midambleShift                   MidambleShift,
        offset                      Offset,
        repetitionPeriod                RepetitionPeriod,
        repetitionLength                RepetitionLength,
```

```
        iE-Extensions                   ProtocolExtensionContainer { {SecondaryCCPCH-List-ExtIEs} } OPTIONAL,
        ...
    }

SecondaryCCPCH-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RESPONSE TDD
--
-- **************************************************************

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

CommonTransportChannelResourcesResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                 PRESENCE mandatory  } |
    { ID id-FACH-InfoForS-CCPCH-CoupledToPRACH  CRITICALITY ignore  TYPE FACH-InfoForS-CCPCH-CoupledToPRACH     PRESENCE optional } |
    { ID id-FACH-InfoForOptionalGroupS-CCPCH    CRITICALITY ignore  TYPE FACH-InfoForOptionalGroupOfS-CCPCH     PRESENCE optional } |
    { ID id-TransportLayerAddress           CRITICALITY ignore  TYPE TransportLayerAddress       PRESENCE optional } |
    { ID id-BindingID               CRITICALITY ignore  TYPE BindingID                  PRESENCE optional  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

FACH-InfoForOptionalGroupOfS-CCPCH ::= SEQUENCE {
    dl-TFCS                     TransportFormatCombinationSet,
    secondaryCCPCHs                 SecondaryCCPCH-TDD-List,
    iE-Extensions                   ProtocolExtensionContainer { {FACH-InfoForOptionalGroupOfS-CCPCH-ExtIEs} } OPTIONAL,
    ...
}

FACH-InfoForOptionalGroupOfS-CCPCH-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SecondaryCCPCH-TDD-List ::= SEQUENCE (SIZE (1..maxNrOfSCCPCHs)) OF
    SEQUENCE {
        tDD-ChannelisationCode              TDD-ChannelisationCode,
        timeSlot                    TimeSlot,
        burstType                   BurstType,
        midambleShift                   MidambleShift,
```

```
        tDD-PhysicalChannelOffset           TDD-PhysicalChannelOffset,
        repetitionPeriod                RepetitionPeriod,
        repetitionLength                RepetitionLength,
        sSDT-Indication                 SSDT-Indication,
        priorityIndicatorAndInitialWindowSizeList   PriorityIndicatorAndInitialWindowSizeList,
        iE-Extensions                   ProtocolExtensionContainer { {SecondaryCCPCH-TDD-List-ExtIEs} } OPTIONAL,
        ...
    }

SecondaryCCPCH-TDD-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES FAILURE
--
-- **************************************************************

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

CommonTransportChannelResourcesFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                 PRESENCE mandatory  } |
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

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

-- **************************************************************
--
-- COMPRESSED MODE PREPARE
--
-- **************************************************************

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

```
CompressedModePrepare-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-TGP1                    CRITICALITY ignore  TYPE GapPeriod                 PRESENCE mandatory } |
    { ID id-TGP2                    CRITICALITY ignore  TYPE GapPeriod                 PRESENCE optional  } |
    { ID id-TGL                CRITICALITY ignore  TYPE TGL                    PRESENCE mandatory   } |
    { ID id-TGD                CRITICALITY ignore  TYPE TGD                    PRESENCE mandatory   } |
    { ID id-PD                 CRITICALITY ignore  TYPE PD                     PRESENCE mandatory   } |
    { ID id-UL-DL-CompressedModeSelection       CRITICALITY ignore  TYPE UL-DL-CompressedModeSelection     PRESENCE mandatory   } |
    { ID id-CompressedModeMethod            CRITICALITY ignore  TYPE CompressedModeMethod         PRESENCE mandatory   } |
    { ID id-GapPositionMode            CRITICALITY ignore  TYPE GapPositionMode               PRESENCE mandatory } |
    { ID id-SN                 CRITICALITY ignore  TYPE SN                     PRESENCE conditional
    -- This IE is present only if "GapPositionMode" equals to "flexible" --                                  } |
    { ID id-DL-FrameType               CRITICALITY ignore  TYPE DL-FrameType              PRESENCE mandatory   } |
    { ID id-ScramblingCodeChange           CRITICALITY ignore  TYPE ScramblingCodeChange         PRESENCE conditional
    -- This IE is present only if "CompressedModeMethod" equals to "SF/2" --                                 } |
    { ID id-PowerControlMode           CRITICALITY ignore  TYPE PowerControlMode              PRESENCE mandatory } |
    { ID id-PowerResumeMode            CRITICALITY ignore  TYPE PowerResumeMode               PRESENCE mandatory } |
    { ID id-UL-DeltaEbNo               CRITICALITY ignore  TYPE UL-EbNo                    PRESENCE mandatory   } |
    { ID id-UL-DeltaEbNoAfter          CRITICALITY ignore  TYPE UL-EbNo                    PRESENCE mandatory   },
    ...
}

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

-- **************************************************************
--
-- COMPRESSED MODE READY
--
-- **************************************************************

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

CompressedModeReady-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

-- **************************************************************
--
-- COMPRESSED MODE FAILURE
--
```

```
-- **************************************************************

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

CompressedModeFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

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

-- **************************************************************
--
-- COMPRESSED MODE COMMIT
--
-- **************************************************************

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

CompressedModeCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE mandatory   },
    ...
}

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

-- **************************************************************
--
-- COMPRESSED MODE CANCEL
--
-- **************************************************************

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

```
CompressedModeCancel-IEs RNSAP-PROTOCOL-IES ::= {
    ...
}

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

-- **************************************************************
--
-- ERROR INDICATION
--
-- **************************************************************

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

ErrorIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE conditional
    -- At least either of Cause IE or Criticality IE shall be present --                                    } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE conditional
    -- At least either of Cause IE or Criticality IE shall be present --                                    },
    ...
}

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

-- **************************************************************
--
-- PRIVATE MESSAGE
--
-- **************************************************************

PrivateMessage ::= SEQUENCE {
    privateExtensions       PrivateExtensionContainer  {{PrivateExtensions}},
    ...
}

PrivateExtensions RNSAP-PRIVATE-EXTENSION ::= {
    ...
}

END
```

9.3.4 Information Element Definitions

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

RNSAP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxRateMatching,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxTTI-Count
FROM RNSAP-Constants

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

    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;

-- A

AllocationRetentionPriority     ::= FrameHandlingPriority

AllowedQueuingTime          ::= INTEGER (0..60)
-- seconds

-- B

-- ** NOTE: Size in tabular 1..4,... **
BindingID               ::= OCTET STRING (SIZE (1..MAX))

BLER                    ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

BurstType ::= ENUMERATED {
    type1 (1),
    type2 (2)
```

```
}

-- C

Cause ::= CHOICE {
    radioNetwork            CauseRadioNetwork,
    transmissionNetwork     CauseTransmissionNetwork,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transaction-not-allowed,
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    unspecified,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    macrodiversity-combining-not-possible,
    reconfiguration-not-allowed,
    Synchronisation-failure,
    unspecified,
    ...
}

CauseTransmissionNetwork ::= ENUMERATED {
    transmission-link-failure,
    transmission-port-not-available,
    unspecified,
    ...
}
```

```
C-ID                    ::= INTEGER (0..65535)

CCTrCH-ID               ::= INTEGER (0..15)

CellParameterID             ::= INTEGER (0..127)

CFN                 ::= INTEGER (0..255)

ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding--,
--  ...
}

-- ** TODO **
ChipOffset              ::= INTEGER

CodingRate ::= ENUMERATED {
    half,
    third--,
--  ...
}

CompressedModeMethod ::= ENUMERATED {
    none,
    puncturing,
    half-sF2SF,
    higher-Layer-Schedulinggating
}

CPICH-EcIo              ::= INTEGER

CRC-Size                ::= INTEGER (0| 8| 12| 16| 24)

CriticalityDiagnostics ::= SEQUENCE {
    procedureCode           ProcedureCode           OPTIONAL,
    triggeringMessage       TriggeringMessage       OPTIONAL,
    criticalityResponse     Criticality         OPTIONAL,
    transactionID           TransactionID           OPTIONAL,
    iEsCriticalityResponses     CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
```

```
    SEQUENCE {
        criticalityResponse     Criticality,
        iE-ID               ProtocolIE-ID,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
CTFC                    ::= INTEGER
-- See formula (must be resolved)

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    iE-Extensions           ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL,
    lAC             LAC
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    iE-Extensions           ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL,
    rAC             RAC
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **TODO**
CPICH-Power             ::= INTEGER

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

-- D

DCH-CombinationInd          ::= INTEGER (0..255)

DCH-ID                  ::= INTEGER (0..255)

DedicatedMeasurementObjectType ::= ENUMERATED {
    rl,
    all-rl,
    ...
```

```
}
-- ** OR:
-- DedicatedMeasurementObjectType   ::= INTEGER {
--  rL(0),
--  allRL(1)
-- } (0..255)
-- **

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    ...
}
-- timeslotTSCP is used by TDD only

-- ** OR:
-- DedicatedMeasurementType     ::= INTEGER {
--  sIR(0),
--  sIR-Error(1),
--  transmittedCodePower(2),
--  rSCP(3)
-- } (0..255)
-- **

-- ** NOTE: Extensibility added **
-- **TODO**

DedicatedMeasurementValue ::= SEQUENCE {
    sIR-Value           ScaledSIR-Value         OPTIONAL,
    sIR-ErrorValue          ScaledSIR-ErrorValue        OPTIONAL,
    transmittedCodePowerValue   ScaledTransmittedCodePowerValue OPTIONAL,   -- Relative to CPICH
    rSCP                TBD             OPTIONAL,   -- TDD only
    iE-Extensions           ProtocolExtensionContainer { {DedicatedMeasurementValue-ExtIEs} } OPTIONAL,
    ...
}

DedicatedMeasurementValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
DiversityControlField           ::= INTEGER

-- ** TODO **
DiversityMode               ::= INTEGER

-- ** TODO **
DL-ChannelisationCode           ::= INTEGER
```

```
-- ** TODO **
DL-DPCCH-SlotFormat          ::= INTEGER

-- ** TODO **
DL-DPCH-SlotNumber           ::= INTEGER

DL-EbNo                  ::= ScaledUL-EbNo

DL-EbNoTarget                ::= ScaledUL-EbNo

-- ** TODO **
DL-Power                 ::= INTEGER

D-RNTI                   ::= INTEGER (0..1048576)
-- ** OR:
-- D-RNTI                ::= BIT STRING (SIZE (20))
-- **

D-RNTI-ReleaseIndication ::= ENUMERATED {
    not-release-D-RNTI,
    release-D-RNTI
}

-- ** TODO **
DL-ScramblingCode            ::= INTEGER

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DPCH-ID                  ::= INTEGER (0..239)

-- **TODO**
DRX-Parameter                ::= TBD

-- **TODO**
DSCH-TransportFormatCombinationSet  ::= INTEGER

-- **TODO**
DSCH-TFS                 ::= INTEGER

-- **TODO**
D-FieldLength                ::= INTEGER

-- E

EventA ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
```

```
    iE-Extensions           ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}

EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventB ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}

EventC ::= SEQUENCE {
    measurementIncreaseThreshold    MeasurementIncreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    ...
}

EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventD ::= SEQUENCE {
    measurementDecreaseThreshold    MeasurementDecreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

EventD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventE ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

EventE-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventF ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
```

```
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

EventF-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- F

FACH-DataFrameSize          ::= INTEGER (1..5000)
-- Size of data frame in number of bits

FACH-InitialWindowSize          ::= INTEGER { unlimited(255) } (0..255)
-- Number of FACH data frames.
-- 255 = Unlimited number of FACH data frames

-- ** TODO **
FACH-InfoForOptionalS-CCPCH     ::= INTEGER

-- ** TODO **
FACH-InfoForS-CCPCH-CoupledToPRACH  ::= INTEGER

-- ** TODO **
FDD-DL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-FL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-S-CCPCH-Offset          ::= INTEGER

FACH-PriorityIndicator          ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameHandlingPriority           ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameOffset             ::= INTEGER (0..255)
-- Frames

-- G

GapPositionMode ::= ENUMERATED {
    fixed,
    flexible
}

GapPeriod               ::= INTEGER (0..255)
```

```
-- H
-- I

-- **TODO**
InitialDL-TX-Power          ::= INTEGER

-- J
-- K
-- L

LAC                ::= OCTET STRING (SIZE (2)) --(EXCEPT ('0000'H|'FFFF'H))

-- ** TODO **
L3-Information              ::= INTEGER

-- M

-- ** TODO **
MaxNrOfUL-DPCHs             ::= INTEGER

MAC-c-SDU-Length            ::= INTEGER (1..5000)

-- **TODO**
MACd-MACsh-TransportFormatSet       ::= INTEGER

-- **NOTE: extensibility**
MeasurementCharacteristics ::= SEQUENCE {
    measuremtFrequence      TBD,
    averagingDuration       TBD,
    iE-Extensions           ProtocolExtensionContainer { {MeasurementCharacteristics-ExtIEs} } OPTIONAL,
    ...
}

MeasurementCharacteristics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
MeanBitRate             ::= INTEGER

MeasurementID               ::= INTEGER (0..1048576)
-- **OR:
-- MeasurementID            ::= BIT STRING (SIZE (20))
-- **

MultipleURAsIndicator ::= ENUMERATED {
    single-URA-exists,
    multiple-URAs-exist
}

-- ** TODO **
```

```
MCC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

-- ** TODO **
MNC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

ScaledMeasurementChangeTime     ::= INTEGER (1..1000)
-- MeasurementChangeTime = ScaledMeasurementChangeTime * 10
-- Unis is ms

-- ** TODO **
MeasurementDecreaseThreshold        ::= INTEGER

ScaledMeasurementHysteresisTime     ::= INTEGER (1..1000)
-- MeasurementHysteresisTime = ScaledMeasurementHysteresisTime * 10
-- Unit is ms

-- ** TODO **
MeasurementIncreaseThreshold        ::= INTEGER

-- ** TODO **
MeasurementThreshold            ::= INTEGER

MidambleShift               ::= INTEGER (0..15)

MinUL-ChannelisationCodeLength      ::= INTEGER

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

-- N

NrOfTransportBlocks         ::= INTEGER (0..4095)

-- O

Offset                  ::= INTEGER (0..63)

-- P

PD                  ::= INTEGER (0..2047, ...)

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
```

```
}

PSCH-TimeSlot               ::= INTEGER (0..6)

Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
PilotBitsUsedIndicator          ::= INTEGER

-- ** TODO **
PLMN-ID ::= SEQUENCE {
    mCC-digit           MCC-Digit,
    iE-Extensions           ProtocolExtensionContainer { {PLMN-ID-ExtIEs} } OPTIONAL,
    mNC-digit           MNC-Digit
}
-- FFS

PLMN-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerControlMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

PowerOffset             ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

-- ** TODO **
PrimaryCPICH-Power          ::= INTEGER

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

-- ** TODO **
PrimaryCCPCH-RSCP           ::= INTEGER
```

```
PrimaryScramblingCode           ::= ScramblingCode

PropagationDelay            ::= INTEGER (0..255)

SyncCase ::= ENUMERATED {
    case1,
    case2,
    case3--,
--  ...
}

-- ** TODO **
PSCH-CCPCH-TimeSlot         ::= TimeSlot

-- ** TODO **
PSCH-PCCPCH-TimeSlot            ::= TimeSlot

-- ** TODO **
P-CPICH-Power               ::= INTEGER

PunctureLimit               ::= INTEGER (0..100)
-- Unit is %

-- Q
-- R

-- ** TODO **
RAC                 ::= INTEGER

-- ** TODO **
-- OCTET STRING?
RANAP-RelocationInformation     ::= BIT STRING

RateMatchingAttribute           ::= INTEGER (1..maxRateMatching)

RepetitionLength            ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
    v64--,
--  ...
}

-- This is changed from the tabular format because it seems that
-- this is what is wanted.
ReportCharacteristics ::= CHOICE {
```

```
    onDemand            NULL,
    periodic            Periodic,
    eventA              EventA,
    eventB              EventB,
    eventC              EventC,
    eventD              EventD,
    eventE              EventE,
    eventF              EventF--,
--  ...
}

-- Changed
ReportPeriodicity ::= CHOICE {
    msec                INTEGER (1..1000),
    min             INTEGER (1..60)
}

RLC-Mode ::= ENUMERATED {
    acknowledged-mode,
    unacknowledged-mode,
    transparent-mode
}

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

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

-- S

-- Changed BIT STRING -> OCTET STRING
SAC                 ::= OCTET STRING (SIZE (2))

SAI ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    sAC             SAC,
    iE-Extensions           ProtocolExtensionContainer { {SAI-ExtIEs} } OPTIONAL
}

SAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
ScramblingCode              ::= INTEGER

ScramblingCodeChange ::= ENUMERATED {
    no-code-change,
    code-change
}
```

```
ScaledSIR-ErrorValue            ::= INTEGER (-100..100)
-- ScaledSIR-ErrorValue = SIR-ErrorValue * 10
-- If SIR-ErrorValue <= -10 ScaledSIR-ErrorValue shall be set to -100
-- If SIR-ErrorValue >=  10 ScaledSIR-ErrorValue shall be set to  100
-- SIR-ErrorValue step 0.1 dB

ScaledSIR-Value             ::= INTEGER (-100..200)
-- ScaledSIR-Value = SIR-Value * 10
-- SIR-Value step 0.1 dB

ScaledTransmittedCodePowerValue     ::= INTEGER (-350..150)
-- ScaledTransmittedCodePowerValue = TransmittedCodePowerValue * 10
-- TransmittedCodePowerValue step 0.1 dB

-- ** TODO **
SharedChannelType           ::= INTEGER

-- ** TODO **
SecondaryCCPCH-SlotFormat       ::= INTEGER

SN                  ::= TimeSlot

SpreadingFactorOfChannelisationCode ::= ENUMERATED {
    v256,
    v128,
    v64,
    v32,
    v16,
    v8,
    v4,
    v2,
    v1
}

-- Changed
S-FieldLength               ::= INTEGER (1..2)

S-RNTI                  ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

-- ** TODO **
SRNC-ID                 ::= INTEGER

SSDT-CellID ::= ENUMERATED {
    a,
    b,
    c,
    d,
    e,
    f,
    g,
```

```
    h
}

SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

SSDT-Indication ::= ENUMERATED {
    sSDT-active-in-the-UE,
    sSDT-not-active-in-the-UE
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-not-supported,
    sSDT-supported
}

-- T

-- ** TODO **
TBD                 ::= NULL
-- Remove this type

TDD-ChannelisationCode          ::= INTEGER (1..31)

TDD-PhysicalChannelOffset       ::= INTEGER (0..63)

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32
}

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

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

-- ** TODO **
TimeReference               ::= INTEGER
-- TimeReference                ::= INTEGER (0..255)

TimeSlot                ::= INTEGER (0..14)
```

```
ToAWE                   ::= INTEGER (0..2559)

ToAWS                   ::= INTEGER (0..1279)

TPC-StepSize ::= ENUMERATED {
    half,
    one
}

TGD                 ::= INTEGER (0..255)

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

TransmissionTimeInterval ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80--,
--  ...
}

TransportBearerID       ::= INTEGER (0..4095)

-- Compare title and IE name in table TransportBearerRequestIndicator vs.
-- FACH-PriorityIndicator
TransportBearerRequestIndicator     ::= INTEGER { lowest (0), highest (15) } (0..15)

TransportBlockSize          ::= INTEGER (1..5000)
-- Unit is bits

TransportFormatCombinationSet ::= SEQUENCE (SIZE (1..maxNrOfTFCs)) OF
    SEQUENCE {
        cTFC                CTFC,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatCombinationSet-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatCombinationSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet ::= SEQUENCE {
    dynamicParts            TransportFormatSet-DynamicPartList,
    semi-staticPart         TransportFormatSet-Semi-staticPart,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
    SEQUENCE {
        nrOfTransportBlocks     NrOfTransportBlocks,
        transportBlockSize      TransportBlockSize      OPTIONAL
        -- This IE is only present if nrOfTransportBlocks is greater than 0 --,
        mode                TransportFormatSet-ModeDP,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-DynamicPartList-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatSet-DynamicPartList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeDP ::= CHOICE {
    tdd                 TransmissionTimeIntervalList,
    -- This IE is mandatory if not defined as semistatic parameter, otherwise it is absent --
    ...
}

TransmissionTimeIntervalList ::= SEQUENCE (SIZE (1..maxTTI-Count)) OF
    SEQUENCE {
        transmissionTimeInterval    TransmissionTimeInterval,
        iE-Extensions           ProtocolExtensionContainer { {TransmissionTimeIntervalList-ExtIEs} } OPTIONAL,
        ...
    }

TransmissionTimeIntervalList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
    transmissionTime        TransmissionTimeInterval,
    channelCoding           ChannelCodingType,
    codingRate          CodingRate              OPTIONAL
    -- This IE is only present if channelCoding is 'convolutional' or 'turbo' --,
    rateMatcingAttribute        RateMatchingAttribute,
    cRC-Size            CRC-Size,
    mode                TransportFormatSet-ModeSSP      OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-Semi-staticPart-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-Semi-staticPart-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeSSP ::= CHOICE {
    tdd             SecondInterleavingMode,
```

```
    ...
}

SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeslot-related,
    ...
}

-- TransportLayerAddress            ::= BIT STRING (1..160, ...)
TransportLayerAddress           ::= OCTET STRING (SIZE (1..20, ...))

-- U

UARFCN                  ::= INTEGER (0..698, ...)

UL-DL-CompressedModeSelection ::= ENUMERATED {
    ul-only,
    dl-only,
    both
}

UL-DeltaEbNo                ::= INTEGER (-60..100)

UL-DeltaEbNoAfter           ::= INTEGER (-60..100)

-- ** TODO **
UL-EbNo                 ::= INTEGER

-- ** TODO **
UL-EbNoTarget               ::= INTEGER

UC-ID ::= SEQUENCE {
    rNC-ID              RNC-ID,
    c-ID                C-ID,
    iE-Extensions           ProtocolExtensionContainer { {UC-ID-ExtIEs} } OPTIONAL,
    ...
}

UC-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCCH-SlotFormat         ::= INTEGER (0..5)

ScaledUL-EbNo               ::= INTEGER (0..255)
-- Ul-EbNo = ScaledUL-EbNo / 10

UL-FP-Mode ::= ENUMERATED {
    normal,
    silent--,
```

```
--  ...
}

ScaledUL-InterferenceLevel      ::= INTEGER (-1280..-600)
-- UL-InterferenceLevel = UL-InterferenceLevel / 10

-- Relation to the ScramblingCode??
UL-ScramblingCode ::= SEQUENCE {
    ul-ScramblingCodeNumber     UL-ScramblingCodeNumber,
    ul-ScramblingCodeLength     UL-ScramblingCodeLength,
    iE-Extensions           ProtocolExtensionContainer { {UL-ScramblingCode-ExtIEs} } OPTIONAL
}

UL-ScramblingCode-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-ScramblingCodeLength ::= ENUMERATED {
    short,
    long
}

UL-ScramblingCodeNumber         ::= INTEGER (0..16777215)

URA-ID                  ::= INTEGER (0..65535)

-- V
-- W
-- X
-- Y
-- Z

END
```

9.3.5 Common Definitions

```
-- **************************************************************
--
-- Common definitions
--
-- **************************************************************

RNSAP-CommonDataTypes -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

Criticality     ::= ENUMERATED { reject, ignore, notify }

Presence        ::= ENUMERATED { optional, conditional, mandatory }
```

```
PrivateExtensionID  ::= CHOICE {
    local               INTEGER (0..65535),
    global              OBJECT IDENTIFIER
}

ProcedureCode       ::= INTEGER (0..255)

ProcedureID ::= SEQUENCE {
    procedureCode           ProcedureCode,
    ddMode              ENUMERATED { tdd, fdd, common }
}

ProtocolExtensionID ::= INTEGER (0..65535)

ProtocolIE-ID       ::= INTEGER (0..65535)

TransactionID       ::= INTEGER (0..65535)

TriggeringMessage   ::= ENUMERATED { initiating-message, successful-outcome, unsuccessfull-outcome, outcome }

END
```

9.3.6 Constant Definitions

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

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

BEGIN

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

id-commonTransportChannelResourcesInitiationFDD             INTEGER ::= 0
id-commonTransportChannelResourcesInitiationTDD             INTEGER ::= 1
id-commonTransportChannelResourcesRelease               INTEGER ::= 2
id-compressedModeCancellationFDD                    INTEGER ::= 3
id-compressedModeCommitFDD                      INTEGER ::= 4
id-compressedModePrepareFDD                     INTEGER ::= 5
id-downlinkPowerControl                         INTEGER ::= 6
id-downlinkSignallingTransfer                       INTEGER ::= 7
id-errorIndication                          INTEGER ::= 8
```

```
id-measurementFailure                           INTEGER ::= 9
id-measurementInitiation                        INTEGER ::= 10
id-measurementReporting                         INTEGER ::= 11
id-measurementTermination                       INTEGER ::= 12
id-pagingRequest                              INTEGER ::= 13
id-physicalChannelReconfiguration                   INTEGER ::= 14
id-privateMessage                             INTEGER ::= 15
id-radioLinkAddition                            INTEGER ::= 16
id-radioLinkDeletion                            INTEGER ::= 17
id-radioLinkFailure                           INTEGER ::= 18
id-radioLinkRestoration                         INTEGER ::= 19
id-radioLinkSetup                             INTEGER ::= 20
id-srnsRelocationCommit                         INTEGER ::= 21
id-synchronisedRadioLinkReconfigurationCancellation         INTEGER ::= 22
id-synchronisedRadioLinkReconfigurationCommit               INTEGER ::= 23
id-synchronisedRadioLinkReconfigurationPrepare              INTEGER ::= 24
id-unSynchronisedRadioLinkReconfiguration               INTEGER ::= 25
id-uplinkSignallingTransfer                     INTEGER ::= 26

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

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

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

maxRateMatching                               INTEGER ::= 10
maxNrOfTFCs                                 INTEGER ::= 10
maxNrOfTFs                                  INTEGER ::= 10

maxNoOfDL-Codes                               INTEGER ::= 10
maxNrOfCCTrCHs                                INTEGER ::= 10
maxNrOfDCHs                                 INTEGER ::= 10
maxNrOfDL-Codes                               INTEGER ::= 10
maxNrOfDPCHs                                  INTEGER ::= 10
maxNrOfErrors                                 INTEGER ::= 10
maxNrOfFACH-FD-Size                           INTEGER ::= 10
maxNrOfFDD-Neighbours                             INTEGER ::= 10
maxNrOfMACcSDU-Length                             INTEGER ::= 10
maxNrOfTDD-Neighbours                             INTEGER ::= 10
maxNrOfRLs                                  INTEGER ::= 10
maxNrOfSCCPCHs                                INTEGER ::= 10
```

```
maxRNCinURA                                INTEGER ::= 10
maxTTI-Count                                   INTEGER ::= 10

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

id-AllowedQueuingTime                              INTEGER ::= 0
id-BindingID                                   INTEGER ::= 1
id-C-ID                                    INTEGER ::= 2
id-C-RNTI                                  INTEGER ::= 3
id-CCTrCH-ID                                   INTEGER ::= 4
id-CFN                                     INTEGER ::= 5
id-CN-CS-DomainIdentifier                          INTEGER ::= 6
id-CN-PS-DomainIdentifier                          INTEGER ::= 7
id-Cause                                   INTEGER ::= 8
id-CompressedModeMethod                            INTEGER ::= 9
id-D-RNTI                                  INTEGER ::= 10
id-D-RNTI-ReleaseIndication                        INTEGER ::= 11
id-DCH-AddItem                                 INTEGER ::= 12
id-DCH-AddItem-RL-ReconfPrepFDD                        INTEGER ::= 13
id-DCH-AddItem-RL-ReconfPrepTDD                        INTEGER ::= 14
id-DCH-AddItem-RL-ReconfReadyFDD                       INTEGER ::= 15
id-DCH-AddItem-RL-ReconfRqstFDD                        INTEGER ::= 16
id-DCH-AddItem-RL-ReconfRqstTDD                        INTEGER ::= 17
id-DCH-AddList-RL-ReconfPrepFDD                        INTEGER ::= 18
id-DCH-AddList-RL-ReconfPrepTDD                        INTEGER ::= 19
id-DCH-AddList-RL-ReconfRqstFDD                        INTEGER ::= 20
id-DCH-AddList-RL-ReconfRqstTDD                        INTEGER ::= 21
id-DCH-DeleteItem-RL-ReconfPrepFDD                     INTEGER ::= 22
id-DCH-DeleteItem-RL-ReconfPrepTDD                     INTEGER ::= 23
id-DCH-DeleteItem-RL-ReconfRqstFDD                     INTEGER ::= 24
id-DCH-DeleteItem-RL-ReconfRqstTDD                     INTEGER ::= 25
id-DCH-DeleteList-RL-ReconfPrepFDD                     INTEGER ::= 26
id-DCH-DeleteList-RL-ReconfPrepTDD                     INTEGER ::= 27
id-DCH-DeleteList-RL-ReconfRqstFDD                     INTEGER ::= 28
id-DCH-DeleteList-RL-ReconfRqstTDD                     INTEGER ::= 29
id-DCH-Information-RL-SetupReqFDD                      INTEGER ::= 30
id-DCH-InformationItem-RL-SetupReqFDD                      INTEGER ::= 31
id-DCH-InformationItem-RL-SetupReqTDD                      INTEGER ::= 32
id-DCH-InformationList-RL-SetupReqTDD                      INTEGER ::= 33
id-DCH-ModifyItem                                  INTEGER ::= 34
id-DCH-ModifyItem-RL-ReconfPrepFDD                     INTEGER ::= 35
id-DCH-ModifyItem-RL-ReconfPrepTDD                     INTEGER ::= 36
id-DCH-ModifyItem-RL-ReconfReadyFDD                    INTEGER ::= 37
id-DCH-ModifyItem-RL-ReconfRqstFDD                     INTEGER ::= 38
id-DCH-ModifyItem-RL-ReconfRqstTDD                     INTEGER ::= 39
id-DCH-ModifyList-RL-ReconfPrepFDD                     INTEGER ::= 40
id-DCH-ModifyList-RL-ReconfPrepTDD                     INTEGER ::= 41
```

```
id-DCH-ModifyList-RL-ReconfRqstFDD                  INTEGER ::= 42
id-DCH-ModifyList-RL-ReconfRqstTDD                  INTEGER ::= 43
id-DL-CCTrCH-Information-RL-ReconfPrepTDD                INTEGER ::= 44
id-DL-CCTrCH-Information-RL-ReconfRqstTDD                INTEGER ::= 45
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD                INTEGER ::= 46
id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD                INTEGER ::= 47
id-DL-CCTrChInformationItem-RL-SetupReqTDD               INTEGER ::= 48
id-DL-CCTrChInformationList-RL-SetupReqTDD               INTEGER ::= 49
id-DL-CodeInformation-PhyChReconfRqstFDD                 INTEGER ::= 50
id-DL-DPCH-Information                          INTEGER ::= 51
id-DL-DPCH-Information-RL-SetupReqFDD                    INTEGER ::= 52
id-DL-DPCH-InformationList-PhyChReconfRqstTDD                INTEGER ::= 53
id-DL-DPCH-InformationList-RL-ReconfReadyTDD                 INTEGER ::= 54
id-DL-EbNoTarget                            INTEGER ::= 55
id-DL-FrameType                             INTEGER ::= 56
id-DL-MeanBitRate                           INTEGER ::= 57
id-DL-ReferencePowerInformation-DL-PC-Rqst               INTEGER ::= 58
id-DRX-Parameter                            INTEGER ::= 59
id-DedicatedMeasurementObjectType-DM-Rprt                INTEGER ::= 60
id-DedicatedMeasurementObjectType-DM-Rqst                INTEGER ::= 61
id-DedicatedMeasurementObjectType-DM-Rspns               INTEGER ::= 62
id-FACH-InfoForOptionalGroupS-CCPCH                  INTEGER ::= 63
id-FACH-InfoForOptionalS-CCPCH                       INTEGER ::= 64
id-FACH-InfoForS-CCPCH-CoupledToPRACH                    INTEGER ::= 65
id-GapPositionMode                          INTEGER ::= 66
id-L3-Information                           INTEGER ::= 67
id-MeasurementCharacteristics                        INTEGER ::= 68
id-MeasurementID                            INTEGER ::= 69
id-MultipleURAsIndicator                        INTEGER ::= 70
id-PD                                   INTEGER ::= 71
id-PagingArea-PagingRqst                        INTEGER ::= 72
id-PowerControlMode                         INTEGER ::= 73
id-PowerResumeMode                          INTEGER ::= 74
id-ProcedureScope-DL-PC-Rqst                         INTEGER ::= 75
id-RANAP-RelocationInformation                       INTEGER ::= 76
id-RL-Information-PhyChReconfRqstFDD                     INTEGER ::= 77
id-RL-Information-PhyChReconfRqstTDD                     INTEGER ::= 78
id-RL-Information-RL-AdditionRqstFDD                     INTEGER ::= 79
id-RL-Information-RL-AdditionRqstTDD                     INTEGER ::= 80
id-RL-Information-RL-DeletionRqst                    INTEGER ::= 81
id-RL-Information-RL-FailureInd                      INTEGER ::= 82
id-RL-Information-RL-ReconfPrepFDD                   INTEGER ::= 83
id-RL-Information-RL-RestoreInd                      INTEGER ::= 84
id-RL-Information-RL-SetupReqFDD                     INTEGER ::= 85
id-RL-Information-RL-SetupReqTDD                     INTEGER ::= 86
id-RL-InformationItem-DM-Rprt                        INTEGER ::= 87
id-RL-InformationItem-DM-Rqst                        INTEGER ::= 88
id-RL-InformationItem-DM-Rspns                       INTEGER ::= 89
id-RL-InformationItem-RL-SetupReqFDD                     INTEGER ::= 90
id-RL-InformationList-RL-AdditionRqstFDD                 INTEGER ::= 91
id-RL-InformationList-RL-DeletionRqst                    INTEGER ::= 92
```

```
id-RL-InformationList-RL-FailureInd                 INTEGER ::= 93
id-RL-InformationList-RL-ReconfPrepFDD                  INTEGER ::= 94
id-RL-InformationList-RL-RestoreInd                 INTEGER ::= 95
id-RL-InformationResponse-RL-AdditionRspTDD             INTEGER ::= 96
id-RL-InformationResponse-RL-ReconfReadyTDD             INTEGER ::= 97
id-RL-InformationResponse-RL-SetupRspTDD                INTEGER ::= 98
id-RL-InformationResponseItem-RL-AdditionRspFDD             INTEGER ::= 99
id-RL-InformationResponseItem-RL-ReconfReadyFDD             INTEGER ::= 100
id-RL-InformationResponseItem-RL-SetupRspFDD                INTEGER ::= 101
id-RL-InformationResponseList-RL-AdditionRspFDD             INTEGER ::= 102
id-RL-InformationResponseList-RL-ReconfReadyFDD             INTEGER ::= 103
id-RL-InformationResponseList-RL-SetupRspFDD                INTEGER ::= 104
id-RL-ReconfigurationFailure-RL-ReconfFail              INTEGER ::= 105
id-RL-ReconfigurationFailureList-RL-ReconfFail              INTEGER ::= 106
id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind             INTEGER ::= 107
id-ReportCharacteristics                        INTEGER ::= 108
id-S-RNTI                               INTEGER ::= 109
id-SAI                                  INTEGER ::= 110
id-SN                                   INTEGER ::= 111
id-SRNC-ID                              INTEGER ::= 112
id-ScramblingCodeChange                         INTEGER ::= 113
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD       INTEGER ::= 114
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD          INTEGER ::= 115
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD       INTEGER ::= 116
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD      INTEGER ::= 117
id-TGD                                  INTEGER ::= 118
id-TGL                                  INTEGER ::= 119
id-TGP1                                 INTEGER ::= 120
id-TGP2                                 INTEGER ::= 121
id-TransportBearerID                            INTEGER ::= 122
id-TransportBearerRequestIndicator                  INTEGER ::= 123
id-TransportLayerAddress                        INTEGER ::= 124
id-UC-ID                                INTEGER ::= 125
id-UL-CCTrCH-Information-RL-ReconfPrepTDD                INTEGER ::= 126
id-UL-CCTrCH-Information-RL-ReconfRqstTDD                INTEGER ::= 127
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD                INTEGER ::= 128
id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD                INTEGER ::= 129
id-UL-CCTrChInformationItem-RL-SetupReqTDD               INTEGER ::= 130
id-UL-CCTrChInformationList-RL-SetupReqTDD               INTEGER ::= 131
id-UL-DL-CompressedModeSelection                    INTEGER ::= 132
id-UL-DPCH-Information                          INTEGER ::= 133
id-UL-DPCH-Information-RL-SetupReqFDD                    INTEGER ::= 134
id-UL-DPCH-InformationList-PhyChReconfRqstTDD                INTEGER ::= 135
id-UL-DPCH-InformationList-RL-ReconfReadyTDD                 INTEGER ::= 136
id-UL-DeltaEbNo                             INTEGER ::= 137
id-UL-DeltaEbNoAfter                            INTEGER ::= 138
id-UL-EbNoTarget                            INTEGER ::= 139
id-UL-MeanBitRate                           INTEGER ::= 140
id-URA-ID                               INTEGER ::= 141
id-UnsuccessfulRL-InformationResponse                    INTEGER ::= 142
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD     INTEGER ::= 143
```

```
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD        INTEGER ::= 144
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD        INTEGER ::= 145
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD     INTEGER ::= 146
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD        INTEGER ::= 147
id-CriticalityDiagnostics                       INTEGER ::= 148

END
```

9.3.7 Container Definitions

```
-- **************************************************************
--
-- Container definitions
--
-- **************************************************************

RNSAP-Containers -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Criticality,
    Presence,
    PrivateExtensionID,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes

    maxPrivateExtensions,
    maxProtocolExtensions,
    maxProtocolIEs
FROM RNSAP-Constants;

-- **************************************************************
--
-- Class Definition for Protocol IEs
--
-- **************************************************************

RNSAP-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
--
-- **************************************************************

RNSAP-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
--
-- **************************************************************

RNSAP-PROTOCOL-EXTENSION ::= CLASS {
    &id             ProtocolExtensionID                 UNIQUE,
    &criticality            Criticality,
    &Extension
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    EXTENSION           &Extension
}

-- **************************************************************
--
-- Class Definition for Private Extensions
```

```
--
-- **************************************************************

RNSAP-PRIVATE-EXTENSION ::= CLASS {
    &id             PrivateExtensionID,
    &criticality            Criticality,
    &Extension
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    EXTENSION           &Extension
}

-- **************************************************************
--
-- Container for Protocol IEs
--
-- **************************************************************

ProtocolIE-Container {RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {RNSAP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-IES.&id              ({IEsSetParam}),
    criticality         RNSAP-PROTOCOL-IES.&criticality         ({IEsSetParam}{@id}),
    value               RNSAP-PROTOCOL-IES.&Value               ({IEsSetParam}{@id})
}

-- **************************************************************
--
-- Container for Protocol IE Pairs
--
-- **************************************************************

ProtocolIE-ContainerPair {RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-FieldPair {{IEsSetParam}}

ProtocolIE-FieldPair {RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-IES-PAIR.&id         ({IEsSetParam}),
    firstCriticality        RNSAP-PROTOCOL-IES-PAIR.&firstCriticality   ({IEsSetParam}{@id}),
    firstValue          RNSAP-PROTOCOL-IES-PAIR.&FirstValue         ({IEsSetParam}{@id}),
    secondCriticality       RNSAP-PROTOCOL-IES-PAIR.&secondCriticality  ({IEsSetParam}{@id}),
    secondValue         RNSAP-PROTOCOL-IES-PAIR.&SecondValue            ({IEsSetParam}{@id})
}

-- **************************************************************
--
-- Container Lists for Protocol IE Containers
```

```
--
-- **********************************************************

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-Container {{IEsSetParam}}

ProtocolIE-ContainerPairList {INTEGER : lowerBound, INTEGER : upperBound, RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-ContainerPair {{IEsSetParam}}

-- **********************************************************
--
-- Container for Protocol Extensions
--
-- **********************************************************

ProtocolExtensionContainer {RNSAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
    ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {RNSAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-EXTENSION.&id            ({ExtensionSetParam}),
    criticality         RNSAP-PROTOCOL-EXTENSION.&criticality       ({ExtensionSetParam}{@id}),
    extensionValue          RNSAP-PROTOCOL-EXTENSION.&Extension     ({ExtensionSetParam}{@id})
}

-- **********************************************************
--
-- Container for Private Extensions
--
-- **********************************************************

PrivateExtensionContainer {RNSAP-PRIVATE-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxPrivateExtensions)) OF
    PrivateExtensionField {{ExtensionSetParam}}

PrivateExtensionField {RNSAP-PRIVATE-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id              RNSAP-PRIVATE-EXTENSION.&id         ({ExtensionSetParam}),
    criticality         RNSAP-PRIVATE-EXTENSION.&criticality        ({ExtensionSetParam}{@id}),
    extensionValue          RNSAP-PRIVATE-EXTENSION.&Extension      ({ExtensionSetParam}{@id})
}

END
```

9.4 Message Transfer Syntax

RNSAP shall use the ASN.1 Packed Encoding Rules (PER) Aligned Variant as transfer syntax as specified in ref. [18].

[Editor's note: The dating of reference [18] needs to be verified. It has been included from the ITU-T list of recommendations in force. The dating of the reference is FFS.]

9.5 Timers

-

10 Handling of Unknown, Unforeseen and Erroneous Protocol Data

10.1 General

Protocol Error cases can be divided into two classes:

1. Transfer Syntax error
2. Abstract Syntax error

10.2 Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received message i.e. the transfer syntax can not be opened. If Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the protocol error.

10.3 Abstract Syntax Error

10.3.1 General

In the RANAP messages there is criticality information set for individual IEs and/or sequences of IEs. This criticality information instructs the receiver how to act when receiving an IE that is not comprehended. An IE shall be regarded as not comprehended if the receiving node either cannot decode the IE or does not comprehend the function represented by the IE value. The case of the not comprehended IE is an Abstract Syntax Error.

If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error act according to the Criticality Information for the IE or sequences of IEs due to which Abstract Syntax Error occurred in accordance with chapter 10.3.2.

The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information are:

1. Reject IE
2. Ignore IE and Notify Sender
3. Ignore IE

10.3.2 Handling of the Criticality Information at Reception

10.3.2.1 Procedure Code

The receiving node shall treat the different types of criticality information of the *Procedure Code* according to the following:

Reject IE:

- If a message is received with a *Procedure Code* marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall reject the procedure using the Error Indication procedure.

Ignore IE and Notify Sender:

- If a message is received with a *Procedure Code* marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the procedure and initiate the Error Indication procedure.

Ignore IE:

- If a message is received with a *Procedure Code* marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the procedure.

10.3.2.2 IEs other than the Procedure Code

The receiving node shall treat the different types of criticality information of an IE other than the *Procedure Code* according to the following:

Reject IE:

- If a message *initiating* a procedure is received containing one or more IEs marked with "*Reject IE*" which the receiving node does not comprehend; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the rejection of one or more IEs using the message normally used to report unsuccessful outcome of the procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more IEs marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall initiate the Error Indication procedure.

- If a *response* message is received containing one or more IEs marked with "*Reject IE*, the receiving node shall initiate local error handling.

Ignore IE and Notify Sender:

- If a message *initiating* a procedure is received containing one or more IEs marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall continue with the procedure using the understood IEs and report that one or more IEs have been ignored in the response message of the procedure.

- If a *response* message is received containing one or more IEs marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the IE and initiate the Error Indication procedure.

Ignore IE:

- If a message *initiating* a procedure is received containing one or more IEs marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall continue with the procedure using the understood IEs.

10.3.3 Logical Error Handling

Logical error situations occur when a message is comprehended correctly, but the information contained within the message is not valid (i.e. semantic error), or describes a procedure which is not compatible with the state of the receiver.

In these conditions, the following behaviour shall be performed as defined by the class of the elementary procedure, irrespective of the criticality of the IEs containing the erroneous values.

Class 1:

Where the logical error occurs in a request message of a class 1 procedure, and the procedure has a failure message, the failure message shall be sent with an appropriate cause value. Typical cause values are:

Protocol Causes:

1. Semantic Error
2. Message not Compatible with Receiver State

Where the logical error is contained in a request message of a class 1 procedure, and the procedure does not have a failure message, the Error Indication procedure shall be initiated with an appropriate cause value.

Where the logical error exists in a response message of a class 1 procedure, local error handling shall be initiated.

Class 2:

Where the logical error occurs in a message of a class 2 procedure, the Error Indication procedure shall be initiated with an appropriate cause value.

Annex A (informative): Change history

Change history					
TSG RAN#	Version	CR	Tdoc RAN	New Version	Subject/Comment
RAN_06	-	-	RP-99755	3.0.0	Approved at TSG RAN #6 and placed under Change Control

Rapporteur for TS25.423 is:

Göran Rune
RAN-WG3 Radio Systems AB

Tel.: +46 13 284200
Fax : +46 13 277373
Email : goran.rune@era.RAN-WG3 .se

History

Document history		

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

***Document* R3-000254**
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.

25.423	**CR**	**004**	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*	(U)SIM		ME		UTRAN / Radio	X	Core Network	

Source:	TSG-RAN WG3		**Date:**	Jan 18, 2000	
Subject:	Editorial changes to 25.423				
Work item:					

Category: *(only one category shall be marked with an X)*				**Release:**		
	F	Correction	X		Phase 2	
	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	X
					Release 00	

Reason for change:	This CR proposes some editorial changes to 25.423
Clauses affected:	8.3.1.2, 8.3.1.3, 8.3.4.2, 9.1.5.1

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:	

help.doc

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

8.3.1.2 Successful Operation

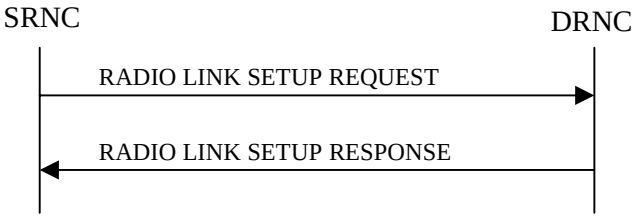

Figure 1: Radio Link Setup procedure: Successful Operation

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

The message is also used to establish the connection-oriented service of the signalling bearer in the DRNC. The message includes the S-RNTI associated to the UE, and, if the UE context is already present in the DRNC, the corresponding D-RNTI.

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

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

If the *Initial DL TX Power* IE and *UL Eb/No Target* IE [FDD] are present in the message, the DRNS shall use the indicated DL TX Power and UL Eb/No Target [FDD] as initial value.

If the *Primary CPICH Eb/No* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] is present, the DRNC should use them when deciding the Initial DL TX Power.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH, the DRNS shall treat all DCHs with the same value of this IE as a set of co-ordinated DCHs.The included *RLC Mode* IE of the DCH may be used by the DRNS to optimise the power control.

The *Allocation/Retention Priority* IE defines the priority level that should be used by the DRNS to prioritise the allocation and the retention of the resources used by the DCH. The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise the discard/delay of the data frames of the DCH.

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH as the new DCH FP Mode in the Uplink of the user plane for this DCH.

The DRNS shall use the included *ToAWS* IE for a DCH as the new Time of Arrival Window Start Point in the user plane for this DCH.

The DRNS shall use the included *ToAWE* IE for a DCH as the new Time of Arrival Window End Point in the user plane for this DCH.

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

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

If the *Initial DL TX Power* and the *UL Eb/No Target* IEs are not present in the RADIO LINK SETUP REQUEST message, then DRNC shall include the suggested initial UL Eb/No Target and the DL Eb/No Target in the RADIO LINK SETUP RESPONSE message.

[FDD - In the case of combining one or more RLs the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the Diversity Indication that the RL is combined with another RL. In this case the Reference RL ID shall be included to indicate with which RL the combination is performed. The Reference RL ID shall be included for all but one of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.]

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

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

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

[FDD - Irrespective of SSDT activation, the DRNS shall include in the RADIO LINK SETUP RESPONSE message an indication concerning the capability to support SSDT on this RL. Only if the RADIO LINK SETUP REQUEST message requested SSDT activation and the RADIO LINK SETUP RESPONSE message indicates that the SSDT capability is supported for this RL, SSDT is activated in the DRNS.]

The DRNS shall also provide the SRNC with the UTRAN Cell Identifier (UC-Id) and information of the neighbouring cells to the cell(s) where the radio link(s) are added.

If a neighbouring cell is controlled by another RNC, the DRNC shall report also the node identifications (i.e. RNC, CN domain nodes) of the RNC controlling the neighbouring cell.

If there was no UE context for this UE in the DRNS before the RADIO LINK SETUP REQUEST message was received the DRNC shall include the node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell), and the D-RNTI in the RADIO LINK SETUP RESPONSE message.

8.3.1.3 Unsuccessful Operation

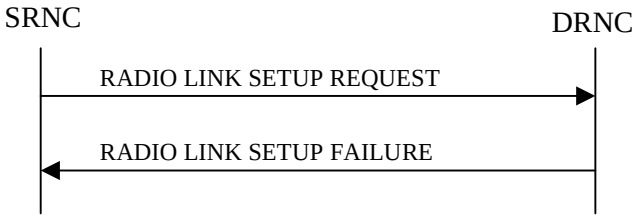

Figure 2: Radio Link Setup procedure: Unsuccessful Operation

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

Typical cause values are:

Radio Network Layer Causes:

- [FDD - UL Scrambling Code Already in Use]
- DL Radio Resources not Available
- UL Radio Resources not Available
- Unknown C-ID
- [FDD - Macrodiversity Combining not Possible]
- Requested Configuration not Supported

- Cell not Available
- Power Level not Supported

Transport Layer Causes:

- Transport Link Failure

Protocol Causes:

- Transaction not Allowed

Miscellaneous Causes:

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

8.3.4.2 Successful Operation

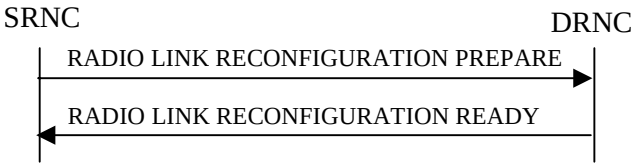

Figure 3: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

DCH Modification :

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allocation/Retention Priority* IE for a DCH to be modified, the DRNS should use this information when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the DRNS 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 DRNS 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 on the *ToAWS* IE for a DCH to be modified, the DRNS shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes on the *ToAWE* IE for a DCH to be modified, the DRNS 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 DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE 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 co-ordinated 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 DRNS should use the *Allocation/Retention Priority* IE received for a DCH to be added when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

The DRNS 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 DRNS 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 DRNS 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 PREPARE message includes any DCH to be deleted from the Radio Link(s), the DRNS shall not include this DCH in the new configuration.

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

Physical Channel Modification:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Uplink Scrambling Code* IE, the DRNS 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 DRNS shall apply the new Uplink Channelisation Code(s) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Spreading Factor of Channelisation Code (DL)* IE, for each *Spreading Factor of Channelisation Code (DL)* IE the DRNS shall allocate one new Downlink Channelisation Code per Radio Link and apply the new Downlink Channelisation Code(s) to the new configuration. Each Downlink Channelisation Code allocated for the new configuration shall be included as a *Channelisation Code (DL)* IE in the RADIO LINK RECONFIGURATION READY message when sent to the SRNC.]

The DRNS 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 DRNS 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.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Mean Bit Rate (UL)* IE, the DRNS should use this information when reserving resources for the Uplink of the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Mean Bit Rate (DL)* IE, the DRNS should use this information when reserving resources for the Downlink of the new configuration.

[Editor's note: There is presently no clear definition of the *Mean Bit Rate* IEs. The handling of these IEs is thus regarded as FFS.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCH Structure* IE, group the DRNS shall apply the new Uplink DPCCH Structure to the new configuration.]

[TDD – The DRNC shall include all the IEs corresponding to the new physical channel resources for the DL DPCH and/or the UL DPCH to be reconfigured in the RADIO LINK RECONFIGURATION READY message sent to the SRNC.]

SSDT Activation/Deactivation:

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

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the SSDT Indication IE set to "SSDT not Active in the UE", the DRNS shall deactivate SSDT in the new configuration.]

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

The DRNS decides the maximum and minimum Eb/No for the uplink of the Radio Link(s) and shall return this in the *Maximum Uplink Eb/No* IE and *Minimum Uplink Eb/No* IE for each Radio Link in the RADIO LINK RECONFIGURATION READY message.

~~[TDD – The DRNC shall include all the IEs corresponding to the new physical channel parameters for the DL DPCH and/or the UL DPCH to be reconfigured in the RADIO LINK RECONFIGURATION READY message.]~~

~~[Editor's note: Which information in the RL RECONFIGURATION PREPARE message triggers the DRNC to include any of the following *Optional* TDD information?:~~
~~a) DL DPCH Group~~
~~b) UL DPCH Group~~
~~c) TDD Physical Channel Offset, *Repetition* Length, and TFCI Presence IEs as part of the DL DPCH Group~~
~~d) TDD Physical Channel Offset, *Repetition* Length, and TFCI Presence IEs as part of the UL DPCH Group.]~~

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *DCH to be Added* IE group or the *DCH to be Modified* IE group shall be included only for one of the DCHs in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS the *DCH to be Added* IE group and the *DCH to be Modified* IE group shall be included only for one of the combined Radio Links.

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Unsuccessful RL Information Response		*1...<maxnoofRLs>*		
RL ID	M			
Cause	M			
Successful RL Information Response		*0..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1.. <maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	M			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Neighbouring FDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1~~3~~			
PSCH Time Slot	C-Case2&3			
Uplink Eb/No Target	O		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink	

			Eb/No	
Downlink Eb/No Target	O			
Criticality Diagnostics	O			

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

***Document* R3-000026**
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.

25.423	CR	005	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG-RAN WG3 **Date:** 24-28 Jan. 2000

Subject: Missing BLER in RL RECONFIGURATION REQUEST

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: In the current version of RNSAP the BLER (both UL and DL) are included as mandatory parameters in the messages RL SETUP REQUEST (DCH Information group) and RL RECONFIGURATION PREPARE (DCHs to be Added group). However, the RL RECONFIGURATION REQUEST message the BLER is not included for the DCHs to be Added. This is inconsistent with the two other cases where a new DCH may be established. (When it was agreed to include the BLER it was for all these cases.)

Clauses affected: 9.1.16 and 9.3.3

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:

9.1.16 RADIO LINK RECONFIGURATION REQUEST

9.1.16.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
UL DPCH Information		*0..1*		
TFCS	O			TFCS for the UL.
Mean Bit Rate	O			
DL DPCH Information		*0..1*		
TFCS	O			TFCS for the DL.
TFCI Signalling Mode	O			
Mean Bit Rate	O			
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to add		*0..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER				For the UL.
BLER				For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.

9.1.16.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
Mean Bit Rate	O			For the UL
Mean Bit Rate	O			For the DL
UL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			
DL CCTrCH Information		*0..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
CCTrCH ID	O			UL CCTrCH in which the DCH is mapped.
CCTrCH ID	O			DL CCTrCH in which the DCH is mapped
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoofDCHs>*		
DCH ID	M			
RLC 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.
BLER				For the UL.
BLER				For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

```
-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- **************************************************************

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

RadioLinkReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE mandatory } |
    { ID id-UL-DPCH-Information         CRITICALITY ignore  TYPE UL-DPCH-Information-RL-ReconfRqstFDD   PRESENCE optional } |
    { ID id-DL-DPCH-Information         CRITICALITY ignore  TYPE DL-DPCH-Information-RL-ReconfRqstFDD   PRESENCE optional } |
    { ID id-DCH-ModifyList-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-ModifyList-RL-ReconfRqstFDD     PRESENCE mandatory   } |
    { ID id-DCH-AddList-RL-ReconfRqstFDD        CRITICALITY ignore  TYPE DCH-AddList-RL-ReconfRqstFDD     PRESENCE mandatory   } |
    { ID id-DCH-DeleteList-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-DeleteList-RL-ReconfRqstFDD     PRESENCE mandatory   },
    ...
}

UL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    meanBitRate                 MeanBitRate     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode OPTIONAL,
    meanBitRate                 MeanBitRate     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-ModifyList-RL-ReconfRqstFDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfRqstFDD-IEs} }

DCH-Modify-RL-ReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfRqstFDD     PRESENCE mandatory   },
    ...
}
```

```
DCH-ModifyItem-RL-ReconfRqstFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-TransportformatSet               TransportFormatSet  OPTIONAL,
    dl-TransportformatSet               TransportFormatSet  OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority   OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode      OPTIONAL,
    toAWS                       ToAWS           OPTIONAL,
    toAWE                       ToAWE           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifyItem-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-AddList-RL-ReconfRqstFDD                ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfRqstFDD-IEs} }

DCH-Add-RL-ReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfRqstFDD        CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfRqstFDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfRqstFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    dCH-CombinationInd              DCH-CombinationInd  OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-AddItem-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstFDD             ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfRqstFDD-IEs} }

DCH-Delete-RL-ReconfRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfRqstFDD     CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfRqstFDD     PRESENCE mandatory   },
```

```
    ...
}

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

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

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

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST TDD
--
-- **************************************************************

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

RadioLinkReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE optional  } |
    { ID id-UL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate                PRESENCE optional } |
    { ID id-DL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate                PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD
                            CRITICALITY ignore  TYPE UL-CCTrCH-InformationList-RL-ReconfRqstTDD PRESENCE mandatory } |
    { ID id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD
                            CRITICALITY ignore  TYPE DL-CCTrCH-InformationList-RL-ReconfRqstTDD PRESENCE mandatory } |
    { ID id-DCH-ModifyList-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-ModifyList-RL-ReconfRqstTDD      PRESENCE mandatory   } |
    { ID id-DCH-AddList-RL-ReconfRqstTDD        CRITICALITY ignore  TYPE DCH-AddList-RL-ReconfRqstTDD      PRESENCE mandatory   } |
    { ID id-DCH-DeleteList-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-DeleteList-RL-ReconfRqstTDD      PRESENCE mandatory   },
    ...
}

UL-CCTrCH-InformationList-RL-ReconfRqstTDD      ::= CCTrCH-IE-ContainerList { {UL-CCTrCH-Information-RL-ReconfRqstTDD-IEs} }

UL-CCTrCH-Information-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-Information-RL-ReconfRqstTDD  CRITICALITY ignore  TYPE UL-CCTrCH-Information-RL-ReconfRqstTDD PRESENCE mandatory   },
    ...
}

UL-CCTrCH-Information-RL-ReconfRqstTDD ::= SEQUENCE {
```

```
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TransportFormatCombinationSet,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-RL-ReconfRqstTDD      ::= CCTrCH-IE-ContainerList { {DL-CCTrCH-Information-RL-ReconfRqstTDD-IEs} }

DL-CCTrCH-Information-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-Information-RL-ReconfRqstTDD  CRITICALITY ignore  TYPE DL-CCTrCH-Information-RL-ReconfRqstTDD PRESENCE mandatory   },
    ...
}

DL-CCTrCH-Information-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TransportFormatCombinationSet,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-Information-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-ModifyList-RL-ReconfRqstTDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfRqstTDD-IEs} }

DCH-Modify-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfRqstTDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfRqstTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    dl-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    ul-TransportformatSet               TransportFormatSet  OPTIONAL,
    dl-TransportformatSet               TransportFormatSet  OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority   OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode      OPTIONAL,
    toAWS                       ToAWS           OPTIONAL,
    toAWE                       ToAWE           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifyItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

DCH-AddList-RL-ReconfRqstTDD               ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfRqstTDD-IEs} }

DCH-Add-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfRqstTDD       CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfRqstTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    ul-CCTrCH-ID                    CCTrCH-ID,
    dl-CCTrCH-ID                    CCTrCH-ID,
    dCH-CombinationInd              DCH-CombinationInd  OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-AddItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstTDD            ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfRqstTDD-IEs} }

DCH-Delete-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfRqstTDD    CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfRqstTDD     PRESENCE mandatory   },
    ...
}

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

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

RadioLinkReconfigurationRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

-- ********************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE FDD
--
-- ********************************************************
```

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

Document R3-000218
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.

25.423	CR	006	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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 [X] Core Network [ ]
(at least one should be marked with an X)

Source: TSG-RAN WG3 **Date:** 25.01.00

Subject: Adding of the PCCPCH Power within Neighbouring TDD Cell Information

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: Whenever the Neighbouring TDD Cell information is transmitted from the DRNC to the SRNC, the reference power value of the neighbouring cell shall be included in order to know the reference power value.

Clauses affected: 8.3.1.2, 8.3.2.2, 9.1.4.1, 9.1.4.2, 9.1.5.1, 9.1.7.1, 9.1.7.2, 9.1.8.1, 9.2.1.x, 9.3.2, 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:

help.doc

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

< The proposed changes according to this CR are highlighted by revision marks. >

8.3 DCH procedures

8.3.1 Radio Link Setup

8.3.1.1 General

8.3.1.2 Successful Operation

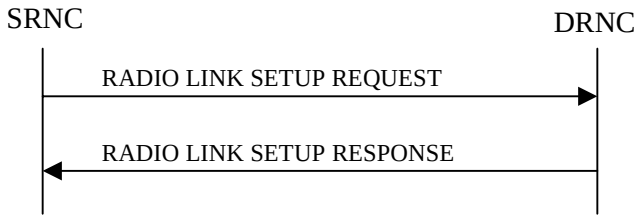

Figure 1: Radio Link Setup procedure: Successful Operation

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

The message is also used to establish the connection-oriented service of the signalling bearer in the DRNC. The message includes the S-RNTI associated to the UE, and, if the UE context is already present in the DRNC, the corresponding D-RNTI.

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

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

If the *Initial DL TX Power* IE and *UL Eb/No Target* IE [FDD] are present in the message, the DRNS shall use the indicated DL TX Power and UL Eb/No Target [FDD] as initial value.

If the *Primary CPICH Eb/No* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] is present, the DRNC should use them when deciding the Initial DL TX Power.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH, the DRNS shall treat all DCHs with the same value of this IE as a set of co-ordinated DCHs.The included *RLC Mode* IE of the DCH may be used by the DRNS to optimise the power control.

The *Allocation/Retention Priority* IE defines the priority level that should be used by the DRNS to prioritise the allocation and the retention of the resources used by the DCH. The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise the discard/delay of the data frames of the DCH.

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH as the new DCH FP Mode in the Uplink of the user plane for this DCH.

The DRNS shall use the included *ToAWS* IE for a DCH as the new Time of Arrival Window Start Point in the user plane for this DCH.

The DRNS shall use the included *ToAWE* IE for a DCH as the new Time of Arrival Window End Point in the user plane for this DCH.

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

At the reception of the RADIO LINK SETUP REQUEST message, DRNS allocates requested type of channelisation

codes and other physical channel resources for each RL and assigns a binding identifier and a transport layer address for each DCH or set of co-ordinated DCHs. This information shall be sent to the SRNS in the message RADIO LINK SETUP RESPONSE when all the RLs have been successfully setup.

If the *Initial DL TX Power* and the *UL Eb/No Target* IEs are not present in the RADIO LINK SETUP REQUEST message, then DRNC shall include the suggested initial UL Eb/No Target and the DL Eb/No Target in the RADIO LINK SETUP RESPONSE message.

In the case of combining one or more RLs the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the Diversity Indication that the RL is combined with another RL. In this case the Reference RL ID shall be included to indicate with which RL the combination is performed. The Reference RL ID shall be included for all but one of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.

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

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

[FDD - Irrespective of SSDT activation, the DRNS shall include in the RADIO LINK SETUP RESPONSE message an indication concerning the capability to support SSDT on this RL. Only if the RADIO LINK SETUP REQUEST message requested SSDT activation and the RADIO LINK SETUP RESPONSE message indicates that the SSDT capability is supported for this RL, SSDT is activated in the DRNS.]

The DRNS shall also provide the SRNC with the UTRAN Cell Identifier (UC-Id), the Frequency Number, the [FDD-Primary Scrambling Code], the [TDD-Cell Parameter ID, the Sync Case, the PSCH Time Slot information] ~~and information~~ of the neighbouring cells to the cell(s) where the radio link(s) are added. In addition, if the information is available, the DRNC shall also provide the [FDD-CPICH Power level]/[TDD-PCCPCH Power level] and Frame Offset of the neighbouring cell.

If a neighbouring cell is controlled by another RNC, the DRNC shall report also the node identifications (i.e. RNC, CN domain nodes) of the RNC controlling the neighbouring cell.

If there was no UE context for this UE in the DRNS before the RADIO LINK SETUP REQUEST message was received the DRNC shall include the node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell), and the D-RNTI in the RADIO LINK SETUP RESPONSE message.

8.3.2 Radio Link Addition

8.3.2.2 Successful Operation

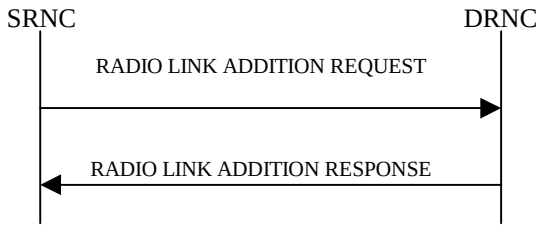

Figure 2: Radio Link Addition procedure: Successful Operation

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNS 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 indicates for each RL whether the DRNS shall combine the new RL with existing RL(s) or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.]

If the *Primary CCPCH Ec/Io* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] measured by the UE is included in the

RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power. If the *Primary CCPCH Ec/Io* IE is not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.

[FDD - The DRNS shall use the provided UL Eb/No Target value as the current target for the inner-loop power control.]

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, SSDT may be activated for the concerned new RL, with the indicated SSDT Cell Identity used for that RL.]

The DRNS shall activate any feedback mode diversity according to the received settings.

If all requested RLs are successfully added, the DRNC shall respond with a RADIO LINK ADDITION RESPONSE message.

In the case of combining an RL with existing RL(s) the DRNC 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.

In the case of not combining an RL with existing RL(s), the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the DRNC 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.

In case of co-ordinated 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 DRNS 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 DRNS.]

For any cell neighbouring of a cell in which a RL was added, the DRNC shall provide in the RADIO LINK ADDITION RESPONSE message the UTRAN Cell Identifier (UC-Id), and the node identification of CN nodes connected to the RNC controlling the neighbouring cell if the neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the [FDD-CPICH Power level]/[TDD-PCCPCH Power level] and Frame Offset of the neighbouring cell.

The DRNC shall also provide the configured uplink Maximum Eb/No and UL Minimum Eb/No for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

The DRNC shall also provide the selected scrambling- and channelisation codes of the new RLs in order to enable the SRNC to inform the UE about the selected codes.

After sending of the RADIO LINK ADDITION RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The DRNS shall start transmission on the new RL after synchronisation is achieved in the Iur user plane as specified in ref. [**Error! Reference source not found.**].

9.1.4 RADIO LINK SETUP RESPONSE

9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1..<maxnoofRLs>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..*		

		<maxnoofDLCodes		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	C-NotFirstRL			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofTDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
PCCPCH Power	O			
Uplink Eb/No Target	O		Uplink Eb/No	
Downlink Eb/No Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the Node B.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the Node B.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell.
MaxnoofTDDneighbours	Maximum number of neighbouring TDD cell for one cell.

9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Uplink Eb/No Target	O		Uplink Eb/No	
Downlink Eb/No Target	O			
UL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Neighbouring FDD Cell Information	O	*0..<maxnoofFDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofTDDneighbours>*		

UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
PCCPCH Power	O			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDPCHs	Maximum no. Of DPCHs for one CCTrCH.
MaxnoofDCHs	Maximum no. Of DCHs for one UE.
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell
MaxnoofTDDneighbours	Maximum number of neighbouring TDD cell for one cell
MaxnoofCCTrCHs	Maximum no. Of CCTrCH for one UE.

9.1.5 RADIO LINK SETUP FAILURE

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Unsuccessful RL Information Response		*1...<maxnoofRLs>*		
RL ID	M			
Cause	M			
Successful RL Information Response		*0..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1.. <maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	M			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Neighbouring FDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case3			
PSCH Time Slot	C-Case2&3			
PCCPCH Power	O			
Uplink Eb/No Target	O		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	

Downlink Eb/No Target	O			
Criticality Diagnostics	O			

9.1.7 RADIO LINK ADDITION RESPONSE

9.1.7.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL Scrambling Code	M			
DL Channelisation Code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
PCCPCH Power	O			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information

9.1.7.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
UL CCTrCH Information		*1..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<maxnoOfDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
DL DPCH information		*1..<maxnoOfDPCHs>*		
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			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			

Transport Layer Address	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
PCCPCH Power	O			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range Bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information
MaxnoOfDPCHs	Maximum number of DPCH in one CCTrCH
MaxnoofCCTrCHs	no. Of CCTrCH for one UE.

9.1.8 RADIO LINK ADDITION FAILURE

9.1.8.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
Cause	M			
Succesfull RL Information Response		*1..<maxnoofRLs-2>*		
RL ID	M			
SAI	M			
UL Interference Level	M			

DL Code Information		*1..<maxnoofDLCodes>*		
DL scrambling code	M			
DL channelisation code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
PCCPCH Power	O			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information

9.2.1.x PCCPCH Power

Primary CCPCH power is the power that shall be used for reference power value in a TDD cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PCCPCH power			INTEGER(-15..40)	Unit dBm Granularity 0.1 dB.

9.3.2 Elementary Procedure Definitions

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

RNSAP-PDU-Descriptions -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Criticality,
   .
   .
   .
    PD,
    PSCH-PCCPCH-TimeSlot,
    PCCPCH-Power,
    PSCH-TimeSlot,
    PayloadCRC-PresenceIndicator,
   .
   .
   .
FROM RNSAP-IEs
   .
   .
   .
```

9.3.3 NBAP PDU Content Definitions

```
   .
   .
   .


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

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

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

RL-InformationResponseList-RL-SetupRspFDD       ::= RL-IE-ContainerList { {RL-InformationResponseItemIEs-RL-SetupRspFDD} }

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

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-SetupRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-SetupRspFDD

DL-CodeInformationItem-RL-SetupRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
```

```
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupRspFDD      DCH-InformationResponseList-RL-SetupRspFDD  OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupRspFDD

DCH-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupRsp

NeighbouringFDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupRsp

NeighbouringTDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    c-ID                        C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
```

```
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot            OPTIONAL
    -- This IE is present only if SyncCase is Case1 -- ,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    pCCPCH-Power                PCCPCH-Power,
    ul-EbNo                     UL-EbNo             OPTIONAL,
    dl-EbNo                     DL-EbNo             OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  TYPE RL-InformationResponse-RL-SetupRspTDD PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    ul-EbNoTarget                   UL-EbNo                     OPTIONAL,
    dl-EbNoTarget                   DL-EbNo                     OPTIONAL,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-SetupRspTDD,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-SetupRspTDD,
```

```
    dCH-InformationResponse             DCH-InformationResponseList-RL-SetupRspTDD,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-SetupRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-InformationItem-RL-SetupRspTDD

-- **NOTE: UL-DPCH-InformationItem-RL-SetupRspTDD and DL-DPCH-InformationItem-RL-SetupRspTDD
--         are currently similar. Combine them? **
UL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-SetupRspTDD

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

```
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-InformationItem-RL-SetupRspTDD

DL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationResponseList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupRspTDD

DCH-InformationResponseItem-RL-SetupRspTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

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

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

```
    ...
}

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

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }

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

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-SetupFailureFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupFailureFDD OPTIONAL,
    ul-EbNoTarget                   UL-EbNo,
```

```
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    dl-EbNoTarget                   DL-EbNo,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}
-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-SetupFailureFDD

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

DL-CodeInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupFailureFDD      DCH-InformationResponseList-RL-SetupFailureFDDOPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupFailureFDD

DCH-InformationResponseItem-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
```

```
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringTDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    pCCPCH-Power                PCCPCH-Power,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

   .
   .
   .

-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- **************************************************************

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

```
}

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional } |
    { ID id-RL-InformationResponseList-RL-AdditionRspFDD
                            CRITICALITY ignore  TYPE RL-InformationResponseList-RL-AdditionRspFDD
                                                        PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-AdditionRspFDD        ::= RL-IE-ContainerList { {RL-InformationResponseItemIEs-RL-AdditionRspFDD} }

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

RL-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-AdditionRspFDD

DL-CodeInformationItem-RL-AdditionRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-AdditionRspFDD OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
```

```
}

DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-AdditionRspFDD

DCH-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRsp

NeighbouringFDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRsp

NeighbouringTDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
```

```
    pCCPCH-Power                PCCPCH-Power,
    iE-Extensions               ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

RadioLinkAdditionResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI              CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-AdditionRspTDD
                        CRITICALITY ignore  TYPE RL-InformationResponse-RL-AdditionRspTDD   PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics      CRITICALITY ignore  TYPE CriticalityDiagnostics     PRESENCE optional },
    ...
}

RL-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                   RL-ID,
    sAI                 SAI,
    ul-InterferenceLevel            ScaledUL-InterferenceLevel,
    ul-CCTrCHInformation            UL-CCTrCHInformationList-RL-AdditionRspTDD,
    dl-CCTrCHInformation            DL-CCTrCHInformationList-RL-AdditionRspTDD,
    diversityIndication         CHOICE {
        combining               SEQUENCE {
            rL-ID                   RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-AdditionRspFDD OPTIONAL
        }
    }                                       OPTIONAL,
    maxUL-EbNo              UL-EbNo,
    minUL-EbNo              UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-AdditionRspTDD   OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-AdditionRspTDD OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {RL-InformationResponse-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
RL-InformationResponse-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-AdditionRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-InformationItem-RL-AdditionRspTDD

UL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    tDD-ChannelisationCode              TDD-ChannelisationCode,
    burstType                   BurstType,
    midambleShift                    MidambleShift,
    timeSlot                    TimeSlot,
    offset                      Offset,
    tDD-PhysicalChannelOffset           TDD-PhysicalChannelOffset,
    repetitionPeriod                 RepetitionPeriod,
    repetitionLength                 RepetitionLength,
    tFCI-Presence                    TFCI-Presence,
    iE-Extensions                    ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-AdditionRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
```

```
DL-DPCH-InformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-InformationItem-RL-AdditionRspTDD

DL-DPCH-InformationItem-RL-AdditionRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD

NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD

NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
```

```
}

NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- **************************************************************

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

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  } |
    { ID id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }
```

```
SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                                                                    PRESENCE mandatory  },
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                         SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionFailureFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-AdditionFailureFDD

DL-CodeInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    dl-ChannelisationCode               DL-ChannelisationCode,
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionFailureFDD       DCH-InformationResponseList-RL-AdditionFailureFDD  OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-AdditionFailureFDD

DCH-InformationResponseItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
```

```
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    cPICH-Power                 CPICH-Power         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    pCCPCH-Power                PCCPCH-Power,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

.
.
.

9.3.4 Information Element Definitions

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

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
}

-- PCCPCH Power unit dBm
-- PCCPCH Power step 0.1dBm
PCCPCH-power ::= INTEGER (-150..400)

PSCH-TimeSlot               ::= INTEGER (0..6)

   .
   .
   .
```

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

Document R3-000227

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.

25.423	CR	007	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG-RAN WG3 **Date:** 00.01.25

Subject: Addition of measurement threshold information elements. This document is a merge of Tdoc's 14 and 127.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X
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	X
Release 00	

Reason for change: 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 25.423.
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: 9.2.1.17; 9.2.1.38; 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:

help.doc

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

9.2.1.17 Dedicated Measurement Value

The Dedicated Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated measurement Value				
SIR value	~~O~~C *MeasValue*		~~Enumerated(-10 .. 20), step 0.1 dB~~INTEGER (0..63)	According to mapping in 25.215/25.225
SIR error Value	C *MeasValue* ~~O~~		~~Enumerated (-10 .. 10), step 0.1 dB~~INTEGER (0..124)	~~If SIRerror<= 10, SIR error Value shall be set to -10 If SIRerror=>10, SIR error Value shall be set to 10~~Value=(SIR Error+31)*2
Transmitted Code Power Value	C *MeasValue* ~~O~~		~~Enumerated (-35 .. 15), step 0.1 dB~~INTEGER (0..122)	~~Relative to CPICH~~ According to mapping in 25.215/25.225
RSCP	C *MeasValue* ~~O~~		INTEGER(0. .81)~~TBD~~	According to mapping in 25.225 (TDD only)~~.~~

~~<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**
MeasValue	Only one measurement value can be present at the same time.

9.2.1.38 Report Characteristics

The report characteristics, defines how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Report characteristics				
Report characteristics type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F)	
..**Periodic Report Information**	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!
..**Event A**	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,…	
Event 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,…	
Event C	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.
Event D	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.
Event E	C – Event E			
Measurement Threshold 1	M		~~TBD~~Measurement Threshold	

Measurement Threshold 2	O		~~TBD~~Measurement Threshold	
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.
Event F	C – Event F			
Measurement Threshold 1	M		~~TBD~~Measurement Threshold	
Measurement Threshold 2	O		~~TBD~~Measurement Threshold	
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 *Report Characteristics Type* IE indicates "periodic"
C-Event A	Valid if *Report Characteristics Type* IE indicates "Event A"
C-Event B	Valid if *Report Characteristics Type* IE indicates "Event B"
C-Event C	Valid if *Report Characteristics Type* IE indicates "Event C"
C-Event D	Valid if *Report Characteristics Type* IE indicates "Event D"
C-Event E	Valid if *Report Characteristics Type* IE indicates "Event E"
C-Event F	Valid if *Report Characteristics Type* IE 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.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	*C – Threshold*		INTEGER(0. .63)	According to mapping in 25.215/25.225
SIR Error	*C – Threshold*		INTEGER(0. .124)	Value=(SIR Error+31)*2
Transmitted Code Power	*C – Threshold*		INTEGER(0. .122)	According to mapping in 25.215/25.225
RSCP	*C – Threshold*		INTEGER(0. .81)	According to mapping in 25.225 (TDD only)

Condition	Explanation
Threshold	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.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	*C – Threshold*		INTEGER(0. .63)	According to mapping in 25.215/25.225
SIR Error	*C – Threshold*		INTEGER(0. .124)	Value=(SIR Error+31)*2
Transmitted Code Power	*C – Threshold*		INTEGER(0. .122)	According to mapping in 25.215/25.225
RSCP	*C – Threshold*		INTEGER(0. .81)	According to mapping in 25.225 (TDD only)

Condition	Explanation
Threshold	Only one measurement threshold can be present at the same time.

9.3.4 Information Element Definitions

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

RNSAP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxRateMatching,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxTTI-Count
FROM RNSAP-Constants

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

    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;

-- A

AllocationRetentionPriority     ::= FrameHandlingPriority

AllowedQueuingTime          ::= INTEGER (0..60)
-- seconds

-- B

-- ** NOTE: Size in tabular 1..4,... **
BindingID               ::= OCTET STRING (SIZE (1..MAX))

BLER                    ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

BurstType ::= ENUMERATED {
```

```
    type1 (1),
    type2 (2)
}

-- C

Cause ::= CHOICE {
    radioNetwork            CauseRadioNetwork,
    transmissionNetwork     CauseTransmissionNetwork,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transaction-not-allowed,
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    unspecified,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    macrodiversity-combining-not-possible,
    reconfiguration-not-allowed,
    Synchronisation-failure,
    unspecified,
    ...
}

CauseTransmissionNetwork ::= ENUMERATED {
    transmission-link-failure,
    transmission-port-not-available,
    unspecified,
    ...
}
```

```
C-ID                    ::= INTEGER (0..65535)

CCTrCH-ID               ::= INTEGER (0..15)

CellParameterID             ::= INTEGER (0..127)

CFN                 ::= INTEGER (0..255)

ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding--,
--  ...
}

-- ** TODO **
ChipOffset              ::= INTEGER

CodingRate ::= ENUMERATED {
    half,
    third--,
--  ...
}

CompressedModeMethod ::= ENUMERATED {
    none,
    puncturing,
    sF2,
    gating
}

CPICH-EcIo              ::= INTEGER

CRC-Size                ::= INTEGER (0| 8| 12| 16| 24)

CriticalityDiagnostics ::= SEQUENCE {
    procedureCode           ProcedureCode           OPTIONAL,
    triggeringMessage       TriggeringMessage       OPTIONAL,
    criticalityResponse     Criticality         OPTIONAL,
    transactionID           TransactionID           OPTIONAL,
    iEsCriticalityResponses     CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        criticalityResponse     Criticality,
```

```
        iE-ID               ProtocolIE-ID,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
CTFC                    ::= INTEGER
-- See formula (must be resolved)

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    iE-Extensions           ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL,
    lAC             LAC
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    iE-Extensions           ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL,
    rAC             RAC
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **TODO**
CPICH-Power             ::= INTEGER

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

-- D

DCH-CombinationInd          ::= INTEGER (0..255)

DCH-ID                  ::= INTEGER (0..255)

DedicatedMeasurementObjectType ::= ENUMERATED {
    rl,
    all-rl,
    ...
}
-- ** OR:
-- DedicatedMeasurementObjectType   ::= INTEGER {
--  rL(0),
```

```
--  allRL(1)
-- } (0..255)
-- **

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    ...
}
-- timeslotTSCP is used by TDD only

-- ** OR:
-- DedicatedMeasurementType      ::= INTEGER {
--  sIR(0),
--  sIR-Error(1),
--  transmittedCodePower(2),
--  rSCP(3)
-- } (0..255)
-- **

-- ** NOTE: Extensibility added **
-- **TODO**

DedicatedMeasurementValue ::= SEQUENCE CHOICE {
    sIR-Value               ScaledSIR-Value          OPTIONAL,
    sIR-ErrorValue          ScaledSIR-ErrorValue     OPTIONAL,
    transmittedCodePowerValue   ScaledTransmittedCodePowerValue OPTIONAL,    -- Relative to CPICH
    rSCP                    RSCP-ValueTBD            OPTIONAL,   -- TDD only
    iE-Extensions           ProtocolExtensionContainer { {DedicatedMeasurementValue-ExtIEs} } OPTIONAL,
    ...
}

DedicatedMeasurementValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
DiversityControlField           ::= INTEGER

-- ** TODO **
DiversityMode               ::= INTEGER

-- ** TODO **
DL-ChannelisationCode           ::= INTEGER

-- ** TODO **
DL-DPCCH-SlotFormat         ::= INTEGER

-- ** TODO **
DL-DPCH-SlotNumber          ::= INTEGER
```

```
DL-EbNo                 ::= ScaledUL-EbNo

DL-EbNoTarget               ::= ScaledUL-EbNo

-- ** TODO **
DL-Power                ::= INTEGER

D-RNTI                  ::= INTEGER (0..1048576)
-- ** OR:
-- D-RNTI               ::= BIT STRING (SIZE (20))
-- **

D-RNTI-ReleaseIndication ::= ENUMERATED {
    not-release-D-RNTI,
    release-D-RNTI
}

-- ** TODO **
DL-ScramblingCode           ::= INTEGER

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DPCH-ID                 ::= INTEGER (0..239)

-- **TODO**
DRX-Parameter               ::= TBD

-- **TODO**
DSCH-TransportFormatCombinationSet  ::= INTEGER

-- **TODO**
DSCH-TFS                ::= INTEGER

-- **TODO**
D-FieldLength               ::= INTEGER

-- E

EventA ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}

EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
EventB ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}

EventC ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    ...
}

EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventD ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

EventD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventE ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

EventE-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventF ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

EventF-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- F

FACH-DataFrameSize          ::= INTEGER (1..5000)
-- Size of data frame in number of bits

FACH-InitialWindowSize          ::= INTEGER { unlimited(255) } (0..255)
-- Number of FACH data frames.
-- 255 = Unlimited number of FACH data frames

-- ** TODO **
FACH-InfoForOptionalS-CCPCH     ::= INTEGER

-- ** TODO **
FACH-InfoForS-CCPCH-CoupledToPRACH  ::= INTEGER

-- ** TODO **
FDD-DL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-FL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-S-CCPCH-Offset          ::= INTEGER

FACH-PriorityIndicator          ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameHandlingPriority           ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameOffset             ::= INTEGER (0..255)
-- Frames

-- G

GapPositionMode ::= ENUMERATED {
    fixed,
    flexible
}

GapPeriod               ::= INTEGER (0..255)

-- H
-- I

-- **TODO**
InitialDL-TX-Power          ::= INTEGER

-- J
-- K
-- L

LAC                 ::= OCTET STRING (SIZE (2)) --(EXCEPT ('0000'H|'FFFF'H))
```

```
-- ** TODO **
L3-Information               ::= INTEGER

-- M

-- ** TODO **
MaxNrOfUL-DPCHs             ::= INTEGER

MAC-c-SDU-Length            ::= INTEGER (1..5000)

-- **TODO**
MACd-MACsh-TransportFormatSet       ::= INTEGER

-- **NOTE: extensibility**
MeasurementCharacteristics ::= SEQUENCE {
    measuremtFrequence      TBD,
    averagingDuration       TBD,
    iE-Extensions           ProtocolExtensionContainer { {MeasurementCharacteristics-ExtIEs} } OPTIONAL,
    ...
}

MeasurementCharacteristics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
MeanBitRate             ::= INTEGER

MeasurementID               ::= INTEGER (0..1048576)
-- **OR:
-- MeasurementID            ::= BIT STRING (SIZE (20))
-- **

MultipleURAsIndicator ::= ENUMERATED {
    single-URA-exists,
    multiple-URAs-exist
}

-- ** TODO **
MCC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

-- ** TODO **
MNC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

ScaledMeasurementChangeTime     ::= INTEGER (1..1000)
-- MeasurementChangeTime = ScaledMeasurementChangeTime * 10
-- Unis is ms

-- ** TODO **
```

```
MeasurementDecreaseThreshold        ::= INTEGER

ScaledMeasurementHysteresisTime     ::= INTEGER (1..1000)
-- MeasurementHysteresisTime = ScaledMeasurementHysteresisTime * 10
-- Unit is ms

-- ** TODO **
MeasurementIncreaseDecreaseThreshold        ::= INTEGERCHOICE {
    sir                         SIR-Value,
    sir-error                   SIR-ErrorValue,
    transmitted-code-power      TransmittedCodePowerValue,
    rscp                        RSCP-Value,
    ...
}

-- ** TODO **
MeasurementThreshold            ::= INTEGERCHOICE {
    sir                         SIR-Value,
    sir-error                   SIR-ErrorValue,
    transmitted-code-power      TransmittedCodePowerValue,
    rscp                        RSCP-Value,
    ...
}

MidambleShift               ::= INTEGER (0..15)

MinUL-ChannelisationCodeLength      ::= INTEGER

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

-- N

NrOfTransportBlocks         ::= INTEGER (0..4095)

-- O

Offset                  ::= INTEGER (0..63)

-- P

PD                  ::= INTEGER (0..2047, ...)

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
}

PSCH-TimeSlot               ::= INTEGER (0..6)
```

```
Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
PilotBitsUsedIndicator          ::= INTEGER

-- ** TODO **
PLMN-ID ::= SEQUENCE {
    mCC-digit           MCC-Digit,
    iE-Extensions           ProtocolExtensionContainer { {PLMN-ID-ExtIEs} } OPTIONAL,
    mNC-digit           MNC-Digit
}
-- FFS

PLMN-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerControlMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

PowerOffset             ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

-- ** TODO **
PrimaryCPICH-Power          ::= INTEGER

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

-- ** TODO **
PrimaryCCPCH-RSCP           ::= INTEGER

PrimaryScramblingCode           ::= ScramblingCode

PropagationDelay            ::= INTEGER (0..255)

SyncCase ::= ENUMERATED {
    case1,
```

```
    case2,
    case3--,
--  ...
}

-- ** TODO **
PSCH-CCPCH-TimeSlot          ::= TimeSlot

-- ** TODO **
PSCH-PCCPCH-TimeSlot             ::= TimeSlot

-- ** TODO **
P-CPICH-Power                ::= INTEGER

PunctureLimit                ::= INTEGER (0..100)
-- Unit is %

-- Q
-- R

-- ** TODO **
RAC                  ::= INTEGER

-- ** TODO **
-- OCTET STRING?
RANAP-RelocationInformation      ::= BIT STRING

RateMatchingAttribute            ::= INTEGER (1..maxRateMatching)

RepetitionLength             ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
    v64--,
--  ...
}

-- This is changed from the tabular format because it seems that
-- this is what is wanted.
ReportCharacteristics ::= CHOICE {
    onDemand             NULL,
    periodic             Periodic,
    eventA               EventA,
    eventB               EventB,
    eventC               EventC,
    eventD               EventD,
    eventE               EventE,
    eventF               EventF--,
```

```
--  ...
}

-- Changed
ReportPeriodicity ::= CHOICE {
    msec                INTEGER (1..1000),
    min             INTEGER (1..60)
}

RLC-Mode ::= ENUMERATED {
    acknowledged-mode,
    unacknowledged-mode,
    transparent-mode
}

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

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

-- According mapping in 25.225
RSCP-Value              ::= INTEGER (0..81)

-- S

-- Changed BIT STRING -> OCTET STRING
SAC                 ::= OCTET STRING (SIZE (2))

SAI ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    sAC             SAC,
    iE-Extensions           ProtocolExtensionContainer { {SAI-ExtIEs} } OPTIONAL
}

SAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
ScramblingCode              ::= INTEGER

ScramblingCodeChange ::= ENUMERATED {
    no-code-change,
    code-change
}

ScaledSIR-ErrorValue            ::= INTEGER (0-100..124100)
-- ScaledSIR-ErrorValue = (SIR-Error+31)*2 SIR-ErrorValue * 10
-- If SIR-ErrorValue <= -10 ScaledSIR-ErrorValue shall be set to -100
-- If SIR-ErrorValue >=  10 ScaledSIR-ErrorValue shall be set to  100
-- SIR-ErrorValue step 0.1 dB

-- According to mapping in 25.215/25.225
```

```
ScaledSIR-Value              ::= INTEGER (-1000..63200)
-- ScaledSIR-Value = SIR-Value * 10
-- SIR-Value step 0.1 dB

ScaledTransmittedCodePowerValue      ::= INTEGER (-350..150)
-- ScaledTransmittedCodePowerValue = TransmittedCodePowerValue * 10
-- TransmittedCodePowerValue step 0.1 dB

-- ** TODO **
SharedChannelType            ::= INTEGER

-- ** TODO **
SecondaryCCPCH-SlotFormat       ::= INTEGER

SN                   ::= TimeSlot

SpreadingFactorOfChannelisationCode ::= ENUMERATED {
    v256,
    v128,
    v64,
    v32,
    v16,
    v8,
    v4,
    v2,
    v1
}

-- Changed
S-FieldLength                ::= INTEGER (1..2)

S-RNTI                   ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

-- ** TODO **
SRNC-ID                  ::= INTEGER

SSDT-CellID ::= ENUMERATED {
    a,
    b,
    c,
    d,
    e,
    f,
    g,
    h
}

SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}
```

```
SSDT-Indication ::= ENUMERATED {
    sSDT-active-in-the-UE,
    sSDT-not-active-in-the-UE
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-not-supported,
    sSDT-supported
}

-- T

-- ** TODO **
TBD                 ::= NULL
-- Remove this type

TDD-ChannelisationCode          ::= INTEGER (1..31)

TDD-PhysicalChannelOffset       ::= INTEGER (0..63)

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32
}

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

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

-- ** TODO **
TimeReference               ::= INTEGER
-- TimeReference                ::= INTEGER (0..255)

TimeSlot                ::= INTEGER (0..14)

ToAWE                   ::= INTEGER (0..2559)

ToAWS                   ::= INTEGER (0..1279)

TPC-StepSize ::= ENUMERATED {
    half,
    one
}
```

```
TGD                 ::= INTEGER (0..255)

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

TransmissionTimeInterval ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80--,
--  ...
}

TransportBearerID       ::= INTEGER (0..4095)

-- Compare title and IE name in table TransportBearerRequestIndicator vs.
-- FACH-PriorityIndicator
TransportBearerRequestIndicator     ::= INTEGER { lowest (0), highest (15) } (0..15)

TransportBlockSize          ::= INTEGER (1..5000)
-- Unit is bits

TransportFormatCombinationSet ::= SEQUENCE (SIZE (1..maxNrOfTFCs)) OF
    SEQUENCE {
        cTFC                CTFC,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatCombinationSet-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatCombinationSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet ::= SEQUENCE {
    dynamicParts            TransportFormatSet-DynamicPartList,
    semi-staticPart         TransportFormatSet-Semi-staticPart,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
    SEQUENCE {
        nrOfTransportBlocks     NrOfTransportBlocks,
        transportBlockSize      TransportBlockSize      OPTIONAL
        -- This IE is only present if nrOfTransportBlocks is greater than 0 --,
        mode                TransportFormatSet-ModeDP,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-DynamicPartList-ExtIEs} } OPTIONAL,
        ...
    }
```

```
TransportFormatSet-DynamicPartList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeDP ::= CHOICE {
    tdd                 TransmissionTimeIntervalList,
    -- This IE is mandatory if not defined as semistatic parameter, otherwise it is absent --
    ...
}

TransmissionTimeIntervalList ::= SEQUENCE (SIZE (1..maxTTI-Count)) OF
    SEQUENCE {
        transmissionTimeInterval    TransmissionTimeInterval,
        iE-Extensions           ProtocolExtensionContainer { {TransmissionTimeIntervalList-ExtIEs} } OPTIONAL,
        ...
    }

TransmissionTimeIntervalList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- According to mapping in 25.215/25.225
TransmittedCodePowerValue        ::= INTEGER (0..122)

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
    transmissionTime        TransmissionTimeInterval,
    channelCoding           ChannelCodingType,
    codingRate          CodingRate              OPTIONAL
    -- This IE is only present if channelCoding is 'convolutional' or 'turbo' --,
    rateMatcingAttribute        RateMatchingAttribute,
    cRC-Size            CRC-Size,
    mode                TransportFormatSet-ModeSSP      OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-Semi-staticPart-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-Semi-staticPart-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeSSP ::= CHOICE {
    tdd             SecondInterleavingMode,
    ...
}

SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeslot-related,
    ...
}

-- TransportLayerAddress            ::= BIT STRING (1..160, ...)
TransportLayerAddress           ::= OCTET STRING (SIZE (1..20, ...))
```

```
-- U

UARFCN                  ::= INTEGER (0..698, ...)

UL-DL-CompressedModeSelection ::= ENUMERATED {
    ul-only,
    dl-only,
    both
}

UL-DeltaEbNo                ::= INTEGER (-60..100)

UL-DeltaEbNoAfter           ::= INTEGER (-60..100)

-- ** TODO **
UL-EbNo                 ::= INTEGER

-- ** TODO **
UL-EbNoTarget               ::= INTEGER

UC-ID ::= SEQUENCE {
    rNC-ID              RNC-ID,
    c-ID                C-ID,
    iE-Extensions           ProtocolExtensionContainer { {UC-ID-ExtIEs} } OPTIONAL,
    ...
}

UC-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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***Document* R3-000126**
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.

25.423	CR	008	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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 [X] Core Network [ ]
(at least one should be marked with an X)

Source: TSG-RAN WG3 **Date:** 18 Jan 2000

Subject: RNSAP extendibility

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature	X		Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: Possibility to add new values in future releases.

Clauses affected:
9.2.1.5 Cause
9.2.1.38 Report Characteristics
9.3.4 Information Element Definitions

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: The Cause IE is already extendible in the ASN.1 code but not in the Tabular Format.


help.doc

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

9.2.1.5 Cause

The purpose of the cause information element is to indicate the reason for a particular event for the whole protocol.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
~~Cause Group~~	~~M~~		~~ENUMERATED (Radio Network Layer, Transport Layer, Protocol, Misc)~~	
CHOICE *cause group*				
Radio Network Layer				
Radio Network Layer Cause	M		ENUMERATED (Unknown C-ID, Cell not Available, Power Level not Supported, UL Scrambling Code Already in Use, DL Radio Resources not Available, UL Radio Resources not Available, Measurement not Supported For The Object, Macrodiversity Combining Not Possible, Reconfiguration not Allowed, Requested Configuration not Supported Synchronisation Failure, Unspecified,...)	
Transport Layer				
Transport Layer Cause	M		ENUMERATED (Transport link failure, Transmission port not available, Unspecified,...)	
Protocol				
Protocol Cause			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,...)	
Misc				
Miscellaneous Cause	M		ENUMERATED (Control Processing Overload Hardware Failure, O&M Intervention, Not enough User Plane Processing Resources, Unspecified,...)	

9.2.1.38 Report Characteristics

The report characteristics, defines how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Report characteristics				
Report characteristics type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F, ...)	
..**Periodic Report Information**	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!
..**Event A**	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,…	
Event 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,…	
Event C	C – Event C			
Measurement Increase 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.
Event D	C – Event D			
Measurement 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.
Event E	C – Event			

	E			
Measurement Threshold 1	M		TBD	
Measurement Threshold 2	O		TBD	
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.
Event F	C – Event F			
Measurement Threshold 1	M		TBD	
Measurement Threshold 2	O		TBD	
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 *Report Characteristics Type* IE indicates "periodic"
C-Event A	Valid if *Report Characteristics Type* IE indicates "Event A"
C-Event B	Valid if *Report Characteristics Type* IE indicates "Event B"
C-Event C	Valid if *Report Characteristics Type* IE indicates "Event C"
C-Event D	Valid if *Report Characteristics Type* IE indicates "Event D"
C-Event E	Valid if *Report Characteristics Type* IE indicates "Event E"
C-Event F	Valid if *Report Characteristics Type* IE indicates "Event F"

9.3.4 Information Element Definitions

-
-
-

```
-- This is changed from the tabular format because it seems that
-- this is what is wanted.
ReportCharacteristics ::= CHOICE {
    onDemand            NULL,
    periodic            Periodic,
    eventA              EventA,
    eventB              EventB,
    eventC              EventC,
    eventD              EventD,
    eventE              EventE,
    eventF              EventF--,
```

...
}

-
-
-

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Document R3-000016
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.

25.423	CR	009	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*	(U)SIM		ME		UTRAN / Radio	X	Core Network	

Source: TSG-RAN WG3 **Date:** 00.01.24

Subject: Repetition of compressed mode information elements.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: To introduce the support of parallel compressed mode patterns we shall repeat all IEs related to a compressed mode pattern in the message COMPRESSED MODE PREPARE (FDD only). We shall also add a new parameter *CFN Offset* that specify the activation time for each pattern which prevents that all patterns are activated at the same frame.

Clauses affected: 9.1.38, 9.2.1, 9.3

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:

help.doc

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

9.1.38 COMPRESSED MODE PREPARE [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				
Transaction ID				
CM Pattern Information		1 to 8		Range defined in [9]
_CFN Offset	M			
_TGP1	M		Gap Period	Applies only to the first and all the subsequent odd gaps if TGP2 is present, see ref. [9].
_TGP2	O		Gap Period	
_TGL	M			
_TGD	M			
_PD	M			
_UL/DL Compressed Mode Selection	M			
_Compressed Mode Method	M			
_Gap Position Mode	M			
_SN	C-Flex			
_Downlink Frame Type	M			
_Scrambling Code Change	C-SF/2			
_Power Control Mode	M			
_Power Resume Mode	M			
_Uplink Delta Eb/No	M			
_Uplink Delta Eb/No After	M			

Condition	Explanation
Flex	This IE is present only if "Gap position Mode" equals to 'flexible'.
SF/2	This IE is present only if Compressed Mode Method equals toSF/2

9.2.1.x CFN Offset <new section>

Activation time for the compressed mode pattern.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CFN Offset			INTEGER (0… 255)	Number of frames between CFN and the compressed mode activation.

```
-- **************************************************************
--
-- COMPRESSED MODE PREPARE
--
-- **************************************************************

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

CompressedModePrepare-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CompressedModePattern-List      CRITICALITY ignore  TYPE CompressedModePattern-List   PRESENCE mandatory }
    …
}

CompressedModePattern-List ::= SEQUENCE (SIZE (1..maxNrOfCMpatterns)) OF
    ProtocolIE-Container {{CompressedModePattern-IEs}}

CompressedModePattern-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFNOffset               CRITICALITY ignore  TYPE CFNOffset                  PRESENCE mandatory } |
    { ID id-TGP1                    CRITICALITY ignore  TYPE GapPeriod                  PRESENCE mandatory } |
    { ID id-TGP2                    CRITICALITY ignore  TYPE GapPeriod                  PRESENCE optional  } |
    { ID id-TGL                 CRITICALITY ignore  TYPE TGL                    PRESENCE mandatory   } |
    { ID id-TGD                 CRITICALITY ignore  TYPE TGD                    PRESENCE mandatory   } |
    { ID id-PD                  CRITICALITY ignore  TYPE PD                     PRESENCE mandatory   } |
    { ID id-UL-DL-CompressedModeSelection       CRITICALITY ignore  TYPE UL-DL-CompressedModeSelection    PRESENCE mandatory   } |
    { ID id-CompressedModeMethod            CRITICALITY ignore  TYPE CompressedModeMethod        PRESENCE mandatory   } |
    { ID id-GapPositionMode             CRITICALITY ignore  TYPE GapPositionMode                PRESENCE mandatory } |
    { ID id-SN                  CRITICALITY ignore  TYPE SN                     PRESENCE conditional
    -- This IE is present only if "GapPositionMode" equals to "flexible" --                          } |
    { ID id-DL-FrameType                CRITICALITY ignore  TYPE DL-FrameType               PRESENCE mandatory   } |
    { ID id-ScramblingCodeChange            CRITICALITY ignore  TYPE ScramblingCodeChange        PRESENCE conditional
    -- This IE is present only if "CompressedModeMethod" equals to "SF/2" --                         } |
    { ID id-PowerControlMode            CRITICALITY ignore  TYPE PowerControlMode               PRESENCE mandatory } |
    { ID id-PowerResumeMode             CRITICALITY ignore  TYPE PowerResumeMode                PRESENCE mandatory } |
    { ID id-UL-DeltaEbNo                CRITICALITY ignore  TYPE UL-EbNo                    PRESENCE mandatory   } |
    { ID id-UL-DeltaEbNoAfter           CRITICALITY ignore  TYPE UL-EbNo                    PRESENCE mandatory   },
    ...
}

CompressedModePrepare-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- C

Cause ::= CHOICE {
    radioNetwork            CauseRadioNetwork,
    transmissionNetwork     CauseTransmissionNetwork,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transaction-not-allowed,
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    unspecified,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    macrodiversity-combining-not-possible,
    reconfiguration-not-allowed,
    Synchronisation-failure,
    unspecified,
    ...
}

CauseTransmissionNetwork ::= ENUMERATED {
    transmission-link-failure,
    transmission-port-not-available,
    unspecified,
    ...
}

C-ID                    ::= INTEGER (0..65535)

CCTrCH-ID               ::= INTEGER (0..15)
```

```
CellParameterID             ::= INTEGER (0..127)

CFN                 ::= INTEGER (0..255)

CFNOffset           ::= INTEGER (0..255)

ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding--,
--  ...
}

-- ** TODO **
ChipOffset              ::= INTEGER

CodingRate ::= ENUMERATED {
    half,
    third--,
--  ...
}

CompressedModeMethod ::= ENUMERATED {
    none,
    puncturing,
    sF2,
    gating
}

CPICH-EcIo              ::= INTEGER

CRC-Size                ::= INTEGER (0| 8| 12| 16| 24)

CriticalityDiagnostics ::= SEQUENCE {
    procedureCode           ProcedureCode           OPTIONAL,
    triggeringMessage       TriggeringMessage       OPTIONAL,
    criticalityResponse     Criticality         OPTIONAL,
    transactionID           TransactionID           OPTIONAL,
    iEsCriticalityResponses     CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        criticalityResponse     Criticality,
        iE-ID               ProtocolIE-ID,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
```

```
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
CTFC                    ::= INTEGER
-- See formula (must be resolved)

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    iE-Extensions           ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL,
    lAC             LAC
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    iE-Extensions           ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL,
    rAC             RAC
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **TODO**
CPICH-Power             ::= INTEGER

C-RNTI                  ::= INTEGER (0..65535)
```

9.3.6 Constant Definitions

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

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

BEGIN

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

id-commonTransportChannelResourcesInitiationFDD             INTEGER ::= 0
id-commonTransportChannelResourcesInitiationTDD             INTEGER ::= 1
id-commonTransportChannelResourcesRelease               INTEGER ::= 2
id-compressedModeCancellationFDD                    INTEGER ::= 3
id-compressedModeCommitFDD                      INTEGER ::= 4
id-compressedModePrepareFDD                     INTEGER ::= 5
id-downlinkPowerControl                         INTEGER ::= 6
id-downlinkSignallingTransfer                       INTEGER ::= 7
id-errorIndication                          INTEGER ::= 8
id-measurementFailure                           INTEGER ::= 9
id-measurementInitiation                        INTEGER ::= 10
id-measurementReporting                         INTEGER ::= 11
id-measurementTermination                       INTEGER ::= 12
id-pagingRequest                            INTEGER ::= 13
id-physicalChannelReconfiguration                   INTEGER ::= 14
id-privateMessage                           INTEGER ::= 15
id-radioLinkAddition                            INTEGER ::= 16
id-radioLinkDeletion                            INTEGER ::= 17
id-radioLinkFailure                         INTEGER ::= 18
id-radioLinkRestoration                         INTEGER ::= 19
id-radioLinkSetup                           INTEGER ::= 20
id-srnsRelocationCommit                         INTEGER ::= 21
id-synchronisedRadioLinkReconfigurationCancellation         INTEGER ::= 22
id-synchronisedRadioLinkReconfigurationCommit               INTEGER ::= 23
id-synchronisedRadioLinkReconfigurationPrepare              INTEGER ::= 24
id-unSynchronisedRadioLinkReconfiguration               INTEGER ::= 25
id-uplinkSignallingTransfer                     INTEGER ::= 26

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

```
-- **************************************************************

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

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

maxRateMatching                                 INTEGER ::= 10
maxNrOfTFCs                                   INTEGER ::= 10
maxNrOfTFs                                    INTEGER ::= 10

maxNoOfDL-Codes                                 INTEGER ::= 10
maxNrOfCCTrCHs                                  INTEGER ::= 10
maxNrOfCMpatterns                               INTEGER ::= 8
maxNrOfDCHs                                   INTEGER ::= 10
maxNrOfDL-Codes                                 INTEGER ::= 10
maxNrOfDPCHs                                    INTEGER ::= 10
maxNrOfErrors                                   INTEGER ::= 10
maxNrOfFACH-FD-Size                             INTEGER ::= 10
maxNrOfFDD-Neighbours                               INTEGER ::= 10
maxNrOfMACcSDU-Length                               INTEGER ::= 10
maxNrOfTDD-Neighbours                               INTEGER ::= 10
maxNrOfRLs                                    INTEGER ::= 10
maxNrOfSCCPCHs                                  INTEGER ::= 10
maxRNCinURA                                   INTEGER ::= 10
maxTTI-Count                                    INTEGER ::= 10

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

id-AllowedQueuingTime                               INTEGER ::= 0
id-BindingID                                    INTEGER ::= 1
id-C-ID                                       INTEGER ::= 2
id-C-RNTI                                     INTEGER ::= 3
id-CCTrCH-ID                                    INTEGER ::= 4
id-CFN                                        INTEGER ::= 5
id-CFNOffset                                INTEGER ::= 149
id-CompressedModePattern-List               INTEGER ::= 150
id-CN-CS-DomainIdentifier                           INTEGER ::= 6
id-CN-PS-DomainIdentifier                           INTEGER ::= 7
id-Cause                                      INTEGER ::= 8
id-CompressedModeMethod                             INTEGER ::= 9
id-D-RNTI                                     INTEGER ::= 10
id-D-RNTI-ReleaseIndication                         INTEGER ::= 11
id-DCH-AddItem                                  INTEGER ::= 12
```

```
id-DCH-AddItem-RL-ReconfPrepFDD                    INTEGER ::= 13
id-DCH-AddItem-RL-ReconfPrepTDD                    INTEGER ::= 14
id-DCH-AddItem-RL-ReconfReadyFDD                   INTEGER ::= 15
id-DCH-AddItem-RL-ReconfRqstFDD                    INTEGER ::= 16
id-DCH-AddItem-RL-ReconfRqstTDD                    INTEGER ::= 17
id-DCH-AddList-RL-ReconfPrepFDD                    INTEGER ::= 18
id-DCH-AddList-RL-ReconfPrepTDD                    INTEGER ::= 19
id-DCH-AddList-RL-ReconfRqstFDD                    INTEGER ::= 20
id-DCH-AddList-RL-ReconfRqstTDD                    INTEGER ::= 21
id-DCH-DeleteItem-RL-ReconfPrepFDD                 INTEGER ::= 22
id-DCH-DeleteItem-RL-ReconfPrepTDD                 INTEGER ::= 23
id-DCH-DeleteItem-RL-ReconfRqstFDD                 INTEGER ::= 24
id-DCH-DeleteItem-RL-ReconfRqstTDD                 INTEGER ::= 25
id-DCH-DeleteList-RL-ReconfPrepFDD                 INTEGER ::= 26
id-DCH-DeleteList-RL-ReconfPrepTDD                 INTEGER ::= 27
id-DCH-DeleteList-RL-ReconfRqstFDD                 INTEGER ::= 28
id-DCH-DeleteList-RL-ReconfRqstTDD                 INTEGER ::= 29
id-DCH-Information-RL-SetupReqFDD                  INTEGER ::= 30
id-DCH-InformationItem-RL-SetupReqFDD                  INTEGER ::= 31
id-DCH-InformationItem-RL-SetupReqTDD                  INTEGER ::= 32
id-DCH-InformationList-RL-SetupReqTDD                  INTEGER ::= 33
id-DCH-ModifyItem                          INTEGER ::= 34
id-DCH-ModifyItem-RL-ReconfPrepFDD                 INTEGER ::= 35
id-DCH-ModifyItem-RL-ReconfPrepTDD                 INTEGER ::= 36
id-DCH-ModifyItem-RL-ReconfReadyFDD                INTEGER ::= 37
id-DCH-ModifyItem-RL-ReconfRqstFDD                 INTEGER ::= 38
id-DCH-ModifyItem-RL-ReconfRqstTDD                 INTEGER ::= 39
id-DCH-ModifyList-RL-ReconfPrepFDD                 INTEGER ::= 40
id-DCH-ModifyList-RL-ReconfPrepTDD                 INTEGER ::= 41
id-DCH-ModifyList-RL-ReconfRqstFDD                 INTEGER ::= 42
id-DCH-ModifyList-RL-ReconfRqstTDD                 INTEGER ::= 43
id-DL-CCTrCH-Information-RL-ReconfPrepTDD               INTEGER ::= 44
id-DL-CCTrCH-Information-RL-ReconfRqstTDD               INTEGER ::= 45
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD               INTEGER ::= 46
id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD               INTEGER ::= 47
id-DL-CCTrChInformationItem-RL-SetupReqTDD              INTEGER ::= 48
id-DL-CCTrChInformationList-RL-SetupReqTDD              INTEGER ::= 49
id-DL-CodeInformation-PhyChReconfRqstFDD                INTEGER ::= 50
id-DL-DPCH-Information                         INTEGER ::= 51
id-DL-DPCH-Information-RL-SetupReqFDD                  INTEGER ::= 52
id-DL-DPCH-InformationList-PhyChReconfRqstTDD               INTEGER ::= 53
id-DL-DPCH-InformationList-RL-ReconfReadyTDD                INTEGER ::= 54
id-DL-EbNoTarget                           INTEGER ::= 55
id-DL-FrameType                            INTEGER ::= 56
id-DL-MeanBitRate                          INTEGER ::= 57
id-DL-ReferencePowerInformation-DL-PC-Rqst              INTEGER ::= 58
id-DRX-Parameter                           INTEGER ::= 59
id-DedicatedMeasurementObjectType-DM-Rprt               INTEGER ::= 60
id-DedicatedMeasurementObjectType-DM-Rqst               INTEGER ::= 61
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id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD     INTEGER ::= 146
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD        INTEGER ::= 147
id-CriticalityDiagnostics                       INTEGER ::= 148

END
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3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

Document R3-000255
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.

25.423	CR	010	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*	(U)SIM		ME		UTRAN / Radio	X	Core Network	

Source: TSG-RAN WG3 **Date:** 00.01.24

Subject: Changing Eb/N0 to SIR. This an update of contribution (00)0011, now extended with TDD changes.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature	X		Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: To align with the TSG RAN WG1 specifications, see also R3-000009.

Clauses affected: 8.3.1; 8.3.2; 8.3.4; 8.3.7; 9.1.3; 9.1.4; 9.1.5; 9.1.6; 9.1.7;9.1.11; 9.1.12; 9.1.17; 9.1.38; 9.2.1.18; 9.2.1.57; 9.2.2.37; 9.2.2.38

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:


help.doc

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

8.3.1 Radio Link Setup

8.3.1.1 General

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

This procedure shall use the connection-oriented service of the signalling bearer.

8.3.1.2 Successful Operation

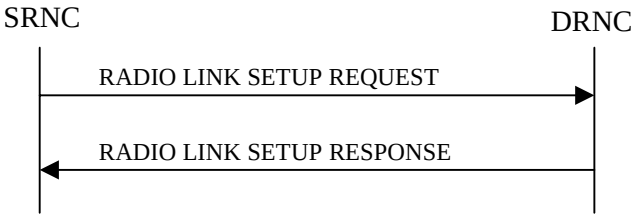

Figure 1: Radio Link Setup procedure: Successful Operation

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

The message is also used to establish the connection-oriented service of the signalling bearer in the DRNC. The message includes the S-RNTI associated to the UE, and, if the UE context is already present in the DRNC, the corresponding D-RNTI.

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

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

If the *Initial DL TX Power* IE and *UL ~~Eb/No~~ SIR Target* IE [FDD] are present in the message, the DRNS shall use the indicated DL TX Power and UL ~~Eb/No~~SIR Target [FDD] as initial value.

If the *Primary CPICH Eb/No* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] is present, the DRNC should use them when deciding the Initial DL TX Power.

If the RADIO LINK SETUP REQUEST message includes the *DCH Combination Indicator* IE for a DCH, the DRNS shall treat all DCHs with the same value of this IE as a set of co-ordinated DCHs.The included *RLC Mode* IE of the DCH may be used by the DRNS to optimise the power control.

The *Allocation/Retention Priority* IE defines the priority level that should be used by the DRNS to prioritise the allocation and the retention of the resources used by the DCH. The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise the discard/delay of the data frames of the DCH.

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH as the new DCH FP Mode in the Uplink of the user plane for this DCH.

The DRNS shall use the included *ToAWS* IE for a DCH as the new Time of Arrival Window Start Point in the user plane for this DCH.

The DRNS shall use the included *ToAWE* IE for a DCH as the new Time of Arrival Window End Point in the user plane for this DCH.

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

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

If the *Initial DL TX Power* and the *UL ~~Eb/No~~ SIR Target* IEs are not present in the RADIO LINK SETUP REQUEST message, then DRNC shall include the suggested initial UL ~~Eb/No~~ SIR Target and the DL ~~Eb/No~~ SIR Target in the RADIO LINK SETUP RESPONSE message.

In the case of combining one or more RLs the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the Diversity Indication that the RL is combined with another RL. In this case the Reference RL ID shall be included to indicate with which RL the combination is performed. The Reference RL ID shall be included for all but one of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.

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

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

[FDD - Irrespective of SSDT activation, the DRNS shall include in the RADIO LINK SETUP RESPONSE message an indication concerning the capability to support SSDT on this RL. Only if the RADIO LINK SETUP REQUEST message requested SSDT activation and the RADIO LINK SETUP RESPONSE message indicates that the SSDT capability is supported for this RL, SSDT is activated in the DRNS.]

The DRNS shall also provide the SRNC with the UTRAN Cell Identifier (UC-Id) and information of the neighbouring cells to the cell(s) where the radio link(s) are added.

If a neighbouring cell is controlled by another RNC, the DRNC shall report also the node identifications (i.e. RNC, CN domain nodes) of the RNC controlling the neighbouring cell.

If there was no UE context for this UE in the DRNS before the RADIO LINK SETUP REQUEST message was received the DRNC shall include the node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell), and the D-RNTI in the RADIO LINK SETUP RESPONSE message.

8.3.2 Radio Link Addition

8.3.2.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more additional RLs towards a UE when there is already at least one RL established to the concerning UE via this DRNS.

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

8.3.2.2 Successful Operation

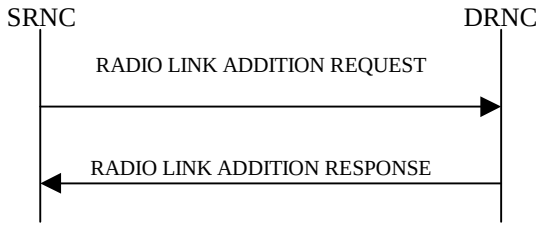

Figure 2: Radio Link Addition procedure: Successful Operation

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNS 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 indicates for each RL whether the DRNS shall combine the new RL with existing RL(s) or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.]

If the *Primary CCPCH Ec/Io* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] measured by the UE is included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power. If the *Primary CCPCH Ec/Io* IE is not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.

[FDD - The DRNS shall use the provided UL ~~Eb/No~~ SIR Target value as the current target for the inner-loop power control.]

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, SSDT may be activated for the concerned new RL, with the indicated SSDT Cell Identity used for that RL.]

The DRNS shall activate any feedback mode diversity according to the received settings.

If all requested RLs are successfully added, the DRNC shall respond with a RADIO LINK ADDITION RESPONSE message.

In the case of combining an RL with existing RL(s) the DRNC 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.

In the case of not combining an RL with existing RL(s), the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the DRNC 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.

In case of co-ordinated 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 DRNS 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 DRNS.]

For any cell neighbouring of a cell in which a RL was added, the DRNC shall provide in the RADIO LINK ADDITION RESPONSE message the UTRAN Cell Identifier (UC-Id), the Frequency Number, the Primary Scrambling Code and the node identification of CN nodes connected to the RNC controlling the neighbouring cell if the neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the CPICH Power level and Frame Offset of the neighbouring cell.

The DRNC shall also provide the configured uplink Maximum ~~Eb/No~~ SIR and UL Minimum ~~Eb/No~~ SIR for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

The DRNC shall also provide the selected scrambling- and channelisation codes of the new RLs in order to enable the SRNC to inform the UE about the selected codes.

After sending of the RADIO LINK ADDITION RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The DRNS shall start transmission on the new RL after synchronisation is achieved in the Iur user plane as specified in ref. [**Error! Reference source not found.**].

8.3.4 Synchronised Radio Link Reconfiguration Preparation

8.3.4.1 General

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

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

8.3.4.2 Successful Operation

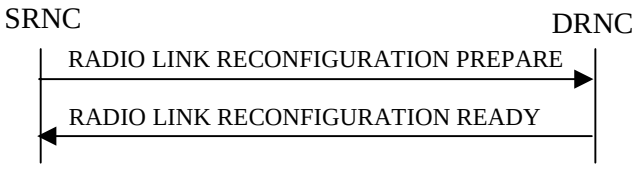

Figure 3: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

DCH Modification :

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allocation/Retention Priority* IE for a DCH to be modified, the DRNS should use this information when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Format Set (DL)* IE for a DCH to be modified, the DRNS 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 DRNS 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 on the *ToAWS* IE for a DCH to be modified, the DRNS shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes on the *ToAWE* IE for a DCH to be modified, the DRNS 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 DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE 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 co-ordinated 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 DRNS should use the *Allocation/Retention Priority* IE received for a DCH to be added when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

The DRNS 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 DRNS 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 DRNS 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 PREPARE message includes any DCH to be deleted from the Radio Link(s), the DRNS shall not include this DCH in the new configuration.

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

Physical Channel Modification:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Uplink Scrambling Code* IE, the DRNS 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 DRNS shall apply the new Uplink Channelisation Code(s) in the new configuration.

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes one or more *Spreading Factor of Channelisation Code (DL)* IE, for each *Spreading Factor of Channelisation Code (DL)* IE the DRNS shall allocate one new Downlink Channelisation Code per Radio Link and apply the new Downlink Channelisation Code(s) to the new configuration. Each Downlink Channelisation Code allocated for the new configuration shall be included as a *Channelisation Code (DL)* IE in the RADIO LINK RECONFIGURATION READY message when sent to the SRNC.]

The DRNS 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 DRNS 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.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Mean Bit Rate (UL)* IE, the DRNS should use this information when reserving resources for the Uplink of the new configuration.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Mean Bit Rate (DL)* IE, the DRNS should use this information when reserving resources for the Downlink of the new configuration.

[Editor's note: There is presently no clear definition of the *Mean Bit Rate* IEs. The handling of these IEs is thus regarded as FFS.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes on the *UL DPCCH Structure* IE, group the DRNS shall apply the new Uplink DPCCH Structure to the new configuration.]

FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *UL SIR Target* IE, the DRNS shall set the UL inner loop power control to the UL SIR target when the new configuration is being used.]

SSDT Activation/Deactivation:

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

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the SSDT Indication IE set to "SSDT not Active in the UE", the DRNS shall deactivate SSDT in the new configuration.]

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

The DRNS decides the maximum and minimum ~~Eb/No~~ SIR for the uplink of the Radio Link(s) and shall return this in the *Maximum Uplink ~~Eb/No~~ SIR* IE and *Minimum Uplink ~~Eb/No~~ SIR* IE for each Radio Link in the RADIO LINK RECONFIGURATION READY message.

[TDD – The DRNC shall include all the IEs corresponding to the new physical channel parameters for the DL DPCH and/or the UL DPCH to be reconfigured in the RADIO LINK RECONFIGURATION READY message.]

[Editor's note: Which information in the RL RECONFIGURATION PREPARE message triggers the DRNC to include any of the following *Optional* TDD information?:
a) DL DPCH Group
b) UL DPCH Group
c) TDD Physical Channel Offset, *Repetition* Length, and TFCI Presence IEs as part of the DL DPCH Group
d) TDD Physical Channel Offset, *Repetition* Length, and TFCI Presence IEs as part of the UL DPCH Group.]

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *DCH to be Added* IE group or the *DCH to be Modified* IE group shall be included only for one of the DCHs in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS the *DCH to be Added* IE group and the *DCH to be Modified* IE group shall be included only for one of the combined Radio Links.

8.3.7 Unsynchronised Radio Link Reconfiguration

8.3.7.1 General

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

The procedure is used when there is no need to synchronise the time of the switching from the old to the new radio link configuration in the cells used by the UE-UTRAN connection within the DRNS.

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

8.3.7.2 Successful Operation

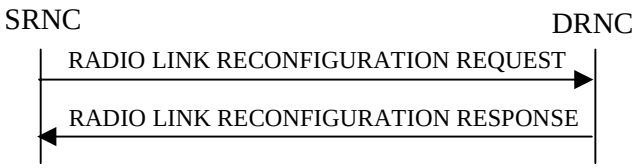

Figure 4: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION REQUEST message to the DRNC.

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.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request before providing a response to the SRNC.

DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Allocation/Retention Priority* IE for a DCH to be modified, the DRNS should use this information when reserving resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Transport Format Set (DL)* IE for a DCH to be modified, the DRNS 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 on the *UL DCH FP Mode* IE for a DCH to be modified, the DRNS 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 on the *ToAWS* IE for a DCH to be modified, the DRNS shall apply the new ToAWS in the user plane for this DCH in the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *ToAWE* IE for a DCH to be modified, the DRNS 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 DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

If the 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 co-ordinated 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 DRNS should use the *Allocation/Retention Priority* IE received for a DCH to be added when allocating resources for this DCH in the new configuration.

[Editor's note: The priority handling in the DRNS has not been discussed in RAN WG3. Neither has the possibilities for pre-emption (not retaining a resource) of DCHs/RLs. The handling of the *Allocation/Retention Priority* IE is thus not clear and is regarded as FFS.]

The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

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

The DRNS 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 DRNS 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 DRNS 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 DRNS shall not include this DCH in the new configuration.

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

Physical Channel Modification:

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

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Mean Bit Rate (UL)* IE, the DRNS should use this information when reserving resources for the Uplink of the new configuration.

If the RADIO LINK RECONFIGURATION REQUEST message includes on the *Mean Bit Rate (DL)* IE, the DRNS should use this information when reserving resources for the Downlink of the new configuration.

[Editor's note: There is presently no clear definition of the *Mean Bit Rate* IEs. The handling of these IEs is thus regarded as FFS.]

f the requested modifications are allowed by the DRNS, the DRNS has successfully allocated the required resources, and changed to the new configuration it shall respond to the SRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

The DRNS decides the maximum and minimum ~~Eb/No~~ SIR for the uplink of the Radio Link(s) and shall return this in the IEs *Maximum Uplink ~~Eb/No~~ SIR* and *Minimum Uplink ~~Eb/No~~ SIR* for each Radio Link in the RADIO LINK RECONFIGURATION RESPONSE message.

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *DCH to be Added* IE group or the *DCH to be Modified* IE group shall be included only for one of the DCH in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS the *DCH to be Added* IE group and the *DCH to be Modified* IE group shall be included only for one of the combined Radio Links.

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
D-RNTI	O			
Allowed Queuing time	O			
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 the UL.
UL Transport Format Combination Set	M			
UL DPCCH Slot Format	M			
UL ~~Eb/No~~ SIR Target	O			
Diversity mode	M			
D Field Length	C-FB			
SSDT Cell ID Length	O			
S Field Length	O			
Mean Bit Rate	O			For the UL.
DL DPCH Information		*1*		
Transport Format Combination Set	M			
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.
TPC Downlink Step Size	M			
Mean Bit Rate	O			For the DL.
DCH Information		*1..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			

RL Information		*1…<maxnoofRLs>*		
RL ID	M			
C-ID	M			
Frame Offset	M			
Chip Offset	M			
Propagation Delay	O			
Diversity Control Field	C – NotFirstRL			
Initial DL TX Power	O		DL Power	
Primary CPICH Ec/Io	O			
SSDT Cell ID	O			

Condition	Explanation
CodeLen	This IE is present only "f "Min UL Channelisation Code len"th" equals to 4
FB	This IE is present only if Feed Back mode diversity is activated.
SlotFormat	This IE is only present if the DL DPCH Slot Format is equal to any of the values 12 to 16.
NotFirstRL	This IE is present only if the RL is not the first one in the **RL Information**.

Range bound	Explanation
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofRLs	Maximum no. of RLs for one UE.

9.1.4 RADIO LINK SETUP RESPONSE

9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1..<maxnoofRLs>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1.. <maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	C-NotFirstRL			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Maximum Uplink ~~Eb/No~~ SIR	M		Uplink ~~Eb/No~~SIR	
Minimum Uplink ~~Eb/No~~ SIR	M		Uplink ~~Eb/No~~SIR	
Neighbouring FDD Cell Information		*0..<maxnoofFDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofTDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Uplink ~~Eb/No~~ SIR Target	O		Uplink ~~Eb/No~~SIR	

Downlink ~~Eb/No~~SIR Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the Node B.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the Node B.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell.
MaxnoofTDDneighbours	Maximum number of neighbouring TDD cell for one cell.

9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
Maximum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Minimum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Uplink ~~Eb/No~~ SIR Target	O		Uplink ~~Eb/No~~SIR	
Downlink ~~Eb/No~~ SIR Target	O			
UL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Neighbouring FDD Cell Information	O	*0..<maxnoofFDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofTDDneighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDPCHs	Maximum no. of DPCHs for one CCTrCH.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell
MaxnoofTDDneighbours	Maximum number of neighbouring TDD cell for one cell
MaxnoofCCTrCHs	Maximum no. of CCTrCH for one UE.

9.1.5 RADIO LINK SETUP FAILURE

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Unsuccessful RL Information Response		*1...<maxnoofRLs>*		
RL ID	M			
Cause	M			
Successful RL Information Response		*0..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	M			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Neighbouring FDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O			
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case3			
PSCH Time Slot	C-Case2&3			
Uplink ~~Eb/No~~SIR Target	O		Uplink ~~Eb/No~~SIR	

Maximum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Minimum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Downlink ~~Eb/No~~SIR Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the Node B.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the Node B.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.

9.1.6 RADIO LINK ADDITION REQUEST

9.1.6.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Uplink ~~Eb/No~~SIR Target	M		Uplink ~~Eb/No~~SIR	
RL Information		*1..<maxnoofRLs-1>*		
RL ID	M			
C-Id	M			
Frame Offset	M			
Chip Offset	M			
Diversity Control Field	M			
Primary CPICH Ec/Io	O			
SSDT Cell Identity	O			

Range bound	Explanation
MaxnoofRLs	Maximum number of radio links for one UE

9.1.7 RADIO LINK ADDITION RESPONSE

9.1.7.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL Scrambling Code	M			
DL Channelisation Code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Maximum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information

9.1.8 RADIO LINK ADDITION FAILURE

9.1.8.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
Cause	M			
Succesfull RL Information Response		*1..<maxnoofRLs-2>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL scrambling code	M			
DL channelisation code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Maximum Uplink ~~Eb/No~~SIR	M		Uplink ~~Eb/No~~SIR	
Neighbouring FDD Cell Information		*0..<maxnoofFDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofTDD Neighbours>*		
UC-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofFDDNeighbours	Maximum number of neighbouring FDD cells for one cell
MaxnoofTDDNeighbours	Maximum number of neighbouring TDD cells for one cell
MaxnoofDLCodes	Maximum number of DL code information

9.1.11 RADIO LINK RECONFIGURATION PREPARE

9.1.11.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
Allowed Queuing Time	O			
UL DPCH Information		*0..1*		
UL Scrambling code	O			
UL SIR Target	O		Uplink SIR	
Min UL Channelisation Code Length	O			
Max Number of UL DPDCHs	C – CodeLen			
Puncture Limit	O			For the UL.
TFCS	O			TFCS for the UL.
UL DPCCH Slot Format	O			
SSDT Cell Identity Length	O			
S-Field Length	O			
Mean Bit Rate	O			For the UL.
DL DPCH Information		*0..1*		
TFCS	O			TFCS for the DL.
DL DPCH Slot Format	O			
TFCI Signalling Mode	O			
TFCI Presence	C-SlotFormat			
MultiplexingPosition	O			
Mean Bit Rate	O			For the DL.
DCHs to Modify		*0..<maxnoofDCHs>*		
DCH ID	M			
Transport Format Set	O			For the UL.
Transport Format Set	O			For the DL.
Allocation/Retention Priority	O			
Frame Handling Priority	O			
UL FP Mode	O			
ToAWS	O			
ToAWE	O			
DCHs to Add		*0..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Indicator	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
DCHs to Delete		*0..<maxnoofDCHs>*		
DCH ID	M			

RL Information		*0..<maxnoofRLs>*		
RL ID	M			
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 values 12 to 16.

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

9.1.12 RADIO LINK RECONFIGURATION READY

9.1.12.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
RL Information Response		*0..<maxnoofRLs>*		
RL ID	M			
Maximum Uplink ~~Eb/No~~SIR	O		Uplink ~~Eb/No~~SIR	
Minimum Uplink ~~Eb/No~~SIR	O		Uplink ~~Eb/No~~SIR	
Downlink Code Information		*0..<maxnoofDLCodes>*		
DL Scrambling Code	M			
DL Channelisation Code	M			
DCH to be Added		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality Diagnostics	O			

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs.
MaxnoofRLs	Maximum number of RLs for a UE.
MaxnoofDLCodes	Maximum number of Downlink Channelisation Codes.

9.1.17 RADIO LINK RECONFIGURATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction ID	M			
RL Information Response		*0..<maxnoofRLs>*		
RL ID	M			
Maximum Uplink ~~Eb/No~~SIR	O		Uplink ~~Eb/No~~SIR	
Minimum Uplink ~~Eb/No~~SIR	O		Uplink ~~Eb/No~~SIR	
DCH to be Added		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
DCH to be Modified		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included. The IE group shall be included only once per DCH per set of combined RLs.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Criticality Diagnostics	O			

Range Bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for a UE.
MaxnoofRLs	Maximum number of RLs for a UE.

9.1.38 COMPRESSED MODE PREPARE [FDD]

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				
Transaction ID				
TGP1	M		Gap Period	Applies only to the first and all the subsequent odd gaps if TGP2 is present, see ref. [**Error! Bookmark not defined.**].
TGP2	O		Gap Period	
TGL	M			
TGD	M			
PD	M			
UL/DL Compressed Mode Selection	M			
Compressed Mode Method	M			
Gap Position Mode	M			
SN	C-Flex			
Downlink Frame Type	M			
Scrambling Code Change	C-SF/2			
Power Control Mode	M			
Power Resume Mode	M			
Uplink Delta ~~Eb/No~~SIR	M			
Uplink Delta ~~Eb/No~~SIR After	M			

Condition	Explanation
Flex	This IE is present only if "Gap position Mode" equals to 'flexible'.
SF/2	This IE is present only if Compressed Mode Method equals toSF/2

9.2.1.18 Downlink ~~Eb/No~~SIR Target

It is the Target Downlink ~~Eb/No~~SIR that shall be used as initial value by the UE.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Downlink ~~Eb/No~~SIR Target			Uplink ~~Eb/No~~SIR	

9.2.1.57 Uplink ~~Eb/No~~SIR

The UL ~~Eb/No~~SIR indicates a received UL ~~Eb/No~~SIR.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink ~~Eb/No~~SIR			~~INTEGER (0..255)~~ENUMERATED (-8.2 .. 17.3)	~~Resolution is~~ Step 0.1 dB~~, range 0-25.5 dB.~~

9.2.2.37 Uplink Delta ~~Eb/No~~SIR

The delta in uplink ~~Eb/No~~SIR that shall be added to the ~~Eb/No~~SIR target used during compressed mode frames.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Delta ~~Eb/No~~SIR			Enumerated (-6..+10dB)	Step 0.1 dB.

9.2.2.38 Uplink Delta ~~Eb/No~~SIR After

The delta in uplink ~~Eb/No~~SIR target that shall be added to the ~~Eb/No~~SIR target used one frame after the compressed mode frames.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Uplink Delta ~~Eb/No~~SIR after			Enumerated (-6..+10dB)	Step 0.1 dB.

9.3.3 PDU Definitions

```
*****   CR Editors Note: Text have been removed.

BEGIN

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

IMPORTS
    AllocationRetentionPriority,
    AllowedQueuingTime,
    BLER,
    BindingID,
    BurstType,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CPICH-EcIo,
    CPICH-Power,
    Cause,
    CellParameterID,
    ChipOffset,
    CompressedModeMethod,
    CriticalityDiagnostics,
    D-FieldLength,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-CombinationInd,
    DCH-ID,
    DL-ChannelisationCode,
    DL-DPCCH-SlotFormat,
    DL-DPCH-SlotNumber,
    DL-EbNoSIR,
    DL-EbNoSIRTarget,
    DL-FrameType,
    DL-Power,
    DL-ScramblingCode,
    DPCH-ID,
    DRX-Parameter,
    DedicatedMeasurementValue,
    DiversityControlField,
    DiversityMode,
```

```
    FACH-DataFrameSize,
    FACH-InitialWindowSize,
    FACH-PriorityIndicator,
    FDD-DL-ChannelisationCodeNumber,
    FDD-S-CCPCH-Offset,
    FrameHandlingPriority,
    FrameOffset,
    GapPeriod,
    GapPositionMode,
    L3-Information,
    MAC-c-SDU-Length,
    MaxNrOfUL-DPCHs,
    MeanBitRate,
    MeasurementCharacteristics,
    MeasurementID,
    MidambleShift,
    MinUL-ChannelisationCodeLength,
    MultipleURAsIndicator,
    MultiplexingPosition,
    Offset,
    PD,
    PSCH-PCCPCH-TimeSlot,
    PSCH-TimeSlot,
    PayloadCRC-PresenceIndicator,
    PilotBitsUsedIndicator,
    PowerControlMode,
    PowerOffset,
    PowerResumeMode,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    RANAP-RelocationInformation,
    RL-ID,
    RLC-Mode,
    RNC-ID,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    S-FieldLength,
    S-RNTI,
    SAI,
    SN,
    SRNC-ID,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    ScaledUL-InterferenceLevel,
    ScramblingCode,
    ScramblingCodeChange,
```

```
    SecondaryCCPCH-SlotFormat,
    SyncCase,
    TDD-ChannelisationCode,
    TDD-PhysicalChannelOffset,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TGD,
    TGL,
    TPC-StepSize,
    TimeSlot,
    ToAWE,
    ToAWS,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TransportFormatCombinationSet,
    TransportFormatSet,
    TransportLayerAddress,
    UARFCN,
    UC-ID,
    UL-DL-CompressedModeSelection,
    UL-DPCCH-SlotFormat,
    UL-~~EbNo~~SIR,
    UL-~~EbNo~~SIRTarget,
    UL-FP-Mode,
    UL-ScramblingCode,
    URA-ID
FROM RNSAP-IEs

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

    maxNoOfDL-Codes,
    maxNrOfCCTrCHs,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDPCHs,
    maxNrOfFACH-FD-Size,
    maxNrOfFDD-Neighbours,
    maxNrOfMACcSDU-Length,
    maxNrOfTDD-Neighbours,
    maxNrOfRLs,
    maxNrOfSCCPCHs,
    maxRNCinURA,
```

```
    id-AllowedQueuingTime,
    id-BindingID,
    id-C-ID,
    id-C-RNTI,
    id-CCTrCH-ID,
    id-CFN,
    id-CN-CS-DomainIdentifier,
    id-CN-PS-DomainIdentifier,
    id-Cause,
    id-CompressedModeMethod,
    id-CriticalityDiagnostics,
    id-D-RNTI,
    id-D-RNTI-ReleaseIndication,
    id-DCH-AddItem,
    id-DCH-AddItem-RL-ReconfPrepFDD,
    id-DCH-AddItem-RL-ReconfPrepTDD,
    id-DCH-AddItem-RL-ReconfReadyFDD,
    id-DCH-AddItem-RL-ReconfRqstFDD,
    id-DCH-AddItem-RL-ReconfRqstTDD,
    id-DCH-AddList-RL-ReconfPrepFDD,
    id-DCH-AddList-RL-ReconfPrepTDD,
    id-DCH-AddList-RL-ReconfRqstFDD,
    id-DCH-AddList-RL-ReconfRqstTDD,
    id-DCH-DeleteItem-RL-ReconfPrepFDD,
    id-DCH-DeleteItem-RL-ReconfPrepTDD,
    id-DCH-DeleteItem-RL-ReconfRqstFDD,
    id-DCH-DeleteItem-RL-ReconfRqstTDD,
    id-DCH-DeleteList-RL-ReconfPrepFDD,
    id-DCH-DeleteList-RL-ReconfPrepTDD,
    id-DCH-DeleteList-RL-ReconfRqstFDD,
    id-DCH-DeleteList-RL-ReconfRqstTDD,
    id-DCH-Information-RL-SetupReqFDD,
    id-DCH-InformationItem-RL-SetupReqFDD,
    id-DCH-InformationItem-RL-SetupReqTDD,
    id-DCH-InformationList-RL-SetupReqTDD,
    id-DCH-ModifyItem,
    id-DCH-ModifyItem-RL-ReconfPrepFDD,
    id-DCH-ModifyItem-RL-ReconfPrepTDD,
    id-DCH-ModifyItem-RL-ReconfReadyFDD,
    id-DCH-ModifyItem-RL-ReconfRqstFDD,
    id-DCH-ModifyItem-RL-ReconfRqstTDD,
    id-DCH-ModifyList-RL-ReconfPrepFDD,
    id-DCH-ModifyList-RL-ReconfPrepTDD,
    id-DCH-ModifyList-RL-ReconfRqstFDD,
    id-DCH-ModifyList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-Information-RL-ReconfPrepTDD,
    id-DL-CCTrCH-Information-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD,
    id-DL-CCTrChInformationItem-RL-SetupReqTDD,
    id-DL-CCTrChInformationList-RL-SetupReqTDD,
    id-DL-CodeInformation-PhyChReconfRqstFDD,
```

```
    id-DL-DPCH-Information,
    id-DL-DPCH-Information-RL-SetupReqFDD,
    id-DL-DPCH-InformationList-PhyChReconfRqstTDD,
    id-DL-DPCH-InformationList-RL-ReconfReadyTDD,
    id-DL-~~EbNo~~SIRTarget,
    id-DL-FrameType,
    id-DL-MeanBitRate,
    id-DL-ReferencePowerInformation-DL-PC-Rqst,
    id-DRX-Parameter,
    id-DedicatedMeasurementObjectType-DM-Rprt,
    id-DedicatedMeasurementObjectType-DM-Rqst,
    id-DedicatedMeasurementObjectType-DM-Rspns,
    id-FACH-InfoForOptionalGroupS-CCPCH,
    id-FACH-InfoForOptionalS-CCPCH,
    id-FACH-InfoForS-CCPCH-CoupledToPRACH,
    id-GapPositionMode,
    id-L3-Information,
    id-MeasurementCharacteristics,
    id-MeasurementID,
    id-MultipleURAsIndicator,
    id-PD,
    id-PagingArea-PagingRqst,
    id-PowerControlMode,
    id-PowerResumeMode,
    id-ProcedureScope-DL-PC-Rqst,
    id-RANAP-RelocationInformation,
    id-RL-Information-PhyChReconfRqstFDD,
    id-RL-Information-PhyChReconfRqstTDD,
    id-RL-Information-RL-AdditionRqstFDD,
    id-RL-Information-RL-AdditionRqstTDD,
    id-RL-Information-RL-DeletionRqst,
    id-RL-Information-RL-FailureInd,
    id-RL-Information-RL-ReconfPrepFDD,
    id-RL-Information-RL-RestoreInd,
    id-RL-Information-RL-SetupReqFDD,
    id-RL-Information-RL-SetupReqTDD,
    id-RL-InformationItem-DM-Rprt,
    id-RL-InformationItem-DM-Rqst,
    id-RL-InformationItem-DM-Rspns,
    id-RL-InformationItem-RL-SetupReqFDD,
    id-RL-InformationList-RL-AdditionRqstFDD,
    id-RL-InformationList-RL-DeletionRqst,
    id-RL-InformationList-RL-FailureInd,
    id-RL-InformationList-RL-ReconfPrepFDD,
    id-RL-InformationList-RL-RestoreInd,
    id-RL-InformationResponse-RL-AdditionRspTDD,
    id-RL-InformationResponse-RL-ReconfReadyTDD,
    id-RL-InformationResponse-RL-SetupRspTDD,
    id-RL-InformationResponseItem-RL-AdditionRspFDD,
    id-RL-InformationResponseItem-RL-ReconfReadyFDD,
    id-RL-InformationResponseItem-RL-SetupRspFDD,
    id-RL-InformationResponseList-RL-AdditionRspFDD,
    id-RL-InformationResponseList-RL-ReconfReadyFDD,
```

```
    id-RL-InformationResponseList-RL-SetupRspFDD,
    id-RL-ReconfigurationFailure-RL-ReconfFail,
    id-RL-ReconfigurationFailureList-RL-ReconfFail,
    id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind,
    id-ReportCharacteristics,
    id-S-RNTI,
    id-SAI,
    id-SN,
    id-SRNC-ID,
    id-ScramblingCodeChange,
    id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
    id-TGD,
    id-TGL,
    id-TGP1,
    id-TGP2,
    id-TransportBearerID,
    id-TransportBearerRequestIndicator,
    id-TransportLayerAddress,
    id-UC-ID,
    id-UL-CCTrCH-Information-RL-ReconfPrepTDD,
    id-UL-CCTrCH-Information-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD,
    id-UL-CCTrChInformationItem-RL-SetupReqTDD,
    id-UL-CCTrChInformationList-RL-SetupReqTDD,
    id-UL-DL-CompressedModeSelection,
    id-UL-DPCH-Information,
    id-UL-DPCH-Information-RL-SetupReqFDD,
    id-UL-DPCH-InformationList-PhyChReconfRqstTDD,
    id-UL-DPCH-InformationList-RL-ReconfReadyTDD,
    id-UL-Delta~~EbNo~~SIR,
    id-UL-Delta~~EbNo~~SIRAfter,
    id-UL-~~EbNo~~SIRTarget,
    id-UL-MeanBitRate,
    id-URA-ID,
    id-UnsuccessfulRL-InformationResponse,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
    id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD
FROM RNSAP-Constants;


***** CR Editors Note: Text have been removed.

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

```
-- **************************************************************

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

RadioLinkSetupRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                    PRESENCE mandatory } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional   } |
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE optional   } |
    { ID id-UL-DPCH-Information-RL-SetupReqFDD  CRITICALITY ignore  TYPE UL-DPCH-Information-RL-SetupReqFDD      PRESENCE mandatory   } |
    { ID id-DL-DPCH-Information-RL-SetupReqFDD  CRITICALITY ignore  TYPE DL-DPCH-Information-RL-SetupReqFDD      PRESENCE mandatory   } |
    { ID id-DCH-Information-RL-SetupReqFDD      CRITICALITY ignore  TYPE DCH-InformationList-RL-SetupReqFDD      PRESENCE mandatory   } |
    { ID id-RL-Information-RL-SetupReqFDD       CRITICALITY ignore  TYPE RL-InformationList-RL-SetupReqFDD    PRESENCE mandatory   },
    ...
}

UL-DPCH-Information-RL-SetupReqFDD ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode,
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPCHs                 MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4 -- ,
    ul-PunctureLimit                PunctureLimit,
    ul-TransportFormatCombinationSet        TransportFormatCombinationSet,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat,
    ul-EbNoSIRTarget                    UL-EbNoSIRTarget            OPTIONAL,
    diversityMode                   DiversityMode,
    d-FieldLength                   D-FieldLength           OPTIONAL
    -- This IE is present only if Feed Back mode diversity is activated -- ,
    sSDT-CellIdLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    ul-meanBitRate                  MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information-RL-SetupReqFDD ::= SEQUENCE {
    transportFormatCombinationSet           TransportFormatCombinationSet,
    dl-DPCH-SlotNumber              DL-DPCH-SlotNumber,
    tFCI-SignallingMode             TFCI-SignallingMode,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE is present if Slot Format is from 12 to 16 --,
    multiplexingPosition                MultiplexingPosition,
    powerOffsetInformation              SEQUENCE {
        po1-ForTFCI-Bits                PowerOffset,
        po2-ForTPC-Bits                 PowerOffset,
        po3-ForPilotBits                PowerOffset,
```

```
        ...
    },
    dl-TPC-StepSize                 TPC-StepSize,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationList-RL-SetupReqFDD          ::= DCH-IE-ContainerList { {DCH-InformationItemIEs-RL-SetupReqFDD} }

DCH-InformationItemIEs-RL-SetupReqFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationItem-RL-SetupReqFDD  CRITICALITY ignore  TYPE DCH-InformationItem-RL-SetupReqFDD   PRESENCE mandatory   },
    ...
}

DCH-InformationItem-RL-SetupReqFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    rLC-Mode                    RLC-Mode,
    ul-transportFormatSet               TransportFormatSet,
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationItem-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationItem-RL-SetupReqFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-SetupReqFDD           ::= RL-IE-ContainerList { {RL-InformationItemIEs-RL-SetupReqFDD} }

RL-InformationItemIEs-RL-SetupReqFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-SetupReqFDD   CRITICALITY ignore  TYPE RL-InformationItem-RL-SetupReqFDD      PRESENCE mandatory   },
    ...
}

RL-InformationItem-RL-SetupReqFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    uC-ID                       C-ID,
    frameOffset                 FrameOffset,
    chipOffset                  ChipOffset,
```

```
    propagationDelay                PropagationDelay        OPTIONAL,
    diversityControlField               DiversityControlField       OPTIONAL
    -- This IE is present only if the RL is not the first one in the RL-InformationList-RL-SetupReqFDD --,
    dl-InitialTX-Power              DL-Power            OPTIONAL
    -- Initial DL transmission power -- ,
    cPICH-EcIo                  CPICH-EcIo          OPTIONAL,
    sSDT-CellID                 SSDT-CellID         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-RL-SetupReqFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

*****  CR Editors Note: Text have been removed.

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

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

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

RL-InformationResponseList-RL-SetupRspFDD       ::= RL-IE-ContainerList { {RL-InformationResponseItemIEs-RL-SetupRspFDD} }

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

```
RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel            ScaledUL-InterferenceLevel,
    dl-CodeInformation          DL-CodeInformationList-RL-SetupRspFDD,
    sSDT-SupportIndicator           SSDT-SupportIndicator,
    maxUL-~~EbNo~~SIR                   UL-~~EbNo~~SIR,
    minUL-~~EbNo~~SIR                   UL-~~EbNo~~SIR,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-SetupRspFDD

DL-CodeInformationItem-RL-SetupRspFDD ::= SEQUENCE {
    dl-ScramblingCode           DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupRspFDD      DCH-InformationResponseList-RL-SetupRspFDD   OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupRspFDD

DCH-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
DCH-InformationResponseItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupRsp

NeighbouringFDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupRsp

NeighbouringTDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    c-ID                        C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot            OPTIONAL
    -- This IE is present only if SyncCase is Case1 -- ,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    ul-EbNoSIR                      UL-EbNoSIR              OPTIONAL,
    dl-EbNoSIR                      DL-EbNoSIR              OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkSetupResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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

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

RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional  } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  TYPE RL-InformationResponse-RL-SetupRspTDD  PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    maxUL-EbNoSIR                   UL-EbNoSIR,
    minUL-EbNoSIR                   UL-EbNoSIR,
    ul-EbNoSIRTarget                    UL-EbNoSIR                      OPTIONAL,
    dl-EbNoSIRTarget                    DL-EbNoSIR                      OPTIONAL,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-SetupRspTDD,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-SetupRspTDD,
    dCH-InformationResponse             DCH-InformationResponseList-RL-SetupRspTDD,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-SetupRspTDD

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

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

```
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-InformationItem-RL-SetupRspTDD

-- **NOTE: UL-DPCH-InformationItem-RL-SetupRspTDD and DL-DPCH-InformationItem-RL-SetupRspTDD
--         are currently similar. Combine them? **
UL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-SetupRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
DL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-InformationItem-RL-SetupRspTDD

DL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
```

```
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationResponseList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupRspTDD

DCH-InformationResponseItem-RL-SetupRspTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

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


*****  CR Editors Note: Text have been removed.

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

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

RadioLinkSetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE mandatory  } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier       PRESENCE mandatory   } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier       PRESENCE mandatory   } |
    { ID id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD
                            CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD
                                                PRESENCE mandatory  } |
    { ID id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponseList-RL-SetupFailureFDD
                                                PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
```

```
}

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs} }

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

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel            ScaledUL-InterferenceLevel,
    dl-CodeInformation          DL-CodeInformationList-RL-SetupFailureFDD,
    sSDT-SupportIndicator           SSDT-SupportIndicator,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupFailureFDD OPTIONAL,
    ul-EbNoSIRTarget                UL-EbNoSIR,
    maxUL-EbNoSIR               UL-EbNoSIR,
    minUL-EbNoSIR               UL-EbNoSIR,
    dl-EbNoSIRTarget                DL-EbNoSIR,
    iE-Extensions               ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}
-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-SetupFailureFDD

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

```
DL-CodeInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupFailureFDD      DCH-InformationResponseList-RL-SetupFailureFDD OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-SetupFailureFDD

DCH-InformationResponseItem-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

NeighbouringTDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

***** CR Editors Note: Text have been removed.

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST FDD
--
-- **************************************************************

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

RadioLinkAdditionRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-~~EbNo~~SIRTarget                CRITICALITY ignore  TYPE UL-~~EbNo~~SIR                 PRESENCE mandatory } |
    { ID id-RL-InformationList-RL-AdditionRqstFDD   CRITICALITY ignore  TYPE RL-InformationList-RL-AdditionRqstFDD  PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-AdditionRqstFDD           ::= RL-IE-ContainerList { {RL-Information-RL-AdditionRqstFDD-IEs} }

RL-Information-RL-AdditionRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstFDD   CRITICALITY ignore  TYPE RL-Information-RL-AdditionRqstFDD    PRESENCE mandatory   },
    ...
```

```
}

RL-Information-RL-AdditionRqstFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    chipOffset                  ChipOffset,
    diversityControlField               DiversityControlField,
    primaryCPICH-EcNo               PrimaryCPICH-EcNo       OPTIONAL,
    sSDT-CellID                 SSDT-CellID         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

*****  CR Editors Note: Text have been removed.


-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- **************************************************************

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

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional  } |
    { ID id-RL-InformationResponseList-RL-AdditionRspFDD
                            CRITICALITY ignore  TYPE RL-InformationResponseList-RL-AdditionRspFDD
                                                     PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-AdditionRspFDD        ::= RL-IE-ContainerList { {RL-InformationResponseItemIEs-RL-AdditionRspFDD} }

RL-InformationResponseItemIEs-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-AdditionRspFDD
                            CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-AdditionRspFDD    PRESENCE mandatory   },
    ...
}
```

```
RL-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNoSIR                   UL-EbNoSIR,
    minUL-EbNoSIR                   UL-EbNoSIR,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-AdditionRspFDD

DL-CodeInformationItem-RL-AdditionRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-AdditionRspFDD  OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-AdditionRspFDD

DCH-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRsp

NeighbouringFDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRsp

NeighbouringTDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

***** CR Editors Note: Text have been removed.

```
-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- **************************************************************

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

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  } |
    { ID id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-
IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                                                     PRESENCE mandatory  },
    ...
}
```

```
SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionFailureFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNoSIR                   UL-EbNoSIR,
    minUL-EbNoSIR                   UL-EbNoSIR,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-CodeInformationItem-RL-AdditionFailureFDD

DL-CodeInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    dl-ChannelisationCode               DL-ChannelisationCode,
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionFailureFDD       DCH-InformationResponseList-RL-AdditionFailureFDD   OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem-RL-AdditionFailureFDD

DCH-InformationResponseItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    cPICH-Power                 CPICH-Power         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    uC-ID                       C-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

***** CR Editors Note: Text have been removed.

```
-- **************************************************************
--
```

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

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

RadioLinkReconfigurationPrepareFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE mandatory  } |
    { ID id-UL-DPCH-Information         CRITICALITY ignore  TYPE UL-DPCH-Information            PRESENCE optional   } |
    { ID id-DL-DPCH-Information         CRITICALITY ignore  TYPE DL-DPCH-Information            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-RL-InformationList-RL-ReconfPrepFDD CRITICALITY ignore  TYPE RL-InformationList-RL-ReconfPrepFDD  PRESENCE mandatory   },
    ...
}

UL-DPCH-Information ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode       OPTIONAL,
    ul-SIRTarget                    UL-SIR      OPTIONAL,
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength  OPTIONAL,
    maxNrOfUL-DPDCHs                MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4 --,
    ul-PunctureLimit                PunctureLimit           OPTIONAL,
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat     OPTIONAL,
    sSDT-CellIDLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information ::= SEQUENCE {
    tFCS                        TransportFormatCombinationSet   OPTIONAL,
    dl-DPCCH-SlotFormat             DL-DPCCH-SlotFormat     OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode     OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE is present if Slot Format is from 12 to 16 --,
    multiplexingPosition                MultiplexingPosition        OPTIONAL,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-ExtIEs} } OPTIONAL,
    ...
}
```

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

DCH-ModifyList-RL-ReconfPrepFDD             ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfPrepFDD-IEs} }

DCH-Modify-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfPrepFDD     CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfPrepFDD     PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-TransportformatSet               TransportFormatSet      OPTIONAL,
    dl-TransportformatSet               TransportFormatSet      OPTIONAL,
    allocationRetentionPriority         AllocationRetentionPriority     OPTIONAL,
    frameHandlingPriority               FrameHandlingPriority       OPTIONAL,
    ul-FP-Mode                  UL-FP-Mode          OPTIONAL,
    toAWS                       ToAWS               OPTIONAL,
    toAWE                       ToAWE               OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-AddList-RL-ReconfPrepFDD                ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfPrepFDD-IEs} }

DCH-Add-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfPrepFDD        CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfPrepFDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    rLC-Mode                    RLC-Mode,
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    ul-TransportformatSet               TransportFormatSet,
    dl-TransportformatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}
```

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

DCH-DeleteList-RL-ReconfPrepFDD             ::= DCH-IE-ContainerList { {DCH-Delete-RL-ReconfPrepFDD-IEs} }

DCH-Delete-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-DeleteItem-RL-ReconfPrepFDD     CRITICALITY ignore  TYPE DCH-DeleteItem-RL-ReconfPrepFDD     PRESENCE mandatory   },
    ...
}

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

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

RL-InformationList-RL-ReconfPrepFDD         ::= RL-IE-ContainerList { {RL-Information-RL-ReconfPrepFDD-IEs} }

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

RL-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sSDT-Indication                 SSDT-Indication     OPTIONAL,
    sSDT-CellIdentity               SSDT-CellID     OPTIONAL
    -- The IE may be present if the sSDT-Indication is set to 'sSDT-active-in-the-UE' --,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

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

RadioLinkReconfigurationPrepareFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

***** CR Editors Note: Text have been removed.

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

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

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

RL-InformationResponseList-RL-ReconfReadyFDD        ::= RL-IE-ContainerList { {RL-InformationResponse-RL-ReconfReadyFDD-IEs} }

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

RL-InformationResponseItem-RL-ReconfReadyFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    max-UL-EbNoSIR                  UL-EbNoSIR,
    min-UL-EbNoSIR                  UL-EbNoSIR,
    dCHsToBeAdded                   DCH-AddList-RL-ReconfReadyFDD           OPTIONAL,
    dCHsToBeModified                DCH-ModifyList-RL-ReconfReadyFDD        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-AddList-RL-ReconfReadyFDD               ::= DCH-IE-ContainerList { {DCH-Add-RL-ReconfReadyFDD-IEs} }

DCH-Add-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-AddItem-RL-ReconfReadyFDD       CRITICALITY ignore  TYPE DCH-AddItem-RL-ReconfReadyFDD     PRESENCE mandatory   },
    ...
}

DCH-AddItem-RL-ReconfReadyFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-AddItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
DCH-AddItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-ModifyList-RL-ReconfReadyFDD           ::= DCH-IE-ContainerList { {DCH-Modify-RL-ReconfReadyFDD-IEs} }

DCH-Modify-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-ModifyItem-RL-ReconfReadyFDD    CRITICALITY ignore  TYPE DCH-ModifyItem-RL-ReconfReadyFDD    PRESENCE mandatory   },
    ...
}

DCH-ModifyItem-RL-ReconfReadyFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-ModifyItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-ModifyItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

*****  CR Editors Note: Text have been removed.

-- **************************************************************
--
-- COMPRESSED MODE PREPARE
--
-- **************************************************************

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

CompressedModePrepare-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-TGP1                    CRITICALITY ignore  TYPE GapPeriod                 PRESENCE mandatory } |
    { ID id-TGP2                    CRITICALITY ignore  TYPE GapPeriod                 PRESENCE optional  } |
    { ID id-TGL                 CRITICALITY ignore  TYPE TGL                    PRESENCE mandatory   } |
    { ID id-TGD                 CRITICALITY ignore  TYPE TGD                    PRESENCE mandatory   } |
    { ID id-PD                  CRITICALITY ignore  TYPE PD                     PRESENCE mandatory   } |
    { ID id-UL-DL-CompressedModeSelection       CRITICALITY ignore  TYPE UL-DL-CompressedModeSelection     PRESENCE mandatory   } |
    { ID id-CompressedModeMethod            CRITICALITY ignore  TYPE CompressedModeMethod         PRESENCE mandatory   } |
    { ID id-GapPositionMode             CRITICALITY ignore  TYPE GapPositionMode                PRESENCE mandatory } |
    { ID id-SN                  CRITICALITY ignore  TYPE SN                     PRESENCE conditional
    -- This IE is present only if "GapPositionMode" equals to "flexible" --                                  } |
    { ID id-DL-FrameType                CRITICALITY ignore  TYPE DL-FrameType               PRESENCE mandatory   } |
```

```
    { ID id-ScramblingCodeChange            CRITICALITY ignore  TYPE ScramblingCodeChange         PRESENCE conditional
    -- This IE is present only if "CompressedModeMethod" equals to "SF/2" --                                  } |
    { ID id-PowerControlMode            CRITICALITY ignore  TYPE PowerControlMode              PRESENCE mandatory } |
    { ID id-PowerResumeMode             CRITICALITY ignore  TYPE PowerResumeMode               PRESENCE mandatory } |
    { ID id-UL-Delta~~EbNo~~SIR             CRITICALITY ignore  TYPE UL-~~EbNo~~SIR                PRESENCE mandatory   } |
    { ID id-UL-Delta~~EbNo~~SIRAfter            CRITICALITY ignore  TYPE UL-~~EbNo~~SIR                PRESENCE mandatory },
    ...
}

CompressedModePrepare-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

9.3.4 Information Element Definitions

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

RNSAP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxRateMatching,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxTTI-Count
FROM RNSAP-Constants

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

    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;

-- A

AllocationRetentionPriority     ::= FrameHandlingPriority

AllowedQueuingTime          ::= INTEGER (0..60)
-- seconds

-- B

-- ** NOTE: Size in tabular 1..4,... **
BindingID               ::= OCTET STRING (SIZE (1..MAX))

BLER                    ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

BurstType ::= ENUMERATED {
    type1 (1),
    type2 (2)
}
```

```
-- C

Cause ::= CHOICE {
    radioNetwork            CauseRadioNetwork,
    transmissionNetwork     CauseTransmissionNetwork,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transaction-not-allowed,
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    unspecified,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    macrodiversity-combining-not-possible,
    reconfiguration-not-allowed,
    Synchronisation-failure,
    unspecified,
    ...
}

CauseTransmissionNetwork ::= ENUMERATED {
    transmission-link-failure,
    transmission-port-not-available,
    unspecified,
    ...
}

C-ID                    ::= INTEGER (0..65535)
```

```
CCTrCH-ID               ::= INTEGER (0..15)

CellParameterID             ::= INTEGER (0..127)

CFN                 ::= INTEGER (0..255)

ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding--,
--  ...
}

-- ** TODO **
ChipOffset              ::= INTEGER

CodingRate ::= ENUMERATED {
    half,
    third--,
--  ...
}

CompressedModeMethod ::= ENUMERATED {
    none,
    puncturing,
    sF2,
    gating
}

CPICH-EcIo              ::= INTEGER

CRC-Size                ::= INTEGER (0| 8| 12| 16| 24)

CriticalityDiagnostics ::= SEQUENCE {
    procedureCode           ProcedureCode           OPTIONAL,
    triggeringMessage       TriggeringMessage       OPTIONAL,
    criticalityResponse     Criticality         OPTIONAL,
    transactionID           TransactionID           OPTIONAL,
    iEsCriticalityResponses     CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        criticalityResponse     Criticality,
        iE-ID               ProtocolIE-ID,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
```

```
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
CTFC                    ::= INTEGER
-- See formula (must be resolved)

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    iE-Extensions           ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL,
    lAC             LAC
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    iE-Extensions           ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL,
    rAC             RAC
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **TODO**
CPICH-Power             ::= INTEGER

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

-- D

DCH-CombinationInd          ::= INTEGER (0..255)

DCH-ID                  ::= INTEGER (0..255)

DedicatedMeasurementObjectType ::= ENUMERATED {
    rl,
    all-rl,
    ...
}
-- ** OR:
-- DedicatedMeasurementObjectType   ::= INTEGER {
--  rL(0),
--  allRL(1)
-- } (0..255)
-- **
```

```
DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    ...
}
-- timeslotTSCP is used by TDD only

-- ** OR:
-- DedicatedMeasurementType     ::= INTEGER {
--  sIR(0),
--  sIR-Error(1),
--  transmittedCodePower(2),
--  rSCP(3)
-- } (0..255)
-- **

-- ** NOTE: Extensibility added **
-- **TODO**

DedicatedMeasurementValue ::= SEQUENCE {
    sIR-Value           ScaledSIR-Value         OPTIONAL,
    sIR-ErrorValue          ScaledSIR-ErrorValue        OPTIONAL,
    transmittedCodePowerValue   ScaledTransmittedCodePowerValue OPTIONAL,   -- Relative to CPICH
    rSCP                TBD             OPTIONAL,   -- TDD only
    iE-Extensions           ProtocolExtensionContainer { {DedicatedMeasurementValue-ExtIEs} } OPTIONAL,
    ...
}

DedicatedMeasurementValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
DiversityControlField           ::= INTEGER

-- ** TODO **
DiversityMode               ::= INTEGER

-- ** TODO **
DL-ChannelisationCode           ::= INTEGER

-- ** TODO **
DL-DPCCH-SlotFormat         ::= INTEGER

-- ** TODO **
DL-DPCH-SlotNumber          ::= INTEGER

DL-EbNoSIR                  ::= ScaledUL-EbNoSIR

DL-EbNoSIRTarget                ::= ScaledUL-EbNoSIR
```

```
-- ** TODO **
DL-Power                ::= INTEGER

D-RNTI                  ::= INTEGER (0..1048576)
-- ** OR:
-- D-RNTI               ::= BIT STRING (SIZE (20))
-- **

D-RNTI-ReleaseIndication ::= ENUMERATED {
    not-release-D-RNTI,
    release-D-RNTI
}

-- ** TODO **
DL-ScramblingCode           ::= INTEGER

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DPCH-ID                 ::= INTEGER (0..239)

-- **TODO**
DRX-Parameter               ::= TBD

-- **TODO**
DSCH-TransportFormatCombinationSet  ::= INTEGER

-- **TODO**
DSCH-TFS                ::= INTEGER

-- **TODO**
D-FieldLength               ::= INTEGER

-- E

EventA ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}

EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventB ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
```

```
    iE-Extensions           ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}

EventC ::= SEQUENCE {
    measurementIncreaseThreshold    MeasurementIncreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    ...
}

EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventD ::= SEQUENCE {
    measurementDecreaseThreshold    MeasurementDecreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

EventD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventE ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

EventE-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventF ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

EventF-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- F
```

```
FACH-DataFrameSize          ::= INTEGER (1..5000)
-- Size of data frame in number of bits

FACH-InitialWindowSize          ::= INTEGER { unlimited(255) } (0..255)
-- Number of FACH data frames.
-- 255 = Unlimited number of FACH data frames

-- ** TODO **
FACH-InfoForOptionalS-CCPCH     ::= INTEGER

-- ** TODO **
FACH-InfoForS-CCPCH-CoupledToPRACH  ::= INTEGER

-- ** TODO **
FDD-DL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-FL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-S-CCPCH-Offset          ::= INTEGER

FACH-PriorityIndicator          ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameHandlingPriority           ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameOffset             ::= INTEGER (0..255)
-- Frames

-- G

GapPositionMode ::= ENUMERATED {
    fixed,
    flexible
}

GapPeriod               ::= INTEGER (0..255)

-- H
-- I

-- **TODO**
InitialDL-TX-Power          ::= INTEGER

-- J
-- K
-- L

LAC                 ::= OCTET STRING (SIZE (2)) --(EXCEPT ('0000'H|'FFFF'H))

-- ** TODO **
L3-Information              ::= INTEGER
```

```
-- M

-- ** TODO **
MaxNrOfUL-DPCHs             ::= INTEGER

MAC-c-SDU-Length            ::= INTEGER (1..5000)

-- **TODO**
MACd-MACsh-TransportFormatSet       ::= INTEGER

-- **NOTE: extensibility**
MeasurementCharacteristics ::= SEQUENCE {
    measuremtFrequence      TBD,
    averagingDuration       TBD,
    iE-Extensions           ProtocolExtensionContainer { {MeasurementCharacteristics-ExtIEs} } OPTIONAL,
    ...
}

MeasurementCharacteristics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
MeanBitRate             ::= INTEGER

MeasurementID               ::= INTEGER (0..1048576)
-- **OR:
-- MeasurementID            ::= BIT STRING (SIZE (20))
-- **

MultipleURAsIndicator ::= ENUMERATED {
    single-URA-exists,
    multiple-URAs-exist
}

-- ** TODO **
MCC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

-- ** TODO **
MNC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

ScaledMeasurementChangeTime     ::= INTEGER (1..1000)
-- MeasurementChangeTime = ScaledMeasurementChangeTime * 10
-- Unis is ms

-- ** TODO **
MeasurementDecreaseThreshold        ::= INTEGER

ScaledMeasurementHysteresisTime     ::= INTEGER (1..1000)
```

```
-- MeasurementHysteresisTime = ScaledMeasurementHysteresisTime * 10
-- Unit is ms

-- ** TODO **
MeasurementIncreaseThreshold        ::= INTEGER

-- ** TODO **
MeasurementThreshold            ::= INTEGER

MidambleShift               ::= INTEGER (0..15)

MinUL-ChannelisationCodeLength      ::= INTEGER

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

-- N

NrOfTransportBlocks         ::= INTEGER (0..4095)

-- O

Offset                  ::= INTEGER (0..63)

-- P

PD                  ::= INTEGER (0..2047, ...)

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
}

PSCH-TimeSlot               ::= INTEGER (0..6)

Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
PilotBitsUsedIndicator          ::= INTEGER

-- ** TODO **
PLMN-ID ::= SEQUENCE {
```

```
    mCC-digit           MCC-Digit,
    iE-Extensions           ProtocolExtensionContainer { {PLMN-ID-ExtIEs} } OPTIONAL,
    mNC-digit           MNC-Digit
}
-- FFS

PLMN-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerControlMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

PowerOffset             ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

-- ** TODO **
PrimaryCPICH-Power          ::= INTEGER

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

-- ** TODO **
PrimaryCCPCH-RSCP           ::= INTEGER

PrimaryScramblingCode           ::= ScramblingCode

PropagationDelay            ::= INTEGER (0..255)

SyncCase ::= ENUMERATED {
    case1,
    case2,
    case3--,
--  ...
}

-- ** TODO **
PSCH-CCPCH-TimeSlot         ::= TimeSlot

-- ** TODO **
PSCH-PCCPCH-TimeSlot            ::= TimeSlot

-- ** TODO **
P-CPICH-Power               ::= INTEGER

PunctureLimit               ::= INTEGER (0..100)
```

```
-- Unit is %

-- Q
-- R

-- ** TODO **
RAC                 ::= INTEGER

-- ** TODO **
-- OCTET STRING?
RANAP-RelocationInformation     ::= BIT STRING

RateMatchingAttribute           ::= INTEGER (1..maxRateMatching)

RepetitionLength            ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
    v64--,
--  ...
}

-- This is changed from the tabular format because it seems that
-- this is what is wanted.
ReportCharacteristics ::= CHOICE {
    onDemand            NULL,
    periodic            Periodic,
    eventA              EventA,
    eventB              EventB,
    eventC              EventC,
    eventD              EventD,
    eventE              EventE,
    eventF              EventF--,
--  ...
}

-- Changed
ReportPeriodicity ::= CHOICE {
    msec                INTEGER (1..1000),
    min             INTEGER (1..60)
}

RLC-Mode ::= ENUMERATED {
    acknowledged-mode,
    unacknowledged-mode,
    transparent-mode
}
```

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

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

-- S

-- Changed BIT STRING -> OCTET STRING
SAC                 ::= OCTET STRING (SIZE (2))

SAI ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    sAC             SAC,
    iE-Extensions           ProtocolExtensionContainer { {SAI-ExtIEs} } OPTIONAL
}

SAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
ScramblingCode              ::= INTEGER

ScramblingCodeChange ::= ENUMERATED {
    no-code-change,
    code-change
}

ScaledSIR-ErrorValue            ::= INTEGER (-100..100)
-- ScaledSIR-ErrorValue = SIR-ErrorValue * 10
-- If SIR-ErrorValue <= -10 ScaledSIR-ErrorValue shall be set to -100
-- If SIR-ErrorValue >=  10 ScaledSIR-ErrorValue shall be set to  100
-- SIR-ErrorValue step 0.1 dB

ScaledSIR-Value             ::= INTEGER (-100..200)
-- ScaledSIR-Value = SIR-Value * 10
-- SIR-Value step 0.1 dB

ScaledTransmittedCodePowerValue     ::= INTEGER (-350..150)
-- ScaledTransmittedCodePowerValue = TransmittedCodePowerValue * 10
-- TransmittedCodePowerValue step 0.1 dB

-- ** TODO **
SharedChannelType           ::= INTEGER

-- ** TODO **
SecondaryCCPCH-SlotFormat       ::= INTEGER

SN                  ::= TimeSlot

SpreadingFactorOfChannelisationCode ::= ENUMERATED {
    v256,
    v128,
```

```
    v64,
    v32,
    v16,
    v8,
    v4,
    v2,
    v1
}

-- Changed
S-FieldLength               ::= INTEGER (1..2)

S-RNTI                  ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

-- ** TODO **
SRNC-ID                 ::= INTEGER

SSDT-CellID ::= ENUMERATED {
    a,
    b,
    c,
    d,
    e,
    f,
    g,
    h
}

SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

SSDT-Indication ::= ENUMERATED {
    sSDT-active-in-the-UE,
    sSDT-not-active-in-the-UE
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-not-supported,
    sSDT-supported
}

-- T

-- ** TODO **
TBD                 ::= NULL
-- Remove this type

TDD-ChannelisationCode          ::= INTEGER (1..31)
```

```
TDD-PhysicalChannelOffset       ::= INTEGER (0..63)

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32
}

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

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

-- ** TODO **
TimeReference               ::= INTEGER
-- TimeReference                ::= INTEGER (0..255)

TimeSlot                ::= INTEGER (0..14)

ToAWE                   ::= INTEGER (0..2559)

ToAWS                   ::= INTEGER (0..1279)

TPC-StepSize ::= ENUMERATED {
    half,
    one
}

TGD                 ::= INTEGER (0..255)

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

TransmissionTimeInterval ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80--,
--  ...
}

TransportBearerID       ::= INTEGER (0..4095)

-- Compare title and IE name in table TransportBearerRequestIndicator vs.
-- FACH-PriorityIndicator
TransportBearerRequestIndicator     ::= INTEGER { lowest (0), highest (15) } (0..15)

TransportBlockSize          ::= INTEGER (1..5000)
```

```
-- Unit is bits

TransportFormatCombinationSet ::= SEQUENCE (SIZE (1..maxNrOfTFCs)) OF
    SEQUENCE {
        cTFC                CTFC,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatCombinationSet-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatCombinationSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet ::= SEQUENCE {
    dynamicParts            TransportFormatSet-DynamicPartList,
    semi-staticPart         TransportFormatSet-Semi-staticPart,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
    SEQUENCE {
        nrOfTransportBlocks     NrOfTransportBlocks,
        transportBlockSize      TransportBlockSize      OPTIONAL
        -- This IE is only present if nrOfTransportBlocks is greater than 0 --,
        mode                TransportFormatSet-ModeDP,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-DynamicPartList-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatSet-DynamicPartList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeDP ::= CHOICE {
    tdd                 TransmissionTimeIntervalList,
    -- This IE is mandatory if not defined as semistatic parameter, otherwise it is absent --
    ...
}

TransmissionTimeIntervalList ::= SEQUENCE (SIZE (1..maxTTI-Count)) OF
    SEQUENCE {
        transmissionTimeInterval    TransmissionTimeInterval,
        iE-Extensions           ProtocolExtensionContainer { {TransmissionTimeIntervalList-ExtIEs} } OPTIONAL,
        ...
    }

TransmissionTimeIntervalList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
    transmissionTime        TransmissionTimeInterval,
    channelCoding           ChannelCodingType,
    codingRate          CodingRate              OPTIONAL
    -- This IE is only present if channelCoding is 'convolutional' or 'turbo' --,
    rateMatcingAttribute        RateMatchingAttribute,
    cRC-Size            CRC-Size,
    mode                TransportFormatSet-ModeSSP      OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-Semi-staticPart-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-Semi-staticPart-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeSSP ::= CHOICE {
    tdd             SecondInterleavingMode,
    ...
}

SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeslot-related,
    ...
}

-- TransportLayerAddress            ::= BIT STRING (1..160, ...)
TransportLayerAddress           ::= OCTET STRING (SIZE (1..20, ...))

-- U

UARFCN                  ::= INTEGER (0..698, ...)

UL-DL-CompressedModeSelection ::= ENUMERATED {
    ul-only,
    dl-only,
    both
}

UL-Delta~~EbNo~~SIR             ::= INTEGER (-60..100)

UL-Delta~~EbNo~~SIRAfter            ::= INTEGER (-60..100)

-- ** TODO **
-- According to mapping in 25.427
UL-~~EbNo~~SIR                  ::= INTEGER (0..255)

-- ** TODO **
-- According to mapping in 25.427
UL-~~EbNo~~SIRTarget                ::= INTEGER (0..255)
```

```
UC-ID ::= SEQUENCE {
    rNC-ID              RNC-ID,
    c-ID                C-ID,
    iE-Extensions           ProtocolExtensionContainer { {UC-ID-ExtIEs} } OPTIONAL,
    ...
}

UC-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCCH-SlotFormat         ::= INTEGER (0..5)

ScaledUL-EbNo               ::= INTEGER (0..255)
-- Ul-EbNo = ScaledUL-EbNo / 10

UL-FP-Mode ::= ENUMERATED {
    normal,
    silent--,
--  ...
}

ScaledUL-InterferenceLevel      ::= INTEGER (-1280..-600)
-- UL-InterferenceLevel = UL-InterferenceLevel / 10

-- Relation to the ScramblingCode??
UL-ScramblingCode ::= SEQUENCE {
    ul-ScramblingCodeNumber     UL-ScramblingCodeNumber,
    ul-ScramblingCodeLength     UL-ScramblingCodeLength,
    iE-Extensions           ProtocolExtensionContainer { {UL-ScramblingCode-ExtIEs} } OPTIONAL
}

UL-ScramblingCode-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-ScramblingCodeLength ::= ENUMERATED {
    short,
    long
}

UL-ScramblingCodeNumber         ::= INTEGER (0..16777215)

URA-ID                  ::= INTEGER (0..65535)

-- V
-- W
-- X
-- Y
-- Z

END
```

9.3.6 Constant Definitions

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

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

BEGIN

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

id-commonTransportChannelResourcesInitiationFDD             INTEGER ::= 0
id-commonTransportChannelResourcesInitiationTDD             INTEGER ::= 1
id-commonTransportChannelResourcesRelease               INTEGER ::= 2
id-compressedModeCancellationFDD                    INTEGER ::= 3
id-compressedModeCommitFDD                      INTEGER ::= 4
id-compressedModePrepareFDD                     INTEGER ::= 5
id-downlinkPowerControl                         INTEGER ::= 6
id-downlinkSignallingTransfer                       INTEGER ::= 7
id-errorIndication                          INTEGER ::= 8
id-measurementFailure                           INTEGER ::= 9
id-measurementInitiation                        INTEGER ::= 10
id-measurementReporting                         INTEGER ::= 11
id-measurementTermination                       INTEGER ::= 12
id-pagingRequest                            INTEGER ::= 13
id-physicalChannelReconfiguration                   INTEGER ::= 14
id-privateMessage                           INTEGER ::= 15
id-radioLinkAddition                            INTEGER ::= 16
id-radioLinkDeletion                            INTEGER ::= 17
id-radioLinkFailure                         INTEGER ::= 18
id-radioLinkRestoration                         INTEGER ::= 19
id-radioLinkSetup                           INTEGER ::= 20
id-srnsRelocationCommit                         INTEGER ::= 21
id-synchronisedRadioLinkReconfigurationCancellation         INTEGER ::= 22
id-synchronisedRadioLinkReconfigurationCommit               INTEGER ::= 23
id-synchronisedRadioLinkReconfigurationPrepare              INTEGER ::= 24
id-unSynchronisedRadioLinkReconfiguration               INTEGER ::= 25
id-uplinkSignallingTransfer                     INTEGER ::= 26

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

```
-- **************************************************************

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

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

maxRateMatching                                 INTEGER ::= 10
maxNrOfTFCs                                   INTEGER ::= 10
maxNrOfTFs                                    INTEGER ::= 10

maxNoOfDL-Codes                                 INTEGER ::= 10
maxNrOfCCTrCHs                                  INTEGER ::= 10
maxNrOfDCHs                                   INTEGER ::= 10
maxNrOfDL-Codes                                 INTEGER ::= 10
maxNrOfDPCHs                                    INTEGER ::= 10
maxNrOfErrors                                   INTEGER ::= 10
maxNrOfFACH-FD-Size                             INTEGER ::= 10
maxNrOfFDD-Neighbours                               INTEGER ::= 10
maxNrOfMACcSDU-Length                               INTEGER ::= 10
maxNrOfTDD-Neighbours                               INTEGER ::= 10
maxNrOfRLs                                    INTEGER ::= 10
maxNrOfSCCPCHs                                  INTEGER ::= 10
maxRNCinURA                                   INTEGER ::= 10
maxTTI-Count                                    INTEGER ::= 10

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

id-AllowedQueuingTime                               INTEGER ::= 0
id-BindingID                                    INTEGER ::= 1
id-C-ID                                       INTEGER ::= 2
id-C-RNTI                                     INTEGER ::= 3
id-CCTrCH-ID                                        INTEGER ::= 4
id-CFN                                        INTEGER ::= 5
id-CN-CS-DomainIdentifier                           INTEGER ::= 6
id-CN-PS-DomainIdentifier                           INTEGER ::= 7
id-Cause                                      INTEGER ::= 8
id-CompressedModeMethod                             INTEGER ::= 9
id-D-RNTI                                     INTEGER ::= 10
id-D-RNTI-ReleaseIndication                         INTEGER ::= 11
id-DCH-AddItem                                  INTEGER ::= 12
id-DCH-AddItem-RL-ReconfPrepFDD                         INTEGER ::= 13
id-DCH-AddItem-RL-ReconfPrepTDD                         INTEGER ::= 14
id-DCH-AddItem-RL-ReconfReadyFDD                        INTEGER ::= 15
```

```
id-DCH-AddItem-RL-ReconfRqstFDD                    INTEGER ::= 16
id-DCH-AddItem-RL-ReconfRqstTDD                    INTEGER ::= 17
id-DCH-AddList-RL-ReconfPrepFDD                    INTEGER ::= 18
id-DCH-AddList-RL-ReconfPrepTDD                    INTEGER ::= 19
id-DCH-AddList-RL-ReconfRqstFDD                    INTEGER ::= 20
id-DCH-AddList-RL-ReconfRqstTDD                    INTEGER ::= 21
id-DCH-DeleteItem-RL-ReconfPrepFDD                 INTEGER ::= 22
id-DCH-DeleteItem-RL-ReconfPrepTDD                 INTEGER ::= 23
id-DCH-DeleteItem-RL-ReconfRqstFDD                 INTEGER ::= 24
id-DCH-DeleteItem-RL-ReconfRqstTDD                 INTEGER ::= 25
id-DCH-DeleteList-RL-ReconfPrepFDD                 INTEGER ::= 26
id-DCH-DeleteList-RL-ReconfPrepTDD                 INTEGER ::= 27
id-DCH-DeleteList-RL-ReconfRqstFDD                 INTEGER ::= 28
id-DCH-DeleteList-RL-ReconfRqstTDD                 INTEGER ::= 29
id-DCH-Information-RL-SetupReqFDD                  INTEGER ::= 30
id-DCH-InformationItem-RL-SetupReqFDD                  INTEGER ::= 31
id-DCH-InformationItem-RL-SetupReqTDD                  INTEGER ::= 32
id-DCH-InformationList-RL-SetupReqTDD                  INTEGER ::= 33
id-DCH-ModifyItem                          INTEGER ::= 34
id-DCH-ModifyItem-RL-ReconfPrepFDD                 INTEGER ::= 35
id-DCH-ModifyItem-RL-ReconfPrepTDD                 INTEGER ::= 36
id-DCH-ModifyItem-RL-ReconfReadyFDD                INTEGER ::= 37
id-DCH-ModifyItem-RL-ReconfRqstFDD                 INTEGER ::= 38
id-DCH-ModifyItem-RL-ReconfRqstTDD                 INTEGER ::= 39
id-DCH-ModifyList-RL-ReconfPrepFDD                 INTEGER ::= 40
id-DCH-ModifyList-RL-ReconfPrepTDD                 INTEGER ::= 41
id-DCH-ModifyList-RL-ReconfRqstFDD                 INTEGER ::= 42
id-DCH-ModifyList-RL-ReconfRqstTDD                 INTEGER ::= 43
id-DL-CCTrCH-Information-RL-ReconfPrepTDD               INTEGER ::= 44
id-DL-CCTrCH-Information-RL-ReconfRqstTDD               INTEGER ::= 45
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD               INTEGER ::= 46
id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD               INTEGER ::= 47
id-DL-CCTrChInformationItem-RL-SetupReqTDD              INTEGER ::= 48
id-DL-CCTrChInformationList-RL-SetupReqTDD              INTEGER ::= 49
id-DL-CodeInformation-PhyChReconfRqstFDD                INTEGER ::= 50
id-DL-DPCH-Information                        INTEGER ::= 51
id-DL-DPCH-Information-RL-SetupReqFDD                  INTEGER ::= 52
id-DL-DPCH-InformationList-PhyChReconfRqstTDD               INTEGER ::= 53
id-DL-DPCH-InformationList-RL-ReconfReadyTDD                INTEGER ::= 54
id-DL-EbNoSIRTarget                        INTEGER ::= 55
id-DL-FrameType                            INTEGER ::= 56
id-DL-MeanBitRate                          INTEGER ::= 57
id-DL-ReferencePowerInformation-DL-PC-Rqst              INTEGER ::= 58
id-DRX-Parameter                           INTEGER ::= 59
id-DedicatedMeasurementObjectType-DM-Rprt               INTEGER ::= 60
id-DedicatedMeasurementObjectType-DM-Rqst               INTEGER ::= 61
id-DedicatedMeasurementObjectType-DM-Rspns              INTEGER ::= 62
id-FACH-InfoForOptionalGroupS-CCPCH                INTEGER ::= 63
id-FACH-InfoForOptionalS-CCPCH                     INTEGER ::= 64
id-FACH-InfoForS-CCPCH-CoupledToPRACH                  INTEGER ::= 65
id-GapPositionMode                         INTEGER ::= 66
id-L3-Information                          INTEGER ::= 67
id-MeasurementCharacteristics                      INTEGER ::= 68
```

```
id-MeasurementID                                INTEGER ::= 69
id-MultipleURAsIndicator                            INTEGER ::= 70
id-PD                                       INTEGER ::= 71
id-PagingArea-PagingRqst                            INTEGER ::= 72
id-PowerControlMode                             INTEGER ::= 73
id-PowerResumeMode                              INTEGER ::= 74
id-ProcedureScope-DL-PC-Rqst                                INTEGER ::= 75
id-RANAP-RelocationInformation                              INTEGER ::= 76
id-RL-Information-PhyChReconfRqstFDD                            INTEGER ::= 77
id-RL-Information-PhyChReconfRqstTDD                            INTEGER ::= 78
id-RL-Information-RL-AdditionRqstFDD                            INTEGER ::= 79
id-RL-Information-RL-AdditionRqstTDD                            INTEGER ::= 80
id-RL-Information-RL-DeletionRqst                           INTEGER ::= 81
id-RL-Information-RL-FailureInd                             INTEGER ::= 82
id-RL-Information-RL-ReconfPrepFDD                          INTEGER ::= 83
id-RL-Information-RL-RestoreInd                             INTEGER ::= 84
id-RL-Information-RL-SetupReqFDD                            INTEGER ::= 85
id-RL-Information-RL-SetupReqTDD                            INTEGER ::= 86
id-RL-InformationItem-DM-Rprt                               INTEGER ::= 87
id-RL-InformationItem-DM-Rqst                               INTEGER ::= 88
id-RL-InformationItem-DM-Rspns                              INTEGER ::= 89
id-RL-InformationItem-RL-SetupReqFDD                            INTEGER ::= 90
id-RL-InformationList-RL-AdditionRqstFDD                        INTEGER ::= 91
id-RL-InformationList-RL-DeletionRqst                           INTEGER ::= 92
id-RL-InformationList-RL-FailureInd                         INTEGER ::= 93
id-RL-InformationList-RL-ReconfPrepFDD                          INTEGER ::= 94
id-RL-InformationList-RL-RestoreInd                         INTEGER ::= 95
id-RL-InformationResponse-RL-AdditionRspTDD                     INTEGER ::= 96
id-RL-InformationResponse-RL-ReconfReadyTDD                     INTEGER ::= 97
id-RL-InformationResponse-RL-SetupRspTDD                        INTEGER ::= 98
id-RL-InformationResponseItem-RL-AdditionRspFDD                     INTEGER ::= 99
id-RL-InformationResponseItem-RL-ReconfReadyFDD                     INTEGER ::= 100
id-RL-InformationResponseItem-RL-SetupRspFDD                        INTEGER ::= 101
id-RL-InformationResponseList-RL-AdditionRspFDD                     INTEGER ::= 102
id-RL-InformationResponseList-RL-ReconfReadyFDD                     INTEGER ::= 103
id-RL-InformationResponseList-RL-SetupRspFDD                        INTEGER ::= 104
id-RL-ReconfigurationFailure-RL-ReconfFail                      INTEGER ::= 105
id-RL-ReconfigurationFailureList-RL-ReconfFail                      INTEGER ::= 106
id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind                     INTEGER ::= 107
id-ReportCharacteristics                            INTEGER ::= 108
id-S-RNTI                                   INTEGER ::= 109
id-SAI                                      INTEGER ::= 110
id-SN                                       INTEGER ::= 111
id-SRNC-ID                                  INTEGER ::= 112
id-ScramblingCodeChange                             INTEGER ::= 113
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD       INTEGER ::= 114
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD          INTEGER ::= 115
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD       INTEGER ::= 116
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD      INTEGER ::= 117
id-TGD                                      INTEGER ::= 118
id-TGL                                      INTEGER ::= 119
id-TGP1                                     INTEGER ::= 120
id-TGP2                                     INTEGER ::= 121
```

```
id-TransportBearerID                                INTEGER ::= 122
id-TransportBearerRequestIndicator                      INTEGER ::= 123
id-TransportLayerAddress                            INTEGER ::= 124
id-UC-ID                                    INTEGER ::= 125
id-UL-CCTrCH-Information-RL-ReconfPrepTDD                   INTEGER ::= 126
id-UL-CCTrCH-Information-RL-ReconfRqstTDD                   INTEGER ::= 127
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD                   INTEGER ::= 128
id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD                   INTEGER ::= 129
id-UL-CCTrChInformationItem-RL-SetupReqTDD                  INTEGER ::= 130
id-UL-CCTrChInformationList-RL-SetupReqTDD                  INTEGER ::= 131
id-UL-DL-CompressedModeSelection                        INTEGER ::= 132
id-UL-DPCH-Information                              INTEGER ::= 133
id-UL-DPCH-Information-RL-SetupReqFDD                   INTEGER ::= 134
id-UL-DPCH-InformationList-PhyChReconfRqstTDD                   INTEGER ::= 135
id-UL-DPCH-InformationList-RL-ReconfReadyTDD                    INTEGER ::= 136
id-UL-Delta~~EbNo~~SIR                                  INTEGER ::= 137
id-UL-Delta~~EbNo~~SIRAfter                             INTEGER ::= 138
id-UL-~~EbNo~~SIRTarget                             INTEGER ::= 139
id-UL-MeanBitRate                               INTEGER ::= 140
id-URA-ID                                   INTEGER ::= 141
id-UnsuccessfulRL-InformationResponse                   INTEGER ::= 142
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD     INTEGER ::= 143
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD        INTEGER ::= 144
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD        INTEGER ::= 145
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD     INTEGER ::= 146
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD        INTEGER ::= 147
id-CriticalityDiagnostics                           INTEGER ::= 148

END
```

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

***Document* R3-000139**
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.

25.423	CR	011	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG-RAN WG3 **Date:** January 2000

Subject: TPC Step Size defined for TDD

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: Definition of TPC Step size for TDD messages as per the WG1 specifications

Clauses affected:

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:

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
D-RNTI	O			
Allowed Queuing time	O			
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 the UL.
UL Transport Format Combination Set	M			
UL DPCCH Slot Format	M			
UL Eb/No Target	O			
Diversity mode	M			
D Field Length	C-FB			
SSDT Cell ID Length	O			
S Field Length	O			
Mean Bit Rate	O			For the UL.
DL DPCH Information		*1*		
Transport Format Combination Set	M			
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.
FDD TPC Downlink Step Size	M			
Mean Bit Rate	O			For the DL.
DCH Information		*1..<maxnoofDCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			

RL Information		*1…<maxnoofRLs>*		
RL ID	M			
C-ID	M			
Frame Offset	M			
Chip Offset	M			
Propagation Delay	O			
Diversity Control Field	C – NotFirstRL			
Initial DL TX Power	O		DL Power	
Primary CPICH Ec/Io	O			
SSDT Cell ID	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.
SlotFormat	This IE is only present if the DL DPCH Slot Format is equal to any of the values 12 to 16.
NotFirstRL	This IE is present only if the RL is not the first one in the **RL Information**.

Range bound	Explanation
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofRLs	Maximum no. of RLs for one UE.

9.1.3.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
S-RNTI	M			
D-RNTI	O			
Allowed Queuing time	O			
Mean Bit Rate	O			For the UL.
Mean Bit Rate	O			For the DL.
UL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			For the UL.
TFCI Coding	M			
Puncture Limit	M			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
TFCS	M			For the DL.
TFCI Coding	M			
Puncture Limit	M			
TDD TPC Downlink Step Size	M			
DCH Information		*1..<maxnoofDCHs>*		
DCH ID	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			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
BLER	M			For the UL.
BLER	M			For the DL.
Allocation/Retention Priority	M			
Frame Handling Priority	M			
Payload CRC Presence Indicator	M			
UL FP Mode	M			
ToAWS	M			
ToAWE	M			
RL Information		*1*		
RL ID	M			
C-ID	M			
Frame Offset	M			
Primary CCPCH RSCP	O			

Range bound	Explanation
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofCCTrCHs	Maximum no. of CCTrCH for one UE.

9.2.2.10 FDD DL Channelisation Code Number

The DL Channelisation Code Number indicates the DL Channelisation Code number for a specific DL physical channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FDD DL Channelisation Code Number	M		INTEGER(0. . 255)	The maximum value is equal to the DL spreading factor –1

9.2.2.11 FDD TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FDD TPC Downlink step size			ENUMERATED (0.5, 1)	

9.2.2.12 ~~9.2.2.11~~ Gap Position Mode

The gap position can be fixed or adjustable, as defined in ref. [**Error! Reference source not found.**].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Gap Position Mode			ENUMERATED (Fixed, Flexible)	

9.2.2.13 ~~9.2.2.12~~ Gap Period (TGP)

Gap Period is the period of repetition of a set of consecutive frames containing up to 2 transmission gaps.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Gap Period			INTEGER(0. .255)	Frames

9.2.2.14 ~~9.2.2.13~~ Gap Starting Slot Number (SN)

It defines the slot number when the transmission gap starts.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SN			Time Slot	

9.2.2.15 ~~9.2.2.14~~ Max Number of UL DPDCHs

This parameter is an UE Radio Access Capability parameter which is needed in rate matching algorithm.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Max Number of UL DPDCHs			INTEGER (1..6)	

9.2.2.16~~9.2.2.15~~ Min UL Channelisation Code Length

Minimum UL channelisation code length (spreading factor) of a DPDCH which is supported by UE. Needed by rate matching algorithm.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Min UL Channelisation Code Length			ENUMERATED(4,8,16, 32,64,128, 256)	

9.2.2.17~~9.2.2.16~~ Multiplexing Position

Multiplexing Position specifies whether fixed or flexible positions of transport channels shall be used in the physical channel.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Multiplexing Position Position			ENUMERATED(Fixed, Flexible)	

9.2.2.18~~9.2.2.17~~ Pattern Duration (PD)

Pattern duration is the total time of then compressed mode pattern (all consecutive TGPs) expressed in number of frames.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PD			INTEGER(0. .2047, …)	Frames

9.2.2.19~~9.2.2.18~~ Power Control Mode (PCM)

Power Control Mode specifies the uplink power mode applied during recovery period after each transmission gap in compressed mode. PCM can take 2 values (0 or 1). The different power control modes are described in ref. [**Error! Reference source not found.**].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Control Mode			ENUMERATED (0, 1,..)	

9.2.2.20~~9.2.2.19~~ Power Offset

This IE defines a power offset respect the Downlink transmission power of a DPCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Offset			INTEGER (0…24)	Step 0.25 dB, range 0-6 dB

9.2.2.21~~9.2.2.20~~ Power Resume Mode (PRM)

Power Resume Mode selects the uplink power control method to calculate the initial transmit power after the gap. PRM can take two values (0 or 1) and is described in ref. [**Error! Reference source not found.**].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Resume Mode			ENUMERATED (0, 1,..)	Described in ref. [**Error! Reference source not found.**].

9.2.2.229.2.2.21 Primary CPICH Ec/No

Energy per chip divided by the power density per band measured on the Primary CPICH by the terminal.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Primary CPICH Ec/No			INTEGER (-30…+30)	dB, step 1 dB

9.2.2.239.2.2.22 Propagation Delay (PD)

Propagation delay is the one-way propagation delay of the radio signal from the MS to the Node B.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Propagation Delay			INTEGER (0..255)	Chips. Step size is 3 chips. 0=0 chips, 1=3 chips, …

9.2.2.249.2.2.23 S-Field Length

The UE uses the S Field of the UL DPCCH slot to send the SSDT Cell ID to the network.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
S Field Length			ENUMERATED (1, 2)	

9.2.2.259.2.2.24 Scrambling Code Change

This parameter indicates whether the alternative scrambling code is used for compressed mode method 'SF/2'.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Scrambling Code Change			ENUMERATED (Change, No change)	

9.2.2.269.2.2.25 Slot Number (SN)

It defines the slot number when the transmission gap starts.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SN			Time Slot	

9.2.2.279.2.2.26 SSDT Cell Identity

The SSDT Cell ID is a temporary ID for SSDT assigned to a cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Cell Identity			ENUMERATED (a, b.., h)	

9.2.2.28~~9.2.2.27~~ SSDT Cell Identity Length

The SSDT Cell ID Length parameter shows the length of the SSDT Cell ID.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Cell ID Length			ENUMERATED(Short, Medium, Long)	

9.2.2.29~~9.2.2.28~~ SSDT Indication

The SSDT Indication indicates whether SSDT is in use by the UE or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Indication			ENUMERATED(SSDT Active in the UE, SSDT not Active in the UE)	

9.2.2.30~~9.2.2.29~~ SSDT Support Indicator

The SSDT Support Indicator indicates whether a RL supports SSDT or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
SSDT Support Indicator			ENUMERATED (SSDT Supported, SSDT not supported).	

9.2.2.31~~9.2.2.30~~ TFCI Signalling Mode

This parameter indicates if the normal or split mode is used for the TFCI.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI Signalling Mode			ENUMERATED (Normal, Split)	

~~9.2.2.31 TPC Downlink Step Size~~

~~This parameter indicates step size for the DL power adjustment.~~

~~IE/Group Name~~	~~Presence~~	~~Range~~	~~IE type and reference~~	~~Semantics description~~
~~TPC Downlink step size~~			~~ENUMERATED (0.5, 1)~~	

9.2.3.9 TDD Physical Channel Offset

The TDD Physical Channel Offset represents the phase information for the allocation of a physical channel. (SFN mod Repetition Period = TDD Physical Channel Offset).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD Physical Channel Offset			INTEGER (0..63)	

9.2.3.10 TDD TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD TPC Downlink step size			ENUMERATED (1, 2, 3)	

9.2.3.11 ~~9.2.3.10~~ TFCI Coding

The TFCI Coding describes how the TFCI bits are coded. By default 1 TFCI bit is coded with 4 bits, 2 TFCI bits are coded with 8 bits, 3-5 TFCI bits are coded with 16 bits and 6-10 TFCI bits are coded with 32 bits.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TFCI Coding	M		Enumerated (4, 8, 16, 32)	

9.3.3 PDU Definitions

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

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

BEGIN

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

IMPORTS
    AllocationRetentionPriority,
    AllowedQueuingTime,
    BLER,
    BindingID,
    BurstType,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CPICH-EcIo,
    CPICH-Power,
    Cause,
    CellParameterID,
    ChipOffset,
    CompressedModeMethod,
    CriticalityDiagnostics,
    D-FieldLength,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-CombinationInd,
    DCH-ID,
    DL-ChannelisationCode,
    DL-DPCCH-SlotFormat,
    DL-DPCH-SlotNumber,
    DL-EbNo,
    DL-EbNoTarget,
    DL-FrameType,
```

```
    DL-Power,
    DL-ScramblingCode,
    DPCH-ID,
    DRX-Parameter,
    DedicatedMeasurementValue,
    DiversityControlField,
    DiversityMode,
    FACH-DataFrameSize,
    FACH-InitialWindowSize,
    FACH-PriorityIndicator,
    FDD-DL-ChannelisationCodeNumber,
    FDD-S-CCPCH-Offset,
    FDD-TPC-StepSize
    FrameHandlingPriority,
    FrameOffset,
    GapPeriod,
    GapPositionMode,
    L3-Information,
    MAC-c-SDU-Length,
    MaxNrOfUL-DPCHs,
    MeanBitRate,
    MeasurementCharacteristics,
    MeasurementID,
    MidambleShift,
    MinUL-ChannelisationCodeLength,
    MultipleURAsIndicator,
    MultiplexingPosition,
    Offset,
    PD,
    PSCH-PCCPCH-TimeSlot,
    PSCH-TimeSlot,
    PayloadCRC-PresenceIndicator,
    PilotBitsUsedIndicator,
    PowerControlMode,
    PowerOffset,
    PowerResumeMode,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    RANAP-RelocationInformation,
    RL-ID,
    RLC-Mode,
    RNC-ID,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    S-FieldLength,
    S-RNTI,
```

```
    SAI,
    SN,
    SRNC-ID,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    ScaledUL-InterferenceLevel,
    ScramblingCode,
    ScramblingCodeChange,
    SecondaryCCPCH-SlotFormat,
    SyncCase,
    TDD-ChannelisationCode,
    TDD-PhysicalChannelOffset,
    TDD-TPC-StepSize
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TGD,
    TGL,
    TPC-StepSize,
    TimeSlot,
    ToAWE,
    ToAWS,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TransportFormatCombinationSet,
    TransportFormatSet,
    TransportLayerAddress,
    UARFCN,
    UC-ID,
    UL-DL-CompressedModeSelection,
    UL-DPCCH-SlotFormat,
    UL-EbNo,
    UL-EbNoTarget,
    UL-FP-Mode,
    UL-ScramblingCode,
    URA-ID
```

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

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

RadioLinkSetupRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                    PRESENCE mandatory } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                PRESENCE optional   } |
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE optional  } |
    { ID id-UL-DPCH-Information-RL-SetupReqFDD  CRITICALITY ignore  TYPE UL-DPCH-Information-RL-SetupReqFDD     PRESENCE mandatory   } |
    { ID id-DL-DPCH-Information-RL-SetupReqFDD  CRITICALITY ignore  TYPE DL-DPCH-Information-RL-SetupReqFDD     PRESENCE mandatory   } |
    { ID id-DCH-Information-RL-SetupReqFDD      CRITICALITY ignore  TYPE DCH-InformationList-RL-SetupReqFDD     PRESENCE mandatory   } |
    { ID id-RL-Information-RL-SetupReqFDD       CRITICALITY ignore  TYPE RL-InformationList-RL-SetupReqFDD   PRESENCE mandatory   },
    ...
}

UL-DPCH-Information-RL-SetupReqFDD ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode,
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPCHs                 MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE is present only if minUL-ChannelisationCodeLength equals to 4 -- ,
    ul-PunctureLimit                PunctureLimit,
    ul-TransportFormatCombinationSet        TransportFormatCombinationSet,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat,
    ul-EbNoTarget                   UL-EbNoTarget           OPTIONAL,
    diversityMode                   DiversityMode,
    d-FieldLength                   D-FieldLength           OPTIONAL
    -- This IE is present only if Feed Back mode diversity is activated -- ,
    sSDT-CellIdLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    ul-meanBitRate                  MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DL-DPCH-Information-RL-SetupReqFDD ::= SEQUENCE {
    transportFormatCombinationSet           TransportFormatCombinationSet,
    dl-DPCH-SlotNumber              DL-DPCH-SlotNumber,
    tFCI-SignallingMode             TFCI-SignallingMode,
```

```
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE is present if Slot Format is from 12 to 16 --,
    multiplexingPosition                MultiplexingPosition,
    powerOffsetInformation              SEQUENCE {
        po1-ForTFCI-Bits                PowerOffset,
        po2-ForTPC-Bits                 PowerOffset,
        po3-ForPilotBits                PowerOffset,
        ...
    },
    FDD-dl-TPC-StepSize                 FDD-TPC-StepSize,
    meanBitRate                 MeanBitRate         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationList-RL-SetupReqFDD          ::= DCH-IE-ContainerList { {DCH-InformationItemIEs-RL-SetupReqFDD} }

DCH-InformationItemIEs-RL-SetupReqFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationItem-RL-SetupReqFDD  CRITICALITY ignore  TYPE DCH-InformationItem-RL-SetupReqFDD   PRESENCE mandatory   },
    ...
}

DCH-InformationItem-RL-SetupReqFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    rLC-Mode                    RLC-Mode,
    ul-transportFormatSet               TransportFormatSet,
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationItem-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationItem-RL-SetupReqFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-SetupReqFDD           ::= RL-IE-ContainerList { {RL-InformationItemIEs-RL-SetupReqFDD} }

RL-InformationItemIEs-RL-SetupReqFDD RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-RL-InformationItem-RL-SetupReqFDD   CRITICALITY ignore  TYPE RL-InformationItem-RL-SetupReqFDD      PRESENCE mandatory   },
    ...
}

RL-InformationItem-RL-SetupReqFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    uC-ID                       C-ID,
    frameOffset                 FrameOffset,
    chipOffset                  ChipOffset,
    propagationDelay                PropagationDelay        OPTIONAL,
    diversityControlField               DiversityControlField       OPTIONAL
    -- This IE is present only if the RL is not the first one in the RL-InformationList-RL-SetupReqFDD --,
    dl-InitialTX-Power              DL-Power            OPTIONAL
    -- Initial DL transmission power -- ,
    cPICH-EcIo                  CPICH-EcIo          OPTIONAL,
    sSDT-CellID                 SSDT-CellID         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-RL-SetupReqFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-RL-SetupReqFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

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

RadioLinkSetupRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                     PRESENCE mandatory } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional   } |
    { ID id-AllowedQueuingTime          CRITICALITY ignore  TYPE AllowedQueuingTime             PRESENCE optional   } |
    { ID id-UL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate                PRESENCE optional } |
    { ID id-DL-MeanBitRate              CRITICALITY ignore  TYPE MeanBitRate                PRESENCE optional } |
    { ID id-UL-CCTrChInformationList-RL-SetupReqTDD CRITICALITY ignore  TYPE UL-CCTrChInformationList-RL-SetupReqTDD  PRESENCE mandatory   } |
    { ID id-DL-CCTrChInformationList-RL-SetupReqTDD CRITICALITY ignore  TYPE DL-CCTrChInformationList-RL-SetupReqTDD  PRESENCE mandatory   } |
    { ID id-DCH-InformationList-RL-SetupReqTDD  CRITICALITY ignore  TYPE DCH-InformationList-RL-SetupReqTDD  PRESENCE mandatory   } |
    { ID id-RL-Information-RL-SetupReqTDD       CRITICALITY ignore  TYPE RL-Information-RL-SetupReqTDD     PRESENCE mandatory   },
    ...
```

```
}

UL-CCTrChInformationList-RL-SetupReqTDD         ::= CCTrCH-IE-ContainerList { {UL-CCTrChInformationItemIEs-RL-SetupReqTDD} }

UL-CCTrChInformationItemIEs-RL-SetupReqTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrChInformationItem-RL-SetupReqTDD CRITICALITY ignore  TYPE UL-CCTrChInformationItem-RL-SetupReqTDD   PRESENCE mandatory   },
    ...
}

UL-CCTrChInformationItem-RL-SetupReqTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-TFCS                     TransportFormatCombinationSet,
    tFCI-Coding                 TFCI-Coding,
    ul-PunctureLimit                PunctureLimit,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrChInformationList-RL-SetupReqTDD         ::= CCTrCH-IE-ContainerList { {DL-CCTrChInformationItemIEs-RL-SetupReqTDD} }

DL-CCTrChInformationItemIEs-RL-SetupReqTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrChInformationItem-RL-SetupReqTDD CRITICALITY ignore  TYPE DL-CCTrChInformationItem-RL-SetupReqTDD   PRESENCE mandatory    },
    ...
}

DL-CCTrChInformationItem-RL-SetupReqTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-TFCS                     TransportFormatCombinationSet,
    tFCI-Coding                 TFCI-Coding,
    dl-PunctureLimit                PunctureLimit,
    TDD-dl-TPC-StepSize             TDD-TPC-StepSize,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrChInformationItem-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationList-RL-SetupReqTDD          ::= DCH-IE-ContainerList { {DCH-InformationItemIEs-RL-SetupReqTDD} }

DCH-InformationItemIEs-RL-SetupReqTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationItem-RL-SetupReqTDD  CRITICALITY ignore  TYPE DCH-InformationItem-RL-SetupReqTDD      PRESENCE mandatory    },
    ...
}

DCH-InformationItem-RL-SetupReqTDD ::= SEQUENCE {
```

```
    dCH-ID                      DCH-ID,
    ul-cCTrCH-ID                    CCTrCH-ID, -- UL CCTrCH in which the DCH is mapped
    dl-cCTrCH-ID                    CCTrCH-ID, -- DL CCTrCH in which the DCH is mapped
    dCH-CombinationInd              DCH-CombinationInd      OPTIONAL,
    rLC-Mode                    RLC-Mode,
    ul-transportFormatSet               TransportFormatSet,
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                     BLER,
    dl-BLER                     BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    payloadCRC-PresenceIndicator            PayloadCRC-PresenceIndicator,
    ul-FP-Mode                  UL-FP-Mode,
    toAWS                       ToAWS,
    toAWE                       ToAWE,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationItem-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationItem-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-SetupReqTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    primaryCCPCH-RSCP               PrimaryCCPCH-RSCP       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-SetupReqTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-SetupReqTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkSetupRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

9.3.4 Information Element Definitions

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

RNSAP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxRateMatching,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxTTI-Count
FROM RNSAP-Constants

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

    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;

-- A

AllocationRetentionPriority     ::= FrameHandlingPriority

AllowedQueuingTime          ::= INTEGER (0..60)
-- seconds

-- B

-- ** NOTE: Size in tabular 1..4,... **
BindingID               ::= OCTET STRING (SIZE (1..MAX))

BLER                    ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

BurstType ::= ENUMERATED {
    type1 (1),
```

```
    type2 (2)
}

-- C

Cause ::= CHOICE {
    radioNetwork            CauseRadioNetwork,
    transmissionNetwork     CauseTransmissionNetwork,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transaction-not-allowed,
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    unspecified,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    macrodiversity-combining-not-possible,
    reconfiguration-not-allowed,
    Synchronisation-failure,
    unspecified,
    ...
}

CauseTransmissionNetwork ::= ENUMERATED {
    transmission-link-failure,
    transmission-port-not-available,
    unspecified,
    ...
```

```
}

C-ID                    ::= INTEGER (0..65535)

CCTrCH-ID               ::= INTEGER (0..15)

CellParameterID             ::= INTEGER (0..127)

CFN                 ::= INTEGER (0..255)

ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding--,
--  ...
}

-- ** TODO **
ChipOffset              ::= INTEGER

CodingRate ::= ENUMERATED {
    half,
    third--,
--  ...
}

CompressedModeMethod ::= ENUMERATED {
    none,
    puncturing,
    sF2,
    gating
}

CPICH-EcIo              ::= INTEGER

CRC-Size                ::= INTEGER (0| 8| 12| 16| 24)

CriticalityDiagnostics ::= SEQUENCE {
    procedureCode           ProcedureCode           OPTIONAL,
    triggeringMessage       TriggeringMessage       OPTIONAL,
    criticalityResponse     Criticality         OPTIONAL,
    transactionID           TransactionID           OPTIONAL,
    iEsCriticalityResponses     CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        criticalityResponse     Criticality,
        iE-ID               ProtocolIE-ID,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
CTFC                    ::= INTEGER
-- See formula (must be resolved)

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    iE-Extensions           ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL,
    lAC             LAC
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    iE-Extensions           ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL,
    rAC             RAC
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **TODO**
CPICH-Power             ::= INTEGER

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

-- D

DCH-CombinationInd          ::= INTEGER (0..255)

DCH-ID                  ::= INTEGER (0..255)

DedicatedMeasurementObjectType ::= ENUMERATED {
    rl,
    all-rl,
```

```
    ...
}
-- ** OR:
-- DedicatedMeasurementObjectType   ::= INTEGER {
--  rL(0),
--  allRL(1)
-- } (0..255)
-- **

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    ...
}
-- timeslotTSCP is used by TDD only

-- ** OR:
-- DedicatedMeasurementType     ::= INTEGER {
--  sIR(0),
--  sIR-Error(1),
--  transmittedCodePower(2),
--  rSCP(3)
-- } (0..255)
-- **

-- ** NOTE: Extensibility added **
-- **TODO**

DedicatedMeasurementValue ::= SEQUENCE {
    sIR-Value           ScaledSIR-Value         OPTIONAL,
    sIR-ErrorValue          ScaledSIR-ErrorValue        OPTIONAL,
    transmittedCodePowerValue   ScaledTransmittedCodePowerValue OPTIONAL,   -- Relative to CPICH
    rSCP                TBD             OPTIONAL,   -- TDD only
    iE-Extensions           ProtocolExtensionContainer { {DedicatedMeasurementValue-ExtIEs} } OPTIONAL,
    ...
}

DedicatedMeasurementValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
DiversityControlField           ::= INTEGER

-- ** TODO **
DiversityMode               ::= INTEGER

-- ** TODO **
DL-ChannelisationCode           ::= INTEGER
```

```
-- ** TODO **
DL-DPCCH-SlotFormat          ::= INTEGER

-- ** TODO **
DL-DPCH-SlotNumber           ::= INTEGER

DL-EbNo                  ::= ScaledUL-EbNo

DL-EbNoTarget                ::= ScaledUL-EbNo

-- ** TODO **
DL-Power                 ::= INTEGER

D-RNTI                   ::= INTEGER (0..1048576)
-- ** OR:
-- D-RNTI                ::= BIT STRING (SIZE (20))
-- **

D-RNTI-ReleaseIndication ::= ENUMERATED {
    not-release-D-RNTI,
    release-D-RNTI
}

-- ** TODO **
DL-ScramblingCode            ::= INTEGER

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DPCH-ID                  ::= INTEGER (0..239)

-- **TODO**
DRX-Parameter                ::= TBD

-- **TODO**
DSCH-TransportFormatCombinationSet  ::= INTEGER

-- **TODO**
DSCH-TFS                 ::= INTEGER

-- **TODO**
D-FieldLength                ::= INTEGER

-- E

EventA ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
```

```
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}

EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventB ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}

EventC ::= SEQUENCE {
    measurementIncreaseThreshold    MeasurementIncreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    ...
}

EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventD ::= SEQUENCE {
    measurementDecreaseThreshold    MeasurementDecreaseThreshold,
    measurementChangeTime       ScaledMeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

EventD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventE ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

EventE-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventF ::= SEQUENCE {
```

```
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   ScaledMeasurementHysteresisTime     OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

EventF-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- F

FACH-DataFrameSize          ::= INTEGER (1..5000)
-- Size of data frame in number of bits

FACH-InitialWindowSize          ::= INTEGER { unlimited(255) } (0..255)
-- Number of FACH data frames.
-- 255 = Unlimited number of FACH data frames

-- ** TODO **
FACH-InfoForOptionalS-CCPCH     ::= INTEGER

-- ** TODO **
FACH-InfoForS-CCPCH-CoupledToPRACH  ::= INTEGER

-- ** TODO **
FDD-DL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-FL-ChannelisationCodeNumber     ::= INTEGER

-- ** TODO **
FDD-S-CCPCH-Offset          ::= INTEGER

FDD TPC-StepSize ::= ENUMERATED {
    half,
    one
}


FACH-PriorityIndicator          ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameHandlingPriority           ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameOffset             ::= INTEGER (0..255)
-- Frames

-- G
```

```
GapPositionMode ::= ENUMERATED {
    fixed,
    flexible
}

GapPeriod               ::= INTEGER (0..255)

-- H
-- I

-- **TODO**
InitialDL-TX-Power          ::= INTEGER

-- J
-- K
-- L

LAC                 ::= OCTET STRING (SIZE (2)) --(EXCEPT ('0000'H|'FFFF'H))

-- ** TODO **
L3-Information              ::= INTEGER

-- M

-- ** TODO **
MaxNrOfUL-DPCHs             ::= INTEGER

MAC-c-SDU-Length            ::= INTEGER (1..5000)

-- **TODO**
MACd-MACsh-TransportFormatSet       ::= INTEGER

-- **NOTE: extensibility**
MeasurementCharacteristics ::= SEQUENCE {
    measuremtFrequence      TBD,
    averagingDuration       TBD,
    iE-Extensions           ProtocolExtensionContainer { {MeasurementCharacteristics-ExtIEs} } OPTIONAL,
    ...
}

MeasurementCharacteristics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
MeanBitRate             ::= INTEGER

MeasurementID               ::= INTEGER (0..1048576)
-- **OR:
-- MeasurementID            ::= BIT STRING (SIZE (20))
-- **
```

```
MultipleURAsIndicator ::= ENUMERATED {
    single-URA-exists,
    multiple-URAs-exist
}

-- ** TODO **
MCC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

-- ** TODO **
MNC-Digit               ::= OCTET STRING (SIZE (3))
-- FFS
-- Reference: 24.008

ScaledMeasurementChangeTime     ::= INTEGER (1..1000)
-- MeasurementChangeTime = ScaledMeasurementChangeTime * 10
-- Unis is ms

-- ** TODO **
MeasurementDecreaseThreshold        ::= INTEGER

ScaledMeasurementHysteresisTime     ::= INTEGER (1..1000)
-- MeasurementHysteresisTime = ScaledMeasurementHysteresisTime * 10
-- Unit is ms

-- ** TODO **
MeasurementIncreaseThreshold        ::= INTEGER

-- ** TODO **
MeasurementThreshold            ::= INTEGER

MidambleShift               ::= INTEGER (0..15)

MinUL-ChannelisationCodeLength      ::= INTEGER

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

-- N

NrOfTransportBlocks         ::= INTEGER (0..4095)

-- O

Offset                  ::= INTEGER (0..63)

-- P
```

```
PD                  ::= INTEGER (0..2047, ...)

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
}

PSCH-TimeSlot               ::= INTEGER (0..6)

Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
PilotBitsUsedIndicator          ::= INTEGER

-- ** TODO **
PLMN-ID ::= SEQUENCE {
    mCC-digit           MCC-Digit,
    iE-Extensions           ProtocolExtensionContainer { {PLMN-ID-ExtIEs} } OPTIONAL,
    mNC-digit           MNC-Digit
}
-- FFS

PLMN-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerControlMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

PowerOffset             ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

-- ** TODO **
```

```
PrimaryCPICH-Power          ::= INTEGER

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

-- ** TODO **
PrimaryCCPCH-RSCP           ::= INTEGER

PrimaryScramblingCode           ::= ScramblingCode

PropagationDelay            ::= INTEGER (0..255)

SyncCase ::= ENUMERATED {
    case1,
    case2,
    case3--,
--  ...
}

-- ** TODO **
PSCH-CCPCH-TimeSlot         ::= TimeSlot

-- ** TODO **
PSCH-PCCPCH-TimeSlot            ::= TimeSlot

-- ** TODO **
P-CPICH-Power               ::= INTEGER

PunctureLimit               ::= INTEGER (0..100)
-- Unit is %

-- Q
-- R

-- ** TODO **
RAC                 ::= INTEGER

-- ** TODO **
-- OCTET STRING?
RANAP-RelocationInformation     ::= BIT STRING

RateMatchingAttribute           ::= INTEGER (1..maxRateMatching)

RepetitionLength            ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
```

```
    v64--,
--  ...
}

-- This is changed from the tabular format because it seems that
-- this is what is wanted.
ReportCharacteristics ::= CHOICE {
    onDemand            NULL,
    periodic            Periodic,
    eventA              EventA,
    eventB              EventB,
    eventC              EventC,
    eventD              EventD,
    eventE              EventE,
    eventF              EventF--,
--  ...
}

-- Changed
ReportPeriodicity ::= CHOICE {
    msec                INTEGER (1..1000),
    min             INTEGER (1..60)
}

RLC-Mode ::= ENUMERATED {
    acknowledged-mode,
    unacknowledged-mode,
    transparent-mode
}

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

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

-- S

-- Changed BIT STRING -> OCTET STRING
SAC                 ::= OCTET STRING (SIZE (2))

SAI ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC             LAC,
    sAC             SAC,
    iE-Extensions           ProtocolExtensionContainer { {SAI-ExtIEs} } OPTIONAL
}

SAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
```

```
ScramblingCode              ::= INTEGER

ScramblingCodeChange ::= ENUMERATED {
    no-code-change,
    code-change
}

ScaledSIR-ErrorValue            ::= INTEGER (-100..100)
-- ScaledSIR-ErrorValue = SIR-ErrorValue * 10
-- If SIR-ErrorValue <= -10 ScaledSIR-ErrorValue shall be set to -100
-- If SIR-ErrorValue >=  10 ScaledSIR-ErrorValue shall be set to  100
-- SIR-ErrorValue step 0.1 dB

ScaledSIR-Value             ::= INTEGER (-100..200)
-- ScaledSIR-Value = SIR-Value * 10
-- SIR-Value step 0.1 dB

ScaledTransmittedCodePowerValue     ::= INTEGER (-350..150)
-- ScaledTransmittedCodePowerValue = TransmittedCodePowerValue * 10
-- TransmittedCodePowerValue step 0.1 dB

-- ** TODO **
SharedChannelType           ::= INTEGER

-- ** TODO **
SecondaryCCPCH-SlotFormat       ::= INTEGER

SN                  ::= TimeSlot

SpreadingFactorOfChannelisationCode ::= ENUMERATED {
    v256,
    v128,
    v64,
    v32,
    v16,
    v8,
    v4,
    v2,
    v1
}

-- Changed
S-FieldLength               ::= INTEGER (1..2)

S-RNTI                  ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

-- ** TODO **
SRNC-ID                 ::= INTEGER

SSDT-CellID ::= ENUMERATED {
```

```
    a,
    b,
    c,
    d,
    e,
    f,
    g,
    h
}

SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

SSDT-Indication ::= ENUMERATED {
    sSDT-active-in-the-UE,
    sSDT-not-active-in-the-UE
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-not-supported,
    sSDT-supported
}

-- T

-- ** TODO **
TBD                 ::= NULL
-- Remove this type

TDD-ChannelisationCode          ::= INTEGER (1..31)

TDD-PhysicalChannelOffset       ::= INTEGER (0..63)

TDD-TPC-StepSize ::= ENUMERATED {
    One
    Two
    Three
}

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32
}

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

```
    present
}

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

-- ** TODO **
TimeReference               ::= INTEGER
-- TimeReference                ::= INTEGER (0..255)

TimeSlot                ::= INTEGER (0..14)

ToAWE                   ::= INTEGER (0..2559)

ToAWS                   ::= INTEGER (0..1279)

TPC-StepSize ::= ENUMERATED {
    half,
    one
}
```

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

Document R3-000385
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.

25.423	CR	014r1	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*

(U)SIM	ME	UTRAN / Radio	X	Core Network	

Source: TSG-RAN WG3 **Date:** 2000-02-01

Subject: Removal of an out of date statement about a specifc order of IEs within RNSAP messages.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change:

chapter 9.1

The sentence after the NOTE should be deleted, as the receiving entity, following the ASN.1 definition, should be able to receive IEs at the highest level in any order.

revision info:
r0: R3-000278 first version
r1: R3-000385 remove tick in “Core Network” box

Clauses affected: 9.1

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: This should be aligned with RANAP and NBAP.

help.doc

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

************ **NEXT MODIFIED SECTION** ************

9 Elements for RNSAP Communication

9.1 Message Functional Definition and Content

9.1.1 General

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

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

All the RNSAP messages are listed in the following table:

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

Document R3-000083
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.

25.423	CR	013	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	for approval	X	Strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG-RAN WG3 **Date:** Jan ,2000

Subject: Addition of DRX description in Paging procedure description text and addition of new information elements in PAGING REQUEST message.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	
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	X
Release 00	

Reason for change:

1. Purpose

To introduce the support for DRX on PICH the Iur Paging procedure must be updated.

2. Background

UEs in connected mode and in state Cell_PCH or URA_PCH may use the DRX on PICH. PICH/PCH is terminated in the CRNC. For the CRNC to be able to calculate the PI's and transmit according to correct DRX cycle, the UE identity (IMSI) and the DRX cycle length information is needed. This information is sent from SRNC in the RNSAP PAGING REQUEST message. How to calculate the Paging Occasion (the SFN no. when to transmit PI's on PICH and PCH data) and the Paging Indicator is described in TS 25.304.

Currently there exist different DRX cycles.
1. CN CS DRX cycle
2. CN PS DRX cycle
3. Cell / UTRAN specific DRX Cycle
4. UE specific DRX cycle.

Case 1 and 2 is set by the respective CN and is broadcasted in system information (SIB1) in each cell within a specified LA/RA. CN specific DRX cycles are only used by UE in Idle mode and therefore do not impact the Iur paging procedure.
Case 3 is a Cell/UTRAN specific DRX cycle that is broadcasted in system information (SIB2). If in case 3 all cells broadcast the same DRX cycle length it is called the "UTRAN DRX cycle length".
Case4 is the possibility for SRNC to set a UE specific DRX cycle for a UE in connected mode, it is controlled via RRC signalling. UEs may not be assigned a specific DRX cycle and in that case the CRNC shall page a UE according to the Cell/UTRAN specific DRX cycle broadcasted in the cell. For paging in a URA the cells within that

URA may have different DRX cycle lengths (according to UTRAN configuration)

3. Problem
In the case where the SRNC has not set a UE specific DRX cycle length the CRNC shall use the DRX cycle length as broadcasted in the cells included in the paging area. This imposes a problem for SRNC since today there is no means to inform the SRNC about the cell specific DRX cycles broadcasted by the cells under CRNC control. With the PICH/PCH frame number range (2^{12}) the time between the Iur PAGING Request and the actual transmission of Page Indicators and Paging over the air can be of considerable length. This introduces a problem for the SRNC and the retransmission timer setting for the Iur PAGING REQUEST messages.

4. Alternative solutions
Alternative solutions for how to make sure that the SRNC is made aware about the DRX cycle length used in the paging.

Alt. 1:
Introduce a RNSAP PAGING REQUEST RESPONSE message sent from CRNC to SRNC. The message includes the DRX cycle length used by the CRNC. In case of paging in a URA this would imply that the message includes a list of the DRX cycle lengths used in each cell (or possibly only the DRX cycle length with the longest cycle).

Alt. 2:
Removal of the cell (UTRAN) specific DRX cycle. This implies that the UTRAN (SRNC) is mandated to set a UE specific DRX cycle length for UEs in connected mode and Cell_PCH or URA_PCH state. RNSAP PAGING REQUEST will have a mandatory DRX Cycle length sent to CRNC that schedules the PICH/PCH transmission.

Alternative 1 increases the signalling load on Iur and it put performance requirements on the the transmission of the RESPONSE message if it shall be secured that it is received by SRNC before actual paging has taken place (the shortest DRX cycle length is of four frames). As understood from WG2 representatives the purpose of having a Cell/UTRAN DRX cycle broadcasted is that UE specific DRX cycles are not needed as long as the default value was used in every cell at every time and was known by the SRNC. The benefit can be questioned, since the Cell/UTRAN specific DRX cycle will be a service independent paging cycle that requires power on the broadcast channel.

Alternative 2 increases the signalling demand on RRC since it demands that UEs in connected mode are allocated a UE specific DRX cycle. The Cell specific DRX cycle length will be removed from the system information broadcasts (SIB2). SRNC will always include the DRX cycle length information towards CRNC in PAGING REQUEST. The SRNC is always in control of the DRX cycle and can set Paging retransmission timer accordingly.

5 Proposal

Our proposal is to use alternative 2 and implement this through this CR on RNSAP and to send a liason statement to WG2 asking for removal of Cell/UTRAN specific DRX cycle.

Clauses affected: 2, 8.2.4, 9.1.27, 9.2, 9.3.3, 9.3.4, 9.3.6

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:	

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[1] 3G TS 23.003: "Numbering, addressing and identification"

[2] 3G TS 25.413: "UTRAN Iu Interface RANAP Signalling".

[3] 3G TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams".

[4] 3G TS 25.427: "UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams"..

[5] 3G TS xx.yyy: "Specification containing different Identifiers for UMTS (to be identified)".

[6] 3G TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".

[7] 3G TS 25.211: "Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)".

[8] 3G TS 25.212: "Multiplexing and Channel Coding (FDD)

[9] UMTS 25.214, Physical Layer Procedures (FDD)".

[10] 3G TS 25.215: "Physical Layer – Measurements (FDD)".

[11] 3G TS 25.221: "Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)".

[12] 3G TS 25.223: "Spreading and Modulation (TDD)".

[13] 3G TS 25.225: "Physical Layer – Measurements (TDD)".

[14] 3G TS 25.304: "UE Procedures in Idle Mode"

[15] 3G TS 25.331: "RRC Protocol Specification".

[16] 3G TS 25.402: "Synchronisation in UTRAN, Stage 2".

[17] X.680 (12/94): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[18] X.681 (12/94): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification

[19] X.691 (12/94), Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".

[Editor's note: The dating of reference [19] needs to be verified. It has been included from the ITU-T list of recommendations in force. The dating of the reference is FFS.]

[Editor's note: The reference [5] needs to be identified. Until then the description of the parameters CN PS Domain Identifier, CN CS Domain Identifier, and CRNC ID contains more information than otherwise may be needed.]

8.2.4 Paging

8.2.4.1 General

This procedure is used by the SRNC to indicate to a CRNC that a UE shall be paged in a cell or URA that is under the control of the CRNC.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.4.2 Successful Operation

Figure 41: Paging procedure, Successful Operation

The procedure is initiated with a PAGING REQUEST message sent from the SRNC to the CRNC.

If the message contains the *C-Id* IE, the CRNC shall page in the indicated cell. Alternatively, if the message contains the *URA-Id* IE, the CRNC shall page in all cells that it controls in the indicated URA.

The CRNC shall calculate the Paging Occasions from the *IMSI* IE and the *DRX Cycle Length Coefficient* IE according to specification in ref. 14 and apply transmission on PICH and PCH accordingly.

~~[Editor's note: If the *DRX parameter* IE is required, and any explanation is required for how to react to it, then this should be included here.]~~

8.2.4.3 Abnormal Conditions

-

9.1.27 PAGING REQUEST

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
CHOICE *paging area*				
"URA"				
URA-Id	M			
"Cell"				
C-Id	M			
SRNC-Id	M		RNC-Id	
S-RNTI	M			
IMSI	M			
DRX Cycle Length Coefficient~~Parameter~~	M			

9.2.1.21 DRX ~~Parameter~~ Cycle Length Coefficient

The DRX Cycle Length Coefficient is used as input for the formula to establish the paging occasions to be used in DRX.

~~[Editor's note: This parameter needs to be defined. Contributions are invited.]~~

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DRX Cycle Length Coefficient~~Parameter~~			Integer (2, .., 12) ~~TBD~~	Refers to 'k' in the formula as specified in ref. 14, Discontinous Reception.

9.2.1.x IMSI

The IMSI is the permanent UE user Identity, see ref. 1.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
IMSI			OCTET STRING (SIZE(3..8))	-Decimal digits coded in BCD -'1111' used as filler -bit 4 to 1 of octet n is encoding digit 2n-1 -bit 8 to 5 of octet n is encoding digit 2n

9.3.3 PDU Definitions

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

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

BEGIN

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

IMPORTS
    AllocationRetentionPriority,
    AllowedQueuingTime,
    BLER,
    BindingID,
    BurstType,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CPICH-EcIo,
    CPICH-Power,
    Cause,
    CellParameterID,
    ChipOffset,
    CompressedModeMethod,
    CriticalityDiagnostics,
    D-FieldLength,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-CombinationInd,
    DCH-ID,
    DL-ChannelisationCode,
    DL-DPCCH-SlotFormat,
    DL-DPCH-SlotNumber,
```

```
    DL-EbNo,
    DL-EbNoTarget,
    DL-FrameType,
    DL-Power,
    DL-ScramblingCode,
    DPCH-ID,
    DRX-Parameter,
    DRXCycleLengthCoefficient,
    DedicatedMeasurementValue,
    DiversityControlField,
    DiversityMode,
    FACH-DataFrameSize,
    FACH-InitialWindowSize,
    FACH-PriorityIndicator,
    FDD-DL-ChannelisationCodeNumber,
    FDD-S-CCPCH-Offset,
    FrameHandlingPriority,
    FrameOffset,
    GapPeriod,
    GapPositionMode,
    IMSI,
    L3-Information,
    MAC-c-SDU-Length,
    MaxNrOfUL-DPCHs,
    MeanBitRate,
    MeasurementCharacteristics,
    MeasurementID,
    MidambleShift,
    MinUL-ChannelisationCodeLength,
    MultipleURAsIndicator,
    MultiplexingPosition,
    Offset,
    PD,
    PSCH-PCCPCH-TimeSlot,
    PSCH-TimeSlot,
    PayloadCRC-PresenceIndicator,
    PilotBitsUsedIndicator,
    PowerControlMode,
    PowerOffset,
    PowerResumeMode,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    RANAP-RelocationInformation,
    RL-ID,
    RLC-Mode,
    RNC-ID,
    RepetitionLength,
```

```
    RepetitionPeriod,
    ReportCharacteristics,
    S-FieldLength,
    S-RNTI,
    SAI,
    SN,
    SRNC-ID,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    ScaledUL-InterferenceLevel,
    ScramblingCode,
    ScramblingCodeChange,
    SecondaryCCPCH-SlotFormat,
    SyncCase,
    TDD-ChannelisationCode,
    TDD-PhysicalChannelOffset,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TGD,
    TGL,
    TPC-StepSize,
    TimeSlot,
    ToAWE,
    ToAWS,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TransportFormatCombinationSet,
    TransportFormatSet,
    TransportLayerAddress,
    UARFCN,
    UC-ID,
    UL-DL-CompressedModeSelection,
    UL-DPCCH-SlotFormat,
    UL-EbNo,
    UL-EbNoTarget,
    UL-FP-Mode,
    UL-ScramblingCode,
    URA-ID
FROM RNSAP-IEs
```

```
-- **************************************************************
--
-- PAGING REQUEST
--
-- **************************************************************

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

PagingRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-PagingArea-PagingRqst           CRITICALITY ignore  TYPE PagingArea-PagingRqst       PRESENCE mandatory   } |
    { ID id-SRNC-ID                 CRITICALITY ignore  TYPE SRNC-ID                  PRESENCE mandatory } |
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-IMSI                    CRITICALITY ignore  TYPE IMSI                  PRESENCE mandatory  } |
    { ID id-DRXCycleLengthCoefficient Parameter           CRITICALITY ignore  TYPE DRX-DRXCycleLengthCoefficient Parameter          PRESENCE mandatory
    },
    ...
}

PagingArea-PagingRqst ::= CHOICE {
    uRA                     URA-ID,
    cell                        C-ID,
    ...
}

PagingRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

9.3.4 Information Element Definitions

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


-- D

DCH-CombinationInd          ::= INTEGER (0..255)

DCH-ID                  ::= INTEGER (0..255)

DedicatedMeasurementObjectType ::= ENUMERATED {
    rl,
    all-rl,
    ...
}
-- ** OR:
-- DedicatedMeasurementObjectType   ::= INTEGER {
--  rL(0),
--  allRL(1)
-- } (0..255)
-- **

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    ...
}
-- timeslotTSCP is used by TDD only

-- ** OR:
-- DedicatedMeasurementType     ::= INTEGER {
--  sIR(0),
--  sIR-Error(1),
--  transmittedCodePower(2),
--  rSCP(3)
-- } (0..255)
-- **

-- ** NOTE: Extensibility added **
-- **TODO**

DedicatedMeasurementValue ::= SEQUENCE {
    sIR-Value           ScaledSIR-Value         OPTIONAL,
```

```
    sIR-ErrorValue          ScaledSIR-ErrorValue        OPTIONAL,
    transmittedCodePowerValue   ScaledTransmittedCodePowerValue OPTIONAL,   -- Relative to CPICH
    rSCP                TBD             OPTIONAL,   -- TDD only
    iE-Extensions           ProtocolExtensionContainer { {DedicatedMeasurementValue-ExtIEs} } OPTIONAL,
    ...
}

DedicatedMeasurementValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
DiversityControlField           ::= INTEGER

-- ** TODO **
DiversityMode               ::= INTEGER

-- ** TODO **
DL-ChannelisationCode           ::= INTEGER

-- ** TODO **
DL-DPCCH-SlotFormat         ::= INTEGER

-- ** TODO **
DL-DPCH-SlotNumber          ::= INTEGER

DL-EbNo                 ::= ScaledUL-EbNo

DL-EbNoTarget               ::= ScaledUL-EbNo

-- ** TODO **
DL-Power                ::= INTEGER

D-RNTI                  ::= INTEGER (0..1048576)
-- ** OR:
-- D-RNTI               ::= BIT STRING (SIZE (20))
-- **

D-RNTI-ReleaseIndication ::= ENUMERATED {
    not-release-D-RNTI,
    release-D-RNTI
}

-- ** TODO **
DL-ScramblingCode           ::= INTEGER

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}
```

```
DPCH-ID                 ::= INTEGER (0..239)

-- **TODO**
DRX-Parameter                ::= TBD
DRXCycleLengthCoefficient    ::= INTEGER (2..12)

-- **TODO**
DSCH-TransportFormatCombinationSet  ::= INTEGER

-- **TODO**
DSCH-TFS                ::= INTEGER

-- **TODO**
D-FieldLength               ::= INTEGER

-- I

IMSI                        ::= TBCD-STRING (SIZE (3..8))
-- **TODO**
InitialDL-TX-Power          ::= INTEGER
```

9.3.6 Constant Definitions

```
-- **************************************************************
--
-- IEs
--
-- **************************************************************

id-AllowedQueuingTime                              INTEGER ::= 0
id-BindingID                                   INTEGER ::= 1
id-C-ID                                    INTEGER ::= 2
id-C-RNTI                                  INTEGER ::= 3
id-CCTrCH-ID                                   INTEGER ::= 4
id-CFN                                     INTEGER ::= 5
id-CN-CS-DomainIdentifier                          INTEGER ::= 6
id-CN-PS-DomainIdentifier                          INTEGER ::= 7
id-Cause                                   INTEGER ::= 8
id-CompressedModeMethod                            INTEGER ::= 9
id-D-RNTI                                  INTEGER ::= 10
id-D-RNTI-ReleaseIndication                        INTEGER ::= 11
id-DCH-AddItem                                 INTEGER ::= 12
id-DCH-AddItem-RL-ReconfPrepFDD                        INTEGER ::= 13
id-DCH-AddItem-RL-ReconfPrepTDD                        INTEGER ::= 14
id-DCH-AddItem-RL-ReconfReadyFDD                       INTEGER ::= 15
id-DCH-AddItem-RL-ReconfRqstFDD                        INTEGER ::= 16
id-DCH-AddItem-RL-ReconfRqstTDD                        INTEGER ::= 17
id-DCH-AddList-RL-ReconfPrepFDD                        INTEGER ::= 18
id-DCH-AddList-RL-ReconfPrepTDD                        INTEGER ::= 19
id-DCH-AddList-RL-ReconfRqstFDD                        INTEGER ::= 20
id-DCH-AddList-RL-ReconfRqstTDD                        INTEGER ::= 21
id-DCH-DeleteItem-RL-ReconfPrepFDD                     INTEGER ::= 22
id-DCH-DeleteItem-RL-ReconfPrepTDD                     INTEGER ::= 23
id-DCH-DeleteItem-RL-ReconfRqstFDD                     INTEGER ::= 24
id-DCH-DeleteItem-RL-ReconfRqstTDD                     INTEGER ::= 25
id-DCH-DeleteList-RL-ReconfPrepFDD                     INTEGER ::= 26
id-DCH-DeleteList-RL-ReconfPrepTDD                     INTEGER ::= 27
id-DCH-DeleteList-RL-ReconfRqstFDD                     INTEGER ::= 28
id-DCH-DeleteList-RL-ReconfRqstTDD                     INTEGER ::= 29
id-DCH-Information-RL-SetupReqFDD                      INTEGER ::= 30
id-DCH-InformationItem-RL-SetupReqFDD                      INTEGER ::= 31
id-DCH-InformationItem-RL-SetupReqTDD                      INTEGER ::= 32
id-DCH-InformationList-RL-SetupReqTDD                      INTEGER ::= 33
id-DCH-ModifyItem                                  INTEGER ::= 34
id-DCH-ModifyItem-RL-ReconfPrepFDD                     INTEGER ::= 35
id-DCH-ModifyItem-RL-ReconfPrepTDD                     INTEGER ::= 36
id-DCH-ModifyItem-RL-ReconfReadyFDD                    INTEGER ::= 37
id-DCH-ModifyItem-RL-ReconfRqstFDD                     INTEGER ::= 38
id-DCH-ModifyItem-RL-ReconfRqstTDD                     INTEGER ::= 39
id-DCH-ModifyList-RL-ReconfPrepFDD                     INTEGER ::= 40
id-DCH-ModifyList-RL-ReconfPrepTDD                     INTEGER ::= 41
id-DCH-ModifyList-RL-ReconfRqstFDD                     INTEGER ::= 42
id-DCH-ModifyList-RL-ReconfRqstTDD                     INTEGER ::= 43
id-DL-CCTrCH-Information-RL-ReconfPrepTDD               INTEGER ::= 44
id-DL-CCTrCH-Information-RL-ReconfRqstTDD               INTEGER ::= 45
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD               INTEGER ::= 46
id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD               INTEGER ::= 47
id-DL-CCTrChInformationItem-RL-SetupReqTDD              INTEGER ::= 48
id-DL-CCTrChInformationList-RL-SetupReqTDD              INTEGER ::= 49
id-DL-CodeInformation-PhyChReconfRqstFDD                INTEGER ::= 50
id-DL-DPCH-Information                             INTEGER ::= 51
id-DL-DPCH-Information-RL-SetupReqFDD                  INTEGER ::= 52
id-DL-DPCH-InformationList-PhyChReconfRqstTDD              INTEGER ::= 53
id-DL-DPCH-InformationList-RL-ReconfReadyTDD               INTEGER ::= 54
id-DL-EbNoTarget                               INTEGER ::= 55
id-DL-FrameType                                INTEGER ::= 56
id-DL-MeanBitRate                              INTEGER ::= 57
id-DL-ReferencePowerInformation-DL-PC-Rqst              INTEGER ::= 58
id-DRX-Parameter                               INTEGER ::= 59
id-DRXCycleLengthCoefficient                   INTEGER ::= 59
id-DedicatedMeasurementObjectType-DM-Rprt              INTEGER ::= 60
id-DedicatedMeasurementObjectType-DM-Rqst              INTEGER ::= 61
id-DedicatedMeasurementObjectType-DM-Rspns             INTEGER ::= 62
id-FACH-InfoForOptionalGroupS-CCPCH                    INTEGER ::= 63
id-FACH-InfoForOptionalS-CCPCH                         INTEGER ::= 64
id-FACH-InfoForS-CCPCH-CoupledToPRACH                  INTEGER ::= 65
```

```
id-GapPositionMode                                  INTEGER ::= 66
id-IMSI                                             INTEGER ::= 67
id-L3-Information                                   INTEGER ::= 687
id-MeasurementCharacteristics                               INTEGER ::= 698
id-MeasurementID                                    INTEGER ::= 7969
id-MultipleURAsIndicator                                INTEGER ::= 710
id-PD                                           INTEGER ::= 721
id-PagingArea-PagingRqst                                INTEGER ::= 732
id-PowerControlMode                                 INTEGER ::= 743
id-PowerResumeMode                                  INTEGER ::= 754
id-ProcedureScope-DL-PC-Rqst                                INTEGER ::= 765
id-RANAP-RelocationInformation                              INTEGER ::= 776
id-RL-Information-PhyChReconfRqstFDD                            INTEGER ::= 787
id-RL-Information-PhyChReconfRqstTDD                            INTEGER ::= 798
id-RL-Information-RL-AdditionRqstFDD                            INTEGER ::= 8079
id-RL-Information-RL-AdditionRqstTDD                            INTEGER ::= 810
id-RL-Information-RL-DeletionRqst                           INTEGER ::= 821
id-RL-Information-RL-FailureInd                             INTEGER ::= 832
id-RL-Information-RL-ReconfPrepFDD                          INTEGER ::= 843
id-RL-Information-RL-RestoreInd                             INTEGER ::= 854
id-RL-Information-RL-SetupReqFDD                            INTEGER ::= 865
id-RL-Information-RL-SetupReqTDD                            INTEGER ::= 876
id-RL-InformationItem-DM-Rprt                               INTEGER ::= 887
id-RL-InformationItem-DM-Rqst                               INTEGER ::= 898
id-RL-InformationItem-DM-Rspns                              INTEGER ::= 9089
id-RL-InformationItem-RL-SetupReqFDD                            INTEGER ::= 910
id-RL-InformationList-RL-AdditionRqstFDD                        INTEGER ::= 921
id-RL-InformationList-RL-DeletionRqst                           INTEGER ::= 932
id-RL-InformationList-RL-FailureInd                         INTEGER ::= 943
id-RL-InformationList-RL-ReconfPrepFDD                          INTEGER ::= 954
id-RL-InformationList-RL-RestoreInd                         INTEGER ::= 965
id-RL-InformationResponse-RL-AdditionRspTDD                     INTEGER ::= 976
id-RL-InformationResponse-RL-ReconfReadyTDD                     INTEGER ::= 987
id-RL-InformationResponse-RL-SetupRspTDD                        INTEGER ::= 998
id-RL-InformationResponseItem-RL-AdditionRspFDD                     INTEGER ::= 10099
id-RL-InformationResponseItem-RL-ReconfReadyFDD                     INTEGER ::= 1010
id-RL-InformationResponseItem-RL-SetupRspFDD                        INTEGER ::= 1021
id-RL-InformationResponseList-RL-AdditionRspFDD                     INTEGER ::= 1032
id-RL-InformationResponseList-RL-ReconfReadyFDD                     INTEGER ::= 1043
id-RL-InformationResponseList-RL-SetupRspFDD                        INTEGER ::= 1054
id-RL-ReconfigurationFailure-RL-ReconfFail                  INTEGER ::= 1065
id-RL-ReconfigurationFailureList-RL-ReconfFail                      INTEGER ::= 1076
id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind                     INTEGER ::= 1087
id-ReportCharacteristics                                INTEGER ::= 1098
id-S-RNTI                                       INTEGER ::= 11009
id-SAI                                          INTEGER ::= 1110
id-SN                                           INTEGER ::= 1121
id-SRNC-ID                                      INTEGER ::= 1132
id-ScramblingCodeChange                                 INTEGER ::= 1143
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD        INTEGER ::= 1154
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD           INTEGER ::= 1165
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD        INTEGER ::= 1176
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD       INTEGER ::= 1187
id-TGD                                          INTEGER ::= 1198
id-TGL                                          INTEGER ::= 12019
id-TGP1                                         INTEGER ::= 1210
id-TGP2                                         INTEGER ::= 1221
id-TransportBearerID                                    INTEGER ::= 1232
id-TransportBearerRequestIndicator                          INTEGER ::= 1243
id-TransportLayerAddress                                INTEGER ::= 1254
id-UC-ID                                        INTEGER ::= 1265
id-UL-CCTrCH-Information-RL-ReconfPrepTDD                       INTEGER ::= 1276
id-UL-CCTrCH-Information-RL-ReconfRqstTDD                       INTEGER ::= 1287
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD                       INTEGER ::= 1298
id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD                       INTEGER ::= 13029
id-UL-CCTrChInformationItem-RL-SetupReqTDD                      INTEGER ::= 1310
id-UL-CCTrChInformationList-RL-SetupReqTDD                      INTEGER ::= 1321
id-UL-DL-CompressedModeSelection                            INTEGER ::= 1332
id-UL-DPCH-Information                                  INTEGER ::= 1343
id-UL-DPCH-Information-RL-SetupReqFDD                       INTEGER ::= 1354
id-UL-DPCH-InformationList-PhyChReconfRqstTDD                       INTEGER ::= 1365
id-UL-DPCH-InformationList-RL-ReconfReadyTDD                        INTEGER ::= 1376
id-UL-DeltaEbNo                                 INTEGER ::= 1387
id-UL-DeltaEbNoAfter                                    INTEGER ::= 1398
id-UL-EbNoTarget                                INTEGER ::= 14039
id-UL-MeanBitRate                               INTEGER ::= 1410
id-URA-ID                                       INTEGER ::= 1421
id-UnsuccessfulRL-InformationResponse                       INTEGER ::= 1432
```

```
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD     INTEGER ::= 1443
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD        INTEGER ::= 1454
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD        INTEGER ::= 1465
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD     INTEGER ::= 1476
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD        INTEGER ::= 1487
id-CriticalityDiagnostics                       INTEGER ::= 1498

END
```

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Document R3-000299
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.

25.423	CR	015	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG-RAN WG3 **Date:** Jan 18, 2000

Subject: Modification to RADIO LINK ADDITION procedure and related parameters

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: The functionality of a RNC to combine several RLs has been generalised in order to include also the functionality of a RNC supporting the TDD mode to select one of the different RLs.
Consequently in the description of the RADIO LINK ADDITION procedure the distinctions between FDD and TDD have been removed.

Clauses affected: 8.3.2.2, 9.2.2.4, 9.2.2.5

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:


help.doc

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

8.3.2.2 Successful Operation

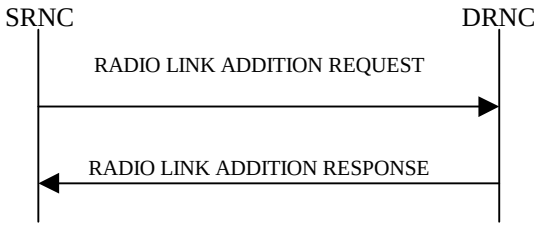

Figure 1: Radio Link Addition procedure: Successful Operation

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNS 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 indicates for each RL whether the DRNS shall combine the new RL with existing RL(s) or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.

If the *Primary CCPCH Ec/Io* IE [FDD] or the *Primary CCPCH RSCP* IE [TDD] measured by the UE is included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power. If the *Primary CCPCH Ec/Io* IE is not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.

[FDD - The DRNS shall use the provided UL Eb/No Target value as the current target for the inner-loop power control.]

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, SSDT may be activated for the concerned new RL, with the indicated SSDT Cell Identity used for that RL.]

The DRNS shall activate any feedback mode diversity according to the received settings.

If all requested RLs are successfully added, the DRNC shall respond with a RADIO LINK ADDITION RESPONSE message.

In the case of combining an RL with existing RL(s) the DRNC 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.

In the case of not combining an RL with existing RL(s), the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the Diversity Indication that no combining is done. In this case the DRNC 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.

In case of co-ordinated 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 DRNS 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 DRNS.]

For any cell neighbouring of a cell in which a RL was added, the DRNC shall provide in the RADIO LINK ADDITION RESPONSE message the UTRAN Cell Identifier (UC-Id), the Frequency Number, the Primary Scrambling Code and the node identification of CN nodes connected to the RNC controlling the neighbouring cell if the neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the CPICH Power level and Frame Offset of the neighbouring cell.

The DRNC shall also provide the configured uplink Maximum Eb/No and UL Minimum Eb/No for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

The DRNC shall also provide the selected scrambling- and channelisation codes of the new RLs in order to enable the SRNC to inform the UE about the selected codes.

After sending of the RADIO LINK ADDITION RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation and start reception on the new RL. The DRNS shall start transmission on the new RL after synchronisation is achieved in the Iur user plane as specified in ref. [**Error! Reference source not found.**].

9.2.~~2.4~~1.x Diversity Control Field

The Diversity Control Field indicates if the current RL may, must or must not be combined with the already existing RLs.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Control Field			ENUMERATED(May, Must, Must not)	

9.2.~~2.5~~1.y Diversity Indication

The Diversity Indication indicates if the RL has been or has not been combined with another RL.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Diversity Indication			ENUMERATED (Combined, Not Combined)	

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Document R3-000351
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CHANGE REQUEST

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

25.423	CR	016	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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 [X] Core Network [ ]
(at least one should be marked with an X)

Source: TSG-RAN WG3 **Date:** 17 January 1999

Subject: Rearrangement of Neighbouring Cell Information group

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature	X		Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: Currently the Neighbouring Cell Information contains some redundant contents. This CR proposes to rearrange the Neighbouring Cell Information group in order to reduce the number of octet occupied by this group.

Clauses affected:
9.1.4 RADIO LINK SETUP RESPONSE
9.1.5 RADIO LINK SETUP FAILURE
9.1.7 RADIO LINK ADDITION RESPONSE
9.1.8 RADIO LINK ADDITION FAILURE

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:

help.doc

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

9.1.4 RADIO LINK SETUP RESPONSE

9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1..<maxnoofRLs>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1.. <maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	C-NotFirstRL			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofneighbouringRNCs~~maxnoofFDDneighbours~~>*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per FDD Cell Information		*1..<maxnoofFDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofneighbouringRNCs~~maxnoofTDDneighbours~~>*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per TDD Cell Information		*1..<maxnoofTDDn*		

		eighboursperRNC ≥		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Uplink Eb/No Target	O		Uplink Eb/No	
Downlink Eb/No Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the Node B.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the Node B.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
Maxno*ofneighbouringRNC*s	Maximum number of neighbouring RNCs
MaxnoofFDDneighboursperRNC	Maximum number of neighbouring FDD cell underfor one RNCcell.
MaxnoofTDDneighboursperRNC	Maximum number of neighbouring TDD cell underfor one RNCcell.

9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Uplink Eb/No Target	O		Uplink Eb/No	
Downlink Eb/No Target	O			
UL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoofCCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<MaxnoofDPCHs>*		
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			
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Neighbouring FDD Cell Information	O	*0..<maxnoofneighbouringRNCs~~maxnoofFDDneighbours~~>*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per FDD Cell		*~~0~~1..<maxnoofFDD*		

Information		*neighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofneighbouringRNCs~~maxnoofTDDneighbours~~>*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per TDD Cell Information		*~~0~~1..<maxnoofTDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDPCHs	Maximum no. of DPCHs for one CCTrCH.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofneighbouringRNCs	Maximum number of neighbouring RNCs
MaxnoofFDDneighboursperRNC	Maximum number of neighbouring FDD cell under~~for~~ one RNC~~cell~~
MaxnoofTDDneighboursperRNC	Maximum number of neighbouring TDD cell under~~for~~ one RNC~~cell~~
MaxnoofCCTrCHs	Maximum no. of CCTrCH for one UE.

9.1.5 RADIO LINK SETUP FAILURE

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
D-RNTI	O			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Unsuccessful RL Information Response		*1...<maxnoofRLs>*		
RL ID	M			
Cause	M			
Successful RL Information Response		*0..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes*		
DL Scrambling Code	M			
FDD DL Channelisation Code Number	M			
Diversity Indication	M			
CHOICE *diversity Indication*				
Combining				
RL ID	M			Reference RL ID for the combining
Non Combining or IE not present				"IE not present" is equivalent to "First RL".
DCH Information Response		*0..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Neighbouring FDD Cell Information	O	*0..<maxnoofneighbouringRNCs>*		
RNC~~U~~C-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per FDD Cell Information		*1..<maxnoofFDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information	O	*0..<maxnoofneighbouringRNCs>*		
RNC~~U~~C-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per TDD Cell Information		*1..<maxnoofTDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			

__Frame Offset	O			
__Cell Parameter ID	M			
__Sync Case	M			
__Time Slot	C-Case3			
__PSCH Time Slot	C-Case2&3			
Uplink Eb/No Target	O		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Minimum Uplink Eb/No	M		Uplink Eb/No	
Downlink Eb/No Target	O			
Criticality Diagnostics	O			

Condition	Explanation
IfComb	This IE is present if the 'Diversity Indication' IE indicates 'combining' in the Node B.
IfNotComb	This IE is present if the 'Diversity Indication' IE indicates 'non combining' in the Node B.
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofRLs	Maximum no. of RLs for one UE.
MaxnoofDCHs	Maximum no. of DCHs for one UE.
MaxnoofneighbouringRNCs	Maximum number of neighbouring RNCs
MaxnoofFDDneighboursperRNC	Maximum number of neighbouring FDD cell under one RNC.
MaxnoofTDDneighboursperRNC	Maximum number of neighbouring TDD cell under one RNC.

9.1.5.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1*		
RL ID	M			
Cause	M			
Criticality Diagnostics	O			

9.1.7 RADIO LINK ADDITION RESPONSE

9.1.7.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL Scrambling Code	M			
DL Channelisation Code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofneighbouringRNCs~~maxnoofFDDNeighbours~~>*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per FDD Cell Information		*1..<maxnoofFDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofneighbouringRNCs~~maxnoofTDDNeighbours~~>*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per TDD Cell Information		*1..<maxnoofTDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			

_PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
MaxnoofneighbouringRNCs	Maximum number of neighbouring RNCs
MaxnoofFDDNeighboursperRNC	Maximum number of neighbouring FDD cells ~~for~~under one RNC~~cell~~
MaxnoofTDDNeighboursperRNC	Maximum number of neighbouring TDD cells ~~for~~under one RNC~~cell~~
MaxnoofDLCodes	Maximum number of DL code information

9.1.7.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
RL Information Response		*1*		
RL ID	M			
SAI	M			
UL Interference Level	M			
UL CCTrCH Information		*1..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<maxnoOfDPCHs>*		
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			
DL CCTrCH Information		*1..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
DL DPCH information		*1..<maxnoOfDPCHs>*		
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			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofneighbouringRNCs>~~0..<maxnoofFDDNeighbours>~~*		
RNC~~U~~C-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per FDD Cell Information		*1..<maxnoofFDDn*		

		eighboursperRNC >		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofneighbouringRNCs>~~0.. <maxnoofTDDNeighbours>~~*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per TDD Cell Information		*1..<maxnoofTDDneighboursperRNC >*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Cell Parameter ID	M			
Sync Case	M			
Time Slot	C-Case1			
PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range Bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
Maxno*ofneighbouringRNC*s	Maximum number of neighbouring RNCs
MaxnoofFDDNeighboursperRNC	Maximum number of neighbouring FDD cells under~~for~~ one RNC~~cell~~
MaxnoofTDDNeighboursperRNC	Maximum number of neighbouring TDD cells under~~for~~ one RNC~~cell~~
MaxnoofDLCodes	Maximum number of DL code information
MaxnoOfDPCHs	Maximum number of DPCH in one CCTrCH
MaxnoofCCTrCHs	no. of CCTrCH for one UE.

9.1.8 RADIO LINK ADDITION FAILURE

9.1.8.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1..<maxnoofRLs-1>*		
RL ID	M			
Cause	M			
Succesfull RL Information Response		*1..<maxnoofRLs-2>*		
RL ID	M			
SAI	M			
UL Interference Level	M			
DL Code Information		*1..<maxnoofDLCodes>*		
DL scrambling code	M			
DL channelisation code	M			
Diversity Indication	M			
CHOICE *diversity indication*				
Combining				
RL ID	M			Reference RL-Id
Non combining				
DCH Information Response		*1..<maxnoofDCHs>*		Only one DCH per set of co-ordinated DCHs shall be included.
DCH ID	M			
Binding ID	M			
Transport Layer Address	M			
SSDT Support Indicator	M			
Minimum Uplink Eb/No	M		Uplink Eb/No	
Maximum Uplink Eb/No	M		Uplink Eb/No	
Neighbouring FDD Cell Information		*0..<maxnoofneighbouringRNCs>~~0..<maxnoofFDDNeighbours>~~*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per FDD Cell Information		*1..<maxnoofFDDneighboursperRNC>*		
C-Id	M			
UARFCN	M			
Frame Offset	O			
Primary Scrambling Code	M			
Primary CPICH Power	O			
Neighbouring TDD Cell Information		*0..<maxnoofneighbouringRNCs>~~0..<maxnoofTDDNeighbours>~~*		
RNC~~UC~~-Id	M			
CN PS Domain Identifier	O			
CN CS Domain Identifier	O			
Per TDD Cell Information		*1..<maxnoofTDDneighboursperRNC>*		
C-Id	M			

__UARFCN	M			
__Frame Offset	O			
__Cell Parameter ID	M			
__Sync Case	M			
__Time Slot	C-Case1			
__PSCH Time Slot	C-Case2&3			
Criticality Diagnostics	O			

Condition	Explanation
Case1	This IE is present only if Sync Case = Case1.
Case2&3	This IE is present only if Sync Case = Case2 or Case3.

Range bound	Explanation
MaxnoofDCHs	Maximum number of dedicated channels on one RL
MaxnoofRLs	Maximum number of radio links for one UE
Maxno*ofneighbouringRNC*s	Maximum number of neighbouring RNCs
MaxnoofFDDNeighboursperRNC	Maximum number of neighbouring FDD cells underfor one RNCcell
MaxnoofTDDNeighboursperRNC	Maximum number of neighbouring TDD cells underfor one RNCcell
MaxnoofDLCodes	Maximum number of DL code information

9.1.8.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Transaction ID	M			
Unsuccessful RL Information Response		*1*		
RL ID	M			
Cause	M			
Criticality Diagnostics	O			

9.3.3 PDU Definitions

```
    ....
    maxNoOfDL-Codes,
    maxNrOfCCTrCHs,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDPCHs,
    maxNrOfFACH-FD-Size,
    maxNrOfFDD-Neighbours,
    maxNrOfMACcSDU-Length,
    maxNrOfTDD-Neighbours,
    maxNrOfRLs,
    maxNrOfSCCPCHs,
    maxRNCinURA,
    maxnoofneighbouringRNCs
    maxnoofFDDneighboursperRNC
    maxnoofTDDneighboursperRNC

FROM RNSAP-Constants;


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

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

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

RL-InformationResponseList-RL-SetupRspFDD       ::= RL-IE-ContainerList { {RL-
InformationResponseItemIEs-RL-SetupRspFDD} }

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

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-SetupRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp
OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp
OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-
SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-
CodeInformationItem-RL-SetupRspFDD

DL-CodeInformationItem-RL-SetupRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupRspFDD      DCH-InformationResponseList-RL-SetupRspFDD
    OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-
SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-
InformationResponseItem-RL-SetupRspFDD

DCH-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-
SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfFDD Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupRsp

NeighbouringFDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    rNC-IDuC-ID                     RNC-IDC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-FDD-Cell-Information            Per-FDD-Cell-Information,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-
CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Per-FDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofFDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                        C-Id,
        uARFCN                      UARFCN,
        frameOffset                 FrameOffset         OPTIONAL,
        primaryScramblingCode               PrimaryScramblingCode,
        primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-FDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

Per-FDD-Cell-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

NeighbouringTDD-CellInformationList-RL-SetupRsp ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupRsp

NeighbouringTDD-CellInformationItem-RL-SetupRsp ::= SEQUENCE {
    rNC-IDc-ID                      RNC-IDC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-TDD-Cell-Information            Per-TDD-Cell-Information,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot            OPTIONAL
    -- This IE is present only if SyncCase is Case1 -- ,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH PCCPCH Allocation = Case3 -- ,
    ul-EbNo                     UL-EbNo             OPTIONAL,
    dl-EbNo                     DL-EbNo             OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-
CellInformationItem-RL-SetupRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-SetupRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Per-TDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofTDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                        C-Id,
        uARFCN                      UARFCN,
        frameOffset                 FrameOffset     OPTIONAL,
        cellParameterID             CellParameterID,
        syncCase                        SyncCase,
        timeSlot                    TimeSlot            OPTIONAL,
        -- This IE is present only if SyncCase is Case1 -- ,
        pSCH-TimeSlot                   PSCH-TimeSlot   OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-TDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

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

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

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

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

RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE
optional    } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier
    PRESENCE optional   } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier
    PRESENCE optional   } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  TYPE RL-InformationResponse-
RL-SetupRspTDD  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics
    PRESENCE optional   },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
```

```
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    ul-EbNoTarget                   UL-EbNo                     OPTIONAL,
    dl-EbNoTarget                   DL-EbNo                     OPTIONAL,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-SetupRspTDD,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-SetupRspTDD,
    dCH-InformationResponse             DCH-InformationResponseList-RL-SetupRspTDD,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp
OPTIONAL,
-- refer to "NeighbouringFDD-CellInformationList-RL-SetupRsp" in the "RL Seup Response FDD"
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp
    OPTIONAL,
-- refer to "NeighbouringFDD-CellInformationList-RL-SetupRsp" in the "RL Seup Response FDD"
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-
SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-
CCTrCHInformationItem-RL-SetupRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-
InformationItem-RL-SetupRspTDD

-- **NOTE: UL-DPCH-InformationItem-RL-SetupRspTDD and DL-DPCH-InformationItem-RL-SetupRspTDD
--         are currently similar. Combine them? **
UL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-
SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-
CCTrCHInformationItem-RL-SetupRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
```

```
DL-DPCH-InformationList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-
InformationItem-RL-SetupRspTDD

DL-DPCH-InformationItem-RL-SetupRspTDD ::= 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,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-
SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DCH-InformationResponseList-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-
InformationResponseItem-RL-SetupRspTDD

DCH-InformationResponseItem-RL-SetupRspTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-
SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

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

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

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

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {UnsuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

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

```
    ...
}

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

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

SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

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

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-SetupFailureFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupFailureFDD
OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupFailureFDD
OPTIONAL,
    ul-EbNoTarget                   UL-EbNo,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    dl-EbNoTarget                   DL-EbNo,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-
RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}
-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-
CodeInformationItem-RL-SetupFailureFDD

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

DL-CodeInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-SetupFailureFDD      DCH-InformationResponseList-RL-
SetupFailureFDD OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-
SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-
InformationResponseItem-RL-SetupFailureFDD

DCH-InformationResponseItem-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
```

```
    iE-Extensions                    ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-
SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringFDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    rNC-IDuC-ID                      RNC-IDC-ID,
    cN-PS-DomainIdentifier               CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier               CN-CS-DomainIdentifier      OPTIONAL,
    per-FDD-Cell-Information             Per-FDD-Cell-Information,
    uARFCN                           UARFCN,
    frameOffset                      FrameOffset          OPTIONAL,
    primaryScramblingCode                PrimaryScramblingCode,
    primaryCPICH-Power               PrimaryCPICH-Power       OPTIONAL,
    iE-Extensions                    ProtocolExtensionContainer { {NeighbouringFDD-
CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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


Per-FDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofFDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                             C-Id,
        uARFCN                           UARFCN,
        frameOffset                  FrameOffset          OPTIONAL,
        primaryScramblingCode            PrimaryScramblingCode,
        primaryCPICH-Power               PrimaryCPICH-Power       OPTIONAL,
        iE-Extensions                    ProtocolExtensionContainer { { Per-FDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

Per-FDD-Cell-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


NeighbouringTDD-CellInformationList-RL-SetupFailureFDD ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD

NeighbouringTDD-CellInformationItem-RL-SetupFailureFDD ::= SEQUENCE {
    rNC-IDuC-ID                      RNC-IDC-ID,
    cN-PS-DomainIdentifier               CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier               CN-CS-DomainIdentifier      OPTIONAL,
    per-TDD-Cell-Information             Per-TDD-Cell-Information,
    uARFCN                           UARFCN,
    frameOffset                      FrameOffset          OPTIONAL,
    cellParameterID                      CellParameterID,
    syncCase                         SyncCase,
    timeSlot                         TimeSlot,
    pSCH-TimeSlot                        PSCH-TimeSlot            OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 --,
    iE-Extensions                    ProtocolExtensionContainer { {NeighbouringTDD-
CellInformationItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

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


Per-TDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofTDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                             C-Id,
        uARFCN                           UARFCN,
        frameOffset                  FrameOffset      OPTIONAL,
        cellParameterID              CellParameterID,
        syncCase                         SyncCase,
        timeSlot                         TimeSlot             OPTIONAL,
```

```
        -- This IE is present only if SyncCase is Case1 -- ,
        pSCH-TimeSlot                   PSCH-TimeSlot   OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-TDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

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


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

----------partly omitted----------

```
-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- **************************************************************

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

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE
optional    } |
    { ID id-RL-InformationResponseList-RL-AdditionRspFDD
                          CRITICALITY ignore  TYPE RL-InformationResponseList-RL-AdditionRspFDD
                                                          PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics
    PRESENCE optional   },
    ...
}

RL-InformationResponseList-RL-AdditionRspFDD        ::= RL-IE-ContainerList { {RL-
InformationResponseItemIEs-RL-AdditionRspFDD} }

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

RL-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionRspFDD,
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-SetupRsp
OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-SetupRsp
OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-
AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
```

```
DL-CodeInformationList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-
CodeInformationItem-RL-AdditionRspFDD

DL-CodeInformationItem-RL-AdditionRspFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    -- ** NOTE: How many alternatives are there, 2 or 3? **
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-
AdditionRspFDD  OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-
AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionRspFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-
InformationResponseItem-RL-AdditionRspFDD

DCH-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-
AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Both FDD and TDD messages use these definitions **
NeighbouringFDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs~~1..maxNrOfFDD-Neighbours~~)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRsp

NeighbouringFDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    rNC-ID~~uC-ID~~                     RNC-ID~~C-ID~~,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-FDD-Cell-Information            Per-FDD-Cell-Information,
    ~~uARFCN                        UARFCN,~~
    ~~frameOffset                   FrameOffset         OPTIONAL,~~
    ~~primaryScramblingCode             PrimaryScramblingCode,~~
    ~~primaryCPICH-Power                PrimaryCPICH-Power      OPTIONAL,~~
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-
CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Per-FDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofFDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                            C-Id,
        uARFCN                          UARFCN,
        frameOffset                 FrameOffset         OPTIONAL,
        primaryScramblingCode           PrimaryScramblingCode,
        primaryCPICH-Power              PrimaryCPICH-Power          OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-FDD-Cell-Information -
ExtIEs} } OPTIONAL,
        ...
    }

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

```
NeighbouringTDD-CellInformationList-RL-AdditionRsp ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRsp

NeighbouringTDD-CellInformationItem-RL-AdditionRsp ::= SEQUENCE {
    rNC-IDuC-ID                     RNC-IDC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-TDD-Cell-Information            Per-TDD-Cell-Information,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-
CellInformationItem-RL-AdditionRsp-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionRsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


Per-TDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofTDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                            C-Id,
        uARFCN                          UARFCN,
        frameOffset                 FrameOffset     OPTIONAL,
        cellParameterID             CellParameterID,
        syncCase                        SyncCase,
        timeSlot                        TimeSlot            OPTIONAL,
        -- This IE is present only if SyncCase is Case1 -- ,
        pSCH-TimeSlot                   PSCH-TimeSlot   OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-TDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

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


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

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

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

RadioLinkAdditionResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                     PRESENCE
optional    } |
    { ID id-RL-InformationResponse-RL-AdditionRspTDD
                            CRITICALITY ignore  TYPE RL-InformationResponse-RL-AdditionRspTDD
    PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics
    PRESENCE optional   },
    ...
}

RL-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel                ScaledUL-InterferenceLevel,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-AdditionRspTDD,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-AdditionRspTDD,
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
```

```
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionRspFDD       DCH-InformationResponseList-RL-
AdditionRspFDD  OPTIONAL
        }
    }                                       OPTIONAL,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-AdditionRspTDD
    OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-AdditionRspTDD
    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-
AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
UL-CCTrCHInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-
CCTrCHInformationItem-RL-AdditionRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
UL-DPCH-InformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF UL-DPCH-
InformationItem-RL-AdditionRspTDD

UL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    tDD-ChannelisationCode              TDD-ChannelisationCode,
    burstType                   BurstType,
    midambleShift                   MidambleShift,
    timeSlot                    TimeSlot,
    offset                      Offset,
    tDD-PhysicalChannelOffset           TDD-PhysicalChannelOffset,
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tFCI-Presence                   TFCI-Presence,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-
AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

-- ** NOTE: Shall this be made as an IE container? **
DL-CCTrCHInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-
CCTrCHInformationItem-RL-AdditionRspTDD

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

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

-- ** NOTE: Shall this be made as an IE container? **
DL-DPCH-InformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF DL-DPCH-
InformationItem-RL-AdditionRspTDD

DL-DPCH-InformationItem-RL-AdditionRspTDD ::= 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,
    iE-Extensions                       ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-
AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringFDD-CellInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfFDD-Neighbours)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD

NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    rNC-IDuC-ID                     RNC-IDC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-FDD-Cell-Information            Per-FDD-Cell-Information,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-
CellInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
Per-FDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofFDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                        C-Id,
        uARFCN                      UARFCN,
        frameOffset                 FrameOffset         OPTIONAL,
        primaryScramblingCode           PrimaryScramblingCode,
        primaryCPICH-Power              PrimaryCPICH-Power          OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-FDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

Per-FDD-Cell-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDD-CellInformationList-RL-AdditionRspTDD ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD

NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    rNC-IDuC-ID                     RNC-IDC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-TDD-Cell-Information            Per-TDD-Cell-Information,
    uARFCN                      UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                    SyncCase,
    timeSlot                    TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-
CellInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Per-TDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofTDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                        C-Id,
```

```
        uARFCN                          UARFCN,
        frameOffset                     FrameOffset     OPTIONAL,
        cellParameterID                 CellParameterID,
        syncCase                        SyncCase,
        timeSlot                        TimeSlot            OPTIONAL,
        -- This IE is present only if SyncCase is Case1 -- ,
        pSCH-TimeSlot                   PSCH-TimeSlot   OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-TDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

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


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

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- **************************************************************

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

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponseList-RL-
AdditionFailureFDD
                                                                    PRESENCE mandatory  } |
    { ID id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponseList-RL-
AdditionFailureFDD
                                                                    PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics
    PRESENCE optional   },
    ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList {
{UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }

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

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

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

SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= RL-IE-ContainerList { {SuccessfulRL-
InformationResponse-RL-AdditionFailureFDD-IEs} }

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
                            CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-
AdditionFailureFDD
                                                                    PRESENCE mandatory  },
    ...
}
```

```
SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sAI                     SAI,
    ul-InterferenceLevel            ScaledUL-InterferenceLevel,
    dl-CodeInformation          DL-CodeInformationList-RL-AdditionFailureFDD,
    sSDT-SupportIndicator           SSDT-SupportIndicator,
    maxUL-EbNo                  UL-EbNo,
    minUL-EbNo                  UL-EbNo,
    neighbouringFDD-CellInformation         NeighbouringFDD-CellInformationList-RL-
AdditionFailureFDD OPTIONAL,
    neighbouringTDD-CellInformation         NeighbouringTDD-CellInformationList-RL-
AdditionFailureFDD OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-
RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DL-CodeInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNoOfDL-Codes)) OF DL-
CodeInformationItem-RL-AdditionFailureFDD

DL-CodeInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dl-ScramblingCode               DL-ScramblingCode,
    dl-ChannelisationCode               DL-ChannelisationCode,
    diversityIndication             CHOICE {
        combining                   SEQUENCE {
            rL-ID                       RL-ID
        },
        nonCombiningOrIENotPresent          SEQUENCE {
            dCH-InformationResponse-RL-AdditionFailureFDD       DCH-InformationResponseList-RL-
AdditionFailureFDD  OPTIONAL
        }
    }                                       OPTIONAL
    -- This IE is present only if the RL is not the first on in the RL Information -- ,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CodeInformationItem-RL-
AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CodeInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** NOTE: Shall this be made as an IE container? **
DCH-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-
InformationResponseItem-RL-AdditionFailureFDD

DCH-InformationResponseItem-RL-AdditionFailureFDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID,
    transportLayerAddress               TransportLayerAddress,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-InformationResponseItem-RL-
AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringFDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs~~1..maxNrOfFDD-Neighbours~~)) OF
    NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    ~~rNC-IDuC-ID~~                     RNC-ID~~C-ID~~,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-FDD-Cell-Information            Per-FDD-Cell-Information,
    ~~uARFCN                        UARFCN,~~
    ~~frameOffset                   FrameOffset             OPTIONAL,~~
    ~~primaryScramblingCode             PrimaryScramblingCode,~~
    ~~cPICH-Power                   CPICH-Power             OPTIONAL,~~
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringFDD-
CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

Per-FDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofFDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                            C-Id,
        uARFCN                          UARFCN,
        frameOffset                 FrameOffset         OPTIONAL,
        primaryScramblingCode           PrimaryScramblingCode,
        primaryCPICH-Power              PrimaryCPICH-Power          OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-FDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

Per-FDD-Cell-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


NeighbouringTDD-CellInformationList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE
(0..maxnoofneighbouringRNCs1..maxNrOfTDD-Neighbours)) OF
    NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD ::= SEQUENCE {
    rNC-IDuC-ID                     RNC-IDC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    per-TDD-Cell-Information            Per-TDD-Cell-Information,
    uARFCN                          UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                        SyncCase,
    timeSlot                        TimeSlot,
    pSCH-TimeSlot                   PSCH-TimeSlot           OPTIONAL
    -- This IE is present only if pSCH-PCCPCH-Allocation = Case3 -- ,
    iE-Extensions                   ProtocolExtensionContainer { {NeighbouringTDD-
CellInformationItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDD-CellInformationItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Per-TDD-Cell-Information ::= SEQUENCE ( SIZE (1..maxnoofTDDneighboursperRNC)) OF
    SEQUENCE {
        c-Id                            C-Id,
        uARFCN                          UARFCN,
        frameOffset                 FrameOffset     OPTIONAL,
        cellParameterID             CellParameterID,
        syncCase                        SyncCase,
        timeSlot                        TimeSlot            OPTIONAL,
        -- This IE is present only if SyncCase is Case1 -- ,
        pSCH-TimeSlot                   PSCH-TimeSlot   OPTIONAL,
        iE-Extensions                   ProtocolExtensionContainer { { Per-TDD-Cell-Information -
ExtIEs} } OPTIONAL,
    ...
    }

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


RadioLinkAdditionFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

9.3.6 Constant Definitions

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

-- **************************************************************
-- **************************************************************
```

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

maxRateMatching                             INTEGER ::= 10
maxNrOfTFCs                               INTEGER ::= 10
maxNrOfTFs                                INTEGER ::= 10

maxNoOfDL-Codes                             INTEGER ::= 10
maxNrOfCCTrCHs                              INTEGER ::= 10
maxNrOfDCHs                               INTEGER ::= 10
maxNrOfDL-Codes                             INTEGER ::= 10
maxNrOfDPCHs                                INTEGER ::= 10
maxNrOfErrors                               INTEGER ::= 10
maxNrOfFACH-FD-Size                         INTEGER ::= 10
maxNrOfFDD-Neighbours                           INTEGER ::= 10
maxNrOfMACcSDU-Length                           INTEGER ::= 10
maxNrOfTDD-Neighbours                           INTEGER ::= 10
maxNrOfRLs                                INTEGER ::= 10
maxNrOfSCCPCHs                              INTEGER ::= 10
maxRNCinURA                               INTEGER ::= 10
maxTTI-Count                                INTEGER ::= 10
maxnoofneighbouringRNCs                         INTEGER::= 10
maxnoofFDDneighboursperRNC                      INTEGER::= 10
maxnoofTDDneighboursperRNC                      INTEGER::= 10
```

TSG-RAN Working Group 3 Meeting #11
Sophia Antipolis, France, 28th February – 3rd March 2000

Document R3-000483
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.

25.423	CR	021	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	for approval	X	Strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: RAN-WG3 **Date:** 28th Feb. – 3rd March 2000

Subject: Clarification of the relation between the UL and DL Signalling Transfer procedures an the Uu Interface

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
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	X		Release 99	X
				Release 00	

Reason for change: The current UL and DL Signalling Transfer procedures do not clearly indicated the relation between the procedures and the Uu interface.

It is not clear that the procedures only relate to the CCCH. Further more, it is not clear that the SRNC-ID is derived from the U-RNTI-

(Any transfer on the DCCH in a cell controlled by a DRNC shall use the Iur User Plane.)

Clauses affected: 8.2.1, 8.2.2

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:

8.2.1 Uplink SignallingTransfer

8.2.1.1 General

The procedure is used by the ~~SRNC~~ DRNC to forward a Uu message received on the CCCH ~~request~~ to the ~~DRNC~~ SRNC ~~the transfer of a Uu message. When used, the procedure is in response to a received Uplink Signalling Transfer procedure.~~

This procedure shall use the connectionless mode of the signalling bearer.

8.2.1.2 Successful Operation

When the CRNC receives an Uu message on the CCCH where the UE addressing information is U-RNTI, i.e. S-RNTI and SRNC-ID, and the SRNC ID identifies another RNC than the CRNC, the CRNC shall send the UPLINK SIGNALLING TRANSFER message to the SRNC identified by the SRNC-ID received from the UE.

The CRNC shall include in the message the URA Identity of the URA where the Uu message was received, an indication on whether or not the accessed cell belongs to multiple URAs, and the RNC Identity of all other RNCs that are having at least one cell within the URA where the Uu message was received.

If the message received from the UE was the first message from that UE in the CRNC, the CRNC shall include the D-RNTI and the identifiers for the CN CS Domain and CN PS Domain that the CRNC is connected to in the UPLINK SIGNALLING TRANSFER INDICATION message. These CN Domain Identifiers shall be based on the LAC and RAC respectively of the cell where the message was received from the UE.

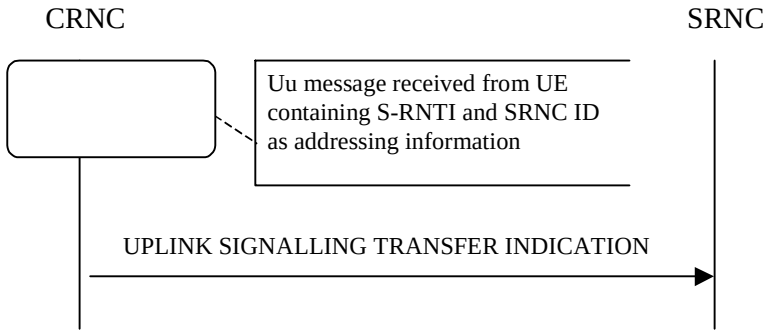

Figure 1: Uplink Signalling Transfer procedure, Successful Operation.

8.2.1.3 Abnormal Conditions

-

8.2.2 Downlink SignallingTransfer

8.2.2.1 General

The procedure is used by the SRNC to request to the DRNC the transfer of a Uu message on the CCCH in a cell. When used, the procedure is in response to a received Uplink Signalling Transfer procedure.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.2.2 Successful Operation

The procedure consists of the DOWNLINK SIGNALLING TRANSFER REQUEST message sent by the SRNC to the DRNC.

The message contains the Cell Identifier (C-Id) contained in the received UPLINK SIGNALLING TRANSFER message and the D-RNTI.

At the reception of the message, the DRNC shall send the L3 Information on the CCCH in the cell indicated by the *C-Id* IE to the UE identified by the D-RNTI.

If the D-RNTI release indication parameters indicates 'release D-RNTI', the D-RNTI and thus the UE Context and any DRNS resource allocated to the UE Context shall be released at the reception of the message.

Figure 2: Downlink Signalling Transfer procedure, Successful Operation

8.2.2.3 Abnormal Conditions

If the user identified by the D-RNTI is not camping in the cell identified by the C-Id in the RNSAP message, the message shall be ignored.

If the D-RNTI is allocated to one UE context whose status does not allow the sending of the L3 information from the DRNC, then the message shall be ignored.

TSG RAN WG3 Meeting #11
Sophia Antipolis, France, 28 Feb – 03 Mar 2000

***Document* R3-000488**
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.

25.423	CR	23	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: RAN-WG3 **Date:** 00.02.28

Subject: Clarification of measurement characteristics

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change:

There is a need for the SRNC to be able to control the amount of filtering performed on physical layer measurements prior to reporting (and event evaluation).

By controlling the measurement filtering with a standardised algorithm the network is able to fine-tune the compromise between amount of reported events (Iub/Iur load) and response time. It is also possible to fine tune the compromise between amount of hysteresis used and amount of averaging filtering performed. The proposed standardised algorithm will also enable the SRNC to get a more consistent event reporting behaviour from Node B's with different physical layer measurement implementation working in different radio propagation conditions.
In 25.133 v2.3.0 the measurement performance requirement stated is valid when a specific measurement period for the physical layer measurement is used. The measurement period is assumed to be defined short enough to allow the measurement period also to be used as defining the period time of the physical layer measurements.

By specifying a very simple averaging algorithm the SRNC will be given the option to control the filtering and reporting.
This proposed CR include the changes needed to support a SRNC controlled filtering for the Node B.

Clauses affected: 8.3.11, 9.1.28, 9.2.1.X (new), 9.3.3

Other specs affected:

Other 3G core specifications	X	→ List of CRs:	25.331 CR 146r1, 25.423 CR 35 (R3-000487)
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.

8.3.11 Measurement Initiation

[Editor's note: According to TSGR#5 (99)564, the following measurements shall also be considered:
* Time of Arrival
* Frequency Offset
* Round Trip Time
* RX Timing Deviation

Whether these measurements shall be dedicated or common measurements have so far not been considered by TSG RAN WG3 and are thus not incorporated.]

8.3.11.1 General

This procedure is used by an SRNS to request the initiation of measurements in a DRNS.

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

8.3.11.2 Successful Operation

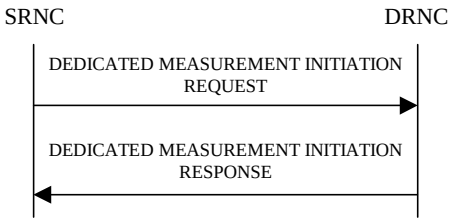

Figure 1: Measurement Initiation procedure, Successful Operation

The procedure is initiated with a DEDICATED MEASUREMENT INITIATION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNC 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 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 UE Context. If RL Information is provided in the request, the measurement request shall apply for the requested radio links individually.

The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed.

If the *Report Characteristics* IE indicates 'On-Demand', the DRNS shall report the measurement result immediately.

If the *Report Characteristics* IE indicates 'Periodic', the DRNS shall periodically initiate a Measurement Report procedure for this measurement, with the requested report frequency.

If the *Report Characteristics* IE indicates 'Event A', the DRNS 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 DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE indicates 'Event B', the DRNS 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 DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE indicates 'Event C', the DRNS 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 DRNS 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 DRNS 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 DRNS 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 DRNS shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the DRNS shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the DRNC shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE indicates 'Event F', the DRNS 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 DRNS 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 DRNS shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the DRNS shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the DRNC 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 DRNS shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as in normal operation.

The *Measurement Filter Coefficient* IE indicates how filtering of the measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows

F_n is the updated filtered measurement result

F_{n-1} is the old filtered measurement result

M_n is the latest received measurement result from physical layer measurements

a = one divided by the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, a shall be set to 1 (no filtering)

In order to initialize the averaging filter, F_0 is set to M_1 when the first measurement result from the physical layer measurement is received.

If the DRNS was able to initiate the measurement requested by the SRNS it shall respond with the DEDICATED MEASUREMENT INITIATION RESPONSE message using the connection-oriented service of the signalling bearer. 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 DEDICATED 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.

NEXT SECTION WITH CHANGES

9.1.28 DEDICATED MEASUREMENT INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Message Type	M			
Transaction Id	M			
Measurement Id	M			
Dedicated Measurement Object Type	M			
CHOICE *Dedicated Measurement Object Type*				
"RL"				
RL Information		*1..<maxnoofRLs>*		
RL-id	M			
DPCH Id	O			
Dedicated Measurement Type	M			
Measurement ~~Characteristics~~Filter Coefficient	~~M~~O			
Report Characteristics	M			

Range bound	Explanation
MaxnoofRLs	Maximum number of individual RLs a measurement can be started on.

NEXT SECTION WITH CHANGES

9.2.1.X Measurement Filter Coefficient

The Measurement Filter Coefficient determines the amount of filtering to be applied for measurements.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Measurement Filter Coefficient	M		INTEGER (1..256)	

~~9.2.1.28 Measurement Characteristics~~

~~The Measurement Characteristics indicates how the measurement shall be performed.~~

~~IE/Group Name~~	~~Presence~~	~~Range~~	~~IE Type and Reference~~	~~Semantics Description~~
~~Measurement Characteristics~~				
~~Measurement Frequency~~	~~M~~		~~TBD~~	
~~Averaging Duration~~	~~M~~		~~TBD~~	

~~Editors Note: The exact definition and structure is this information element awaits decisions in TSG RAN WG2.~~

NEXT SECTION WITH CHANGES

9.3.3 PDU Definitions

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

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

BEGIN

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

IMPORTS
    AllocationRetentionPriority,
    AllowedQueuingTime,
    BLER,
    BindingID,
    BurstType,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CPICH-EcIo,
    CPICH-Power,
    Cause,
    CellParameterID,
    ChipOffset,
    CompressedModeMethod,
    CriticalityDiagnostics,
    D-FieldLength,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-CombinationInd,
    DCH-ID,
    DL-ChannelisationCode,
    DL-DPCCH-SlotFormat,
    DL-DPCH-SlotNumber,
    DL-EbNo,
    DL-EbNoTarget,
    DL-FrameType,
    DL-Power,
    DL-ScramblingCode,
    DPCH-ID,
    DRX-Parameter,
    DedicatedMeasurementValue,
    DiversityControlField,
    DiversityMode,
    FACH-DataFrameSize,
    FACH-InitialWindowSize,
    FACH-PriorityIndicator,
    FDD-DL-ChannelisationCodeNumber,
    FDD-S-CCPCH-Offset,
    FrameHandlingPriority,
    FrameOffset,
    GapPeriod,
    GapPositionMode,
    L3-Information,
    MAC-c-SDU-Length,
    MaxNrOfUL-DPCHs,
    MeanBitRate,
    Measurement~~Characteristics~~FilterCoefficient,
    MeasurementID,
    MidambleShift,
    MinUL-ChannelisationCodeLength,
    MultipleURAsIndicator,
```

```
    MultiplexingPosition,
    Offset,
    PD,
    PSCH-PCCPCH-TimeSlot,
    PSCH-TimeSlot,
    PayloadCRC-PresenceIndicator,
    PilotBitsUsedIndicator,
    PowerControlMode,
    PowerOffset,
    PowerResumeMode,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    RANAP-RelocationInformation,
    RL-ID,
    RLC-Mode,
    RNC-ID,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    S-FieldLength,
    S-RNTI,
    SAI,
    SN,
    SRNC-ID,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    ScaledUL-InterferenceLevel,
    ScramblingCode,
    ScramblingCodeChange,
    SecondaryCCPCH-SlotFormat,
    SyncCase,
    TDD-ChannelisationCode,
    TDD-PhysicalChannelOffset,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TGD,
    TGL,
    TPC-StepSize,
    TimeSlot,
    ToAWE,
    ToAWS,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TransportFormatCombinationSet,
    TransportFormatSet,
    TransportLayerAddress,
    UARFCN,
    UC-ID,
    UL-DL-CompressedModeSelection,
    UL-DPCCH-SlotFormat,
    UL-EbNo,
    UL-EbNoTarget,
    UL-FP-Mode,
    UL-ScramblingCode,
    URA-ID
FROM RNSAP-IEs

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

    maxNoOfDL-Codes,
    maxNrOfCCTrCHs,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
```

```
    maxNrOfDPCHs,
    maxNrOfFACH-FD-Size,
    maxNrOfFDD-Neighbours,
    maxNrOfMACcSDU-Length,
    maxNrOfTDD-Neighbours,
    maxNrOfRLs,
    maxNrOfSCCPCHs,
    maxRNCinURA,

    id-AllowedQueuingTime,
    id-BindingID,
    id-C-ID,
    id-C-RNTI,
    id-CCTrCH-ID,
    id-CFN,
    id-CN-CS-DomainIdentifier,
    id-CN-PS-DomainIdentifier,
    id-Cause,
    id-CompressedModeMethod,
    id-CriticalityDiagnostics,
    id-D-RNTI,
    id-D-RNTI-ReleaseIndication,
    id-DCH-AddItem,
    id-DCH-AddItem-RL-ReconfPrepFDD,
    id-DCH-AddItem-RL-ReconfPrepTDD,
    id-DCH-AddItem-RL-ReconfReadyFDD,
    id-DCH-AddItem-RL-ReconfRqstFDD,
    id-DCH-AddItem-RL-ReconfRqstTDD,
    id-DCH-AddList-RL-ReconfPrepFDD,
    id-DCH-AddList-RL-ReconfPrepTDD,
    id-DCH-AddList-RL-ReconfRqstFDD,
    id-DCH-AddList-RL-ReconfRqstTDD,
    id-DCH-DeleteItem-RL-ReconfPrepFDD,
    id-DCH-DeleteItem-RL-ReconfPrepTDD,
    id-DCH-DeleteItem-RL-ReconfRqstFDD,
    id-DCH-DeleteItem-RL-ReconfRqstTDD,
    id-DCH-DeleteList-RL-ReconfPrepFDD,
    id-DCH-DeleteList-RL-ReconfPrepTDD,
    id-DCH-DeleteList-RL-ReconfRqstFDD,
    id-DCH-DeleteList-RL-ReconfRqstTDD,
    id-DCH-Information-RL-SetupReqFDD,
    id-DCH-InformationItem-RL-SetupReqFDD,
    id-DCH-InformationItem-RL-SetupReqTDD,
    id-DCH-InformationList-RL-SetupReqTDD,
    id-DCH-ModifyItem,
    id-DCH-ModifyItem-RL-ReconfPrepFDD,
    id-DCH-ModifyItem-RL-ReconfPrepTDD,
    id-DCH-ModifyItem-RL-ReconfReadyFDD,
    id-DCH-ModifyItem-RL-ReconfRqstFDD,
    id-DCH-ModifyItem-RL-ReconfRqstTDD,
    id-DCH-ModifyList-RL-ReconfPrepFDD,
    id-DCH-ModifyList-RL-ReconfPrepTDD,
    id-DCH-ModifyList-RL-ReconfRqstFDD,
    id-DCH-ModifyList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-Information-RL-ReconfPrepTDD,
    id-DL-CCTrCH-Information-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD,
    id-DL-CCTrChInformationItem-RL-SetupReqTDD,
    id-DL-CCTrChInformationList-RL-SetupReqTDD,
    id-DL-CodeInformation-PhyChReconfRqstFDD,
    id-DL-DPCH-Information,
    id-DL-DPCH-Information-RL-SetupReqFDD,
    id-DL-DPCH-InformationList-PhyChReconfRqstTDD,
    id-DL-DPCH-InformationList-RL-ReconfReadyTDD,
    id-DL-EbNoTarget,
    id-DL-FrameType,
    id-DL-MeanBitRate,
    id-DL-ReferencePowerInformation-DL-PC-Rqst,
    id-DRX-Parameter,
    id-DedicatedMeasurementObjectType-DM-Rprt,
    id-DedicatedMeasurementObjectType-DM-Rqst,
    id-DedicatedMeasurementObjectType-DM-Rspns,
    id-FACH-InfoForOptionalGroupS-CCPCH,
    id-FACH-InfoForOptionalS-CCPCH,
    id-FACH-InfoForS-CCPCH-CoupledToPRACH,
    id-GapPositionMode,
    id-L3-Information,
    id-MeasurementCharacteristicsFilterCoefficient,
    id-MeasurementID,
```

```
    id-MultipleURAsIndicator,
    id-PD,
    id-PagingArea-PagingRqst,
    id-PowerControlMode,
    id-PowerResumeMode,
    id-ProcedureScope-DL-PC-Rqst,
    id-RANAP-RelocationInformation,
    id-RL-Information-PhyChReconfRqstFDD,
    id-RL-Information-PhyChReconfRqstTDD,
    id-RL-Information-RL-AdditionRqstFDD,
    id-RL-Information-RL-AdditionRqstTDD,
    id-RL-Information-RL-DeletionRqst,
    id-RL-Information-RL-FailureInd,
    id-RL-Information-RL-ReconfPrepFDD,
    id-RL-Information-RL-RestoreInd,
    id-RL-Information-RL-SetupReqFDD,
    id-RL-Information-RL-SetupReqTDD,
    id-RL-InformationItem-DM-Rprt,
    id-RL-InformationItem-DM-Rqst,
    id-RL-InformationItem-DM-Rspns,
    id-RL-InformationItem-RL-SetupReqFDD,
    id-RL-InformationList-RL-AdditionRqstFDD,
    id-RL-InformationList-RL-DeletionRqst,
    id-RL-InformationList-RL-FailureInd,
    id-RL-InformationList-RL-ReconfPrepFDD,
    id-RL-InformationList-RL-RestoreInd,
    id-RL-InformationResponse-RL-AdditionRspTDD,
    id-RL-InformationResponse-RL-ReconfReadyTDD,
    id-RL-InformationResponse-RL-SetupRspTDD,
    id-RL-InformationResponseItem-RL-AdditionRspFDD,
    id-RL-InformationResponseItem-RL-ReconfReadyFDD,
    id-RL-InformationResponseItem-RL-SetupRspFDD,
    id-RL-InformationResponseList-RL-AdditionRspFDD,
    id-RL-InformationResponseList-RL-ReconfReadyFDD,
    id-RL-InformationResponseList-RL-SetupRspFDD,
    id-RL-ReconfigurationFailure-RL-ReconfFail,
    id-RL-ReconfigurationFailureList-RL-ReconfFail,
    id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind,
    id-ReportCharacteristics,
    id-S-RNTI,
    id-SAI,
    id-SN,
    id-SRNC-ID,
    id-ScramblingCodeChange,
    id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
    id-TGD,
    id-TGL,
    id-TGP1,
    id-TGP2,
    id-TransportBearerID,
    id-TransportBearerRequestIndicator,
    id-TransportLayerAddress,
    id-UC-ID,
    id-UL-CCTrCH-Information-RL-ReconfPrepTDD,
    id-UL-CCTrCH-Information-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD,
    id-UL-CCTrChInformationItem-RL-SetupReqTDD,
    id-UL-CCTrChInformationList-RL-SetupReqTDD,
    id-UL-DL-CompressedModeSelection,
    id-UL-DPCH-Information,
    id-UL-DPCH-Information-RL-SetupReqFDD,
    id-UL-DPCH-InformationList-PhyChReconfRqstTDD,
    id-UL-DPCH-InformationList-RL-ReconfReadyTDD,
    id-UL-DeltaEbNo,
    id-UL-DeltaEbNoAfter,
    id-UL-EbNoTarget,
    id-UL-MeanBitRate,
    id-URA-ID,
    id-UnsuccessfulRL-InformationResponse,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
    id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD
FROM RNSAP-Constants;
```

NEXT SECTION WITH CHANGES

```
-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
--
-- **************************************************************

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

DedicatedMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID
    PRESENCE mandatory  } |
    { ID id-DedicatedMeasurementObjectType-DM-Rqst  CRITICALITY ignore  TYPE
DedicatedMeasurementObjectType-DM-Rqst  PRESENCE mandatory  } |
    { ID id-Measurement~~Characteristics~~FilterCoefficient     CRITICALITY ignore  TYPE
Measurement~~Characteristics~~FilterCoefficient         PRESENCE ~~mandatory~~optional  } |
    { ID id-ReportCharacteristics           CRITICALITY ignore  TYPE ReportCharacteristics
    PRESENCE mandatory  },
    ...
}
```

NEXT SECTION WITH CHANGES

```
-- M

-- ** TODO **
MaxNrOfUL-DPCHs             ::= INTEGER

MAC-c-SDU-Length            ::= INTEGER (1..5000)

-- **TODO**
MACd-MACsh-TransportFormatSet       ::= INTEGER

~~-- **NOTE: extensibility**~~
~~MeasurementCharacteristics ::= SEQUENCE {~~
~~    measuremtFrequence        TBD,~~
~~    averagingDuration         TBD,~~
~~    iE-Extensions             ProtocolExtensionContainer { {MeasurementCharacteristics-ExtIEs} }
OPTIONAL,~~
~~    ...~~
~~}~~

~~MeasurementCharacteristics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {~~
~~    ...~~
~~}~~

MeasurementFilterCoefficient    ::= INTEGER(1..256)
```

NEXT SECTION WITH CHANGES

```
-- **************************************************************
--
-- IEs
--
-- **************************************************************

id-AllowedQueuingTime                           INTEGER ::= 0
id-BindingID                                INTEGER ::= 1
id-C-ID                                 INTEGER ::= 2
id-C-RNTI                               INTEGER ::= 3
id-CCTrCH-ID                                INTEGER ::= 4
id-CFN                                  INTEGER ::= 5
id-CN-CS-DomainIdentifier                       INTEGER ::= 6
id-CN-PS-DomainIdentifier                       INTEGER ::= 7
id-Cause                                INTEGER ::= 8
```

```
id-CompressedModeMethod                                INTEGER ::= 9
id-D-RNTI                                      INTEGER ::= 10
id-D-RNTI-ReleaseIndication                            INTEGER ::= 11
id-DCH-AddItem                                     INTEGER ::= 12
id-DCH-AddItem-RL-ReconfPrepFDD                            INTEGER ::= 13
id-DCH-AddItem-RL-ReconfPrepTDD                            INTEGER ::= 14
id-DCH-AddItem-RL-ReconfReadyFDD                           INTEGER ::= 15
id-DCH-AddItem-RL-ReconfRqstFDD                            INTEGER ::= 16
id-DCH-AddItem-RL-ReconfRqstTDD                            INTEGER ::= 17
id-DCH-AddList-RL-ReconfPrepFDD                            INTEGER ::= 18
id-DCH-AddList-RL-ReconfPrepTDD                            INTEGER ::= 19
id-DCH-AddList-RL-ReconfRqstFDD                            INTEGER ::= 20
id-DCH-AddList-RL-ReconfRqstTDD                            INTEGER ::= 21
id-DCH-DeleteItem-RL-ReconfPrepFDD                         INTEGER ::= 22
id-DCH-DeleteItem-RL-ReconfPrepTDD                         INTEGER ::= 23
id-DCH-DeleteItem-RL-ReconfRqstFDD                         INTEGER ::= 24
id-DCH-DeleteItem-RL-ReconfRqstTDD                         INTEGER ::= 25
id-DCH-DeleteList-RL-ReconfPrepFDD                         INTEGER ::= 26
id-DCH-DeleteList-RL-ReconfPrepTDD                         INTEGER ::= 27
id-DCH-DeleteList-RL-ReconfRqstFDD                         INTEGER ::= 28
id-DCH-DeleteList-RL-ReconfRqstTDD                         INTEGER ::= 29
id-DCH-Information-RL-SetupReqFDD                          INTEGER ::= 30
id-DCH-InformationItem-RL-SetupReqFDD                          INTEGER ::= 31
id-DCH-InformationItem-RL-SetupReqTDD                          INTEGER ::= 32
id-DCH-InformationList-RL-SetupReqTDD                          INTEGER ::= 33
id-DCH-ModifyItem                                  INTEGER ::= 34
id-DCH-ModifyItem-RL-ReconfPrepFDD                         INTEGER ::= 35
id-DCH-ModifyItem-RL-ReconfPrepTDD                         INTEGER ::= 36
id-DCH-ModifyItem-RL-ReconfReadyFDD                        INTEGER ::= 37
id-DCH-ModifyItem-RL-ReconfRqstFDD                         INTEGER ::= 38
id-DCH-ModifyItem-RL-ReconfRqstTDD                         INTEGER ::= 39
id-DCH-ModifyList-RL-ReconfPrepFDD                         INTEGER ::= 40
id-DCH-ModifyList-RL-ReconfPrepTDD                         INTEGER ::= 41
id-DCH-ModifyList-RL-ReconfRqstFDD                         INTEGER ::= 42
id-DCH-ModifyList-RL-ReconfRqstTDD                         INTEGER ::= 43
id-DL-CCTrCH-Information-RL-ReconfPrepTDD                      INTEGER ::= 44
id-DL-CCTrCH-Information-RL-ReconfRqstTDD                      INTEGER ::= 45
id-DL-CCTrCH-InformationList-RL-ReconfPrepTDD                      INTEGER ::= 46
id-DL-CCTrCH-InformationList-RL-ReconfRqstTDD                      INTEGER ::= 47
id-DL-CCTrChInformationItem-RL-SetupReqTDD                     INTEGER ::= 48
id-DL-CCTrChInformationList-RL-SetupReqTDD                     INTEGER ::= 49
id-DL-CodeInformation-PhyChReconfRqstFDD                       INTEGER ::= 50
id-DL-DPCH-Information                                 INTEGER ::= 51
id-DL-DPCH-Information-RL-SetupReqFDD                          INTEGER ::= 52
id-DL-DPCH-InformationList-PhyChReconfRqstTDD                      INTEGER ::= 53
id-DL-DPCH-InformationList-RL-ReconfReadyTDD                       INTEGER ::= 54
id-DL-EbNoTarget                                   INTEGER ::= 55
id-DL-FrameType                                    INTEGER ::= 56
id-DL-MeanBitRate                                  INTEGER ::= 57
id-DL-ReferencePowerInformation-DL-PC-Rqst                 INTEGER ::= 58
id-DRX-Parameter                                   INTEGER ::= 59
id-DedicatedMeasurementObjectType-DM-Rprt                  INTEGER ::= 60
id-DedicatedMeasurementObjectType-DM-Rqst                  INTEGER ::= 61
id-DedicatedMeasurementObjectType-DM-Rspns                 INTEGER ::= 62
id-FACH-InfoForOptionalGroupS-CCPCH                        INTEGER ::= 63
id-FACH-InfoForOptionalS-CCPCH                             INTEGER ::= 64
id-FACH-InfoForS-CCPCH-CoupledToPRACH                          INTEGER ::= 65
id-GapPositionMode                                 INTEGER ::= 66
id-L3-Information                                  INTEGER ::= 67
id-MeasurementCharacteristicsMeasurementFilterCoefficient                                  INTEGER ::= 68
id-MeasurementID                                   INTEGER ::= 69
id-MultipleURAsIndicator                               INTEGER ::= 70
id-PD                                          INTEGER ::= 71
id-PagingArea-PagingRqst                               INTEGER ::= 72
id-PowerControlMode                                INTEGER ::= 73
id-PowerResumeMode                                 INTEGER ::= 74
id-ProcedureScope-DL-PC-Rqst                               INTEGER ::= 75
id-RANAP-RelocationInformation                             INTEGER ::= 76
id-RL-Information-PhyChReconfRqstFDD                           INTEGER ::= 77
id-RL-Information-PhyChReconfRqstTDD                           INTEGER ::= 78
id-RL-Information-RL-AdditionRqstFDD                           INTEGER ::= 79
id-RL-Information-RL-AdditionRqstTDD                           INTEGER ::= 80
id-RL-Information-RL-DeletionRqst                          INTEGER ::= 81
id-RL-Information-RL-FailureInd                            INTEGER ::= 82
id-RL-Information-RL-ReconfPrepFDD                         INTEGER ::= 83
id-RL-Information-RL-RestoreInd                            INTEGER ::= 84
id-RL-Information-RL-SetupReqFDD                           INTEGER ::= 85
id-RL-Information-RL-SetupReqTDD                           INTEGER ::= 86
id-RL-InformationItem-DM-Rprt                              INTEGER ::= 87
id-RL-InformationItem-DM-Rqst                              INTEGER ::= 88
```

```
id-RL-InformationItem-DM-Rspns                          INTEGER ::= 89
id-RL-InformationItem-RL-SetupReqFDD                        INTEGER ::= 90
id-RL-InformationList-RL-AdditionRqstFDD                    INTEGER ::= 91
id-RL-InformationList-RL-DeletionRqst                       INTEGER ::= 92
id-RL-InformationList-RL-FailureInd                     INTEGER ::= 93
id-RL-InformationList-RL-ReconfPrepFDD                      INTEGER ::= 94
id-RL-InformationList-RL-RestoreInd                     INTEGER ::= 95
id-RL-InformationResponse-RL-AdditionRspTDD                 INTEGER ::= 96
id-RL-InformationResponse-RL-ReconfReadyTDD                 INTEGER ::= 97
id-RL-InformationResponse-RL-SetupRspTDD                    INTEGER ::= 98
id-RL-InformationResponseItem-RL-AdditionRspFDD                 INTEGER ::= 99
id-RL-InformationResponseItem-RL-ReconfReadyFDD                 INTEGER ::= 100
id-RL-InformationResponseItem-RL-SetupRspFDD                    INTEGER ::= 101
id-RL-InformationResponseList-RL-AdditionRspFDD                 INTEGER ::= 102
id-RL-InformationResponseList-RL-ReconfReadyFDD                 INTEGER ::= 103
id-RL-InformationResponseList-RL-SetupRspFDD                    INTEGER ::= 104
id-RL-ReconfigurationFailure-RL-ReconfFail                  INTEGER ::= 105
id-RL-ReconfigurationFailureList-RL-ReconfFail                  INTEGER ::= 106
id-RNCsWithCellsInTheAccessedURA-List-UL-ST-Ind                 INTEGER ::= 107
id-ReportCharacteristics                            INTEGER ::= 108
id-S-RNTI                                   INTEGER ::= 109
id-SAI                                      INTEGER ::= 110
id-SN                                       INTEGER ::= 111
id-SRNC-ID                                  INTEGER ::= 112
id-ScramblingCodeChange                             INTEGER ::= 113
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD       INTEGER ::= 114
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD          INTEGER ::= 115
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD       INTEGER ::= 116
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD      INTEGER ::= 117
id-TGD                                      INTEGER ::= 118
id-TGL                                      INTEGER ::= 119
id-TGP1                                     INTEGER ::= 120
id-TGP2                                     INTEGER ::= 121
id-TransportBearerID                                INTEGER ::= 122
id-TransportBearerRequestIndicator                      INTEGER ::= 123
id-TransportLayerAddress                            INTEGER ::= 124
id-UC-ID                                    INTEGER ::= 125
id-UL-CCTrCH-Information-RL-ReconfPrepTDD                   INTEGER ::= 126
id-UL-CCTrCH-Information-RL-ReconfRqstTDD                   INTEGER ::= 127
id-UL-CCTrCH-InformationList-RL-ReconfPrepTDD                   INTEGER ::= 128
id-UL-CCTrCH-InformationList-RL-ReconfRqstTDD                   INTEGER ::= 129
id-UL-CCTrChInformationItem-RL-SetupReqTDD                  INTEGER ::= 130
id-UL-CCTrChInformationList-RL-SetupReqTDD                  INTEGER ::= 131
id-UL-DL-CompressedModeSelection                        INTEGER ::= 132
id-UL-DPCH-Information                              INTEGER ::= 133
id-UL-DPCH-Information-RL-SetupReqFDD                       INTEGER ::= 134
id-UL-DPCH-InformationList-PhyChReconfRqstTDD                   INTEGER ::= 135
id-UL-DPCH-InformationList-RL-ReconfReadyTDD                    INTEGER ::= 136
id-UL-DeltaEbNo                                 INTEGER ::= 137
id-UL-DeltaEbNoAfter                                INTEGER ::= 138
id-UL-EbNoTarget                                INTEGER ::= 139
id-UL-MeanBitRate                               INTEGER ::= 140
id-URA-ID                                   INTEGER ::= 141
id-UnsuccessfulRL-InformationResponse                       INTEGER ::= 142
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD     INTEGER ::= 143
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD        INTEGER ::= 144
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD        INTEGER ::= 145
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD     INTEGER ::= 146
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD        INTEGER ::= 147
id-CriticalityDiagnostics                           INTEGER ::= 148

END
```

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Document R3-000493
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CHANGE REQUEST

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25.423	CR	24	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	for approval	X	Strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

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

Subject: Alignment to R2 definition of puncture limit range and stepsize

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: Currently the R2 and R3 definitions for the puncture limit are different. After long discussions between R1 and R2, it has been decided that only a limited step size and range are sufficient for the puncture limit. In order to avoid inconsistencies, it is proposed to align the R3 definition to the R2 definition.

Clauses affected: 9.2.1.36, 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:

- Another "inconsistency" in the handling of the puncture limit between R2 and R3 is the fact that since in RRC, the change of puncture limit is performed with the physical channel reconfiguration it can also be changed unsynchronised, whereas this is currently not possible on NBAP/RNSAP (puncture limit not included in RL_RECONF_REQ). However, this asynchronous capability seems more caused by the RRC procedure structure than a functional requirement. Therefore this issue not aligned.

9.2.1.36 Puncture Limit

The maximum amount of puncturing for a transport channel in rate matching.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Puncture Limit			INTEGER (0..~~100~~15)	0: 40% 1: 44 % ... 14: 96% 15: 100%

9.3.4 Information Elements Definitions

```
-- P

PD                  ::= INTEGER (0..2047, ...)

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
}

PSCH-TimeSlot               ::= INTEGER (0..6)

Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
PilotBitsUsedIndicator          ::= INTEGER

-- ** TODO **
PLMN-ID ::= SEQUENCE {
    mCC-digit           MCC-Digit,
    iE-Extensions           ProtocolExtensionContainer { {PLMN-ID-ExtIEs} } OPTIONAL,
    mNC-digit           MNC-Digit
}
-- FFS

PLMN-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerControlMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

PowerOffset             ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

-- ** TODO **
PrimaryCPICH-Power          ::= INTEGER

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

-- ** TODO **
PrimaryCCPCH-RSCP           ::= INTEGER

PrimaryScramblingCode           ::= ScramblingCode

PropagationDelay            ::= INTEGER (0..255)

SyncCase ::= ENUMERATED {
    case1,
    case2,
    case3--,
--  ...
}

-- ** TODO **
PSCH-CCPCH-TimeSlot         ::= TimeSlot

-- ** TODO **
PSCH-PCCPCH-TimeSlot            ::= TimeSlot
```

```
-- ** TODO **
P-CPICH-Power                   ::= INTEGER

-- 0: 40%; 1: 44%; …; 14: 96%; 15: 100%
PunctureLimit                   ::= INTEGER (0..1500)
-- Unit is %
```

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Sophia Antipolis, France, 28 Feb – 3 Mar 2000

***Document* R3-000536**
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25.423	CR	035	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	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: RAN-WG3 **Date:** 22 Feb 2000

Subject: Introduction of 'Presence' Information Element for Extension Containers (ASN.1)

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: Even if the 'Presence' IE has only documentary character for the ASN.1 code it should be in the Extension Container (it is already in the Standard Protocol Container).

Clauses affected: 9.3.7 Container Definitions

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:


help.doc

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

9.3.7 Container Definitions

```
   .
   .
   .
-- **************************************************************
--
-- Class Definition for Protocol Extensions
--
-- **************************************************************

RNSAP-PROTOCOL-EXTENSION ::= CLASS {
    &id             ProtocolExtensionID                 UNIQUE,
    &criticality            Criticality,
    &Extension
    &presence       Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    EXTENSION           &Extension
    PRESENCE            &presence
}

-- **************************************************************
--
-- Class Definition for Private Extensions
--
-- **************************************************************

RNSAP-PRIVATE-EXTENSION ::= CLASS {
    &id             PrivateExtensionID,
    &criticality            Criticality,
    &Extension
    &presence       Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    EXTENSION           &Extension
    PRESENCE            &presence
}
```

3GPP TSG-RA WG3 Meeting #11
Sophia Antipolis, 28 Feb – 3 Mar 2000

***Document* R3-000466**
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CHANGE REQUEST

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25.423	CR	038	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	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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 [X] Core Network [ ]
(at least one should be marked with an X)

Source: R-WG3 **Date:**

Subject: Clarification on the BLER parameter

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]	**Release:**	Phase 2	[ ]
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	[X]		Release 99	[X]
				Release 00	[ ]

Reason for change: The BLER parameter (Transport Block Error Rate for one Transport channel) has been introduced in WG3#8 (Ref. Tdoc R3-99F21). In WG3#9 it has been noted that the definition and use of the BLER parameter was not clear in the RNSAP specification, and this CR proposed the necessary additions, i.e. stating that the BLER is the BLER that shall be used (together with other parameters like the cell interference/power, the TBS parameters, etc) for admission control and power management in the DRNS.

Clauses affected: 9.2.1.4

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:

9.2.1.4 BLER

This Block Error Rate defines the target radio interface Transport Block Error Rate of the transport channel ~~that shall be guaranteed to the DCH by the SRNC.~~ BLER is used by the DRNS to determine the needed SIR targets, for admission control and power management reasons.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
BLER			INTEGER (-63..0)	Step 0.1. (Range –6.3…0). It is the Log10 of the BLER

TSG-RAN Working Group 3 Meeting #11
Sophia Antipolis, France, 28th February – 3rd March 2000

Document R3-000511
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CHANGE REQUEST

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25.423	CR	027	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	for approval	X	Strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*

(U)SIM		ME		UTRAN / Radio	X	Core Network	

Source: RAN-WG3

Date: 28th Feb. – 3rd March 2000

Subject: Enhancement of the description of the Message Type IE

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change:

In the current ASN.1 part of the specification a message is identified by its Procedure Code in combination with the "type of message" (Initiating, Successful Outcome, Unsuccessful Outcome, Outcome) and the mode (FDD or TDD). In the Tabular Format a message is identified by its *Message Type* IE. However, there is no clear connection between the two different types of identification. Further more, chapter 10 (Handling of Unknown, Unforeseen and Erroneous Protocol Data) is based on the usage of the Procedure Code and the "type of message".

In this CR the Message Type IE is modified to achieve a better alignment between the different parts of the specification and thus ease the understanding of the specification. The modification is to describe the Message Type IE in a way that connects the ASN.1 and chapter 10 with the Tabular Format.

Clauses affected: 9.2.1.30

Other specs affected:

Other 3G core specifications	X	→ List of CRs:	25.413 v3.0.0 CR-026, 25.433 v3.0.0 CR-042
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:

9.2.1.30 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				
Procedure ID		1		
Procedure Code~~Message Type~~	M		ENUMERATED (RL Setup~~ Request~~, ~~RL Setup Response,~~ ~~RL Setup Failure,~~ RL Addition~~ Request~~, ~~RL Addition Response,~~ ~~RL Addition Failure,~~ RL Deletion~~ Request~~, ~~RL Deletion Response,~~ Synchronised RL Reconfiguration Preparation~~e~~, ~~RL Reconfiguration Ready,~~ Synchronised RL Reconfiguration Commit, ~~RL Reconfiguration Failure,~~ Synchronised RL Reconfiguration Cancel, Unsynchronised RL Reconfiguration Request, ~~RL Reconfiguration Response,~~ RL Failure~~ Indication~~, RL Restoration~~e Indication~~, DL Power Control~~ Request~~, Physical Channel Reconfiguration~~ Request~~, ~~Physical Channel Reconfiguration Command,~~ ~~Physical Channel Reconfiguration Failure,~~ UL Signalling Transfer~~ Indication~~, DL Signalling Transfer~~ Request~~, Relocation Commit, Paging~~ Request~~, ~~Dedicated~~ Measurement Initiation~~ Request~~, ~~Dedicated Measurement Initiation Response,~~ ~~Dedicated Measurement Initiation Failure,~~ ~~Dedicated~~ Measurement Reporting, ~~Dedicated~~ Measurement Termination~~ Request~~, ~~Dedicated~~ Measurement Failure~~ Indication~~, Common Transport Channel Resources Initiation~~Release Request~~, Common Transport Channel Resources Release~~Request~~, ~~Common Transport Channel Resources Response,~~ ~~Common Transport Channel Resources Failure,~~ Compressed Mode Preparation~~e~~, ~~Compressed Mode Ready,~~ ~~Compressed Mode Failure,~~ Compressed Mode Commit, Compressed Mode Cancellation, Error Indication, …)	~~Future extensions shall be possible~~
Ddmode	M		ENUMERATED (FDD, TDD, Common)	Common = common to FDD and TDD.
Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

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Sophia Antipolis, France, 28th February – 3rd March 2000

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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.

25.423	CR	017	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	For approval	X	Strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		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: *(at least one should be marked with an X)*	(U)SIM		ME		UTRAN / Radio	X	Core Network	

Source: RAN-WG3 **Date:** Feb 22, 2000

Subject: Modification of the dynamic range of primary CPICH power.

Work item: 16.3.L

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
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	X
				Release 00	

Reason for change: The dynamic range of the primary CPICH power needs to be changed to –10..50 dBm in order to be aligned with the Maximum DL Power Capability (0..50 dBm) in 25.433.

Clauses affected: 9.2.1.33, 9.3.4.

Other specs affected:

Other 3G core specifications	X	→ List of CRs:	25.331:CRxxx
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:

.

9.2.1.33 Primary CPICH Power

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Primary CPICH power			ENUMERATED (-105..450)	Unit dBm Granularity 0.1 dB.

9.3.4 Information Element Definitions

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

RNSAP-IEs -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxRateMatching,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxTTI-Count
FROM RNSAP-Constants

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

    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;
```

•
•
•

Several IEs Skipped

•
•
•

```
-- P

PD                  ::= INTEGER (0..2047, ...)

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-not-included,
    crc-included--,
--  ...
}

PSCH-TimeSlot               ::= INTEGER (0..6)
```

```
Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ** TODO **
PilotBitsUsedIndicator          ::= INTEGER

-- ** TODO **
PLMN-ID ::= SEQUENCE {
    mCC-digit           MCC-Digit,
    iE-Extensions           ProtocolExtensionContainer { {PLMN-ID-ExtIEs} } OPTIONAL,
    mNC-digit           MNC-Digit
}
-- FFS

PLMN-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerControlMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

PowerOffset             ::= INTEGER (0..24)

PowerResumeMode ::= ENUMERATED {
    v0,
    v1,
    ...
}

-- ** TODO **
PrimaryCPICH-Power          ::= INTEGER (-100..500)
-- step 0.1 (Range -10.0..50.0) Unit is dBm

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

-- ** TODO **
PrimaryCCPCH-RSCP           ::= INTEGER

PrimaryScramblingCode           ::= ScramblingCode

PropagationDelay            ::= INTEGER (0..255)
```

```
SyncCase ::= ENUMERATED {
    case1,
    case2,
    case3--,
--  ...
}

-- ** TODO **
PSCH-CCPCH-TimeSlot         ::= TimeSlot

-- ** TODO **
PSCH-PCCPCH-TimeSlot            ::= TimeSlot

-- ** TODO **
P-CPICH-Power               ::= INTEGER

PunctureLimit               ::= INTEGER (0..100)
-- Unit is %

-- Q
```