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Technical Specification

3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) RAN

UTRAN Iur Interface RNSAP Signalling

[UMTS 25.423]

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Contents

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group RAN.

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

Version m.t.e

where:

m indicates [major version number]

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

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

Scope

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

References

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

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

[1] UMTS 25.413, UTRAN Iu Interface RANAP Signalling

[2] UMTS 25.426, UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams

[3] UMTS 25.427, UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams

[4] UMTS xx.yyy, Specification containing different Identifiers for UMTS (to be identified)

[5] UMTS 25.105, UTRA (BS) TDD; Radio Transmission and Reception

[6] UMTS 25.211, Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)

[7] UMTS 25.212, Multiplexing and Channel Coding (FDD)[8] UMTS 25.214, Physical Layer Procedures (FDD)

[9] UMTS 25.215, Physical Layer – Measurements (FDD)

[10] UMTS 25.221, Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)

[11] UMTS 25.223, Spreading and Modulation (TDD)

[12] UMTS 25.225, Physical Layer – Measurements (TDD)

[13] UMTS 25.331, RRC Protocol Specification

[14] UMTS 25.402, Synchronisation in UTRAN, Stage 2

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

[16] X.681 (12/94), Information technology - Abstract Syntax Notation One (ASN.1): Information object specification[17] X.691 (12/94), Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)

[Editor's note: The dating of reference [17] 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.]

Definitions, Symbols and Abbreviations

Definitions

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

<defined term>: <definition>.

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

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.

Symbols

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

<symbol> <Explanation>

Abbreviations

ASN.1	Abstract Syntax Notation One
ATM	Asynchronous Transfer Mode
BCCH	Broadcast Control Channel
BLER	Block Error Rate
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
FN	Frame Number
FP	Frame Protocol
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
SFN	System Frame Number
SRNC	Serving RNC
SRNS	Serving RNS
SSDT	Site Selection Diversity Transmit
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
UARFCN	UMTS Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area
UTRAN	UMTS Terrestrial Radio Access Network

General

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.

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.

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.

RNSAP Services

The RNSAP offers the following services:

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.

Parallel Transactions

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

Services Expected from Signalling Transport

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.

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 general error 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 below:

Function	**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

Function	Procedure(s)
	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]	Down 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 General Error Situations	Error Indication

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

RNSAP Procedures

Elementary Procedures

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

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	

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
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.

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

Elementary Procedure	Initiating Message
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

Basic Mobility Procedures

Uplink SignallingTransfer

General

The Uplink Signalling Transfer procedure is used to transfer radio interface messages containing S-RNTI and SRNC ID as UE addressing information from the CRNC to the SRNC.

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

Successful Operation

When the CRNC receives an Uu message where the UE addressing information is 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.

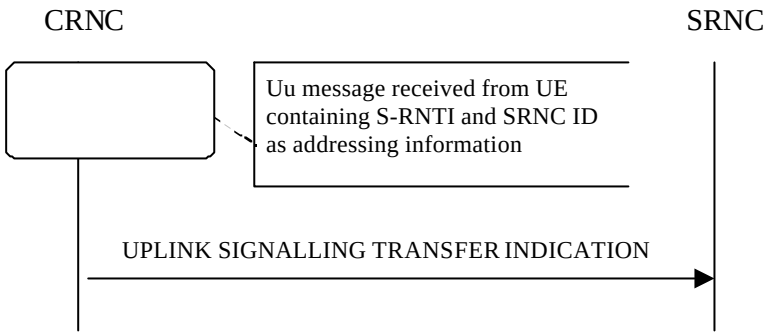

Figure 1: Uplink Signalling Transfer procedure, Successful Operation

Downlink SignallingTransfer

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.

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 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

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.

Relocation Commit

General

The 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.

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

Paging

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.

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.]

Abnormal Conditions

-

DCH procedures

Radio Link Setup

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.

Successful Operation

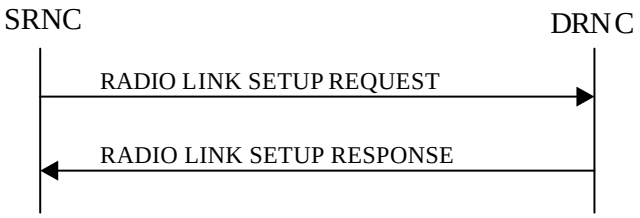

Figure 5: Radio Link Setup procedure: Successful Operation

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.

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) 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.

Unsuccessful Operation

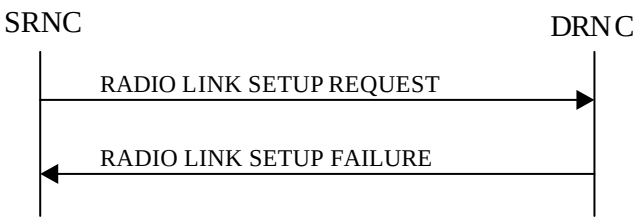

Figure 6: Radio Link Setup procedure: Unsuccessful Operation

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

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.

Radio Link Addition

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.

Successful Operation

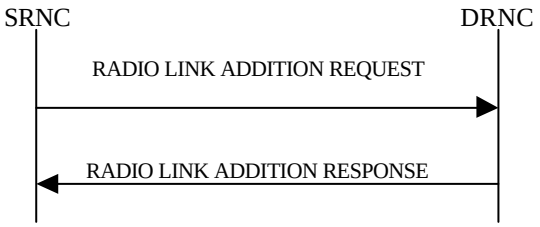

Figure 7: Radio Link Addition procedure: Successful Operation

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 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. [3].

Unsuccessful Operation

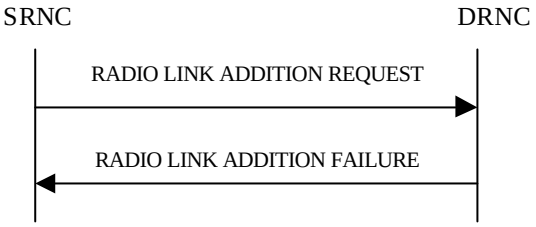

Figure 8: Radio Link Addition procedure: Unsuccessful Operation

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

Abnormal Conditions

-

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

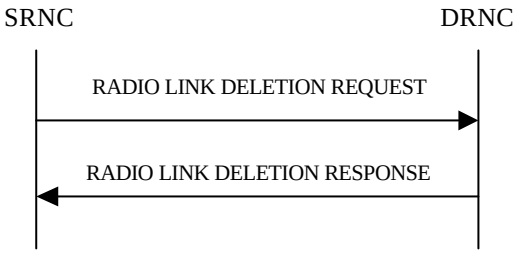

Figure 9: Radio Link Deletion procedure, Successful Operation

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

-

8.3.3.4 Abnormal Conditions

-

Synchronised Radio Link Reconfiguration Preparation

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.

Successful Operation

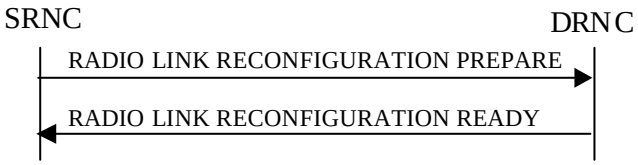

Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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 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

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

The 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.]

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.

Unsuccessful Operation

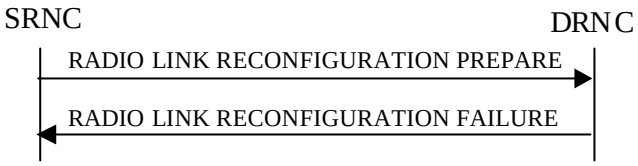

Figure 11: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the DRNS cannot reserve the necessary resources for all the new DCHs of one 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

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.

Synchronised Radio Link Reconfiguration Commit

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.

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.

Abnormal Conditions

If the DRNS receives the RADIO LINK RECONFIGURATION COMMIT 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.

Synchronised Radio Link Reconfiguration Cancellation

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.

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.

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.

Unsynchronised Radio Link Reconfiguration

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.

Successful Operation

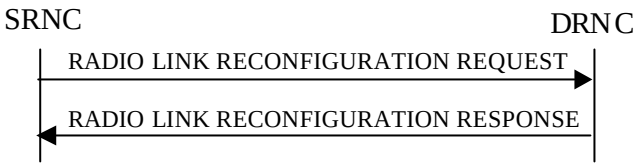

Figure 14: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation

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 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

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

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

The 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.]

If 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.

Unsuccessful Operation

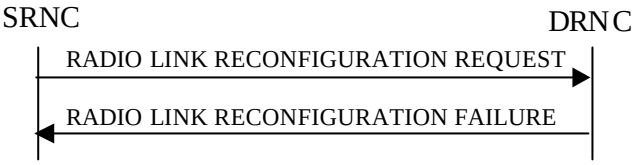

Figure 15: Unsynchronised Radio Link Reconfiguration procedure, Unsuccessful Operation

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 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

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 Radio Link Reconfiguration procedure as having failed and the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC.

Physical Channel Reconfiguration

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.

Successful Operation

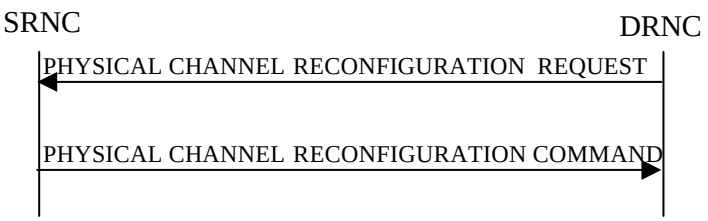

Figure 16: Physical Channel Reconfiguration procedure, Successful Operation

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

Unsuccessful Operation

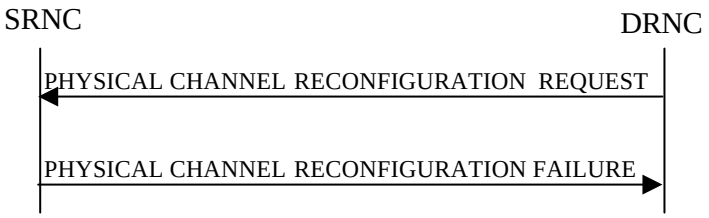

Figure 17: Physical Channel Reconfiguration procedure, Unsuccessful Operation

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

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.

Radio Link Failure

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.

Successful Operation

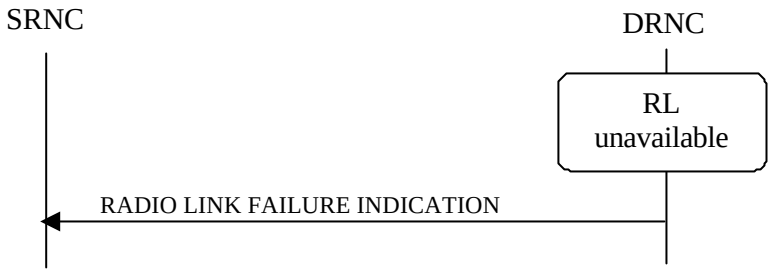

Figure 18: RL Failure procedure, Successful Operation

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:

- Synchronization Failure

Miscellaneous Causes:

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

Abnormal Conditions

-

Radio Link Restoration

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.

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.

Abnormal Conditions

-

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.]

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.

Successful Operation

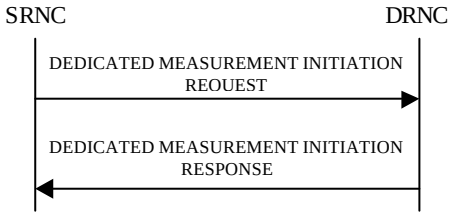

Figure 20: Measurement Initiation procedure, Successful Operation

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 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.

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.

Unsuccessful Operation

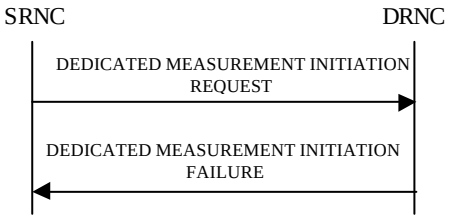

Figure 21: Measurement Initiation procedure, Unsuccessful Operation

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 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

Abnormal Conditions

-

Measurements Reporting

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.

Successful Operation

Figure 22: Measurement Report 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.

Abnormal Conditions

-

Measurement Termination

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.

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 Dedicated Measurement Id.

Abnormal Conditions

-

Measurement Failure

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.

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

Abnormal Conditions

-

Down Link Power Control [FDD]

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 Down 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 Down Link Power Control procedure shall not be initiated.

Successful Operation

Figure 25: Down Link Power Control procedure, Successful Operation

The Down 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.]

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.

Compressed Mode Preparation [FDD]

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.

Successful Operation

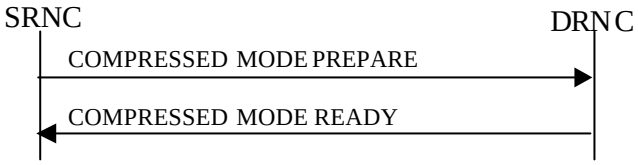

Figure 26: Compressed Mode Preparation procedure, Successful Operation

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.

Unsuccessful Operation

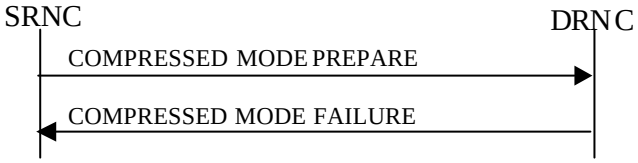

Figure 27: Compressed Mode Preparation procedure, unsuccessful case

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

Abnormal Conditions

-

Compressed Mode Commit [FDD]

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.

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.

Abnormal Conditions

-

Compressed Mode Cancellation [FDD]

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.

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.

Abnormal Conditions

-

Common Transport Channel Procedures

Common Transport Channel Resources Initialisation

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.

Successful Operation

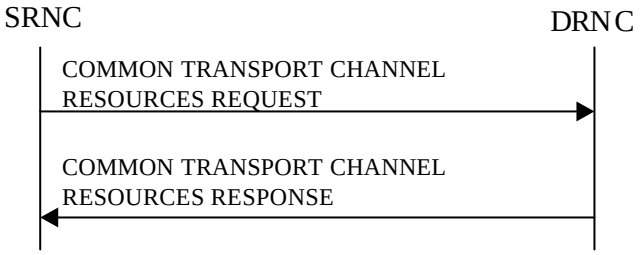

Figure 30: Common Transport Channel Resources Initialisation procedure, Successful Operation

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.

Unsuccessful Operation

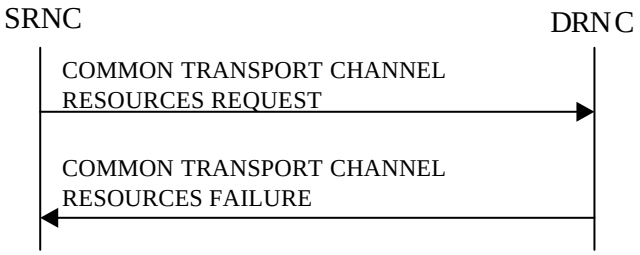

Figure 31: Common Transport Channel Resources Initialisation procedure, Unsuccessful Operation

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.

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.

Common Transport Channel Resources Release

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.

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 in the message to request the release of an individual C-RNTI.

At the reception of the message, if the 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 is included in the message, the DRNC shall release only the indicated C-RNTI.

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.

Global Procedures

Error Indication

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.

Successful Operation

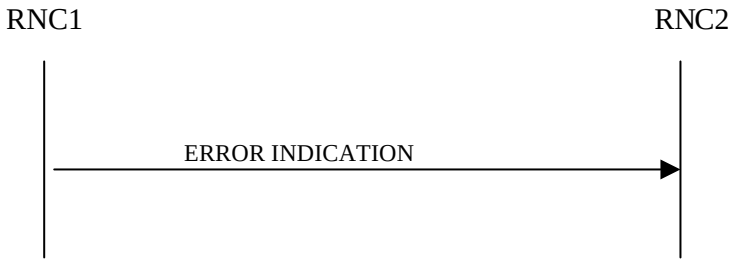

Figure 33: Error Indication procedure, Successful Operation

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

Abnormal Conditions

-

Elements for RNSAP Communication

Message Functional Definition and Content

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
RADIO LINK DELETION RESPONSE	9.1.10
RADIO LINK RECONFIGURATION PREPARE	9.1.11
RADIO LINK RECONFIGURATION READY	9.1.12
RADIO LINK RECONFIGURATION COMMIT	9.1.13
RADIO LINK RECONFIGURATION FAILURE	9.1.14
RADIO LINK RECONFIGURATION CANCEL	9.1.15
RADIO LINK RECONFIGURATION REQUEST	9.1.16
RADIO LINK RECONFIGURATION RESPONSE	9.1.17
RADIO LINK FAILURE INDICATION	9.1.18
RADIO LINK RESTORE INDICATION	9.1.19
DL POWER CONTROL REQUEST	9.1.20
PHYSICAL CHANNELRECONFIGURATION REQUEST	9.1.21
PHYSICAL CHANNELRECONFIGURATION COMMAND	9.1.22
PHYSICAL CHANNELRECONFIGURATION FAILURE	9.1.23
UPLINK SIGNALLING TRANSFER INDICATION	9.1.24
DOWNLINK SIGNALLING TRANSFER REQUEST	9.1.25
RELOCATION COMMIT	9.1.26
PAGING REQUEST	9.1.27
DEDICATED MEASUREMENT INITIATION REQUEST	9.1.28
DEDICATED MEASUREMENT INITIATION RESPONSE	9.1.29
DEDICATED MEASUREMENT INITIATION FAILURE	9.1.30
DEDICATED MEASUREMENT REPORT	9.1.31
DEDICATED MEASUREMENT TERMINATION REQUEST	9.1.32
DEDICATED MEASUREMENT FAILURE INDICATION	9.1.33
COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST	9.1.34
COMMON TRANSPORT CHANNEL RESOURCES REQUEST	9.1.35
COMMON TRANSPORT CHANNEL RESOURCES RESPONSE	9.1.36
COMMON TRANSPORT CHANNEL RESOURCES FAILURE	9.1.37

COMPRESSED MODE PREPARE	9.1.38
COMPRESSED MODE READY	9.1.39
COMPRESSED MODE FAILURE	9.1.40
COMPRESSED MODE COMMIT	9.1.41
COMPRESSED MODE CANCEL	9.1.42
ERROR INDICATION	9.1.43

Message Contents

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

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

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

RADIO LINK SETUP REQUEST

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.
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.

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 no. of DCHs for one UE.
MaxnoofCCTrCHs	Maximum no. of CCTrCH for one UE.

RADIO LINK SETUP RESPONSE

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..<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	O	*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			
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.

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..<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	O	*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**
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.

RADIO LINK SETUP FAILURE

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.
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.

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			

RADIO LINK ADDITION REQUEST

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

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			

RADIO LINK ADDITION RESPONSE

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..<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		*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
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

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..<maxno of CCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<maxno OfDPCHs>*		
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..<maxno of CCTrCHs>*		
CCTrCH ID	M			
DL DPCH information		*1..<maxno OfDPCHs>*		
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..<maxno ofDCHs>*		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..<maxno ofFDDNeighbours>*		
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..<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**
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.

RADIO LINK ADDITION FAILURE

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..<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		*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
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

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			

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

RADIO LINK DELETION RESPONSE

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

RADIO LINK RECONFIGURATION PREPARE

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			
MultiplexingPosition	O			
Mean Bit Rate	O			For the DL.
DCHs to Modify		*0..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
DCH ID	M			
RL Information		*0..<maxnoof RLs>*		
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.

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..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
TFCS	O			For the UL.
TFCI Coding	O			
Puncture Limit	O			
DL CCTrCH Information		*0..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
TFCS	O			For the DL.
TFCI Coding	O			
Puncture Limit	O			
DCHs to Modify		*0..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
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 READY

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.

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..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
UL DPCH Information		*1..<maxnoof DPCHs>*		
DPCH ID	M			
TDD Channelisation Code	O			
Burst Type	O			
Midamble Shift	O			
Time Slot	O			
TDD Physical Channel Offset	O			
Repetition Period	O			
Repetition Length	O			
TFCI Presence	O			
DL CCTrCH Information		*0..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
DL DPCH Information		*1..<maxnoof DPCHs>*		
DPCH ID	M			
TDD Channelisation Code	O			
Burst Type	O			
Midamble Shift	O			
Time Slot	O			
TDD Physical Channel Offset	O			
Repetition Period	O			
Repetition Length	O			
TFCI Presence	O			
DCH to be Added		*0..<maxnoof DCHs>*		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..<maxnoof DCHs>*		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.

RADIO LINK RECONFIGURATION COMMIT

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

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..<maxnoof RLs>*		
RL ID	M			
Cause	M			
Criticality Diagnostics	O			

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

RADIO LINK RECONFIGURATION CANCEL

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

RADIO LINK RECONFIGURATION REQUEST

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..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
DCH ID	M			
DCH Combination Ind	O			
RLC Mode	M			
Transport Format Set	M			For the UL.
Transport Format Set	M			For the DL.
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..<maxnoof DCHs>*		
DCH ID	M			

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

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..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
TFCS	M			
DL CCTrCH Information		*0..<maxnoof CCTrCHs>*		
CCTrCH ID	M			
TFCS	M			
DCHs to Modify		*0..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
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..<maxnoof DCHs>*		
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 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.

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 no. of RLs for one UE.

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 no. of RLs for one UE.

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.

PHYSICAL CHANNEL RECONFIGURATION REQUEST

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

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 no. of DPCHs for one CCTrCH.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

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			

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			

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

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			

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			

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			

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.

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.

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			

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.

DEDICATED MEASUREMENT TERMINATION REQUEST

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

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			

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.

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.

COMMON TRANSPORT CHANNEL RESOURCES RESPONSE

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..<MaxNbMACcSDULength>*		
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. [6]
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..<MaxNbMACcSDULength>*		
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.

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..< MaxNbMACcSDULength>*		
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..< MaxNbMACcSDULength>*		
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

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			

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. [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

COMPRESSED MODE READY [FDD]

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

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			

COMPRESSED MODE COMMIT [FDD]

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

COMPRESSED MODE CANCEL [FDD]

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

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.

Information Element Functional Definition and Contents

Common Parameters

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

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	

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

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,…)	

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

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 Synchronization 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)	

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)	

Cell Parameter ID

The Cell Parameter ID identifies unambiguously the Code Groups, Scrambling Codes, Midambles and Toffset (see table 9 of ref. [11]).

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

CFN

Connection Frame Number for the radio connection, see ref. [14].

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

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

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)	

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 no. of IE errors allowed to be reported with a single message. The value for maxnooferrors is 256.

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)	

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)	

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)	

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, …)	

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. [9] and [12].

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>

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	

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)	

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)	

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	

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.

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

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

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

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.

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

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.

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)	

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

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)	

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)	

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.

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)	

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)	

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)	%

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].

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"

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)	

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)	

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)	

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)	

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)	

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)	

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)	

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)	

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.

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.

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

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)	

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)	

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, …)	

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. [13].

Range bound	Explanation
MaxnoofTFCs	The maximum number of Transport Format Combinations (1024).
MaxCTFC	Maximum number of the CTFC value is calclulated according to the following: $\sum_{i=1}^{I}(L_i - 1)P_i$ with the notation according to ref. [13].

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
DL 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.

UARFCN

The UTRAN 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: 1885.2MHz..2024.8MHz see ref. [5].

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)	

Uplink Eb/No

The UL Eb/No indicates a received UL 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.

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

URA ID

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

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	

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. [13].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
L3 Information			Bit String	The content is defined in ref. [13].

FDD Specific Parameters

This chapter contains parameters that are specific to FDD.

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

Compressed Mode Method

Defines the method for generating the downlink compressed mode gap, as described in ref. [7].

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

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)	

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)	

Diversity Indication

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)	

DL DPCH Slot Format

Indicates the slot format used in DPCH in DL, according to ref. [6].

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

DL Scrambling Code

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

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)	

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

Downlink Frame Type

This parameter defines if frame type 'A' or 'B' shall be used in downlink compressed mode. This is defined in [7].

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

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

Gap Position Mode

The gap position can be fixed or adjustable, as defined in ref. [7].

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

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

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	

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)	

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)	

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)	

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

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. [8].

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

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

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. [8].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Power Resume Mode			ENUMERATED (0, 1,..)	Described in ref. [8].

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

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, …

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)	

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)	

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	

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)	

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)	

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)	

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).	

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)	

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)	

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

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

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)	

UL DPCCH Slot Format

Indicates the slot format used in DPCCH in UL, according to ref. [6].

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

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)	

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.

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.

TDD Specific Parameters

This chapter contains parameters that are specific to TDD.

Burst Type

Defines the burst type of the physical channel, see ref. [10].

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

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)	

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)	

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)	

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. [12].

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)	

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)	

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))	

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)	

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)	

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.

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.

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
```

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,
    punctureLimit                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 ::= {
    ...
}

-- **************************************************************
--
-- 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-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 ::= {
    ...
}

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

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,
    synchronization-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

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
```

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
```

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
```

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
```

Message Transfer Syntax

RNSAP shall use the ASN.1 Packed Encoding Rules (PER) Aligned Variant as transfer syntax as specified in ref. [17].

[Editor's note: The dating of reference [17] needs to be verified. It has been included from the ITU-T list of recommendations in force. The dating of the reference is FFS.]

Timers

Handling of Unknown, Unforeseen and Erroneous Protocol Data

General

Protocol Error cases can be divided into two classes:

1. Transfer Syntax error
2. Abstract Syntax error

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.

Abstract Syntax Error

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

Handling of the Criticality Information at Reception

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.

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.

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:
- Semantic Error
- 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.

History

Document History		
2.0.0	December 1999	Approved by RAN WG3 #9 in Paris for submission to TSG RAN #6.
1.8.1	December 1999	In this version the first version of the ASN.1 modules based on the tabular format of the messages in chapter 9.1 have been added.
1.8.0	December 1999	Approved by RAN WG3 at meeting #9 with some comments. The agreement on R3-99k32 (handling of logical errors, chapter 10) and R3-99j51(clarification of usage of non-standardised extensions) are also included.
1.7.0	December 1999	Approved by RAN WG3 at meeting #9 with some comments. The agreement on R3-99k24 (updated version is found in R3-99k33) is also included.
1.6.1	December 1999	The following updates of this version have been made due to the decisions taken at RAN WG3 #9 in Paris: • The information on forwards and backwards compatibility R3-99j07. • Chapter 10 and the Error Indication procedure have been updated in accordance with the decision on R3-99i60, i06, and j06. • Chapter 4 has been updated with the agreed information from R3-99i78. The information is placed in chapter 4.1 instead of 8.1 as agreed. This is an editor's proposal. • The Cause IE and the cause values for the different procedures have been updated in accordance with the decision on R3-99i07 and j60. • The COMPRESSED MODE PREPARE message has been updated in accordance with the decision on R3-99h99. • The Mean Bit Rate has been included in TDD messages in the same way as for FDD messages in accordance with the decision on R3-99j03. • The TFCI Presence IE has been included in FDD messages in accordance with the decision on R3-99j20. • The UC-Id has been replaced in accordance with the decision on R3-99h86 with the exception of when the UC-ID is included in the FDD/TDD Neighbouring Cell Information groups (editor's proposal). • TDD messages and IEs have been updated in accordance with the decision on R3-99j58 and j59. • The Compressed Mode messages and IEs were updated in accordance with the decision on R3-99j66. • The SCCP services expected from the signalling bearer has been introduced in chapter 6 in accordance with the decision on R3-99h91. • The usage of the SCCP services has been introduced in chapter 8 in accordance with the decision on R3-99h83. • The agreement on PER Aligned has been included in chapter 9.4. The dating of the reference is still FFS.
1.6.0	December 1999	Approved by RAN WG3 at meeting #9 including the comments on R3-99h71, R3-9972, R3-9973, and R3-99j52.
1.5.5	December 1999	Editor's proposal for RAN WG3 meeting #9.
1.5.4	November 1999	Editor's proposal including the updates from the Tabular Format Ad Hoc in Helsinki November 22-24, 1999.
1.5.3	November 1999	Editor's proposal including the updates from the Procedure Conversion made between RAN WG3 #8 and RAN WG3 #9.
1.5.2	November 1999	This version includes some corrections to the version 1.5.1, e.g. the method of selecting an FDD or TDD message in ASN.1 based on the *mode* parameter as agreed as a guide line for the ASN.1 conversion based on Tdoc R3-99F08.
1.5.1	November 1999	The following updates of this version have been made due to the decisions taken at RAN WG3 #8 in Abiko: • TDD parameters have been added in accordance with the decision on R3-99E85. • Compressed Mode (working Assumption) has been introduced in accordance with the decision on R3-99F20. • ASN.1 modules have been updated in accordance with the decision on R3-99F06 and R3-99E01. (The decision on R3-99F08 is not included. It was

		regarded as a guideline to the ASN.1 Ad Hoc for Message and IE conversion.) • The working assumption on PER Aligned has been included in accordance with the decision on R3-99F06. • Parallel Procedures are introduced in accordance with the decision on R3-99D91. • Elementary procedures were defined in accordance with the decision on R3-99D95. • Functions of RNSAP are included in accordance with the decision on R3-99D97. • Measurements for TDD are introduced in accordance with the decision on R3-99E89. • URA information for Uplink Signalling Transfer has been included in accordance with the decision on R3-99D92 and R3-99D93. • The use of Eb/No, BLER, etc has been updated in accordance with the decision on R3-99F21. • The Mean Bit Rate has been included for DCHs that shall be established (added) in accordance with the decision on R3-99E16. • The RLC Mode has been introduced for DCHs that shall be established (added) in accordance with the decision on R3-99F23. • SSDT support has been introduced in accordance with the decision on R3-99F11. • The SAI has been introduced in accordance with the decision on R3-99D71. • The usage of superframes (TDD) has been removed in accordance with the decision on R3-99F43. • The FDD Cell Neighbouring Information has been modified in accordance with the decision on R3-99D89. • The error case “UL Scrambling Code Already in Use” has been introduced in accordance with the decision on R3-99D88. • The support for FACH over Iur has been introduced in accordance with the decision on R3-99E04. • TDD Cell Neighbouring information has been introduced in FDD messages in accordance with the decision on R3-99E77. • The way to refer to the UL and DL Channelisation Code Lengths has been modified in accordance with the decision on R3-99F30. • The DL Reference Power is modified to be a relative value (related to the CPICH power) in accordance with the decision on R3-99D70.
1.5.0	October 1999	Approved by RAN WG3 with the corrections that • the information elements that were added to the Dedicated Measurement Termination Request in version 1.4.0 have been moved to the Dedicated Measurement Request message were intended to be placed. • The information in chapter 8.2.4 relating to the user plane transport bearer has been removed.
1.4.2	October 1999	Editor’s proposal as input to RAN WG3 #8.
1.4.1	October 1999	The following updates of this version have been made due to the decisions taken at RAN WG3 #7 in Sophia Antipolis: • The DCH Allocation/Retention Priority and the DCH Frame Handling Priority parameters are described as being of the same type (Optional or Mandatory) for TDD as for FDD (error corrected in chapter 9.1.15.2 as compared to version 1.4.0). • The UL DCH FP Mode (Normal or Silent) has been added according to decisions on R3-99C41. (Editor’s proposal on parameter description is included in this version.) • The RL Restoration procedure has been added and the RL Failure procedure has been modified according to decisions on R3-99C40 (text from updated version of R3-99D29). • The Payload CRC Present Indicator has been added according to decisions on R3-99C10. (Editor’s proposal on parameter description is included in this version.) • The issue of DL Power Control has been sorted out [FDD] and the necessary corrections has been made according to decisions on R3-99C18. • The Error Reporting procedure has been added according to decisions on

		R3-99C32 (text from R3-99C34). • The Measurement procedures has been updated according to decisions on R3-99B61, R3-99C06, and R3-99C66. • The working assumption on DCH FP version in the Control Plane has been included according to decisions on R3-99C36.
1.4.0	September 1999	Approved by RAN WG3 with the following editorial corrections: • The DCH Allocation/Retention Priority and the DCH Frame Handling Priority parameters are described as being of the same type (Optional or Mandatory) for TDD as for FDD. • The parameters Diversity Control Field and Diversity Indication have been moved to the chapter for FDD Specific parameters. • The note regarding a mechanism for synchronisation of a RL Reconfiguration being FFS has been deleted (CFN is used for the synchronisation). • The text and figures between the headings 9.2 and 9.2.1 has been deleted. • The description of the encoding of the parameter Cause has been deleted. • The notes indicating that the information regarding DSCH being a working assumption have been deleted.

1.3.1	September 1999	The following updates of this version have been made due to the decisions taken at RAN WG3 #6 in Sophia Antipolis:
		• Updated in accordance with decisions taken regarding:
		  • R3-99920
		  • R3-99839
		  • R3-99903
		  • R3-99A00
		  • R3-99A29
		  • R3-99882
		  • R3-99953 (Editor's proposal on TDD messages for the RL Addition procedure.)
		  • R3-99A44
		  • R3-99901
		  • R3-99976 (Editor's proposal on parameter description.)
		  • R3-99932
		  • R3-99A07
		  • R3-99A08 (Editor's proposal on text for the Allowed Queuing Time.)
		  • R3-99924
		  • R3-99A40 (SWG report)
		• The following general updates have been made:
		  • A note has been added to the description of the DL Reference Power parameter (chapter 9.2.x) indicating that the handling of the parameter is FFS.
		  • Chapter 9.2 has been divided into three sub-chapters, i.e. Common, FDD, and TDD parameters.
		  • All "unused" parameters, i.e. existing in chapter 9.2 but not in any message, have been deleted. All parameters existing in the messages but not previously having a heading in chapter 9.2 have been added under the appropriate sub-chapter of chapter 9.2.
		  • Annex C "List of Outstanding Issues" has been added.
		  • The parameters included in the DSCH Information and DSCH Information response groups have been indented to show the correct level of the information (even though never repeated).

1.3.0	August 1999	Approved by RAN WG3 with the following editorial corrections: • The Paging Request in chapter 8.1.4 is described also to be done in a cell (as well as in a URA as previously described). • The relation between a set of co-ordinated DCHs and a transport bearer (and its Binding ID) is added in chapters 8.2.1 and 8.2.2.
1.2.2	August 1999	In this version the editor's note on the cover page has been deleted. The editor's notes in chapter 8.2.1 and 8.2.5 are modified to encourage contributions to clarify the inconsistencies described in the notes. The figure text in chapter 8.3.1 has been corrected.
1.2.1	July 1999	The following updates of this version have been made due to the decisions taken at

		RAN WG3 #5 in Helsinki: • The description on whether an RNSAP module is optional or mandatory has been removed (chapter 5.1) as a consequence of the decision on R3-(99)671 not to describe if a certain procedure is optional or mandatory. • The description of the Global Procedures module is changed to indicate that the procedures are between peer CRNCs not peer RNCs as a result of decisions on R3-(99)642. The descriptions in of all the Global Procedures are updated accordingly (chapter 8.4). • The ASN.1 agreed modules have been added (chapter 9.3) as a result of decisions on R3-(99)668. For clarity, each module is placed in a separate sub-chapter. • The Cell ID is changed to UTRAN Cell Identifier (UC-Id) throughout the contribution and the previous parameter Cell ID is deleted as a result of decisions R3-(99)661. The UTRAN Cell Identifier is added in the list of parameters (chapter 9.2.68), described in accordance with R3(99)772. • The D-RNTI is added in the UPLINK SIGNALLING TRANSFER message (chapters 8.1.1 and 9.1.22). The C-RNTI is replaced by the D-RNTI in the DOWNLINK SIGNALLING TRANSFER and C-RNTI RELEASE messages (chapters 8.1.2, 9.1.23, 8.3.1, and 9.1.27). The description of the parameter C-RNTI is updated to show the new usage (chapter 9.2.8). The parameter C-RNTI Release Indicator is renamed to D-RNTI Release Indicator (chapter 9.2.11). All of this as a consequence of R3-(99)662. • The Common Transport Channel Initialisation procedure is updated and the C-RNTI Release procedure and message are renamed to Common Transport Channel Release (chapters 8.3.1, 8.3.2 and 9.1.27). • Document stability assessment table added as Annex B in accordance with R3-(99)771. • The procedures for Measurement Request and Measurement termination are added and the Measurement Reporting procedure (renamed) (chapters 8.2.9 -- 11 and 9.1.) as a result of decisions on R3-(99)736. The parameters described in the contribution were added (unless already existing) with the description given in the procedure chapter of the contribution (chapter 9.1.26 -- 31). • The UL RL Quality Estimate is added as a Measurement Type in the Measurement Request procedure (chapter 8.2.9) as a result of decisions on R3-(99)760. • The procedures Uplink Signalling Transfer, RL Setup, and RL Addition have been modified (chapters 8.1.1, 8.2.1, and 8.1.2) as a result of decisions on R3-(99)744. Further more, the messages RL SETUP RESPONSE, RL SETUP FAILURE, RL ADDITION RESPONSE, RL ADDITION FAILURE, and UPLINK SIGNALLING TRANSFER have been updated (chapters 9.1.3, 9.1.4, 9.1.6, 9.1.7, and 9.1.22). In addition, the parameter CRNC Address has been renamed and modified and the parameters CN PS Domain Identifier and CN CS Domain Identifier have been added (chapters 9.2.7, 9.2.8, and 9.2.9). • The URA Paging Request procedure and message are renamed to Paging Request (chapter 8.1.4 and 9.1.25) as a result of decisions on R3-(99)680. The UC-Id is added as a possible identification of the “paging area”. When this contribution was agreed the UE identification was regarded as FFS. However, see also the results of R3-(99)656 below. • The procedure Physical Channel Reconfiguration has been modified (chapter 8.2.6) as a result of the decisions on R3-(99)697. • The procedure text of the procedures Radio Link Setup (obvious typo corrected) and Radio Link Reconfiguration (unsynchronised) are modified (chapters 8.2.1 and 8.2.5) as a result of decisions on R3-(99)652. Further more, the C-RNTI is changed to D-RNTI in the RADIO LINK SETUP RESPONSE message (chapter 9.1.3). • The procedures RL Setup, RL Reconfiguration (synchronised), and RL Reconfiguration (unsynchronised) are modified (chapters 8.2.1 parameter DCH Combination Indicator is added to the RL SETUP REQUEST, RL RECONFIGURATION PREPARE, and RL RECONFIGURATION messages as

		well as in the list of parameters (chapters 9.1.2, 9.1.10, 9.1.15, and 9.2.12). • The messages RL SETUP REQUEST, RL RECONFIGURATION PREPARE, RL RECONFIGURATION, RL SETUP RESPONSE, RL ADDITION RESPONSE, RL RECONFIGURATION READY, and RL RECONFIGURATION RESPONSE have been updated with the DSCH Information and DSCH Information Response respectively (chapters 9.1.2, 9.1.10, 9.1.15, 9.1.3, 9.1.6, 9.1.11, and 9.1.16) as a result of decisions on R3-(99)675. The new parameters are also added to the list of parameters (chapters 9.2.24 and 9.2.28) • The neighbouring cell information is updated in the RADIO LINK SETUP RESPONSE, RADIO LINK SETUP FAILURE, RADIO LINK ADDITION RESPONSE, and RADIO LINK ADDITION FAILURE messages (chapters 9.1.3, 9.1.4, 9.1.6, and 9.1.7) as a result of decisions on R3-(99)655. • Parameters are added to the URA PAGING REQUEST message (chapter 9.1.25) R3(99)656. The DRX Parameter is added to the list of parameters (chapter 9.2.23). The SRNC-Id is added to the list of parameters (chapter 9.2.54). As a consequence of this contribution the UE identification for this message is not regarded as FFS anymore. • The Parameter Perch Channel Ec/Io to Primary CCPCH Ec/Io (chapters 9.1.2, 9.1.5, and 9.2.44) as a result of decisions on R3-(99)646. • The D-RNTI is added as an optional parameter in the SRNS RELOCATION COMMIT message (chapter 9.1.24). A description on when the connection oriented and connectionless services of the signalling bearer are used as well as when the D-RNTI is used is included (chapter 8.1.3). The D-RNTI parameter is added in the list of parameters (chapter 9.2.22). All as a consequence of decision taken regarding R3-(99)647. • The possible actions to be taken at reception of RL FAILURE have been removed (chapter 8.2.7) on R3-(99)610. • The parameter DCH Type is renamed to DCH Priority throughout the specification as a result of decisions on R3-(99)740.
1.2.0	July 1999	Approved by RAN WG3 with the following correction: • The Common Procedures module is renamed to Global Procedures.
1.1.1	June 1999	This revision contains updates due to decisions regarding the following contributions at RAN WG3 #4 in Warwick: • R3-(99)490 (RL Load Indication procedure in chapter 8.2). • R3-(99)516 (Load Information, Load Information Request, Measurement reporting, and DL Power Control procedures in chapters 8.2 and 8.4. A new module is added to the RNSAP modules in chapter 5.1.). • R3-(99)493 (Physical Channel Reconfiguration in chapter 8.2 and the corresponding messages in chapter 9.1). • R3-(99)452 (RL SETUP, RL ADDITION, RL RECONFIGURATION PREPARE, and RL RECONFIGURATION messages in chapter 9.1). • R3-(99)583 (Uplink Signalling Transfer, Downlink Signalling Transfer, Common Transport Channel initialisation in chapter 8.1 and 8.4 and the corresponding messages in chapter 9.1). The chapter “Downlink Signalling Transfer” was moved back to chapter 8.3 (Common Transport Channel Procedures). • R3-(99)449 ([no] Parallel Transactions in chapter 5 and addition of Transaction Id as mandatory in all messages).
1.1.0	June 1999	Approved by RAN WG3 with the following corrections: • The specification number is corrected. • The chapter “Downlink Signalling Transfer” was moved from the chapter 8.1 (Basic Mobility Procedures) to chapter 8.3 (Common Transport Channel Procedures)
1.0.2	May 1999	• Chapters 8.1, 8.3, 9.1, and 9.2 are updated in accordance with the decisions made regarding R3-(99)341. • Chapters 9.1.22 and 9.2 are updated in accordance with the decision made regarding R3-(99)360. • A note is added to chapter 4 to reflect the decision on the “Source Signalling Address” made regarding R3-(99)360. • Abbreviations added in chapter 3.

1.0.1	April 1999	• Specification number changed to UMTS 25.413. • Title corrected UTRAN Iur Interface RNSAP Signalling. • A short scope is added. • Editors note added in chapter 5.1 “RNSAP Procedure Modules” to reflect the previous decision, as described in UMTS 25.420. • Chapter 8 updated in accordance with R3-(99)262. (RNS changed to RNC in a lot of places (primarily in relation to transmission or reception of messages) and SRNC Relocation is renamed to SRNS Relocation.) • The reference to YY.02 in the chapter “SRNS Relocation Commit” has been updated to refer to UMTS 25.931. • Chapter 9.2.45 “Transport Address” has been updated with a reference to 25.426 in accordance with R3-(99)275. • Chapter 12 has been deleted to avoid inconsistencies. • Chapter 7 is updated with a list of “elementary” procedures from chapter 8. • The title of chapter 8 is changed to “RNSAP Procedures” since not all procedures are true elementary procedures. • Chapter 8.2.11 “Uplink Outer Loop Power Control” has been removed in accordance with the decision to use inband signalling for this procedure was taken based on the Iur/1 Study Item Report R3-(99)282 • The list of messages in Chapter 9.1 (before 9.1.1) as well as the chapters 9.1.x are updated so that all messages described in chapter 8 are described. The messages not described in chapter 8 are deleted. This update also applied to the parameter “Message Type” in chapter 9.2.24. • All descriptions of messages in chapters 9.1.x have been removed. For a description of when the messages are used see chapter 8. • Chapter 9.2 is updated in accordance with R3-(99)348.
1.0.0	April 1999	Raised to version 1.0.0 by the TSG RAN meeting #3 in Japan, April 1999. The content is identical to version 0.1.0.
0.1.0	April 1999	Only version number stepped, otherwise same as 0.0.5.
0.0.5	April 1999	• Editor’s notes in ch. 9.1 and 9.2 modified to reflect agreements at WG3#2 in
0.0.4	April 1999	• Elementary procedures in ch. 8 grouped into basic mobility-, DCH- and CCH procedures. • References added to msg. table in ch 9.1. • IEs in ch. 9.2 alphabetically ordered. • Started to add references in msg. contents tables in ch. 9.1.x. • Editor’s note in ch. 8.1.2 refering to study item Iu/3 removed since study item resolved. • Procedure Outer Loop Power Control renamed Up Link Outer Loop Power Control.
0.0.3	March 1999	Updated according to changes at WG3#2 in Nynäshamn: • Ch. 8.8 Cell/URA Update Indication procedure updated. • Ch. 8.16 CCHT Release Request procedure added. • Updated according to tdoc R3-99178, R3-99179, R3-99171, R3-99182, R3-99175, R3-99198.
0.0.2	February 1999	Introduction of content from the Merged Description of I_{ur} Interface, V0.0.2 1999-02.
0.0.1	February 1999	Document Structure Proposal.
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