

**TSG-RAN Meeting #11  
Palm Springs, CA, U.S.A., 13-16 March 2001**

**RP-010159**

**Title:** Agreed CRs to to WI "LCS1-UEpos-lublur"

**Source:** TSG-RAN WG3

**Agenda item:** 5.3.3

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num	Workitem
R3-011053	25.420	014	2	Introduction of SCCP Handling for Common Measurements and Information Exchange on lur	B	agreed	3.2.0	4.0.0	LCS1-UEpos-lublur
R3-011054	25.423	327	3	Introduction of the Common Measurement Procedures in RNSAP	B	agreed	3.4.0	4.0.0	LCS1-UEpos-lublur
R3-011056	25.423	328	2	Introduction of the Information Exchange Procedures in RNSAP	B	agreed	3.4.0	4.0.0	LCS1-UEpos-lublur
R3-011022	25.423	336	1	Introduction of Cell Geographical Area Additional Shapes	B	agreed	3.4.0	4.0.0	LCS1-UEPos-lublur
R3-011059	25.423	337	1	Merge CR for common measurements over lur	B	agreed	3.4.0	4.0.0	LCS1-UEpos-lublur
R3-010994	25.433	372	2	Introduction of the UTRAN-GPS and SFN-SFN timing measurement in NBAP	B	agreed	3.4.1	4.0.0	LCS1-UEpos-lublur
R3-010990	25.433	374	2	Introduction of the Information Exchange Procedures in RNSAP	B	agreed	3.4.1	4.0.0	LCS1-UEPos-lublur
R3-010989	25.433	381	1	Introduction of the network configurable idle periods for OTDOA UE Positioning function	B	agreed	3.4.1	4.0.0	LCS1-UEPos-lublur

## CHANGE REQUEST

⌘ **25.420 CR 14** ⌘ rev **2** ⌘ Current version: **3.2.0** ⌘

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

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

**Title:** ⌘ Introduction of SCCP Handling for Common Measurements and Information Exchange on lur

**Source:** ⌘ R-WG3

**Work item code:** ⌘ LCS1-UEpos-lublur

**Date:** ⌘ 27/2/01

**Category:** ⌘ **B**

**Release:** ⌘ R4

Use one of the following categories:

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

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

Use one of the following releases:

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

**Reason for change:** ⌘ The introduction of common measurements and information exchanges on lur requires an extension to the SCCP handling specification, as it uses connections that are not related to a user context.

**Summary of change:** ⌘ R2: Backwards Compatibility Statement added; CR tidied up to show only changes against the latest specification rather than previous versions of the CR.

R1: Information Exchanges and Common Measurement are mapped on the same SCCP connection.

R0: Details of the connection establishment and release procedures are added to cover these cases.

Backwards Compatibility: This CR is backwards compatible with Release 99.

**Consequences if not approved:** ⌘ It will not be possible to introduce common measurements or information exchanges on lur.

**Clauses affected:** ⌘ 4.5.1.1, 4.5.1.2, 4.5.1.3A (new), 4.5.1.3B (new), 4.5.1.4, 4.5.1.5

**Other specs affected:** ⌘  Other core specifications ⌘  Test specifications  
 O&M Specifications

**Other comments:** ⌘ A similar CR has been introduced for the Work Item RANimp-RRMopt (CR12). If both CRs are approved, then CR12 shall be **withdrawn**.

### How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## 4.5 Iur Interface Characteristics

### 4.5.1 Uses of SCCP

#### 4.5.1.1 General

The SCCP is used to support signalling messages between two RNCs. One user function of the SCCP, called Radio Network Subsystem Application Part (RNSAP), is defined. The RNSAP uses one signalling connection per DRNC and UE where a UE is having one or more active radio links for the transfer of layer 3 messages. RNSAP also uses one signalling connection per RNC providing common measurements and information to a particular RNC (i.e. if measurements and information are transferred in both directions between a pair of RNCs, then two SCCP connections are used).

Both connectionless and connection-oriented procedures are used to support the RNSAP. TS 25.423 explains whether connection oriented or connectionless services should be used for a layer 3 procedure.

The following subclauses describe the use of SCCP connections for RNSAP transactions. Subclause 2.2 describes the connection establishment procedures. Subclause 2.3 describes the connection release procedures. Subclause 2.4 describes abnormal conditions.

#### 4.5.1.2 SCCP connection establishment

A new SCCP connection is established when information related to the communication between a UE and the network has to be exchanged between two RNCs, and no SCCP connection exists between the two RNCs involved, for the concerned UE.

In this case, the ~~An~~ SCCP connection is ~~always~~ established by the SRNC.

A new SCCP connection is established when a request for common measurements or information is made towards a particular RNC and no SCCP connection for common measurements and information transfer has been established from the RNC requesting the measurements or information towards the one providing the measurements or the information.

In this case, the SCCP connection is established by the RNC requesting the measurements or the information.

~~The above case is the only case currently identified for SCCP connection establishment. Other cases may emerge in the future.~~

#### 4.5.1.3 Establishment procedure initiated from the SRNC

The SCCP signalling connection establishment is initiated, by the SRNC, when the SRNC needs to request dedicated resources, i.e. a DCH, from a DRNC.

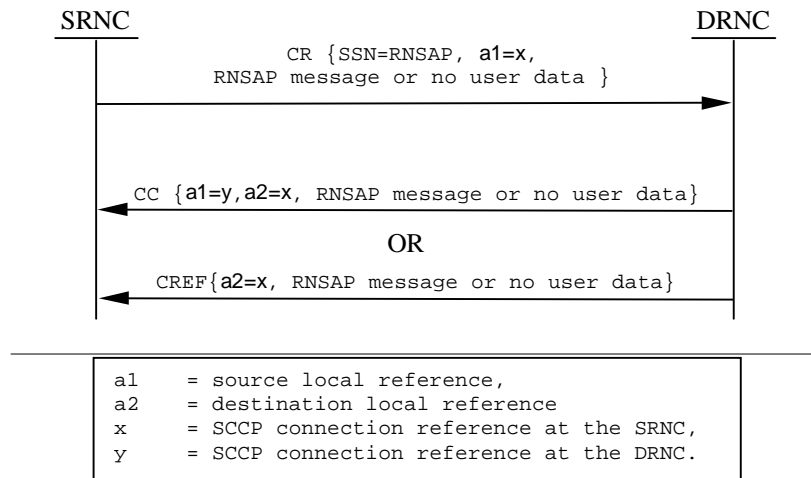
##### Initiation

- The SRNC sends the SCCP: CR message to the DRNC. The RADIO LINK SETUP REQUEST message may be included in the user data field of an SCCP Connection Request message.

##### Termination

1. Successful outcome:
  - The SCCP Connection Confirm message, which may optionally contain a connection oriented RNSAP message in the user data field, is returned to the SRNC.
2. Unsuccessful outcome:
  - If the SCCP signalling connection establishment fails, an SCCP Connection Refusal message will be sent back to the SRNC. This message may optionally contain a connection oriented RNSAP message.

For more information on how the RNSAP procedure Radio Link Setup is handled, please see the procedure Radio Link Setup in TS 25.423 [5].



**Figure 1: Setting-up of SCCP Signalling Connection**

#### 4.5.1.3A Establishment procedure initiated from an RNC requesting common measurements or information

The SCCP signalling connection establishment is initiated, by an RNC, when the RNC needs to request common measurements or provision of information from another RNC and there is no signalling bearer existing for this purpose. For the description below, the RNC requesting the measurements or the information is called RNC1 and the RNC being requested to provide the measurements or the information is called RNC2.

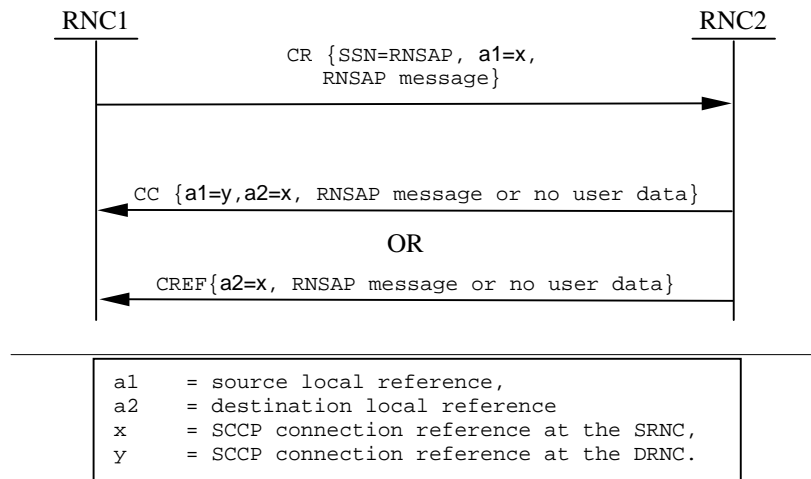
##### Initiation

- The RNC1 sends the SCCP: CR message to the RNC2. The COMMON MEASUREMENT INITIATION REQUEST or the INFORMATION EXCHANGE INITIATION REQUEST message shall be included in the user data field of the SCCP Connection Request message.

##### Termination

1. Successful outcome:
  - The SCCP Connection Confirm message, which may optionally contain a connection oriented RNSAP message in the user data field, is returned to the RNC1.
2. Unsuccessful outcome:
  - If the SCCP signalling connection establishment fails, an SCCP Connection Refusal message will be sent back to the RNC1. This message may optionally contain a connection oriented RNSAP message.

RNSAP Common Measurement Initiation and Information Exchange Initiation procedures are described in [5].



**Figure 1a: Setting-up of SCCP Signalling Connection**

#### 4.5.1.4 SCCP connection release

An SCCP connection [related to a specific UE](#) is released when the SRNC realises that a given signalling connection is no longer required.

The SRNC sends an SCCP Released message.

[An SCCP connection used for common measurements and information exchanges](#) is released when the RNC1 (see 4.5.1.3A) determines that a given signalling connection is no longer required. The RNC1 sends an SCCP Released message.

#### 4.5.1.5 General SCCP Abnormal Conditions

If a user-out-of-service information or signalling-point-inaccessible information is received by the RNSAP, no new attempt to establish SCCP connections towards the affected point code will be started until the corresponding user-in-service information or signalling-point-accessible information is received.

When a user-out-of-service information or signalling-point-inaccessible is received by an RNC, an optional timer may be started. When the timer expires, all the SCCP connections towards the affected point code will be released. When the user-in-service or signalling-point-accessible is received, the timer is stopped.

If for any reason an SCCP connection is released, the optional timer expires or a connection refusal is received while any of the RNSAP procedures are being performed or while a dedicated resource is still allocated, the following actions are taken:

At the SRNC:

- Any RNSAP procedure relating to that connection is abandoned.

At the DRNC:

- Any RNSAP procedure relating to that connection is abandoned;
- The DRNS resources (RL's) associated with the SCCP connection are released as soon as possible.

[At an RNC which requested common measurements and/or information \(RNC1\):](#)

- [Any RNSAP procedure relating to that connection is abandoned.](#)

[At an RNC which is requested to provide common measurements and/or information \(RNC2\):](#)

- [Any RNSAP procedure relating to that connection is abandoned;](#)
- [The RNC2 shall terminate locally any common measurements and/or any information exchange specific functions related to that connection.](#)

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## CHANGE REQUEST

⌘ **25.423 CR 327** ⌘ rev **3** ⌘ Current version: **3.4.0** ⌘

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

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

**Title:** ⌘ Introduction of the Common Measurement Procedures in RNSAP

**Source:** ⌘ **R-WG3**

**Work item code:** ⌘ LCS1-UEpos-lublur

**Date:** ⌘ 27/02/2001

**Category:** ⌘ **B**

**Release:** ⌘ REL-4

Use one of the following categories:

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

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

Use one of the following releases:

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

**Reason for change:** ⌘ For UE Positioning purpose, the SRNC has to request measurements on Common Resources. Since these Common Resources are not always controlled by a Node B controlled by the SRNC, Common Measurement Procedures are needed over the Iur interface.

**Summary of change:** ⌘ R3: Editorial Corrections.

R2: Following changes have been made (highlighted in yellow):

1. Introduction of the fact that the same SCCP connection is used for both common measurement and information exchange purposes.
2. Clarification on the measurement values that have to be reported depending on the *Report Characteristics* IE in the procedure text.
3. Clarification of the Common Measurement Accuracy Class in procedure text.
4. Clarification of the use of the *Measurement ID* IE in the IE Description and update of the clauses affected.
5. SFN and Time Slot reporting are Optional in the *SFN-SFN Measurement Value Information* IE.
6. Editorial errors are corrected and ASN.1 is aligned with the above modifications.
7. Abbreviations have been added.

R1: Following changes have been made (changes in the text were made with different revision marks):

1. Replaced Neighbouring xDD Measurement Information Cell IEs in SFN-SFN



Measurement Value Information IE by UC-ID.

2. Corrections of error in ASN.1.
3. Change of the range of Measurement Quality and Measurement Drift Rate Quality.
4. Addition of the Work Item Code in the cover Sheet.
5. Correction of the definition of the SFN-SFN Measurement in the Tabular Format and the ASN.1: range is now consistent with the RAN1 definition of the measurement.
6. Correction in the procedure text and *SFN-SFN Measurement Value Information IE* (Tabular Format and ASN.1) in order to design a working solution f this option of the OTDOA UE Positioning method.

R0: Introduction of Common Measurement Procedures in RNSAP.

This change is backward compatible.

**Consequences if not approved:** ⌘ If this CR is not approved, the UE Positioning function in the UTRAN will not be able to perform properly.

**Clauses affected:** ⌘ 3.1, 3.3, 7, 8.1, 8.5, 9.1, 9.2.1, 9.2.1.28A, 9.2.1.37, 9.2.1.39, 9.2.1.40, 9.2.1.48, 9.3.2, 9.3.3, 9.3.4, 9.3.6.

**Other specs Affected:** ⌘  Other core specifications ⌘   
 Test specifications  
 O&M Specifications

**Other comments:** ⌘ Will be merged with similar CR 323 from RRM Optimisation work if both are approved. The merged CR is 337.

**How to create CRs using this form:**

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## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

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

**Elementary Procedure:** 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 be sorted out when discussing the details of the error cases.

Class 2 EPs are considered always successful.

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

**UE Context:** The UE Context contains the necessary information for the DRNC for communication with a specific UE. The UE Context is created by the Radio Link Setup procedure or by the Uplink Signalling Transfer procedure when the UE makes its first access in a cell controlled by the DRNS. The UE Context is deleted by the Radio Link Deletion procedure or by the Common Transport Channel Resources Release procedure when neither any Radio Links nor any common transport channels are established towards the concerning UE. The UE Context is identified by the SCCP Connection for messages using connection oriented mode of the signalling bearer and the D-RNTI for messages using connectionless mode of the signalling bearer, unless specified otherwise in the procedure text.

**Distant RNC Context:** The Distant RNC context is created by the first Common Measurement Initiation Procedure or Information Exchange Initiation Procedure initiated by one RNC and requested from another RNC. The Distant RNC Context is deleted after the Common Measurement Termination, the Common Measurement Failure, the Information Exchange Termination or the Information Exchange Failure procedure when there is no more Common Measurement and no more Information to be provided by the requested RNC to the requesting RNC. The Distant RNC Context is identified by an SCCP connection as, for common measurements and information exchange, only the connection oriented mode of the signalling bearer is used.

### 3.3 Abbreviations

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

ASN.1	Abstract Syntax Notation One
BLER	Block Error Rate
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel
CCTrCH	Coded Composite Transport Channel
CFN	Connection Frame Number
CM	Compressed Mode
CN	Core Network
CPICH	Common Pilot Channel
CRNC	Controlling RNC
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRNC	Drift RNC
DRNS	Drift RNS
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
<u>GPS</u>	<u>Global Positioning System</u>
IE	Information Element
<u>LCS</u>	<u>LoCation Services</u>
MAC	Medium Access Control
PCPCH	Physical Common Packet Channel
PDU	Protocol Data Unit
PRACH	Physical Random Access Channel
RAB	Radio Access Bearer
RACH	Random Access Channel
RL	Radio Link
RLC	Radio Link Control
RLS	Radio Link Set
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
SCH	Synchronisation Channel
SDU	Signalling Data Unit
SFN	System Frame Number
SRNC	Serving RNC
SRNS	Serving RNS
SSDT	Site Selection Diversity Transmit
TDD	Time Division Duplex
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

Release 2000

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## 7 Functions of RNSAP

The RNSAP protocol has the following functions:

- Radio Link Management. This function allows the SRNC to manage radio links using dedicated resources in a DRNS;
- Physical Channel Reconfiguration. This function allows the DRNC to reallocate the physical channel resources for a Radio Link;
- Radio Link Supervision. This function allows the DRNC to report failures and restorations of a Radio Link;
- Compressed Mode Control [FDD]. This function allows the SRNC to control the usage of compressed mode within a DRNS;
- Measurements on Dedicated Resources. This function allows the SRNC to initiate measurements on dedicated resources in the DRNS. The function also allows the DRNC to report the result of the measurements;
- DL Power Drifting Correction [FDD]. This function allows the SRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links;
- CCCH Signalling Transfer. This function allows the SRNC and DRNC to pass information between the UE and the SRNC on a CCCH controlled by the DRNS;
- Paging. This function allows the SRNC to page a UE in a URA or a cell in the DRNS;
- Common Transport Channel Resources Management. This function allows the SRNC to utilise Common Transport Channel Resources within the DRNS (excluding DSCH resources for FDD);
- Relocation Execution. This function allows the SRNC to finalise a Relocation previously prepared via other interfaces;
- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- DL Power Timeslot Correction [TDD]. This function enables the DRNS to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.
- [Measurements on Common Resources. This function allows an RNC to request from another RNC to initiate measurements on Common Resources. The function also allows the requested RNC to report the result of the measurements.](#)

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

**Table 1: Mapping between functions and RNSAP elementary procedures**

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

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## 8 RNSAP Procedures

### 8.1 Elementary Procedures

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

**Table 2: Class 1**

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE		
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE	
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE	
Physical Channel Reconfiguration	PHYSICAL CHANNEL RECONFIGURATION REQUEST	PHYSICAL CHANNEL RECONFIGURATION COMMAND	PHYSICAL CHANNEL RECONFIGURATION FAILURE	
Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE	
Common Transport Channel Resources Initialisation	COMMON TRANSPORT CHANNEL RESOURCES REQUEST	COMMON TRANSPORT CHANNEL RESOURCES RESPONSE	COMMON TRANSPORT CHANNEL RESOURCES FAILURE	
<u>Common Measurement Initiation</u>	<u>COMMON MEASUREMENT INITIATION REQUEST</u>	<u>COMMON MEASUREMENT INITIATION RESPONSE</u>	<u>COMMON MEASUREMENT INITIATION FAILURE</u>	

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

Table 3: Class 2

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



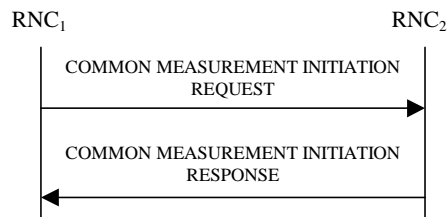
## 8.5.x Common Measurement Initiation

### 8.5.x.1 General

This procedure is used by an RNC to request the initiation of measurements of common resources to another RNC. The requesting RNC is referred to as RNC<sub>1</sub> and the RNC to which the request is sent is referred to as RNC<sub>2</sub>.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Initiation procedure: Successful Operation**

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the RNC<sub>1</sub> to the RNC<sub>2</sub>.

Upon reception, the RNC<sub>2</sub> 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.

[TDD- If the Time Slot Information is provided in the *Common Measurement Object Type IE*, the measurement request shall apply to the requested time slot individually.]

If the *Common Measurement Type IE* is not set to 'SFN-SFN Observed Time Difference' and the *SFN Reporting Indicator IE* is set to "FN Reporting Required", the *SFN IE* shall be included in the measurement report or in the measurement response, the latter only in the case the *Report Characteristics IE* is set to 'On-Demand'. The reported SFN shall be the SFN at the time when the measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26]. If the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference', then the *SFN Reporting Indicator IE* is ignored.

If the *SFN IE* is provided, it indicates the frame for which the first measurement shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26]. Furthermore, if the *SFN IE* is present and if the *Common Measurement Object Type IE* is set to "UP Neighbouring Cell", then the *SFN IE* relates to the Radio Frames of the Reference Cell identified by the first *UTRAN Cell Identifier IE*.

#### **Common measurement type**

If the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference', then the RNC<sub>2</sub> shall initiate the SFN-SFN Observed Time Difference measurements between the reference cell identified by *C-ID IE* and the neighbouring cells identified by the *UTRAN Cell Identifier IE (UC-Id)*.

#### **Report characteristics**

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

If the *Report Characteristics IE* is set to 'On-Demand', the RNC<sub>2</sub> shall report the result of the requested measurement immediately.

If the *Report Characteristics IE* is set to 'Periodic', the RNC<sub>2</sub> shall periodically initiate a Measurement Reporting procedure for this measurement, with the requested report frequency. Furthermore, if the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference', then all the available measurements shall be reported in the

Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE and the neighbouring cells with no measurement result available shall be reported in the Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE.

If the Report Characteristics IE is set to 'Event A', the RNC<sub>2</sub> 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 RNC<sub>2</sub> shall use the value zero for the hysteresis time.

If the Report Characteristics IE is set to 'Event B', the RNC<sub>2</sub> 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 RNC<sub>2</sub> shall use the value zero for the hysteresis time.

If the Report Characteristics IE is set to 'Event C', the RNC<sub>2</sub> shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.

If the Report Characteristics IE is set to 'Event D', the RNC<sub>2</sub> shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.

If the Report Characteristics IE is set to 'Event E', the RNC<sub>2</sub> shall initiate the Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the Report Periodicity IE is provided, the RNC<sub>2</sub> shall initiate the Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the RNC<sub>2</sub> shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the RNC<sub>2</sub> shall use the value zero as hysteresis times for both Report A and Report B.

If the Report Characteristics IE is set to 'Event F', the RNC<sub>2</sub> shall initiate the Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the Report Periodicity IE is provided the RNC<sub>2</sub> shall also initiate the Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the RNC<sub>2</sub> shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the RNC<sub>2</sub> shall use the value zero as hysteresis times for both Report A and Report B.

If the Report Characteristics IE is set to 'On Modification', the RNC<sub>2</sub> shall report the result of the requested measurement immediately. Then the RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure in accordance to the following conditions:

1. If the Common Measurement Type IE is set to 'UTRAN GPS Timing of Cell Frame for LCS':

- If the  $T_{\text{UTRAN-GPS-Change Limit}}$  IE is included in the  $T_{\text{UTRAN-GPS-Measurement Threshold Information}}$  IE, the RNC<sub>2</sub> shall each time a new measurement result is received from the physical layer measurement, calculate the change of  $T_{\text{UTRAN-GPS}}$  value ( $F_n$ ). The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure and set n equal to zero when the absolute value of  $F_n$  rises above the threshold indicated by the  $T_{\text{UTRAN-GPS-Change Limit}}$  IE. The change of  $T_{\text{UTRAN-GPS}}$  value ( $F_n$ ) is calculated according to the following:

$$F_n = 0 \text{ for } n=0$$

$$F_n = (M_n - M_{n-1}) \bmod 3715891200000 - ((SFN_n - SFN_{n-1}) \bmod 4096) * 10 * 3.84 * 10^3 * 16 + F_{n-1} \text{ for } n > 0$$

$F_n$  is the change of the  $T_{\text{UTRAN-GPS}}$  value expressed in unit [1/16 chip] when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at  $SFN_n$ .

$M_{n-1}$  is the previous measurement result received from the physical layer measurements, measured at  $SFN_{n-1}$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_0$  is equal to the value reported in the first Common Measurement Reporting at initiation or in the Common Measurement Reporting when the event was triggered.

- If the *Predicted  $T_{UTRAN-GPS}$  Deviation Limit IE* is included in the  *$T_{UTRAN-GPS}$  Measurement Threshold Information IE*, the RNC<sub>2</sub> shall, each time a new measurement result is received from the physical layer measurement, update the  $P_n$  and  $F_n$ . The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure and set  $n$  equal to zero when  $F_n$  rises above the threshold indicated by the *Predicted  $T_{UTRAN-GPS}$  Deviation Limit IE*. The  $P_n$  and  $F_n$  are calculated according to the following:

$$P_n = b \text{ for } n=0$$

$$P_n = ((1+a) * ((SFN_n - SFN_{n-1}) \bmod 4096) * 10 * 3.84 * 10^3 * 16 + P_{n-1}) \bmod 37158912000000 \text{ for } n > 0$$

$$F_n = \min(\text{abs}(M_n - P_n), \text{abs}(M_n - P_n - 37158912000000), \text{abs}(M_n - P_n + 37158912000000)) \text{ for } n > 0$$

$P_n$  is the predicted  $T_{UTRAN-GPS}$  value when  $n$  measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$a$  is the last reported  $T_{UTRAN-GPS}$  Drift Rate value.

$b$  is the last reported  $T_{UTRAN-GPS}$  value.

$F_n$  is the deviation of the last measurement result from the predicted  $T_{UTRAN-GPS}$  value ( $P_n$ ) when  $n$  measurements have been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at  $SFN_n$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The  $T_{UTRAN-GPS}$  Drift Rate is determined by the Node B in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

## 2. If the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference':

- If the *SFN-SFN Change Limit IE* is included in the *SFN-SFN Measurement Threshold Information IE*, the RNC<sub>2</sub> shall each time a new measurement result is received from the physical layer measurement, calculate the change of SFN-SFN value ( $F_n$ ). The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure **in order to report the particular SFN-SFN measurement which has triggered the event** and set  $n$  equal to zero when the absolute value of  $F_n$  rises above the threshold indicated by the *SFN-SFN Change Limit IE*. The change of the SFN-SFN value is calculated according to the following:

$$F_n = 0 \text{ for } n=0$$

$$F_n = (M_n - a) \bmod 40960 \text{ for } n > 0$$

$F_n$  is the change of the SFN-SFN value expressed in unit [1/16 chip] when  $n$  measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$a$  is the last reported SFN-SFN.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at  $SFN_n$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

- If the *Predicted SFN-SFN Deviation Limit IE* is included in the *SFN-SFN Measurement Threshold Information IE*, the RNC<sub>2</sub> shall each time a new measurement result is received from the physical layer measurement, update the  $P_n$  and  $F_n$ . The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure **in order to report the particular SFN-SFN measurement which has triggered the event** and set  $n$  equal to zero when  $F_n$  rises above the threshold indicated by the *Predicted SFN-SFN Deviation Limit IE*. The  $P_n$  and  $F_n$  are calculated according to the following:

$P_n = b$  for  $n=0$

$P_n = ((a * (15 * ((SFN_n - SFN_{n-1}) \bmod 4096) + (TS_n - TS_{n-1})) * 2560 * 16 + P_{n-1}) \bmod 40960) - 20480$  for  $n > 0$

$E_n = \min(\text{abs}(M_n - P_n), \text{abs}(M_n - P_n - 40960), \text{abs}(M_n - P_n + 40960))$  for  $n > 0$

$P_n$  is the predicted SFN-SFN value when  $n$  measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$a$  is the last reported SFN-SFN Drift Rate value.

$b$  is the last reported SFN-SFN value.

$E_n$  is the deviation of the last measurement result from the predicted SFN-SFN value ( $P_n$ ) when  $n$  measurements has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at the Time Slot  $TS_n$  of the Frame  $SFN_n$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The SFN-SFN Drift Rate is determined by the Node B in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

If the Report Characteristics IE is not set to 'On-Demand', the RNC<sub>2</sub> is required to perform reporting for a common measurement object, in accordance with the conditions provided in the COMMON MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no common measurement object(s) for which a measurement is defined exists any more the RNC<sub>2</sub> shall terminate the measurement locally without reporting this to RNC<sub>1</sub>.

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 RNC<sub>2</sub> shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as specified in the COMMON MEASUREMENT INITIATION REQUEST message.

### **Common measurement accuracy**

If the Common Measurement Type IE is set to 'UTRAN GPS Timing of Cell Frames for LCS', then the UTRAN GPS Timing Measurement Minimum Accuracy Class IE included in the Report Characteristics IE indicates the minimum accuracy class required in the measurements.

- If the UTRAN GPS Timing Measurement Minimum Accuracy Class IE indicates 'Class A', then the concerned RNC<sub>2</sub> shall perform the measurement with the highest supported accuracy according to any of the accuracy classes A, B or C.
- If the UTRAN GPS Timing Measurement Minimum Accuracy Class IE indicates the 'Class B', then the concerned RNC<sub>2</sub> shall perform the measurements with the highest supported accuracy according to class B or C.
- If the UTRAN GPS Timing Measurement Minimum Accuracy Class IE indicates 'Class C', then the concerned RNC<sub>2</sub> shall perform the measurements with the highest supported accuracy according to class C only.

If the Common Measurement Type IE is set to 'SFN-SFN Observed Time Difference', then the concerned RNC<sub>2</sub> shall initiate the SFN-SFN observed Time Difference measurements between the reference cell identified by UC-ID IE and the neighbouring cells identified by their UC-ID. The Report Characteristics IE applies to each of these measurements.

### **Higher layer filtering**

The Measurement Filter Coefficient IE indicates how filtering of the measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1 - a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows

$E_n$  is the updated filtered measurement result

$E_{n-1}$  is the old filtered measurement result

$M_n$  is the latest received measurement result from physical layer measurements

$a = 1/2^{(k/2)}$ , where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, a shall be set to 1 (no filtering)

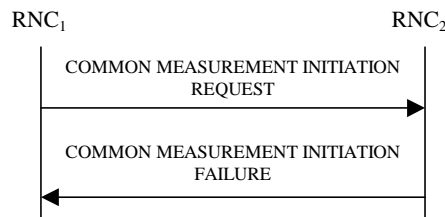
In order to initialise the averaging filter,  $F_0$  is set to  $M_1$  when the first measurement result from the physical layer measurement is received.

**Response message**

If the RNC<sub>2</sub> was able to initiate the measurement requested by RNC<sub>1</sub> it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message sent. The message shall include the same Measurement ID that was used in the measurement request. Only in the case when the *Report Characteristics* IE is set to "On-Demand" or "On Modification", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result. It shall also the *Common Measurement Achieved Accuracy* IE in the *Common Measurement Value* IE if the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS'.

Furthermore, if the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then all the available measurements shall be reported in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE and the neighbouring cells with no measurement result available shall be reported in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE.

**8.5.x.3 Unsuccessful Operation**



**Figure x: Common Measurement Initiation procedure: Unsuccessful Operation**

If the *Common Measurement Type* received in the *Common Measurement Type* IE is not defined in ref. [11] or [15] to be measured on the *Common Measurement Object Type* received in the *Common Measurement Object Type* IE in the COMMON MEASUREMENT INITIATION REQUEST message the RNC<sub>2</sub> shall regard the Common Measurement Initiation procedure as failed.

If the requested measurement cannot be initiated, the RNC<sub>2</sub> shall send a COMMON MEASUREMENT INITIATION FAILURE message. The message shall include the same Measurement ID that was used in the COMMON MEASUREMENT INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', but the *Neighbouring Cell Measurement Information* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC<sub>2</sub> shall regard the Common Measurement Initiation procedure as failed.

If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS', but the  $T_{UTRAN-GPS}$  *Measurement Minimum Accuracy Class* IE in the *Common Measurement Accuracy* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC<sub>2</sub> shall regard the Common Measurement Initiation procedure as failed.

Typical cause values are as follows:

**Radio Network Layer Cause**

- Measurement not supported for the object.
- Measurement Temporarily not Available

#### 8.5.x.4 Abnormal Conditions

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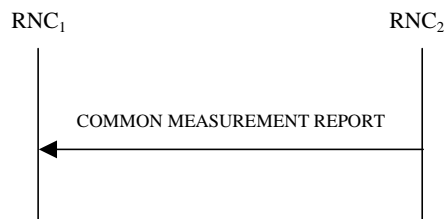
### 8.5.x Common Measurement Reporting

#### 8.5.x.1 General

This procedure is used by an RNC to report the result of measurements requested by another RNC using the Common Measurement Initiation.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

#### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Reporting procedure: Successful Operation**

If the requested measurement reporting criteria are met, the RNC<sub>2</sub> shall initiate a Measurement Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Common Measurement ID* IE shall be set to the Common Measurement ID provided by RNC<sub>1</sub> when initiating the measurement with the Common Measurement Initiation procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement, the Measurement not available shall be reported.

The RNC<sub>2</sub> shall include the *Common Measurement Achieved Accuracy* IE in the *Common Measurement Value* IE if the measurement was initiated for the 'UTRAN GPS Timing of Cell Frame for LCS' measurement type by the Common Measurement Initiation procedure.

#### 8.5.x.3 Abnormal Conditions

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## 8.5.x Common Measurement Termination

### 8.5.x.1 General

This procedure is used by an RNC to terminate a measurement previously requested by the Common Measurement Initiation procedure.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Termination procedure: Successful Operation**

This procedure is initiated with a COMMON MEASUREMENT TERMINATION REQUEST message.

Upon reception, RNC<sub>2</sub> shall terminate reporting of measurements corresponding to the Common Measurement ID.

### 8.5.x.3 Abnormal Conditions

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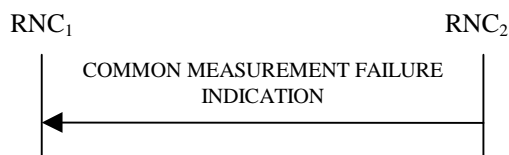
## 8.5.x Common Measurement Failure

### 8.5.x.1 General

This procedure is used by an RNC to notify another RNC that a measurement previously requested by the Common Measurement Initiation procedure can no longer be reported.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Failure procedure: Successful Operation**

This procedure is initiated with a COMMON MEASUREMENT FAILURE INDICATION message, sent from RNC<sub>2</sub> to RNC<sub>1</sub> to inform the RNC<sub>1</sub> that a previously requested measurement can no longer be reported. RNC<sub>2</sub> has locally terminated the indicated measurement.

### 8.5.x.3 Abnormal Conditions

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## 9.1.x COMMON MEASUREMENT INITIATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>reject</u>
<u>Common Measurement Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>CHOICE Common Measurement Object Type</u>	<u>M</u>				<u>YES</u>	<u>reject</u>
<u>&gt;Cell</u>					<u>=</u>	
<u>&gt;&gt;UTRAN Cell Identifier</u>	<u>M</u>		<u>9.2.1.71</u>		<u>=</u>	
<u>&gt;&gt;Neighbouring Cell Measurement Information</u>		<u>0..&lt;maxnoof MeasNCells</u> <u>≥</u>			<u>=</u>	
<u>&gt;&gt;&gt; Neighbouring FDD Cell Measurement Information</u>	<u>C-CellInfo</u>		<u>9.2.1.x</u>		<u>=</u>	
<u>&gt;&gt;&gt; Neighbouring TDD Cell Measurement Information</u>	<u>C-CellInfo</u>		<u>9.2.1.x</u>		<u>=</u>	
<u>Common Measurement Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>Measurement Filter Coefficient</u>	<u>O</u>		<u>9.2.1.41</u>		<u>YES</u>	<u>reject</u>
<u>Report Characteristics</u>	<u>M</u>		<u>9.2.1.48</u>		<u>YES</u>	<u>reject</u>
<u>SFN reporting indicator</u>	<u>M</u>		<u>FN reporting indicator 9.2.1.28A</u>		<u>YES</u>	<u>reject</u>
<u>SFN</u>	<u>O</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>Common Measurement Accuracy</u>	<u>O</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>

<u>Range bound</u>	<u>Explanation</u>
<u>maxnoofMeasNCell</u>	<u>Maximum number of neighbouring cells on which measurements can be performed.</u>

<u>Condition</u>	<u>Explanation</u>
<u>CellInfo</u>	<u>Only one Neighbouring Cell Measurement Information IE can be present at the same time.</u>



9.1.x COMMON MEASUREMENT INITIATION RESPONSE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	M		<u>9.2.1.40</u>		YES	<u>reject</u>
<u>Transaction ID</u>	M		<u>9.2.1.59</u>		=	
<u>Measurement ID</u>	M		<u>9.2.1.37</u>		YES	<u>ignore</u>
<u>CHOICE Common Measurement Object Type</u>	O			<u>Common Measurement Object Type that the measurement was initiated with.</u>	YES	<u>ignore</u>
<u>&gt;Cell</u>					=	
<u>&gt;&gt;Common Measurement value</u>	M		<u>9.2.1.x</u>		=	
<u>SFN</u>	O		<u>9.2.1.x</u>	<u>Common Measurement Time Reference</u>	YES	<u>ignore</u>
<u>Criticality Diagnostics</u>	O		<u>9.2.1.13</u>		YES	<u>ignore</u>
<u>Common Measurement Achieved Accuracy</u>	O		<u>Common Measurement Accuracy 9.2.1.x</u>		YES	<u>ignore</u>

9.1.x COMMON MEASUREMENT INITIATION FAILURE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	M		<u>9.2.1.40</u>		YES	<u>reject</u>
<u>Transaction ID</u>	M		<u>9.2.1.59</u>		=	
<u>Measurement ID</u>	M		<u>9.2.1.37</u>		YES	<u>ignore</u>
<u>Cause</u>	M		<u>9.2.1.5</u>		YES	<u>ignore</u>
<u>Criticality Diagnostics</u>	O		<u>9.2.1.13</u>		YES	<u>ignore</u>

9.1.x COMMON MEASUREMENT REPORT

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	M		<u>9.2.1.40</u>		YES	<u>ignore</u>
<u>Transaction ID</u>	M		<u>9.2.1.59</u>		=	
<u>Measurement ID</u>	M		<u>9.2.1.37</u>		YES	<u>ignore</u>
<u>CHOICE Common Measurement Object Type</u>	M			<u>Common Measurement Object Type that the measurement was initiated with.</u>	YES	<u>ignore</u>
<u>&gt;Cell</u>					=	
<u>&gt;&gt;Common Measurement Value Information</u>	M		<u>9.2.1.x</u>		=	
<u>SFN</u>	O		<u>9.2.1.x</u>	<u>Common Measurement Time Reference</u>	YES	<u>ignore</u>

9.1.x COMMON MEASUREMENT TERMINATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>

9.1.x COMMON MEASUREMENT FAILURE INDICATION

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>
<u>Cause</u>	<u>M</u>		<u>9.2.1.5</u>		<u>YES</u>	<u>ignore</u>

### 9.2.1.28A FN reporting indicator

Frame Number reporting indicator.

Indicates if the [SFN or](#) CFN shall be included together with the reported measurement value.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FN reporting indicator			ENUMERATED(FN reporting required, FN reporting not required)	

### 9.2.1.37 Measurement ID

The Measurement Id uniquely identifies any a dedicated measurement on dedicated resources requested over RNSAP within a UE Context or a common measurement within a Distant RNC Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement ID			INTEGER(0 .. 2 <sup>20</sup> -1)	

### 9.2.1.39 Measurement Threshold

The Measurement Threshold defines which threshold that shall trigger Event A, B, E, ~~F~~ or On Modification.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	<i>C – Threshold</i>		INTEGER(0..63)	According to mapping in ref. [23] and [24].
SIR Error	<i>C – Threshold</i>		INTEGER(0..125)	According to mapping in [23], (FDD only)
Transmitted Code Power	<i>C – Threshold</i>		INTEGER(0..127)	According to mapping in ref. [23] and [24].
RSCP	<i>C – Threshold</i>		INTEGER(0..81)	According to mapping in ref. [24] (TDD only)
Rx Timing Deviation	<i>C - Threshold</i>		INTEGER(0..2047)	According to mapping in [24] (TDD only)
Round Trip Time	<i>C – Threshold</i>		INTEGER(0..32767)	According to mapping in [23] (FDD only)
<a href="#">UTRAN-GPS Measurement Threshold Information</a>	<i><a href="#">C – Threshold</a></i>		<a href="#">9.2.1.x</a>	
<a href="#">SFN-SFN Measurement Threshold Information</a>	<i><a href="#">C – Threshold</a></i>		<a href="#">9.2.1.x</a>	

Condition	Explanation
<i>Threshold</i>	Only one measurement threshold can be present at the same time.

### 9.2.1.40 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
<b>Message Type</b>				
<b>&gt;Procedure ID</b>		1		
>>Procedure Code	M		ENUMERATED (RL Setup, RL Addition, RL Deletion, Synchronised RL Reconfiguration Preparation, Synchronised RL Reconfiguration Commit, Synchronised RL Reconfiguration Cancel, Unsynchronised RL Reconfiguration Request, RL Failure, RL Restoration, DL Power Control, DL Power Timeslot Control, Physical Channel Reconfiguration, UL Signalling Transfer, DL Signalling Transfer, Relocation Commit, Paging, Measurement Initiation, Measurement Reporting, Measurement Termination, Measurement Failure, Common Transport Channel Resources Initiation, Common Transport Channel Resources Release,  Compressed Mode Command,  Error Indication, ... <a href="#">Common Measurement Initiation</a> , <a href="#">Common Measurement Reporting</a> , <a href="#">Common Measurement Termination</a> , <a href="#">Common Measurement Failure</a> )	
>>Ddmode	M		ENUMERATED (FDD, TDD, Common, ...)	Common = common to FDD and TDD.
>Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

### 9.2.1.48 Report Characteristics

The Report Characteristics, defines how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
<b>Report Characteristics</b>				
>Report Characteristics Type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F, ..., <a href="#">On Modification</a> .)	
>Periodic Report Information	C – Periodic			
>>Report Periodicity	M		ENUMERATED (10ms...1min, ...) step 10ms, (1min...1hr,...) step 1min,...	The periodicity with which the DRNS shall send measurement reports.
>Event A	C – Event A			
>>Measurement Threshold	M		Measurement Threshold	The threshold for which the DRNS shall trigger a measurement report.
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	
>Event B	C – Event B			
>>Measurement Threshold	M		Measurement Threshold	The threshold for which the DRNS shall trigger a measurement report.
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	
>Event C	C – Event C			
>> Measurement Increase/Decrease Threshold	M		Measurement Increase/Decrease Threshold	
>>Measurement Change Time	M		ENUMERATED (10ms...1min, ...) step 10ms,...	The time within which the measurement entity shall rise, in order to trigger a measurement report.
>Event D	C – Event D			
>> Measurement Increase/Decrease Threshold	M		Measurement Increase/Decrease Threshold	
>>Measurement Change Time	M		ENUMERATED (10ms...1min, ...) step 10ms,...	The time within which the measurement entity shall fall, in order to trigger a measurement report.
>Event E	C – Event E			



IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
>>Measurement Threshold 1	M		Measurement Threshold	
>>Measurement Threshold 2	O		Measurement Threshold	
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	The hysteresis time in ms
>>Report Periodicity	O		ENUMERATED (10ms...1min, ...) step 10ms, (1min...1hr, ...) step 1min,...	The periodicity with which the DRNS shall send measurement reports.
>Event F	C – Event F			
>>Measurement Threshold 1	M		Measurement Threshold	
>>Measurement Threshold 2	O		Measurement Threshold	
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	The hysteresis time in ms
>>Report Periodicity	O		ENUMERATED (10ms...1min, ...) step 10ms, (1min...1hr, ...) step 1min,...	The periodicity with which the DRNS shall send measurement reports.
>On Modification	C - On Modification			
>>Measurement Threshold			<a href="#">Measurement Threshold 9.2.1.39</a>	

Condition	Explanation
C-Periodic	Valid if <i>Report Characteristics Type</i> IE indicates "periodic"
C-Event A	Valid if <i>Report Characteristics Type</i> IE indicates "Event A"
C-Event B	Valid if <i>Report Characteristics Type</i> IE indicates "Event B"
C-Event C	Valid if <i>Report Characteristics Type</i> IE indicates "Event C"
C-Event D	Valid if <i>Report Characteristics Type</i> IE indicates "Event D"
C-Event E	Valid if <i>Report Characteristics Type</i> IE indicates "Event E"
C-Event F	Valid if <i>Report Characteristics Type</i> IE indicates "Event F"
<a href="#">C-On Modification</a>	Valid if <i>Report Characteristics Type</i> IE indicates ' <a href="#">On Modification</a> '

### 9.2.1.x Common Measurement Accuracy

The Common Measurement Accuracy IE indicates the accuracy of the common measurement.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Measurement Accuracy Class</u>	<u>C- Measur entAccurac y</u>		<u>T<sub>UTRAN-GPS</sub> Accuracy Class 9.2.1.x</u>	

<u>Condition</u>	<u>Explanation</u>
<u>C-MeasurementAccuracy</u>	<u>Only one IE shall be present.</u>

### 9.2.1.x Common Measurement Object Type

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

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Common Measurement Object Type</u>			<u>ENUMERAT ED (CELL....)</u>	

### 9.2.1.x Common Measurement Type

The Common Measurement Type identifies which measurement that shall be performed.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Common Measurement Type</u>			<u>ENUMERATED (UTRAN GPS Timing of Cell Frames for LCS, SFN-SFN Observed Time Difference, ...)</u>	

### 9.2.1.x Common Measurement Value

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

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>T<sub>UTRAN-GPS</sub> Measurement Value Information</u>	<u>C MeasValu e</u>		<u>9.2.1.x</u>	
<u>SFN-SFN Measurement Value Information</u>	<u>C MeasValu e</u>		<u>9.2.1.x</u>	

<u>Condition</u>	<u>Explanation</u>
<u>MeasValue</u>	<u>Only one measurement value can be present at the same time.</u>

### 9.2.1.x Common Measurement Value Information

The *Common Measurement Value Information* IE provides information both on whether or not the Common Measurement Value is provided in the message or not and if provided also the Common Measurement Value itself.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>CHOICE Measurement Availability</u>	M			
<u>&gt;Measurement Available</u>				
<u>&gt;&gt;Common Measurement Value</u>	M		9.2.1.x	
<u>&gt;Measurement not Available</u>			NULL	

### 9.2.1.x Neighbouring FDD Cell Measurement Information

This IE provides information on the FDD neighbouring cells used for the purpose of Measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>UTRAN Cell Identifier</u>	M		9.2.1.71	
<u>UARFCN</u>	M		9.2.1.66	Corresponds to Nd [6]
<u>Primary Scrambling Code</u>	M		9.2.1.45	

### 9.2.1.x Neighbouring TDD Cell Measurement Information

This IE provides information on the TDD neighbouring cells used for the purpose of Measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>UTRAN Cell Identifier</u>	M		9.2.1.71	
<u>UARFCN</u>	M		9.2.1.66	
<u>Cell Parameter ID</u>	M		9.2.1.8	

### 9.2.1.x SFN

System Frame Number of the cell, see ref. [17].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>SFN</u>			Integer (0..4095)	

### 9.2.1.x SFN-SFN Measurement Threshold Information

The *SFN-SFN Measurement Threshold Information* defines the related thresholds *SFN-SFN Observed Time Difference measurements* which shall trigger the *Event On Modification*.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>SFN-SFN Change Limit</u>	C - <u>SFNSFNLimit</u>		INTEGER(1..16384,...)	Change of SFN-SFN value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.
<u>Predicted SFN-SFN Deviation Limit</u>	C- <u>SFNSFNLimit</u>		INTEGER(1..16384,...)	Deviation the Predicted SFN-SFN from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.

<u>Condition</u>	<u>Explanation</u>
C- SFNSFNLimit	At least one threshold shall be present.

### 9.2.1.x SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements as well as other related information.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<b><u>Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information</u></b>		1..<maxnoofMeasN Cell>		
>UTRAN Cell Identifier			9.2.1.71	
>SFN-SFN	M		INTEGER(-20480..20479)	
>SFN-SFN Quality	M		INTEGER(0..16383)	Indicates the standard deviation of the SFN-SFN measurements.
>SFN-SFN Drift Rate	M		INTEGER(-16383..16383)	Indicates the SFN-SFN drift rate in 1/16 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell.
>SFN-SFN Drift Rate Quality	M		INTEGER(0..16383)	Indicates the standard deviation of the SFN-SFN drift rate measurements.
>SFN	M		9.2.1.x	Indicates the SFN at which this measurement has been performed.
>Timeslot	M		9.2.1.56	Indicates the Time Slot at which this measurement has been performed.
<b><u>Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information</u></b>		0..<maxnoofMeasN Cell-1>		
>UTRAN Cell Identifier			9.2.1.71	

<u>Range bound</u>	<u>Explanation</u>
maxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.2.1.x T<sub>UTRAN-GPS</sub> Accuracy Class

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Accuracy Class</u>			ENUMERATED(Accuracy Class A, Accuracy Class B, Accuracy Class C,...)	More information about Measurement Accuracy Class is included in [23].

9.2.1.x T<sub>UTRAN-GPS</sub> Measurement Threshold Information

The T<sub>UTRAN-GPS</sub> Measurement Threshold Information defines the related thresholds for UTRAN GPS Timing of Cell Frame for LCS measurements shall trigger the Event On Modification.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Change Limit</u>	C- <u>UTRANGP SLimit</u>		INTEGER(1..2^20,...)	Change of T <sub>UTRAN-GPS</sub> value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.
<u>Predicted T<sub>UTRAN-GPS</sub> Deviation Limit</u>	C- <u>UTRANGP SLimit</u>		INTEGER(1..2^20,...)	Deviation of the Predicted T <sub>UTRAN-GPS</sub> from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.

<u>Condition</u>	<u>Explanation</u>
C- UTRANGPSLimit	At least one threshold shall be present.

9.2.1.x T<sub>UTRAN-GPS</sub> Measurement Value Information

The T<sub>UTRAN-GPS</sub> Measurement Value Information IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub></u>	M		INTEGER(0..3715891199999)	Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [223] and [24]
<u>T<sub>UTRAN-GPS</sub> Quality</u>	M		INTEGER(0..2^20-1)	Indicates the standard deviation of the T <sub>UTRAN-GPS</sub> measurements.
<u>T<sub>UTRAN-GPS</sub> Drift Rate</u>	M		INTEGER(-163843..163843)	Indicates the T <sub>UTRAN-GPS</sub> drift rate in 1/16 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.
<u>T<sub>UTRAN-GPS</sub> Drift Rate Quality</u>	M		INTEGER(0..163843)	Indicates the standard deviation of the T <sub>UTRAN-GPS</sub> drift rate measurements.

## 9.3.2 Elementary Procedure Definitions

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

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

IMPORTS

Criticality,  
ProcedureID,  
TransactionID

FROM RNSAP-CommonDataTypes

CommonMeasurementFailureIndication,  
CommonMeasurementInitiationFailure,  
CommonMeasurementInitiationRequest,  
CommonMeasurementInitiationResponse,  
CommonMeasurementReport,  
CommonMeasurementTerminationRequest,  
CommonTransportChannelResourcesFailure,  
CommonTransportChannelResourcesRequest,  
CommonTransportChannelResourcesReleaseRequest,  
CommonTransportChannelResourcesResponseFDD,  
CommonTransportChannelResourcesResponseTDD,  
CompressedModeCommand,  
DedicatedMeasurementFailureIndication,  
DedicatedMeasurementInitiationFailure,  
DedicatedMeasurementInitiationRequest,  
DedicatedMeasurementInitiationResponse,  
DedicatedMeasurementReport,  
DedicatedMeasurementTerminationRequest,  
DL-PowerControlRequest,  
DL-PowerTimeslotControlRequest,  
DownlinkSignallingTransferRequest,  
ErrorIndication,  
PagingRequest,  
PhysicalChannelReconfigurationCommand,  
PhysicalChannelReconfigurationFailure,  
PhysicalChannelReconfigurationRequestFDD,  
PhysicalChannelReconfigurationRequestTDD,  
PrivateMessage,  
RadioLinkAdditionFailureFDD,  
RadioLinkAdditionFailureTDD,  
RadioLinkAdditionRequestFDD,  
RadioLinkAdditionRequestTDD,  
RadioLinkAdditionResponseFDD,  
RadioLinkAdditionResponseTDD,

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RadioLinkDeletionRequest,  
RadioLinkDeletionResponse,  
RadioLinkFailureIndication,  
RadioLinkPreemptionRequiredIndication,  
RadioLinkReconfigurationCancel,  
RadioLinkReconfigurationCommit,  
RadioLinkReconfigurationFailure,  
RadioLinkReconfigurationPrepareFDD,  
RadioLinkReconfigurationPrepareTDD,  
RadioLinkReconfigurationReadyFDD,  
RadioLinkReconfigurationReadyTDD,  
RadioLinkReconfigurationRequestFDD,  
RadioLinkReconfigurationRequestTDD,  
RadioLinkReconfigurationResponseFDD,  
RadioLinkReconfigurationResponseTDD,  
RadioLinkRestoreIndication,  
RadioLinkSetupFailureFDD,  
RadioLinkSetupFailureTDD,  
RadioLinkSetupRequestFDD,  
RadioLinkSetupRequestTDD,  
RadioLinkSetupResponseFDD,  
RadioLinkSetupResponseTDD,  
RelocationCommit,  
UplinkSignallingTransferIndicationFDD,  
UplinkSignallingTransferIndicationTDD

FROM RNSAP-PDU-Contents

id-commonMeasurementFailure,  
id-commonMeasurementInitiation,  
id-commonMeasurementReport,  
id-commonMeasurementTermination,  
id-commonTransportChannelResourcesInitialisation,  
id-commonTransportChannelResourcesRelease,  
id-compressedModeCommand,  
id-downlinkPowerControl,  
id-downlinkSignallingTransfer,  
id-downlinkPowerTimeslotControl,  
id-errorIndication,  
id-measurementFailure,  
id-measurementInitiation,  
id-measurementReporting,  
id-measurementTermination,  
id-paging,  
id-physicalChannelReconfiguration,  
id-privateMessage,  
id-radioLinkAddition,  
id-radioLinkDeletion,  
id-radioLinkFailure,  
id-radioLinkPreemption,  
id-radioLinkRestoration,  
id-radioLinkSetup,  
id-relocationCommit,  
id-synchronisedRadioLinkReconfigurationCancellation,

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```
id-synchronisedRadioLinkReconfigurationCommit,  
id-synchronisedRadioLinkReconfigurationPreparation,  
id-unSynchronisedRadioLinkReconfiguration,  
id-uplinkSignallingTransfer  
FROM RNSAP-Constants;
```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*



Release 2000

```
-- *****
--
-- 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                    |
    commonTransportChannelResourcesInitialisationFDD
    commonTransportChannelResourcesInitialisationTDD
    ...                                      ,
    commonMeasurementInitiation           /
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
    uplinkSignallingTransferFDD              |
    uplinkSignallingTransferTDD              |
    downlinkSignallingTransfer               |
    relocationCommit                         |
    paging                                   |
    synchronisedRadioLinkReconfigurationCommit
    synchronisedRadioLinkReconfigurationCancellation
    radioLinkFailure                         |
    radioLinkPreemption                      |
    radioLinkRestoration                     |
    measurementReporting                     |
    measurementTermination                   |
    measurementFailure                       |
    downlinkPowerControlFDD                  |
    downlinkPowerTimeslotControl             |
    compressedModeCommandFDD                |
    commonTransportChannelResourcesRelease   |
    errorIndication                         |
    privateMessage                           |
}
```

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```
...  
commonMeasurementFailure  
commonMeasurementReporting  
commonMeasurementTermination  
}  
  
RNSAP-ELEMENTARY-PROCEDURES-CLASS-3 RNSAP-ELEMENTARY-PROCEDURE ::= {  
...  
}
```

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

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
commonMeasurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementInitiationRequest  
  SUCCESSFUL OUTCOME CommonMeasurementInitiationResponse  
  UNSUCCESSFUL OUTCOME CommonMeasurementInitiationFailure  
  PROCEDURE ID { procedureCode id-commonMeasurementInitiation, ddMode common }  
  CRITICALITY reject  
}
```

```
commonMeasurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementReport  
  PROCEDURE ID { procedureCode id-commonMeasurementReporting, ddMode common }  
  CRITICALITY ignore  
}
```

```
commonMeasurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementTerminationRequest  
  PROCEDURE ID { procedureCode id-commonMeasurementTermination, ddMode common }  
  CRITICALITY ignore  
}
```

```
commonMeasurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementFailureIndication  
  PROCEDURE ID { procedureCode id-commonMeasurementFailure, ddMode common }  
  CRITICALITY ignore  
}
```

END

### 9.3.3 PDU Definitions

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

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

#### IMPORTS

```
Active-Pattern-Sequence-Information,  
AllocationRetentionPriority,  
AllowedQueuingTime,  
AlphaValue,  
BLER,  
Block-STTD-Indicator,  
BindingID,  
C-ID,  
C-RNTI,  
CCTrCH-ID,  
CFN,  
ClosedLoopModel-SupportIndicator,  
ClosedLoopMode2-SupportIndicator,  
Closedlooptimingadjustmentmode,  
CN-CS-DomainIdentifier,  
CN-PS-DomainIdentifier,  
CNDomainType,  
Cause,  
CellParameterID,  
ChipOffset,  
CommonMeasurementAccuracy,  
CommonMeasurementType,  
CommonMeasurementValue,  
CommonMeasurementValueInformation,  
CriticalityDiagnostics,  
D-RNTI,  
D-RNTI-ReleaseIndication,  
DCH-FDD-Information,  
DCH-ID,  
DCH-InformationResponse,  
DCH-TDD-Information,  
DL-DPCH-SlotFormat,  
DL-TimeslotISCP,  
DL-Power,  
DL-ScramblingCode,  
DL-Timeslot-Information,  
DL-TimeSlot-ISCP-Info,  
DPCH-ID,  
DRACControl,
```

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DRXCycleLengthCoefficient,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DedicatedMeasurementValueInformation,  
DiversityControlField,  
DiversityMode,  
DSCH-FDD-Information,  
DSCH-FDD-InformationResponse,  
DSCH-FlowControlInformation,  
DSCH-FlowControlItem,  
DSCH-TDD-Information,  
DSCH-ID,  
SchedulingPriorityIndicator,  
FACH-FlowControlInformation,  
FDD-DCHs-to-Modify,  
FDD-DL-ChannelisationCodeNumber,  
FDD-DL-CodeInformation,  
FDD-S-CCPCH-Offset,  
FDD-TPC-DownlinkStepSize,  
FirstRLS-Indicator,  
FNReportingIndicator,  
FrameHandlingPriority,  
FrameOffset,  
GA-AccessPointPosition,  
GA-Cell,  
IMSI,  
InnerLoopDLPCStatus,  
L3-Information,  
LimitedPowerIncrease,  
MaximumAllowedULTxPower,  
MaxNrDLPhysicalchannels,  
MaxNrOfUL-DPCHs,  
MaxNrTimeslots,  
MaxNrULPhysicalchannels,  
MeasurementFilterCoefficient,  
MeasurementID,  
MidambleShiftAndBurstType,  
MinimumSpreadingFactor,  
MinUL-ChannelisationCodeLength,  
MultiplexingPosition,  
NeighbouringFDDCellMeasurementInformation,  
NeighbouringTDDCellMeasurementInformation,  
Neighbouring-GSM-CellInformation,  
Neighbouring-UMTS-CellInformation,  
NrOfDLchannelisationcodes,  
PagingCause,  
PagingRecordType,  
PDSCHCodeMapping,  
PayloadCRC-PresenceIndicator,  
PowerAdjustmentType,  
PowerOffset,  
PrimaryCCPCH-RSCP,  
PrimaryCPICH-EcNo,

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PrimaryCPICH-Power,  
PrimaryScramblingCode,  
PropagationDelay,  
PunctureLimit,  
QE-Selector,  
RANAP-RelocationInformation,  
RB-Info,  
RL-ID,  
RL-Set-ID,  
RNC-ID,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
Received-total-wide-band-power,  
RxTimingDeviationForTA,  
S-FieldLength,  
S-RNTI,  
SCH-TimeSlot,  
SAI,  
SFN,  
SN,  
Secondary-CCPCH-Info,  
SSDT-CellID,  
SSDT-CellID-Length,  
SSDT-Indication,  
SSDT-SupportIndicator,  
STTD-Indicator,  
STTD-SupportIndicator,  
AdjustmentPeriod,  
ScaledAdjustmentRatio,  
MaxAdjustmentStep,  
SecondaryCCPCH-SlotFormat,  
SyncCase,  
TDD-ChannelisationCode,  
TDD-DCHs-to-Modify,  
TDD-DL-Code-Information,  
TDD-DPCHOffset,  
TDD-PhysicalChannelOffset,  
TDD-TPC-DownlinkStepSize,  
TDD-UL-Code-Information,  
TFCI-Coding,  
TFCI-Presence,  
TFCI-SignallingMode,  
TimeSlot,  
TimingAdvanceApplied,  
ToAWE,  
ToAWS,  
TransmitDiversityIndicator,  
TransportBearerID,  
TransportBearerRequestIndicator,  
TFCS,  
Transmission-Gap-Pattern-Sequence-Information,  
Transmission-Gap-Pattern-Sequence-ScramblingCode-Information,

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TransportFormatManagement,  
TransportFormatSet,  
TransportLayerAddress,  
TrCH-SrcStatisticsDescr,  
UARFCN,  
UC-ID,  
UL-DPCCH-SlotFormat,  
UL-SIR,  
UL-FP-Mode,  
UL-PhysCH-SF-Variation,  
UL-ScramblingCode,  
UL-Timeslot-Information,  
UL-TimeSlot-ISCP-Info,  
URA-ID,  
URA-Information,  
USCH-ID,  
USCH-Information  
FROM RNSAP-IES

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

maxNoOfDSCHs,  
maxNoOfUSCHs,  
maxNrOfCCTrCHs,  
maxNrOfDCHs,  
maxNrOfTS,  
maxNrOfDPCHs,  
maxNrOfRLs,  
maxNrOfRLSets,  
maxNrOfRLs-1,  
maxNrOfRLs-2,  
maxNrOfULTs,  
maxNrOfDLTs,  
maxNrOfMeasNCell,

id-Active-Pattern-Sequence-Information,  
id-AdjustmentRatio,  
id-AllowedQueuingTime,  
id-BindingID,  
id-C-ID,  
id-C-RNTI,  
id-CFN,

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id-CFNReportingIndicator,  
id-CN-CS-DomainIdentifier,  
id-CN-PS-DomainIdentifier,  
id-Cause,  
id-CauseLevel-RL-AdditionFailureFDD,  
id-CauseLevel-RL-AdditionFailureTDD,  
id-CauseLevel-RL-ReconfFailure,  
id-CauseLevel-RL-SetupFailureFDD,  
id-CauseLevel-RL-SetupFailureTDD,  
id-ClosedLoopModel-SupportIndicator,  
id-ClosedLoopMode2-SupportIndicator,  
id-CNOriginatedPage-PagingRqst,  
id-CommonMeasurementAccuracy,  
id-CommonMeasurementObjectType-CM-Rprt,  
id-CommonMeasurementObjectType-CM-Rqst,  
id-CommonMeasurementObjectType-CM-Rsp,  
id-CommonMeasurementType,  
id-CriticalityDiagnostics,  
id-D-RNTI,  
id-D-RNTI-ReleaseIndication,  
id-DCHs-to-Add-FDD,  
id-DCHs-to-Add-TDD,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfRqstFDD,  
id-DCH-DeleteList-RL-ReconfRqstTDD,  
id-DCH-FDD-Information,  
id-DCH-TDD-Information,  
id-FDD-DCHs-to-Modify,  
id-TDD-DCHs-to-Modify,  
id-DCH-InformationResponse,  
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,  
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,  
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,  
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-FDD-DL-CodeInformation,  
id-DL-DPCH-Information-RL-ReconfPrepFDD,  
id-DL-DPCH-Information-RL-SetupRqstFDD,  
id-DL-DPCH-Information-RL-ReconfRqstFDD,  
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,  
id-DL-DPCH-InformationItem-RL-AdditionRspTDD,



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id-DL-DPCH-InformationItem-RL-SetupRspTDD,  
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,  
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,  
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,  
id-DL-Physical-Channel-Information-RL-SetupRqstTDD,  
id-DLReferencePower,  
id-DLReferencePowerList-DL-PC-Rqst,  
id-DL-ReferencePowerInformation-DL-PC-Rqst,  
id-DRXCycleLengthCoefficient,  
id-DedicatedMeasurementObjectType-DM-Rprt,  
id-DedicatedMeasurementObjectType-DM-Rqst,  
id-DedicatedMeasurementObjectType-DM-Rsp,  
id-DedicatedMeasurementType,  
id-DSCHs-to-Add-FDD,  
id-DSCHs-to-Add-TDD,  
id-DSCH-DeleteList-RL-ReconfPrepTDD,  
id-DSCH-Delete-RL-ReconfPrepFDD,  
id-DSCH-FDD-Information,  
id-DSCH-InformationListIE-RL-AdditionRspTDD,  
id-DSCH-InformationListIEs-RL-SetupRspTDD,  
id-DSCH-TDD-Information,  
id-DSCH-FDD-InformationResponse,  
id-DSCH-ModifyList-RL-ReconfPrepTDD,  
id-DSCH-Modify-RL-ReconfPrepFDD,  
id-DSCHsToBeAddedOrModified-FDD,  
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,  
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,  
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,  
id-GA-AccessPointPosition,  
id-GA-Cell,  
id-IMSI,  
id-InnerLoopDLPCStatus,  
id-L3-Information,  
id-AdjustmentPeriod,  
id-MaxAdjustmentStep,  
id-MeasurementFilterCoefficient,  
id-MeasurementID,  
id-Neighbouring-GSM-CellInformation,  
id-PagingArea-PagingRqst,  
id-FACH-FlowControlInformation,  
id-PowerAdjustmentType,  
id-ProcedureScope-DL-PC-Rqst,  
id-PropagationDelay,  
id-RANAP-RelocationInformation,  
id-RL-Information-PhyChReconfRqstFDD,  
id-RL-Information-PhyChReconfRqstTDD,  
id-RL-Information-RL-AdditionRqstFDD,  
id-RL-Information-RL-AdditionRqstTDD,  
id-RL-Information-RL-DeletionRqst,  
id-RL-Information-RL-FailureInd,  
id-RL-Information-RL-ReconfPrepFDD,  
id-RL-Information-RL-RestoreInd,  
id-RL-Information-RL-SetupRqstFDD,

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id-RL-Information-RL-SetupRqstTDD,  
id-RL-InformationItem-DM-Rprt,  
id-RL-InformationItem-DM-Rqst,  
id-RL-InformationItem-DM-Rsp,  
id-RL-InformationItem-RL-PreemptRequiredInd,  
id-RL-InformationItem-RL-SetupRqstFDD,  
id-RL-InformationList-RL-AdditionRqstFDD,  
id-RL-InformationList-RL-DeletionRqst,  
id-RL-InformationList-RL-PreemptRequiredInd,  
id-RL-InformationList-RL-ReconfPrepFDD,  
id-RL-InformationResponse-RL-AdditionRspTDD,  
id-RL-InformationResponse-RL-ReconfReadyTDD,  
id-RL-InformationResponse-RL-ReconfRspTDD,  
id-RL-InformationResponse-RL-SetupRspTDD,  
id-RL-InformationResponseItem-RL-AdditionRspFDD,  
id-RL-InformationResponseItem-RL-ReconfReadyFDD,  
id-RL-InformationResponseItem-RL-ReconfRspFDD,  
id-RL-InformationResponseItem-RL-SetupRspFDD,  
id-RL-InformationResponseList-RL-AdditionRspFDD,  
id-RL-InformationResponseList-RL-ReconfReadyFDD,  
id-RL-InformationResponseList-RL-ReconfRspFDD,  
id-RL-InformationResponseList-RL-SetupRspFDD,  
id-RL-ReconfigurationFailure-RL-ReconfFail,  
id-RL-Set-InformationItem-DM-Rprt,  
id-RL-Set-InformationItem-DM-Rqst,  
id-RL-Set-InformationItem-DM-Rsp,  
id-RL-Set-Information-RL-FailureInd,  
id-RL-Set-Information-RL-RestoreInd,  
id-ReportCharacteristics,  
id-Reporting-Object-RL-FailureInd,  
id-Reporting-Object-RL-RestoreInd,  
id-RxTimingDeviationForTA,  
id-S-RNTI,  
id-SAI,  
id-SFN,  
id-SFNReportingIndicator,  
id-SRNC-ID,  
id-STTD-SupportIndicator,  
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,  
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,  
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,  
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,  
id-timeSlot-ISCPList-DL-PC-Rqst-TDD,  
id-TransportBearerID,  
id-TransportBearerRequestIndicator,  
id-TransportLayerAddress,  
id-UC-ID,  
id-Transmission-Gap-Pattern-Sequence-Information,  
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,

Release 2000

```
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,  
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,  
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,  
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,  
id-UL-DPCH-Information-RL-ReconfPrepFDD,  
id-UL-DPCH-Information-RL-ReconfRqstFDD,  
id-UL-DPCH-Information-RL-SetupRqstFDD,  
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,  
id-UL-DPCH-InformationItem-RL-AdditionRspTDD,  
id-UL-DPCH-InformationItem-RL-SetupRspTDD,  
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,  
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,  
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,  
id-UL-Physical-Channel-Information-RL-SetupRqstTDD,  
id-UL-SIRTarget,  
id-URA-Information,  
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,  
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,  
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,  
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,  
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,  
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,  
id-USCHs-to-Add,  
id-USCH-DeleteList-RL-ReconfPrepTDD,  
id-USCH-InformationListIE-RL-AdditionRspTDD,  
id-USCH-InformationListIEs-RL-SetupRspTDD,  
id-USCH-Information,  
id-USCH-ModifyList-RL-ReconfPrepTDD,  
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD
```

FROM RNSAP-Constants;

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

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

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

```
CommonMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
```

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```

{ ID id-MeasurementID
MeasurementID PRESENCE mandatory }| CRITICALITY reject TYPE
{ ID id-CommonMeasurementObjectType-CM-Rqst
mandatory }| CRITICALITY reject TYPE CommonMeasurementObjectType-CM-Rqst PRESENCE
-- This IE represents both the Common Measurement Object Type IE and the choice based on the Common Measurement Object Type
-- as described in the tabular message format in subclause 9.1.
{ ID id-CommonMeasurementType
}| CRITICALITY reject TYPE CommonMeasurementType PRESENCE mandatory
{ ID id-MeasurementFilterCoefficient
}| CRITICALITY reject TYPE MeasurementFilterCoefficient PRESENCE optional
{ ID id-ReportCharacteristics
}| CRITICALITY reject TYPE ReportCharacteristics PRESENCE mandatory
{ ID id-SFNReportingIndicator
}| CRITICALITY reject TYPE FNReportingIndicator PRESENCE mandatory
{ ID id-SFN
}| CRITICALITY reject TYPE SFN PRESENCE optional
{ ID id-CommonMeasurementAccuracy
}| CRITICALITY reject TYPE CommonMeasurementAccuracy PRESENCE optional
...
}

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

CommonMeasurementObjectType-CM-Rqst ::= CHOICE {
cell Cell-CM-Rqst,
...
}

Cell-CM-Rqst ::= SEQUENCE {
uC-ID UC-ID,
neighbouringCellMeasurementInformation SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF
CHOICE {
neighbouringFDDCellMeasurementInformation NeighbouringFDDCellMeasurementInformation,
neighbouringTDDCellMeasurementInformation NeighbouringTDDCellMeasurementInformation,
...
}
iE-Extensions ProtocolExtensionContainer { { CellItem-CM-Rqst-ExtIEs } } OPTIONAL,
...
}

CellItem-CM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

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

CommonMeasurementInitiationResponse ::= SEQUENCE {

```

Release 2000

```

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

CommonMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory
    }|
    { ID      id-CommonMeasurementObjectType-CM-Rsp  CRITICALITY ignore          TYPE      CommonMeasurementObjectType-CM-Rsp  PRESENCE optional
    }|
    { ID      id-SFN                      CRITICALITY ignore          TYPE      SFN                      PRESENCE optional
    }|
    { ID      id-CriticalityDiagnostics  CRITICALITY ignore          TYPE      CriticalityDiagnostics          PRESENCE optional
    }|
    { ID      id-CommonMeasurementAccuracy          CRITICALITY reject          TYPE      CommonMeasurementAccuracy          PRESENCE optional
    },
    ...
}

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

CommonMeasurementObjectType-CM-Rsp ::= CHOICE {
    cell          Cell-CM-Rsp,
    ...
}

Cell-CM-Rsp ::= SEQUENCE {
    commonMeasurementValue          CommonMeasurementValue,
    iE-Extensions          ProtocolExtensionContainer   { { CellItem-CM-Rsp-ExtIEs } } OPTIONAL,
    ...
}

CellItem-CM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

CommonMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory }|

```

Release 2000

```
{ ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|
{ ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
...
}

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

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

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

CommonMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
{ ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE mandatory }|
{ ID id-CommonMeasurementObjectType-CM-Rprt CRITICALITY ignore TYPE CommonMeasurementObjectType-CM-Rprt PRESENCE mandatory }|
}|
{ ID id-SFN CRITICALITY ignore TYPE SFN PRESENCE optional },
...
}

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

CommonMeasurementObjectType-CM-Rprt ::= CHOICE {
cell Cell-CM-Rprt,
...
}

Cell-CM-Rprt ::= SEQUENCE {
commonMeasurementValueInformation CommonMeasurementValueInformation,
iE-Extensions ProtocolExtensionContainer {{ CellItem-CM-Rprt-ExtIEs }} OPTIONAL,
...
}

CellItem-CM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

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

Release 2000

```
-- *****  
CommonMeasurementTerminationRequest ::= SEQUENCE {  
    protocolIEs          ProtocolIE-Container    {{CommonMeasurementTerminationRequest-IEs}},  
    protocolExtensions   ProtocolExtensionContainer {{CommonMeasurementTerminationRequest-Extensions}} OPTIONAL,  
    ...  
}  
  
CommonMeasurementTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {  
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory },  
    ...  
}  
  
CommonMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
-- *****  
--  
-- COMMON MEASUREMENT FAILURE INDICATION  
--  
-- *****  
CommonMeasurementFailureIndication ::= SEQUENCE {  
    protocolIEs          ProtocolIE-Container    {{CommonMeasurementFailureIndication-IEs}},  
    protocolExtensions   ProtocolExtensionContainer {{CommonMeasurementFailureIndication-Extensions}} OPTIONAL,  
    ...  
}  
  
CommonMeasurementFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {  
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory } |  
    { ID      id-Cause                  CRITICALITY ignore          TYPE      Cause                PRESENCE mandatory } ,  
    ...  
}  
  
CommonMeasurementFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
END
```

## 9.3.4 Information Element Definitions

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxCodeNumComp-1,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDPCHs,
    maxNrOfErrors,
    maxNrOfFDDNeighboursPerRNC,
    maxNrOfMACcshSDU-Length,
    maxNrOfNeighbouringRNCs,
    maxNrOfTDDNeighboursPerRNC,
    maxNrOfTS,
    maxNrOfULTs,
    maxNrOfGSMNeighboursPerRNC,
    maxRateMatching,
    maxNrOfPoints,
    maxNoOfRB,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxTFCI1Combs,
    maxTFCI2Combs,
    maxTFCI2Combs-1,
    maxTGPS,
    maxTTI-Count,
    maxNrOfMeasNCell,
    maxNrOfMeasNCell--1,
```



**Release 2000**

id-Neighbouring-UMTS-CellInformationItem  
FROM RNSAP-Constants

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

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

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- C

CommonMeasurementAccuracy ::= CHOICE {  
tUTRANGPSMeasurementAccuracyClass TUTRANGPSAccuracyClass,  
...  
}

CommonMeasurementType ::= ENUMERATED {  
uTRAN-GPS-timing-of-cell-frames-for-LCS,  
sFN-SFN-observerd-time-difference,  
...  
}

CommonMeasurementValue ::= CHOICE {  
tUTRANGPSMeasurementValueInformation TUTRANGPSMeasurementValueInformation,  
sFNSFNMeasurementValueInformation SFNSFNMeasurementValueInformation,  
...  
}

CommonMeasurementValueInformation ::= CHOICE {  
measurementAvailable CommonMeasurementAvailable,  
measurementnotAvailable NULL,  
}

CommonMeasurementAvailable ::= SEQUENCE {  
commonMeasurementValue CommonMeasurementValue,  
iE-Extensions ProtocolExtensionContainer { { CommonMeasurementAvailableItem-ExtIEs} } OPTIONAL,  
...  
}

CommonMeasurementAvailableItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

Release 2000

...  
}

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- M

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
MeasurementThreshold ::= CHOICE {  
    sir SIR-Value,  
    sir-error SIR-Error-Value,  
    transmitted-code-power Transmitted-Code-Power-Value,  
    rscp RSCP-Value,  
    rx-timing-deviation Rx-Timing-Deviation-Value,  
    round-trip-time Round-Trip-Time-Value,  
    ...  
    t-utran-gps-measurement-threshold-information TUTRANGPSMeasurementThresholdInformation,  
    sfnsfn-measurement-threshold-information SFNSFNMeasurementThresholdInformation  
}
```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- N

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
NeighbouringFDDCellMeasurementInformation ::= SEQUENCE {  
    uC-ID UC-ID,  
    uARFCN UARFCN,  
    primaryScramblingCode PrimaryScramblingCode,  
    iE-Extensions ProtocolExtensionContainer { { NeighbouringFDDCellMeasurementInformationItem-ExtIEs } } OPTIONAL,  
    ...  
}
```

```
NeighbouringFDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}
```

```
NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {  
    uC-ID UC-ID,  
    uARFCN UARFCN,  
    cellParameterID CellParameterID,
```

Release 2000

```
          iE-Extensions                                  ProtocolExtensionContainer  
NeighbouringTDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
```

{ {

```
    ...  
}
```

```
NeighbouringTDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...  
}
```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- O

```
OnModification ::= SEQUENCE {  
    measurementThreshold MeasurementThreshold,  
    iE-Extensions          ProtocolExtensionContainer { {OnModification-ExtIEs} } OPTIONAL,
```

```
    ...  
}
```

```
OnModification-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...  
}
```

-- P

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
PredictedSFNSFNDeviationLimit ::= INTEGER (1..16384)
```

```
PredictedTUTRANGPSDeviationLimit ::= INTEGER (1..1048576)
```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- R

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
ReportCharacteristics ::= CHOICE {  
    onDemand          NULL,  
    periodic          Periodic,  
    eventA            EventA,
```

Release 2000

```
eventB          EventB,  
eventC          EventC,  
eventD          EventD,  
eventE          EventE,  
eventF          EventF,  
...  
onModification OnModification  
}
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- S

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
SFN ::= INTEGER (0..4095)  
SFNSFN ::= INTEGER(-20480..20479)  
SFNSFNChangeLimit ::= INTEGER (1..16384)  
SFNSFNDriftRate ::= INTEGER (-16383..16383)  
SFNSFNDriftRateQuality ::= INTEGER (0..16383)  
SFNSFNMeasurementThresholdInformation ::= SEQUENCE {  
    sFNSFNChangeLimit SFNSFNChangeLimit OPTIONAL,  
    predictedSFNSFNDeviationLimit PredictedSFNSFNDeviationLimit OPTIONAL,  
    iE-Extensions ProtocolExtensionContainer { { SFNSFNMeasurementThresholdInformation-ExtIEs} } OPTIONAL,  
    ...  
}  
SFNSFNMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
SFNSFNMeasurementValueInformation ::= SEQUENCE {  
    successfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation SEQUENCE (SIZE(1..maxNrOfMeasNCell)) OF  
        SEQUENCE {  
            uC-ID UC-ID, SFNSFN SFNSFN,  
            sFNSFNQuality SFNSFNQuality,  
            sFNSFNDriftRate SFNSFNDriftRate,  
            sFNSFNDriftRateQuality SFNSFNDriftRateQuality,  
            sFN SFN,  
            timeSlot TimeSlot,  
            iE-Extensions ProtocolExtensionContainer { {  
                SuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs} } OPTIONAL,  
            ...  
        }  
    },
```

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```
    unsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation SEQUENCE (SIZE(0..maxNrOfMeasNCell-1)) OF
    SEQUENCE {
        uC-ID UC-ID,
        iE-Extensions ProtocolExtensionContainer { { UnsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-
ExtIEs } } OPTIONAL,
        ...
    }
    iE-Extensions ProtocolExtensionContainer { { SFNSFNMeasurementValueInformationItem-ExtIEs } } OPTIONAL,
    ...
}

SFNSFNMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UnsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNQuality ::= INTEGER (0..16383)
```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- T

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
TUTRANGPS ::= INTEGER (0..37158911999999)
TUTRANGPSChangeLimit ::= INTEGER (1..1048576)
TUTRANGPSDriftRate ::= INTEGER (-16383..16383)
TUTRANGPSDriftRateQuality ::= INTEGER (0..16383)
TUTRANGPSAccuracyClass ::= ENUMERATED {
    accuracy-class-A,
    accuracy-class-B,
    accuracy-class-C,
    ...
}
```

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```
TUTRANGPSMeasurementThresholdInformation ::= SEQUENCE {
  tUTRANGPSChangeLimit          TUTRANGPSChangeLimit          OPTIONAL,
  predictedTUTRANGPSDeviationLimit  PredictedTUTRANGPSDeviationLimit  OPTIONAL,
  iE-Extensions                 ProtocolExtensionContainer { { TUTRANGPSMeasurementThresholdInformation-ExtIEs} } OPTIONAL,
  ...
}

TUTRANGPSMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

TUTRANGPSMeasurementValueInformation ::= SEQUENCE {
  tUTRANGPS                    TUTRANGPS,
  tUTRANGPSQuality             TUTRANGPSQuality,
  tUTRANGPSDriftRate          TUTRANGPSDriftRate,
  tUTRANGPSDriftRateQuality   TUTRANGPSDriftRateQuality,
  iE-Extensions               ProtocolExtensionContainer { { TUTRANGPSMeasurementValueInformationItem-ExtIEs} } OPTIONAL,
  ...
}

TUTRANGPSMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

TUTRANGPSQuality ::= INTEGER (0..1048575)
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

## 9.3.6 Constant Definitions

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

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

id-commonTransportChannelResourcesInitialisation      ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease            ProcedureCode ::= 1
id-compressedModeCommand                            ProcedureCode ::= 2
id-downlinkPowerControl                             ProcedureCode ::= 3
id-downlinkPowerTimeslotControl                     ProcedureCode ::= 4
id-downlinkSignallingTransfer                        ProcedureCode ::= 5
id-errorIndication                                  ProcedureCode ::= 6
id-measurementFailure                               ProcedureCode ::= 7
id-measurementInitiation                            ProcedureCode ::= 8
id-measurementReporting                              ProcedureCode ::= 9
id-measurementTermination                           ProcedureCode ::= 10
id-paging                                            ProcedureCode ::= 11
id-physicalChannelReconfiguration                   ProcedureCode ::= 12
id-privateMessage                                   ProcedureCode ::= 13
id-radioLinkAddition                                ProcedureCode ::= 14
id-radioLinkDeletion                                ProcedureCode ::= 15
id-radioLinkFailure                                 ProcedureCode ::= 16
id-radioLinkPreemption                              ProcedureCode ::= 17
id-radioLinkRestoration                             ProcedureCode ::= 18
id-radioLinkSetup                                   ProcedureCode ::= 19
id-relocationCommit                                 ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit        ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation  ProcedureCode ::= 23
```

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ProcedureCode ::= 24

id-unSynchronisedRadioLinkReconfiguration  
id-uplinkSignallingTransfer ProcedureCode ::= 25  
id-commonMeasurementFailure ProcedureCode ::= 26  
id-commonMeasurementInitiation ProcedureCode ::= 27  
id-commonMeasurementReporting ProcedureCode ::= 28  
id-commonMeasurementTermination ProcedureCode ::= 29

-- \*\*\*\*\*  
--  
-- Lists  
--  
-- \*\*\*\*\*

maxCodeNumComp-1 INTEGER ::= 255  
maxRateMatching INTEGER ::= 256  
maxNoCodeGroups INTEGER ::= 256  
maxNoOfDSCHs INTEGER ::= 10  
maxNoOfRB INTEGER ::= 32  
maxNoOfUSCHs INTEGER ::= 10  
maxNoTFCIGroups INTEGER ::= 256  
maxNrOfTFCs INTEGER ::= 1024  
maxNrOfTFs INTEGER ::= 32  
maxNrOfCCTrCHs INTEGER ::= 16  
maxNrOfDCHs INTEGER ::= 128  
maxNrOfDL-Codes INTEGER ::= 8  
maxNrOfDPCHs INTEGER ::= 240  
maxNrOfErrors INTEGER ::= 256  
maxNrOfMACcshSDU-Length INTEGER ::= 16  
maxNrOfPoints INTEGER ::= 15  
maxNrOfRLs INTEGER ::= 16  
maxNrOfRLSets INTEGER ::= maxNrOfRLs  
maxNrOfRLs-1 INTEGER ::= 15 -- maxNrOfRLs - 1  
maxNrOfRLs-2 INTEGER ::= 14 -- maxNrOfRLs - 2  
maxNrOfULTs INTEGER ::= 15  
maxNrOfDLTs INTEGER ::= 15  
maxRNCinURA-1 INTEGER ::= 15  
maxTTI-Count INTEGER ::= 4  
maxCTFC INTEGER ::= 16777215  
maxNrOfNeighbouringRNCs INTEGER ::= 10  
maxNrOfFDDNeighboursPerRNC INTEGER ::= 256  
maxNrOfGSMNeighboursPerRNC INTEGER ::= 256  
maxNrOfTDDNeighboursPerRNC INTEGER ::= 256  
maxFACHCountPlus1 INTEGER ::= 10  
maxIBSEG INTEGER ::= 16  
maxTFCI1Combs INTEGER ::= 512  
maxTFCI2Combs INTEGER ::= 1024  
maxTFCI2Combs-1 INTEGER ::= 1023  
maxTGPS INTEGER ::= 6  
maxNrOfTS INTEGER ::= 15  
maxNrOfMeasNCell INTEGER ::= 96  
maxNrOfMeasNCell -1 INTEGER ::= 95 -- maxNrOfMeasNCell - 1

-- \*\*\*\*\*



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--  
-- IEs  
--  
-- \*\*\*\*\*

id-AllowedQueuingTime	ProtocolIE-ID ::= 4
id-BindingID	ProtocolIE-ID ::= 5
id-C-ID	ProtocolIE-ID ::= 6
id-C-RNTI	ProtocolIE-ID ::= 7
id-CFN	ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier	ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier	ProtocolIE-ID ::= 10
id-Cause	ProtocolIE-ID ::= 11
id-CriticalityDiagnostics	ProtocolIE-ID ::= 20
id-D-RNTI	ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication	ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 33
id-DCH-FDD-Information	ProtocolIE-ID ::= 34
id-DCH-TDD-Information	ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 40
id-DCH-InformationResponse	ProtocolIE-ID ::= 43
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation	ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 64
id-DLReferencePower	ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst	ProtocolIE-ID ::= 69
id-DRXCycleLengthCoefficient	ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 73
id-DedicatedMeasurementType	ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD	ProtocolIE-ID ::= 82

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id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD	ProtocolIE-ID ::= 83
id-IMSI	ProtocolIE-ID ::= 84
id-L3-Information	ProtocolIE-ID ::= 85
id-AdjustmentPeriod	ProtocolIE-ID ::= 90
id-MaxAdjustmentStep	ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 92
id-MeasurementID	ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation	ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem	ProtocolIE-ID ::= 95
id-PagingArea-PagingRqst	ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation	ProtocolIE-ID ::= 103
id-PowerAdjustmentType	ProtocolIE-ID ::= 107
id-ProcedureScope-DL-PC-Rqst	ProtocolIE-ID ::= 108
id-RANAP-RelocationInformation	ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD	ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD	ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD	ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst	ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd	ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd	ProtocolIE-ID ::= 117
id-RL-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 119
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 123
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst	ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD	ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD	ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD	ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD	ProtocolIE-ID ::= 135
id-RL-InformationResponseList-RL-ReconfRspFDD	ProtocolIE-ID ::= 136
id-RL-InformationResponseList-RL-ReconfRspTDD	ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail	ProtocolIE-ID ::= 141
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst	ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd	ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd	ProtocolIE-ID ::= 147
id-ReportCharacteristics	ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 153

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id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 154
id-S-RNTI	ProtocolIE-ID ::= 155
id-SAI	ProtocolIE-ID ::= 156
id-SRNC-ID	ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 160
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 161
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 162
id-TransportBearerID	ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator	ProtocolIE-ID ::= 164
id-TransportLayerAddress	ProtocolIE-ID ::= 165
id-UC-ID	ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationAddList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 170
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 177
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 183
id-UL-SIRTarget	ProtocolIE-ID ::= 184
id-URA-Information	ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD	ProtocolIE-ID ::= 190
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 191
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 192
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 193
id-AdjustmentRatio	ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 199
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 200
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 215

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id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD	ProtocolIE-ID ::= 218
id-DSCH-FDD-Information	ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 221
id-DSCH-TDD-Information	ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse	ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD	ProtocolIE-ID ::= 228
id-DSCHsToBeAddedOrModified-FDD	ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 230
id-GA-AccessPointPosition	ProtocolIE-ID ::= 231
id-GA-Cell	ProtocolIE-ID ::= 232
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 261
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD	ProtocolIE-ID ::= 266
id-USCHs-to-Add	ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 270
id-USCH-Information	ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 275
id-ClosedLoopModel-SupportIndicator	ProtocolIE-ID ::= 276
id-ClosedLoopMode2-SupportIndicator	ProtocolIE-ID ::= 277
id-STTD-SupportIndicator	ProtocolIE-ID ::= 279
id-CFNReportingIndicator	ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst	ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 24
id-PropagationDelay	ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA	ProtocolIE-ID ::= 36
id-timeSlot-ISCPList-DL-PC-Rqst-TDD	ProtocolIE-ID ::= 37
<a href="#">id-CommonMeasurementAccuracy</a>	<a href="#">ProtocolIE-ID ::= 280</a>
<a href="#">id-CommonMeasurementObjectType-CM-Rprt</a>	<a href="#">ProtocolIE-ID ::= 281</a>
<a href="#">id-CommonMeasurementObjectType-CM-Rqst</a>	<a href="#">ProtocolIE-ID ::= 282</a>
<a href="#">id-CommonMeasurementObjectType-CM-Rsp</a>	<a href="#">ProtocolIE-ID ::= 283</a>
<a href="#">id-CommonMeasurementType</a>	<a href="#">ProtocolIE-ID ::= 284</a>
<a href="#">id-SFN</a>	<a href="#">ProtocolIE-ID ::= 285</a>
<a href="#">id-SFNReportingIndicator</a>	<a href="#">ProtocolIE-ID ::= 286</a>

**Release 2000**

END

## CHANGE REQUEST

⌘ **25.423 CR 328** ⌘ rev **2** ⌘ Current version: **3.4.0** ⌘

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

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

<b>Title:</b>	⌘ Introduction of the Information Exchange Procedures in RNSAP		
<b>Source:</b>	⌘ R-WG3		
<b>Work item code:</b>	⌘ LCS1-UEpos-lublur	<b>Date:</b>	⌘ 26/02/2001
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ REL-4

Use one of the following categories:

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

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

Use one of the following releases:

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

**Reason for change:** ⌘ For UE Positioning purpose, the SRNC has to have available information about Cells it does not control (either to use the information in computations or to send it to the UE using the RRC Protocol). This information can only be obtained from other RNCs.

**Summary of change:** ⌘ R2: Editorial corrections.

R1: Following changes have been made (changes in the text were made with different revision marks):

1. Addition of the Work Item Code in the Cover Sheet.
2. Introduction of the fact that the same SCCP connection is used for both common measurement and information exchange purposes.
3. Global Alignment with NBAP CR on the same subject (CR374 on 25.433): correction of the *Information Type* IE and related changes in procedure text and ASN.1, change in the *Information Threshold* IE, modification in the tabular format of *GPS Navigation Model and Recovery Assistance* IE..
4. Corrections to the Information Exchange Initiation procedure text.
5. Addition of references to GPS specifications in the description of the GPS-related IEs.
6. Corrections to the IPDL-related IEs similar to those performed in related NBAP CR.
7. Abbreviations have been added.

R0: Introduction of Information Exchange Procedures in RNSAP.

		This change is backward compatible.	
<b>Consequences if not approved:</b>	⌘	If this CR is not approved, the UE Positioning function in the UTRAN will not be able to perform properly.	
<b>Clauses affected:</b>	⌘	2, 3.1, 3.3, 7, 8.1, 8.5, 9.1, 9.2.1, 9.2.1.5, 9.2.1.40, 9.2.2, 9.2.3, 9.3.2, 9.3.3, 9.3.4, 9.3.6	
<b>Other specs affected:</b>	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘
<b>Other comments:</b>	⌘		

**How to create CRs using this form:**

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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## 2 References

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

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

- [1] 3GPP TS 23.003: "Numbering, addressing and identification".
- [2] 3GPP TS 25.413: "UTRAN Iu Interface RANAP Signalling".
- [3] 3GPP TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams".
- [4] 3GPP TS 25.427: "UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams".
- [5] 3GPP TS 25.435: "UTRAN Iub interface User Plane Protocols for Common Transport Channel Data Streams".
- [6] 3GPP TS 25.104: "UTRA (BS) FDD; Radio transmission and Reception"
- [7] 3GPP TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".
- [8] 3GPP TS 25.211: "Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)".
- [9] 3GPP TS 25.212: "Multiplexing and Channel Coding (FDD)"
- [10] 3GPP TS 25.214: "Physical Layer Procedures (FDD)".
- [11] 3GPP TS 25.215: "Physical Layer – Measurements (FDD)".
- [12] 3GPP TS 25.221: "Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)".
- [13] 3GPP TS 25.223: "Spreading and Modulation (TDD)".
- [14] 3GPP TS 25.225: "Physical Layer – Measurements (TDD)".
- [15] 3GPP TS 25.304: "UE Procedures in Idle Mode"
- [16] 3GPP TS 25.331: "RRC Protocol Specification".
- [17] 3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".
- [18] ITU-T Recommendation X.680 (12/94): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".
- [19] ITU-T Recommendation X.681 (12/97): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification".
- [20] ITU-T Recommendation X.691 (12/97): "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".
- [21] 3GPP TS 25.213: "Spreading and modulation (FDD)"
- [22] 3GPP TS 25.224: "Physical Layer Procedures (TDD)"
- [23] 3GPP TS 25.133 (V3.3): "Requirements for support of Radio Resource management (FDD)".



- [24] 3GPP TS 25.123 (V3.3): "Requirements for support of Radio Resource management (TDD)".
- [25] 3GPP TS 23.003: "Universal Graphical Area Description (GAD)".
- [26] 3GPP TS 25.302: "Services Provided by the Physical Layer".
- [27] 3GPP TS 25.213: "Spreading and modulation (FDD)".
- [28] 3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling".
- [29] GSM TS 05.05: "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception"
- [30] ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".
- [31] RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".

## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

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

**Elementary Procedure:** 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 be sorted out when discussing the details of the error cases.

Class 2 EPs are considered always successful.

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

**UE Context:** The UE Context contains the necessary information for the DRNC for communication with a specific UE. The UE Context is created by the Radio Link Setup procedure or by the Uplink Signalling Transfer procedure when the UE makes its first access in a cell controlled by the DRNS. The UE Context is deleted by the Radio Link Deletion procedure or by the Common Transport Channel Resources Release procedure when neither any Radio Links nor any common transport channels are established towards the concerning UE. The UE Context is identified by the SCCP Connection for messages using connection oriented mode of the signalling bearer and the D-RNTI for messages using connectionless mode of the signalling bearer, unless specified otherwise in the procedure text.

**Distant RNC Context:** The Distant RNC context is created by the first Common Measurement Initiation Procedure or Information Exchange Initiation Procedure initiated by one RNC and requested from another RNC. The Distant RNC Context is deleted after the Common Measurement Termination, the Common Measurement Failure, the Information Exchange Termination or the Information Exchange Failure procedure when there is no more Common Measurement and no more Information to be provided by the requested RNC to the requesting RNC. The Distant RNC Context is identified by an SCCP connection as, for common measurements and information exchange, only the connection oriented mode of the signalling bearer is used.

### 3.3 Abbreviations

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

<u>A-GPS</u>	<u>Assisted-GPS</u>
ASN.1	Abstract Syntax Notation One
BLER	Block Error Rate
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel
CCTrCH	Coded Composite Transport Channel
CFN	Connection Frame Number
CM	Compressed Mode
CN	Core Network
CPICH	Common Pilot Channel
CRNC	Controlling RNC
DCH	Dedicated Channel
<u>DGPS</u>	<u>Differential GPS</u>
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRNC	Drift RNC
DRNS	Drift RNS
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
<u>GPS</u>	<u>Global Positioning System</u>
IE	Information Element
<u>IPDL</u>	<u>Idle Period DownLink</u>
MAC	Medium Access Control
PCPCH	Physical Common Packet Channel
PDU	Protocol Data Unit
PRACH	Physical Random Access Channel
RAB	Radio Access Bearer
RACH	Random Access Channel
RL	Radio Link
RLC	Radio Link Control
RLS	Radio Link Set
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
SCH	Synchronisation Channel
SDU	Signalling Data Unit
SFN	System Frame Number
SRNC	Serving RNC
SRNS	Serving RNS
SSDT	Site Selection Diversity Transmit
TDD	Time Division Duplex
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area
USCH	Uplink Shared Channel

UTRAN      UMTS Terrestrial Radio Access Network

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## 7 Functions of RNSAP

The RNSAP protocol has the following functions:

- Radio Link Management. This function allows the SRNC to manage radio links using dedicated resources in a DRNS;
- Physical Channel Reconfiguration. This function allows the DRNC to reallocate the physical channel resources for a Radio Link;
- Radio Link Supervision. This function allows the DRNC to report failures and restorations of a Radio Link;
- Compressed Mode Control [FDD]. This function allows the SRNC to control the usage of compressed mode within a DRNS;
- Measurements on Dedicated Resources. This function allows the SRNC to initiate measurements on dedicated resources in the DRNS. The function also allows the DRNC to report the result of the measurements;
- DL Power Drifting Correction [FDD]. This function allows the SRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links;
- CCCH Signalling Transfer. This function allows the SRNC and DRNC to pass information between the UE and the SRNC on a CCCH controlled by the DRNS;
- Paging. This function allows the SRNC to page a UE in a URA or a cell in the DRNS;
- Common Transport Channel Resources Management. This function allows the SRNC to utilise Common Transport Channel Resources within the DRNS (excluding DSCH resources for FDD);
- Relocation Execution. This function allows the SRNC to finalise a Relocation previously prepared via other interfaces;
- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- DL Power Timeslot Correction [TDD]. This function enables the DRNS to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.
- Information Exchange. This function allows an RNC to request from another RNC the transfer of information. The function also allows the requested RNC to report the requested information.

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

**Table 1: Mapping between functions and RNSAP elementary procedures**

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

---

## 8 RNSAP Procedures

### 8.1 Elementary Procedures

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

Table 2: Class 1

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE		
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE	
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE	
Physical Channel Reconfiguration	PHYSICAL CHANNEL RECONFIGURATION REQUEST	PHYSICAL CHANNEL RECONFIGURATION COMMAND	PHYSICAL CHANNEL RECONFIGURATION FAILURE	
Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE	
Common Transport Channel Resources Initialisation	COMMON TRANSPORT CHANNEL RESOURCES REQUEST	COMMON TRANSPORT CHANNEL RESOURCES RESPONSE	COMMON TRANSPORT CHANNEL RESOURCES FAILURE	
Information Exchange Initiation	INFORMATION EXCHANGE INITIATION REQUEST	INFORMATION EXCHANGE INITIATION RESPONSE	INFORMATION EXCHANGE INITIATION FAILURE	

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

Table 3: Class 2

<b>Elementary Procedure</b>	<b>Initiating Message</b>
Uplink Signalling Transfer	UPLINK SIGNALLING TRANSFER INDICATION
Downlink Signalling Transfer	DOWNLINK SIGNALLING TRANSFER REQUEST
Relocation Commit	RELOCATION COMMIT
Paging	PAGING REQUEST
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCEL
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Measurement Reporting	DEDICATED MEASUREMENT REPORT
Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Command [FDD]	COMPRESSED MODE COMMAND
Common Transport Channel Resources Release	COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST
Error Indication	ERROR INDICATION
Downlink Power Timeslot Control [TDD]	DL POWER TIMESLOT CONTROL REQUEST
Radio Link Pre-emption	RADIO LINK PREEMPTION REQUIRED INDICATION
<u>Information Reporting</u>	<u>INFORMATION REPORT</u>
<u>Information Exchange Termination</u>	<u>INFORMATION EXCHANGE TERMINATION REQUEST</u>
<u>Information Exchange Failure</u>	<u>INFORMATION EXCHANGE FAILURE INDICATION</u>



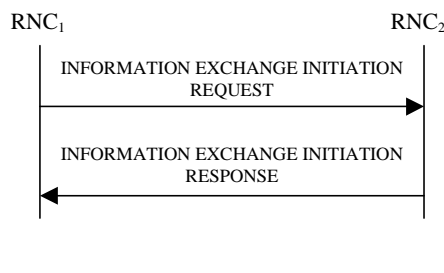
## 8.5.X Information Exchange Initiation

### 8.5.x.1 General

This procedure is used by a RNC to request the initiation of an information exchange with another RNC.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

### 8.5.x.2 Successful Operation



**Figure X: Information Exchange Initiation procedure, Successful Operation**

The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from RNC<sub>1</sub> to RNC<sub>2</sub>.

Upon reception, the RNC<sub>2</sub> shall provide the requested information according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

#### **Information Report Characteristics:**

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

If the *Information Report Characteristics* IE is set to 'On-Demand', the RNC<sub>2</sub> shall report the requested information immediately.

If the *Information Report Characteristics* IE is set to 'Periodic', the RNC<sub>2</sub> shall periodically initiate the Information Reporting procedure for all the requested information, with the requested report frequency.

If the *Information Report Characteristics* IE is set to 'On-Modification', the RNC<sub>2</sub> shall report the requested information immediately and then shall initiate the Information Reporting procedure in accordance to the following conditions:

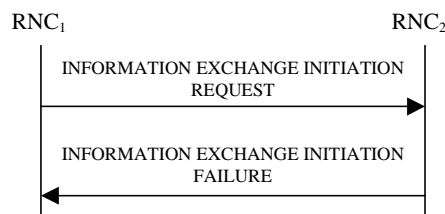
- If the *Information Type Item* IE is set to 'IPDL Parameters', the RNC<sub>2</sub> shall initiate the Information Reporting procedure when any change in the parameters occurs.
- If the *Information Type Item* IE is set to 'DGPS Corrections', the RNC<sub>2</sub> shall initiate the Information Reporting procedure for this specific Information Type when either the PRC has drifted from the previously reported value more than the threshold indicated in the *PRC Deviation* IE or a change has occurred in the IODE.
- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS Navigation Model & Recovery Assistance', the RNC<sub>2</sub> shall initiate the Information Reporting procedure for this specific GPS Information Type when a change has occurred regarding either the IODC or the list of visible satellites, identified by the *SatID* IEs.
- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS Ionospheric Model', the RNC<sub>2</sub> shall initiate the Information Reporting procedure for this specific GPS Information Type when any change has occurred.
- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS UTC Model', the RNC<sub>2</sub> shall initiate the Information Reporting procedure for this specific GPS Information Type when a change has occurred in the *t<sub>ot</sub>* parameter.

- If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS Almanac', the RNC<sub>2</sub> shall initiate the Information Reporting procedure for this specific GPS Information Type when any change has occurred.
- If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS Real-Time Integrity', the RNC<sub>2</sub> shall initiate the Information Reporting procedure for this specific GPS Information Type when any change has occurred.

**Response message:**

If the RNC<sub>2</sub> was able to determine the information requested by the RNC<sub>1</sub>, it shall respond with the INFORMATION EXCHANGE INITIATION RESPONSE message. The message shall include the same Information Exchange ID that was included in the INFORMATION EXCHANGE REQUEST message.

**8.5.x.3 Unsuccessful Operation**



**Figure X: Information Exchange Initiation procedure, Unsuccessful Operation**

If the requested Information Type received in the *Information Type IE* indicates a type of information that RNC<sub>2</sub> cannot provide, the RNC<sub>2</sub> shall regard the Information Exchange Initiation procedure as failed.

If the requested information provision cannot be carried out, the RNC<sub>2</sub> shall send the INFORMATION EXCHANGE INITIATION FAILURE message. The message shall include the same Information Exchange ID that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause IE* set to an appropriate value.

Typical cause values are as follows:

**Radio Network Layer Cause:**

Information temporarily not available.

Information Provision not supported for the object.

**8.5.x.4 Abnormal Conditions**

=

**8.5.X Information Reporting**

**8.5.X.1 General**

This procedure is used by a RNC to report the result of information requested by another RNC using the Information Exchange Initiation.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

**8.5.X.2 Successful Operation**



**Figure X: Information Reporting procedure, Successful Operation**

If the requested information reporting criteria are met, the RNC<sub>2</sub> shall initiate an Information Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Information Exchange ID* IE shall be set to the Information Exchange ID provided by the RNC<sub>1</sub> when initiating the information exchange with the Information Exchange Initiation procedure.

**8.5.X.3 Abnormal Conditions**

=

**8.5.X Information Exchange Termination**

**8.5.X.1 General**

This procedure is used by a RNC to terminate the information exchange requested using the Information Exchange Initiation.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

**8.5.X.2 Successful Operation**



**Figure X: Information Exchange Termination procedure, Successful Operation**

This procedure is initiated with a INFORMATION EXCHANGE TERMINATION REQUEST message.

Upon reception, the RNC<sub>2</sub> shall terminate the information exchange corresponding to the Information Exchange ID.

**8.5.X.3 Abnormal Conditions**

=

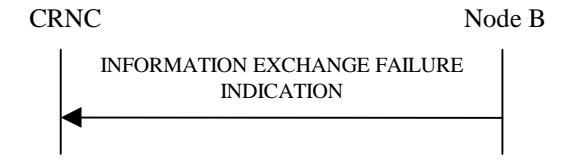
## 8.5.X Information Exchange Failure

### 8.5.X.1 General

This procedure is used by a RNC to notify another that the information exchange it previously requested using the Information Exchange Initiation can no longer be reported.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

### 8.5.X.2 Successful Operation



**Figure X: Information Exchange Failure procedure, Successful Operation**

This procedure is initiated with a INFORMATION EXCHANGE FAILURE INDICATION message, sent from the RNC<sub>2</sub> to the RNC<sub>1</sub>, to inform the RNC<sub>1</sub> that information previously requested by the Information Exchange Initiation procedure can no longer be reported. The message shall include the same Information Exchange ID that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the Cause IE set to an appropriate value.

Typical cause values are as follows:

#### **Radio Network Layer Cause:**

Information temporarily not available.

9.1.X INFORMATION EXCHANGE INITIATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>Information Exchange Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>CHOICE Information Exchange Object Type</u>	<u>M</u>				<u>YES</u>	<u>reject</u>
<u>&gt;Cell</u>					<u>-</u>	
<u>&gt;&gt;C-ID</u>	<u>M</u>		<u>9.2.1.6</u>		<u>YES</u>	<u>reject</u>
<u>Information Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>Information Report Characteristics</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>

9.1.X INFORMATION EXCHANGE INITIATION RESPONSE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>CHOICE Information Exchange Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>&gt;Cell</u>					<u>-</u>	
<u>&gt;&gt;Requested Data Value</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.13</u>		<u>YES</u>	<u>ignore</u>

9.1.X INFORMATION EXCHANGE INITIATION FAILURE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>Cause</u>	<u>M</u>		<u>9.2.1.5</u>		<u>YES</u>	<u>ignore</u>
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.13</u>		<u>YES</u>	<u>ignore</u>

**9.1.X INFORMATION REPORT**

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		=	
Information Exchange ID	M		9.2.1.x		YES	ignore
CHOICE <i>Information Exchange Object Type</i>	M				YES	ignore
>Cell					=	
>>Requested Data Value Information	M		9.2.1.x		YES	ignore

**9.1.X INFORMATION EXCHANGE TERMINATION REQUEST**

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		=	
Information Exchange ID	M		9.2.1.x		YES	ignore

**9.1.X INFORMATION EXCHANGE FAILURE INDICATION**

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		=	
Information Exchange ID	M		9.2.1.x		YES	ignore
Cause	M		9.2.1.5		YES	ignore

### 9.2.1.5 Cause

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

IE/Group Name	Presence	Range	IE type and reference	Semantics description
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, Combining Resources Not Available, Combining not Supported, Reconfiguration not Allowed, Requested Configuration not Supported, Synchronisation Failure, Requested Tx Diversity Mode not Supported, Measurement Temporarily not Available, Unspecified, Invalid CM Settings, Reconfiguration CFN not Elapsed, Number of DL Codes Not Supported, Dedicated Transport Channel Type not Supported, DL Shared Channel Type not Supported, UL Shared Channel Type not Supported, Common Transport Channel Type not Supported, UL Spreading Factor not Supported, DL Spreading Factor not Supported, CM not Supported, Transaction not Supported by Destination Node B, RL Already Activated/Allocated, ...; <u>Information temporarily not available, Information Provision not supported for the object</u> )	
>Transport Layer				
>>Transport Layer Cause	M		ENUMERATED (Transport Resource Unavailable, Unspecified, ...)	
>Protocol				
>>Protocol Cause			ENUMERATED (Transfer Syntax Error, Abstract Syntax Error (Reject), Abstract Syntax Error (Ignore and Notify), Message not Compatible with Receiver State, Semantic Error, Unspecified, Abstract Syntax Error (Falsely Constructed Message),...)	
>Misc				
>>Miscellaneous Cause	M		ENUMERATED (Control Processing Overload, Hardware Failure, O&M Intervention, Not enough User Plane Processing Resources, Unspecified,...)	

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.



<b>Radio Network Layer cause</b>	<b>Meaning</b>
Cell not Available,	The concerning cell is not available
Combining not Supported	The DRNS does not support the RL combining for the concerning cells
Combining Resources Not Available	The value of the received <i>Diversity Control Field</i> IE was set to 'Must', but the DRNS cannot perform the requested combining
CM not Supported	The concerning cell(s) do not support Compressed Mode
Common Transport Channel Type not Supported	The concerning cell(s) do not support the RACH and/or FACH and/or CPCH Common Transport Channel Type
Dedicated Transport Channel Type not Supported	The concerning cell(s) do not support the Dedicated Transport Channel Type
DL Radio Resources not Available	The DRNS does not have sufficient DL radio resources available
DL SF not Supported	The concerning cell(s) do not support the requested DL SF
DL Shared Channel Type not Supported	The concerning cell(s) do not support the Downlink Shared Channel Type
<u>Information Provision not supported for the object</u>	<u>The RNS doesn't support provision of the requested information for the concerned object types</u>
<u>Information temporarily not available</u>	<u>The RNS can temporarily not provide the requested information</u>
Invalid CM Settings	The concerning cell(s) consider the requested Compressed Mode settings invalid
Measurement not Supported For The Object	At least one of the concerning cell(s) does not support the requested measurement on the concerning object type
Measurement Temporarily not Available	The DRNS can temporarily not provide the requested measurement value
Number of DL Codes not Supported	The concerning cell(s) do not support the requested number of DL codes
Power Level not Supported	A DL power level was requested which the concerning cell(s) do not support
Reconfiguration CFN not Elapsed	The requested action cannot be performed due to that a COMMIT message was received previously, but the concerning CFN has not yet elapsed
Reconfiguration not Allowed	The SRNC does currently not allow the requested reconfiguration
Requested Configuration not Supported	The concerning cell(s) do not support the requested configuration i.e. power levels, Transport Formats, physical channel parameters,.....
Requested Tx Diversity mode not Supported	The concerning cell(s) do not support the requested transmit diversity mode
RL Already Activated/ Allocated	The DRNS has already allocated an RL with the requested RL ID for this UE Context
Synchronisation Failure	Loss of UL Uu synchronisation
Transaction not Supported by Destination Node B	The requested action cannot be performed due to lack of support of the corresponding action in the destination Node B
UL Radio Resources not Available	The DRNS does not have sufficient UL radio resources available
UL Scrambling Code Already in Use	The concerning UL scrambling code is already in use for another UE
UL SF not Supported	The concerning cell(s) do not support the requested UL SF
UL Shared Channel Type not Supported	The concerning cell(s) do not support the Uplink Shared Channel Type
Unknown C-ID	The DRNS is not aware of a cell with the provided C-Id
Unspecified	Sent when none of the above cause values applies but still the cause is Radio Network Layer related

<b>Transport Network Layer cause</b>	<b>Meaning</b>
Transport resource unavailable	The required transport resources are not available
Unspecified	Sent when none of the above cause values applies but still the cause is Transport Network Layer related

<b>Protocol cause</b>	<b>Meaning</b>
-----------------------	----------------

Abstract Syntax Error (Reject)	The received message included an abstract syntax error and the concerning criticality indicated "reject" (see subclause 10.3)
Abstract Syntax Error (Ignore and Notify)	The received message included an abstract syntax error and the concerning criticality indicated "ignore and notify" (see subclause 10.3)
Abstract syntax error (falsely constructed message)	The received message contained IEs or IE groups in wrong order or with too many occurrences (see subclause 10.3)
Message not Compatible with Receiver State	The received message was not compatible with the receiver state (see subclause 10.4)
Semantic Error	The received message included a semantic error (see subclause 10.4)
Transfer Syntax Error	The received message included a transfer syntax error (see section 10.2)
Unspecified	Sent when none of the above cause values applies but still the cause is Protocol related

<b>Miscellaneous cause</b>	<b>Meaning</b>
Control Processing Overload	DRNS control processing overload
Hardware Failure	DRNS hardware failure
Not enough User Plane Processing Resources	DRNS has insufficient user plane processing resources available
O&M Intervention	Operation and Maintenance intervention related to DRNS equipment
Unspecified	Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer or Protocol.

## 9.2.1.40 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
<b>Message Type</b>				
<b>&gt;Procedure ID</b>		1		
>>Procedure Code	M		ENUMERATED (RL Setup, RL Addition, RL Deletion, Synchronised RL Reconfiguration Preparation, Synchronised RL Reconfiguration Commit, Synchronised RL Reconfiguration Cancel, Unsynchronised RL Reconfiguration Request, RL Failure, RL Restoration, DL Power Control, DL Power Timeslot Control, Physical Channel Reconfiguration, UL Signalling Transfer, DL Signalling Transfer, Relocation Commit, Paging, Measurement Initiation, Measurement Reporting, Measurement Termination, Measurement Failure, Common Transport Channel Resources Initiation, Common Transport Channel Resources Release, Compressed Mode Command, Error Indication, ... <sub>1</sub> <u>Information Exchange Initiation</u> , <u>Information Reporting</u> , <u>Information Exchange Termination</u> , <u>Information Exchange Failure</u> )	
>>Ddmode	M		ENUMERATED (FDD, TDD, Common, ...)	Common = common to FDD and TDD.
>Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

### 9.2.1.X Burst Mode Parameters

The *Burst Mode Parameters* IE provides all the relevant information in order to able IPDL in the Burst mode.

<b>Information Element/Group name</b>	<b>Presence</b>	<b>Range</b>	<b>IE Type and Reference</b>	<b>Semantics description</b>
<u>Burst Start</u>	<u>M</u>		<u>INTEGER(0..15)</u>	<u>See [10] and [22]</u>
<u>Burst Length</u>	<u>M</u>		<u>INTEGER(10..25)</u>	<u>See [10] and [22]</u>
<u>Burst freq</u>	<u>M</u>		<u>INTEGER(1..16)</u>	<u>See [10] and [22]</u>

### 9.2.1.X DGPS Corrections

The *DGPS Corrections* IE contains DGPS information used by the UE Positioning A-GPS method. For further details on the meaning of parameters, see [31].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>GPS TOW</u>	<u>M</u>		<u>INTEGER(0..604799)</u>	<u>Time in seconds. This field indicates the baseline time for which the corrections are valid</u>
<u>Status/Health</u>	<u>M</u>		<u>ENUMERATED (UDRE scale 1.0, UDRE scale 0.75, UDRE scale 0.5, UDRE scale 0.3, UDRE scale 0.1, no data, invalid data)</u>	<u>This field indicates the status of the differential corrections</u>
<b><u>Satellite DGPS Corrections Information</u></b>		<u>1..&lt;MaxNoSat&gt;</u>		
<u>&gt;SatID</u>	<u>M</u>		<u>SAT ID 9.2.1.x</u>	<u>Satellite ID</u>
<u>&gt;IODE</u>	<u>M</u>		<u>Bit string(8)</u>	<u>This IE is the sequence number for the ephemeris for the particular satellite. It can be used to determine if new ephemeris is used for calculating the corrections that are provided. This eight-bit IE is incremented for each new set of ephemeris for the satellite and may occupy the numerical range of [0, 239] during normal operations.</u>
<u>&gt;UDRE</u>	<u>M</u>		<u>ENUMERATED (UDRE ≤1.0m, 1.0m &lt; UDRE ≤ 4.0m, 4.0m &lt; UDRE ≤ 8.0m, 8.0m &lt; UDRE)</u>	<u>User Differential Range Error. This field provides an estimate of the uncertainty (1-σ) in the corrections for the particular satellite. The value in this field shall be multiplied by the UDRE Scale Factor in the common Corrections Status/Health field to determine the final UDRE estimate for the particular satellite</u>
<u>&gt;PRC</u>	<u>M</u>		<u>Integer(-2047..2047)</u>	<u>Scaling factor 0.32 meters</u>
<u>&gt;Range Correction Rate</u>	<u>M</u>		<u>Integer(-127.. 127)</u>	<u>Scaling factor 0.032 m/s</u>

<u>Range Bound</u>	<u>Explanation</u>
<u>MaxNoSat</u>	<u>Maximum number of satellites for which information can be provided</u>

**9.2.1.X GPS Almanac**

This IE provides the information regarding the GPS Almanac. For further details on the meaning of parameters, see [30].

<u>IE/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
WN <sub>a</sub>	M		Bit string(8)	
<b>Satellite Almanac Information</b>	M	1..<MaxNo Sat>		
>SatID	M		SAT ID 9.2.1.x	Satellite ID
>e	M		Bit string(16)	
>t <sub>0a</sub>	M		Bit string(8)	
>δl	M		Bit string(16)	
>OMEGADOT	M		Bit string(16)	
>SV Health	M		Bit string(8)	
>A <sup>1/2</sup>	M		Bit string(24)	
>OMEGA <sub>0</sub>	M		Bit string(24)	
>M <sub>0</sub>	M		Bit string(24)	
>ω	M		Bit string(24)	
>af <sub>0</sub>	M		Bit string(11)	
>af <sub>1</sub>	M		Bit string(11)	

<u>Range Bound</u>	<u>Explanation</u>
MaxNoSat	Maximum number of satellites for which information can be provided

### 9.2.1.X GPS Ionospheric Model

This IE provides the information regarding the GPS Ionospheric Model. For further details on the meaning of parameters, see [30].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
α <sub>0</sub>	M		Bit string(8)	
α <sub>1</sub>	M		Bit string(8)	
α <sub>2</sub>	M		Bit string(8)	
α <sub>3</sub>	M		Bit string(8)	
β <sub>0</sub>	M		Bit string(8)	
β <sub>1</sub>	M		Bit string(8)	
β <sub>2</sub>	M		Bit string(8)	
β <sub>3</sub>	M		Bit string(8)	

### 9.2.1.X GPS Navigation Model and Time Recovery

This IE contains subframes 1 to 3 of the GPS navigation message. For further details on the meaning of parameters, see [30].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<b>Navigation Message 1to3</b>		<i>1..&lt;MaxNoSat&gt;</i>		
>Transmission TOW	M		ENUMERATED (0..1048575)	Time of the Week when the message is broadcast.
>SatID	M		SAT ID 9.2.1.x	Satellite ID of the satellite from which the information is obtained
>TLM Message	M		Bit string(14)	
>TIm Revd (C)	M		Bit string(2)	
>HO-Word	M		Bit string(22)	
>WN	M		Bit string(10)	
>C/A or P on L2	M		Bit string(2)	
>User Range Accuracy Index	M		Bit string(4)	
>SV Health	M		Bit string(6)	
>IODC	M		Bit string(10)	
>L2 P Data Flag	M		Bit string(1)	
>SF 1 Reserved	M		Bit string(87)	
>T <sub>GD</sub>	M		Bit string(8)	
>t <sub>oc</sub>	M		Bit string(16)	
>af <sub>2</sub>	M		Bit string(8)	
>af <sub>1</sub>	M		Bit string(16)	
>af <sub>0</sub>	M		Bit string(22)	
>C <sub>rs</sub>	M		Bit string(16)	
>Δ <sub>n</sub>	M		Bit string(16)	
>M <sub>0</sub>	M		Bit string(32)	
>C <sub>uc</sub>	M		Bit string(16)	
>e	M		Bit string(32)	
>C <sub>us</sub>	M		Bit string(16)	
>(A) <sup>1/2</sup>	M		Bit string(32)	
>t <sub>oe</sub>	M		Bit string(16)	
>Fit Interval Flag	M		Bit string(1)	
>AODO	M		Bit string(5)	
>C <sub>ic</sub>	M		Bit string(16)	
>OMEGA <sub>0</sub>	M		Bit string(32)	
>C <sub>is</sub>	M		Bit string(16)	
>i <sub>0</sub>	M		Bit string(32)	
>C <sub>rc</sub>	M		Bit string(16)	
>ω	M		Bit string(32)	
>OMEGA <sub>dot</sub>	M		Bit string(24)	
>Idot	M		Bit string(14)	
>Spare/zero fill	M		Bit string(20)	

<u>Range Bound</u>	<u>Explanation</u>
MaxNoSat	Maximum number of satellites for which information can be provided

### 9.2.1.X GPS Real-Time Integrity

This IE provides the information regarding the status of the GPS constellation. For further details on the meaning of parameters, see [30].

<u>IE/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
CHOICE <i>Bad Satellites Presence</i>	M			
> <i>Bad Satellites</i>				
>> <u>Satellite information</u>		1..<MaxN <i>oSat</i> >		
>>>BadSatID	M		SAT ID 9.2.1.x	Satellite ID
> <i>No Bad Satellites</i>			NULL	

<u>Range Bound</u>	<u>Explanation</u>
MaxNoSat	Maximum number of satellites for which information can be provided

### 9.2.1.X GPS Receiver Geographical Position (GPS RX Pos)

The GPS Receiver Geographical Position is used to identify the geographical coordinates of a GPS receiver relevant for a certain Information Exchange Object.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Latitude Sign</u>	M		ENUMERATED (North, South)	
<u>Degrees of Latitude</u>	M		INTEGER (0...2 <sup>23</sup> -1)	The IE value (N) is derived by this formula: $N \leq 2^{23} \cdot X / 90 < N+1$ X being the latitude in degree (0°.. 90°)
<u>Degrees of Longitude</u>	M		INTEGER (-2 <sup>23</sup> ...2 <sup>23</sup> -1)	The IE value (N) is derived by this formula: $N \leq 2^{24} \cdot X / 360 < N+1$ X being the longitude in degree (-180°..+180°)

### 9.2.1.X GPS UTC Model

This IE provides the information regarding the GPS UTC Model. For further details on the meaning of parameters, see [30].

<u>IE/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
<u>A<sub>1</sub></u>	M		Bit string(24)	
<u>A<sub>0</sub></u>	M		Bit string(32)	
<u>t<sub>tot</sub></u>	M		Bit string(8)	
<u>Δt<sub>LS</sub></u>	M		Bit string(8)	
<u>WN<sub>t</sub></u>	M		Bit string(8)	
<u>WN<sub>LSF</sub></u>	M		Bit string(8)	
<u>DN</u>	M		Bit string(8)	
<u>Δt<sub>LSF</sub></u>	M		Bit string(8)	

### 9.2.1.X Information Exchange ID

The Information Exchange ID uniquely identifies any requested information per RNS.



<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
Information Exchange ID	M		Integer(0 .. 2^20-1)	

**9.2.1.X Information Exchange Object Type**

The Information Exchange Object type indicates the type of object that the requested information shall be valid for.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
Information Exchange Object Type			ENUMERATED(CELL, ...)	

**9.2.1.X Information Report Characteristics**

The information report characteristics define how the reporting shall be performed.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
Information Report Characteristics Type	M		ENUMERATED(On Demand, Periodic, On Modification, ...)	
<b>Periodic Information</b>	C-Periodic			
>Information Report Periodicity	M		ENUMERATED(1min...1hr, ...) step 1min, (1hr...24hr, ...) step 1hr, ...)	The frequency with which the RNS shall send information reports.
<b>On Modification Information</b>	C-OnModification			
>Information Threshold	M		9.2.1.x	

<u>Condition</u>	<u>Explanation</u>
Periodic	This IE shall be present if the <i>Information Report Characteristics Type</i> IE indicates 'periodic'
OnModification	This IE shall be present if the <i>Information Report Characteristics Type</i> IE indicates 'on modification'

**9.2.1.X Information Threshold**

The Information Threshold indicates which kind of information shall trigger the Information Reporting procedure.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>CHOICE Information Type Item</u>	M			
<u>&gt;DGPS</u>				
<u>&gt;&gt;PRC Deviation</u>	M		ENUMERATED (1, 2, 5, 10, ...)	PRC deviation in meters from the previously reported value, which shall trigger a report

9.2.1.X Information Type

The Information Type indicates which kind of information the RNS shall provide.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Information Type Item</u>	M		ENUMERATED (UTRAN Access Point Position, IPDL Parameters, GPS Information, DGPS Corrections, GPS RX Pos,...)	
<u>GPS Information</u>	C-GPS	1..<maxnoofGPSTypes>		
<u>&gt;GPS Information Item</u>			ENUMERATED (GPS Navigation Model and Time Recovery, GPS Ionospheric Model, GPS UTC Model, GPS Almanac, GPS Real-Time Integrity, ...)	

<u>Condition</u>	<u>Explanation</u>
GPS	This IE shall be present if the <i>Information Type</i> IE indicates 'GPS Information'

<u>Range Bound</u>	<u>Explanation</u>
MaxnoofGPSTypes	Maximum number of GPS Information Types supported in one Information Exchange.

9.2.1.X IPDL parameters

<u>Information Element/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
<u>IPDL FDD parameters</u>	C- <u>IPDLparams</u>		<u>9.2.1.X</u>	
<u>IPDL TDD parameters</u>	C- <u>IPDLparams</u>		<u>9.2.1.X</u>	

<u>Condition</u>	<u>Explanation</u>
<u>IPDLparams</u>	Only one of these IEs can be present at the same time

### 9.2.1.X Requested Data Value

The Requested Data Value contains the relevant data concerning the ongoing information exchange.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>UTRAN Access Point Position</u>	C-DataVal		<u>9.2.1.70A</u>	
<u>IPDL Parameters</u>	C-DataVal		<u>9.2.1.X</u>	
<u>DGPS Corrections</u>	C-DataVal		<u>9.2.1.X</u>	
<u>GPS Navigation Model and Time Recovery</u>	C-DataVal		<u>9.2.1.X</u>	
<u>GPS Ionospheric Model</u>	C-DataVal		<u>9.2.1.X</u>	
<u>GPS UTC Model</u>	C-DataVal		<u>9.2.1.X</u>	
<u>GPS Almanac</u>	C-DataVal		<u>9.2.1.X</u>	
<u>GPS Real-Time Integrity</u>	C-DataVal		<u>9.2.1.X</u>	
<u>GPS RX Pos</u>	C-DataVal		<u>9.2.1.X</u>	

<u>Condition</u>	<u>Explanation</u>
<u>C-DataVal</u>	At least one of these IEs shall be present.

### 9.2.1.X Requested Data Value Information

The Requested Data Value Information IE provides information both on whether or not the Requested Data Value is provided in the message or not and if provided also the Requested Data Value itself.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Requested Data Value Information</u>					=	
<u>&gt;CHOICE Information Availability Indicator</u>	M				=	
<u>&gt;&gt;Information Available</u>					=	
<u>&gt;&gt;&gt;Requested Data Value</u>	M		<u>9.2.1.X</u>		=	
<u>&gt;&gt;Information not Available</u>			<u>NULL</u>		=	

### 9.2.1.X SAT ID

The SAT ID indicates the identity of the satellite.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
SAT ID			INTEGER(0..63)	

### 9.2.2.X IPDL FDD parameters

The *IPDL FDD Parameters* IE provides the information for the IPDL Configuration applied in FDD mode.

<u>Information Element/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
<u>IP spacing FDD</u>	<u>M</u>		<u>ENUMERATED(5,7,10,15,20,30,40,50,...)</u>	<u>See [10]</u>
<u>IP length</u>	<u>M</u>		<u>ENUMERATED(5,10,...)</u>	<u>See [10]</u>
<u>IP offset</u>	<u>M</u>		<u>INTEGER(0..9)</u>	<u>See [10]</u>
<u>Seed</u>	<u>M</u>		<u>INTEGER(0..63)</u>	<u>See [10]</u>
<u>Burst mode parameters</u>	<u>O</u>		<u>9.2.1.x</u>	

### 9.2.3.X IPDL TDD parameters

The *IPDL TDD Parameters* IE provides the information for the IPDL Configuration applied in TDD mode.

<u>Information Element/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
<u>IP Spacing TDD</u>	<u>M</u>		ENUMERATED(30,40,50,70,100,...)	<u>See [22]</u>
<u>IP Start</u>	<u>M</u>		INTEGER(0..4095)	<u>See [22]</u>
<u>IP Slot</u>	<u>M</u>		INTEGER(0..14)	<u>See [22]</u>
<u>IP P-CCPCH</u>	<u>M</u>		ENUMERATED(Switch off 1 frame, Switch off 2 frames)	<u>See [22]</u>
<u>Burst mode parameters</u>	<u>O</u>		9.2.1.x	

## 9.3.2 Elementary Procedure Definitions

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

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

IMPORTS

Criticality,  
ProcedureID,  
TransactionID

FROM RNSAP-CommonDataTypes

CommonTransportChannelResourcesFailure,  
CommonTransportChannelResourcesRequest,  
CommonTransportChannelResourcesReleaseRequest,  
CommonTransportChannelResourcesResponseFDD,  
CommonTransportChannelResourcesResponseTDD,  
CompressedModeCommand,  
DedicatedMeasurementFailureIndication,  
DedicatedMeasurementInitiationFailure,  
DedicatedMeasurementInitiationRequest,  
DedicatedMeasurementInitiationResponse,  
DedicatedMeasurementReport,  
DedicatedMeasurementTerminationRequest,  
DL-PowerControlRequest,  
DL-PowerTimeslotControlRequest,  
DownlinkSignallingTransferRequest,  
ErrorIndication,  
InformationExchangeFailureIndication,  
InformationExchangeInitiationFailure,  
InformationExchangeInitiationRequest,  
InformationExchangeInitiationResponse,  
InformationExchangeTerminationRequest,  
InformationReport,  
PagingRequest,  
PhysicalChannelReconfigurationCommand,  
PhysicalChannelReconfigurationFailure,  
PhysicalChannelReconfigurationRequestFDD,  
PhysicalChannelReconfigurationRequestTDD,  
PrivateMessage,  
RadioLinkAdditionFailureFDD,  
RadioLinkAdditionFailureTDD,  
RadioLinkAdditionRequestFDD,  
RadioLinkAdditionRequestTDD,  
RadioLinkAdditionResponseFDD,  
RadioLinkAdditionResponseTDD,

RadioLinkDeletionRequest,  
 RadioLinkDeletionResponse,  
 RadioLinkFailureIndication,  
 RadioLinkPreemptionRequiredIndication,  
 RadioLinkReconfigurationCancel,  
 RadioLinkReconfigurationCommit,  
 RadioLinkReconfigurationFailure,  
 RadioLinkReconfigurationPrepareFDD,  
 RadioLinkReconfigurationPrepareTDD,  
 RadioLinkReconfigurationReadyFDD,  
 RadioLinkReconfigurationReadyTDD,  
 RadioLinkReconfigurationRequestFDD,  
 RadioLinkReconfigurationRequestTDD,  
 RadioLinkReconfigurationResponseFDD,  
 RadioLinkReconfigurationResponseTDD,  
 RadioLinkRestoreIndication,  
 RadioLinkSetupFailureFDD,  
 RadioLinkSetupFailureTDD,  
 RadioLinkSetupRequestFDD,  
 RadioLinkSetupRequestTDD,  
 RadioLinkSetupResponseFDD,  
 RadioLinkSetupResponseTDD,  
 RelocationCommit,  
 UplinkSignallingTransferIndicationFDD,  
 UplinkSignallingTransferIndicationTDD

FROM RNSAP-PDU-Contents

id-commonTransportChannelResourcesInitialisation,  
 id-commonTransportChannelResourcesRelease,  
 id-compressedModeCommand,  
 id-downlinkPowerControl,  
 id-downlinkSignallingTransfer,  
 id-downlinkPowerTimeslotControl,  
 id-errorIndication,  
id-informationExchangeFailure,  
id-informationExchangeInitiation,  
id-informationReporting,  
id-informationExchangeTermination,  
 id-measurementFailure,  
 id-measurementInitiation,  
 id-measurementReporting,  
 id-measurementTermination,  
 id-paging,  
 id-physicalChannelReconfiguration,  
 id-privateMessage,  
 id-radioLinkAddition,  
 id-radioLinkDeletion,  
 id-radioLinkFailure,  
 id-radioLinkPreemption,  
 id-radioLinkRestoration,  
 id-radioLinkSetup,  
 id-relocationCommit,  
 id-synchronisedRadioLinkReconfigurationCancellation,



```

id-synchronisedRadioLinkReconfigurationCommit,
id-synchronisedRadioLinkReconfigurationPreparation,
id-unSynchronisedRadioLinkReconfiguration,
id-uplinkSignallingTransfer
FROM RNSAP-Constants;

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```

-- *****
--
-- 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
    commonTransportChannelResourcesInitialisationFDD
    commonTransportChannelResourcesInitialisationTDD
    ...
    informationExchangeInitiation
}

```

```

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
    uplinkSignallingTransferFDD
    uplinkSignallingTransferTDD
    downlinkSignallingTransfer
    relocationCommit
    paging
    synchronisedRadioLinkReconfigurationCommit
    synchronisedRadioLinkReconfigurationCancellation
    radioLinkFailure
    radioLinkPreemption
    radioLinkRestoration
    measurementReporting
    measurementTermination
}

```

```

measurementFailure
downlinkPowerControlFDD
downlinkPowerTimeslotControl
compressedModeCommandFDD
commonTransportChannelResourcesRelease
errorIndication
privateMessage
...
informationExchangeFailure
informationExchangeTermination
informationReporting
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-3 RNSAP-ELEMENTARY-PROCEDURE ::= {
  ...
}

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

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```

informationExchangeInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      InformationExchangeInitiationRequest
  SUCCESSFUL OUTCOME      InformationExchangeInitiationResponse
  UNSUCCESSFUL OUTCOME    InformationExchangeInitiationFailure
  PROCEDURE ID             { procedureCode id-informationExchangeInitiation, ddMode common }
  CRITICALITY              reject
}

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

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

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

```

### 9.3.3 PDU Definitions

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

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

#### IMPORTS

```
Active-Pattern-Sequence-Information,
AllocationRetentionPriority,
AllowedQueuingTime,
AlphaValue,
BLER,
Block-STTD-Indicator,
BindingID,
C-ID,
C-RNTI,
CCTrCH-ID,
CFN,
ClosedLoopModel-SupportIndicator,
ClosedLoopMode2-SupportIndicator,
Closedlooptimingadjustmentmode,
CN-CS-DomainIdentifier,
CN-PS-DomainIdentifier,
CNDomainType,
Cause,
CellParameterID,
ChipOffset,
CriticalityDiagnostics,
D-RNTI,
D-RNTI-ReleaseIndication,
DCH-FDD-Information,
DCH-ID,
DCH-InformationResponse,
DCH-TDD-Information,
DL-DPCH-SlotFormat,
DL-TimeslotISCP,
DL-Power,
DL-ScramblingCode,
DL-Timeslot-Information,
DL-TimeSlot-ISCP-Info,
DPCH-ID,
DRACControl,
DRXCycleLengthCoefficient,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DiversityControlField,
```

DiversityMode,  
DSCH-FDD-Information,  
DSCH-FDD-InformationResponse,  
DSCH-FlowControlInformation,  
DSCH-FlowControlItem,  
DSCH-TDD-Information,  
DSCH-ID,  
SchedulingPriorityIndicator,  
FACH-FlowControlInformation,  
FDD-DCHs-to-Modify,  
FDD-DL-ChannelisationCodeNumber,  
FDD-DL-CodeInformation,  
FDD-S-CCPCH-Offset,  
FDD-TPC-DownlinkStepSize,  
FirstRLS-Indicator,  
FNReportingIndicator,  
FrameHandlingPriority,  
FrameOffset,  
GA-AccessPointPosition,  
GA-Cell,  
IMSI,  
InformationExchangeID,  
InformationReportCharacteristics,  
InformationType,  
InnerLoopDLPCStatus,  
L3-Information,  
LimitedPowerIncrease,  
MaximumAllowedULTxPower,  
MaxNrDLPhysicalchannels,  
MaxNrOfUL-DPCHs,  
MaxNrTimeslots,  
MaxNrULPhysicalchannels,  
MeasurementFilterCoefficient,  
MeasurementID,  
MidambleShiftAndBurstType,  
MinimumSpreadingFactor,  
MinUL-ChannelisationCodeLength,  
MultiplexingPosition,  
Neighbouring-GSM-CellInformation,  
Neighbouring-UMTS-CellInformation,  
NrOfDLchannelisationcodes,  
PagingCause,  
PagingRecordType,  
PDSCHCodeMapping,  
PayloadCRC-PresenceIndicator,  
PowerAdjustmentType,  
PowerOffset,  
PrimaryCCPCH-RSCP,  
PrimaryCPICH-EcNo,  
PrimaryCPICH-Power,  
PrimaryScramblingCode,  
PropagationDelay,  
PunctureLimit,

QE-Selector,  
RANAP-RelocationInformation,  
RB-Info,  
RL-ID,  
RL-Set-ID,  
RNC-ID,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
Received-total-wide-band-power,  
RequestedDataValue,  
RequestedDataValueInformation,  
RxTimingDeviationForTA,  
S-FieldLength,  
S-RNTI,  
SCH-TimeSlot,  
SAI,  
SN,  
Secondary-CCPCH-Info,  
SSDT-CellID,  
SSDT-CellID-Length,  
SSDT-Indication,  
SSDT-SupportIndicator,  
STTD-Indicator,  
STTD-SupportIndicator,  
AdjustmentPeriod,  
ScaledAdjustmentRatio,  
MaxAdjustmentStep,  
SecondaryCCPCH-SlotFormat,  
SyncCase,  
TDD-ChannelisationCode,  
TDD-DCHs-to-Modify,  
TDD-DL-Code-Information,  
TDD-DPCHOffset,  
TDD-PhysicalChannelOffset,  
TDD-TPC-DownlinkStepSize,  
TDD-UL-Code-Information,  
TFCI-Coding,  
TFCI-Presence,  
TFCI-SignallingMode,  
TimeSlot,  
TimingAdvanceApplied,  
ToAWE,  
ToAWS,  
TransmitDiversityIndicator,  
TransportBearerID,  
TransportBearerRequestIndicator,  
TFCS,  
Transmission-Gap-Pattern-Sequence-Information,  
Transmission-Gap-Pattern-Sequence-ScramblingCode-Information,  
TransportFormatManagement,  
TransportFormatSet,  
TransportLayerAddress,

```
TrCH-StatisticsDescr,
UARFCN,
UC-ID,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-TimeSlot-Information,
UL-TimeSlot-ISCP-Info,
URA-ID,
URA-Information,
USCH-ID,
USCH-Information
FROM RNSAP-IES

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

maxNoOfDSCHs,
maxNoOfUSCHs,
maxNrOfCCTrCHs,
maxNrOfDCHs,
maxNrOfTS,
maxNrOfDPCHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfRLs-1,
maxNrOfRLs-2,
maxNrOfULTs,
maxNrOfDLTs,

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,
id-AllowedQueuingTime,
id-BindingID,
id-C-ID,
id-C-RNTI,
id-CFN,
id-CFNReportingIndicator,
id-CN-CS-DomainIdentifier,
id-CN-PS-DomainIdentifier,
id-Cause,
```

id-CauseLevel-RL-AdditionFailureFDD,  
id-CauseLevel-RL-AdditionFailureTDD,  
id-CauseLevel-RL-ReconfFailure,  
id-CauseLevel-RL-SetupFailureFDD,  
id-CauseLevel-RL-SetupFailureTDD,  
id-ClosedLoopModel-SupportIndicator,  
id-ClosedLoopMode2-SupportIndicator,  
id-CNOriginatedPage-PagingRqst,  
id-CriticalityDiagnostics,  
id-D-RNTI,  
id-D-RNTI-ReleaseIndication,  
id-DCHs-to-Add-FDD,  
id-DCHs-to-Add-TDD,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfRqstFDD,  
id-DCH-DeleteList-RL-ReconfRqstTDD,  
id-DCH-FDD-Information,  
id-DCH-TDD-Information,  
id-FDD-DCHs-to-Modify,  
id-TDD-DCHs-to-Modify,  
id-DCH-InformationResponse,  
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,  
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,  
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,  
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-FDD-DL-CodeInformation,  
id-DL-DPCH-Information-RL-ReconfPrepFDD,  
id-DL-DPCH-Information-RL-SetupRqstFDD,  
id-DL-DPCH-Information-RL-ReconfRqstFDD,  
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,  
id-DL-DPCH-InformationItem-RL-AdditionRspTDD,  
id-DL-DPCH-InformationItem-RL-SetupRspTDD,  
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,  
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,  
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,  
id-DL-Physical-Channel-Information-RL-SetupRqstTDD,  
id-DLReferencePower,  
id-DLReferencePowerList-DL-PC-Rqst,  
id-DL-ReferencePowerInformation-DL-PC-Rqst,  
id-DRXCycleLengthCoefficient,

id-DedicatedMeasurementObjectType-DM-Rprt ,  
id-DedicatedMeasurementObjectType-DM-Rqst ,  
id-DedicatedMeasurementObjectType-DM-Rsp ,  
id-DedicatedMeasurementType ,  
id-DSCHs-to-Add-FDD ,  
id-DSCHs-to-Add-TDD ,  
id-DSCH-DeleteList-RL-ReconfPrepTDD ,  
id-DSCH-Delete-RL-ReconfPrepFDD ,  
id-DSCH-FDD-Information ,  
id-DSCH-InformationListIE-RL-AdditionRspTDD ,  
id-DSCH-InformationListIEs-RL-SetupRspTDD ,  
id-DSCH-TDD-Information ,  
id-DSCH-FDD-InformationResponse ,  
id-DSCH-ModifyList-RL-ReconfPrepTDD ,  
id-DSCH-Modify-RL-ReconfPrepFDD ,  
id-DSCHsToBeAddedOrModified-FDD ,  
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ,  
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD ,  
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD ,  
id-GA-AccessPointPosition ,  
id-GA-Cell ,  
id-IMSI ,  
id-InformationExchangeID ,  
id-InformationExchangeObjectType-InfEx-Rprt ,  
id-InformationExchangeObjectType-InfEx-Rqst ,  
id-InformationExchangeObjectType-InfEx-Rsp ,  
id-InformationReportCharacteristics ,  
id-InformationType ,  
id-InnerLoopDLPCStatus ,  
id-L3-Information ,  
id-AdjustmentPeriod ,  
id-MaxAdjustmentStep ,  
id-MeasurementFilterCoefficient ,  
id-MeasurementID ,  
id-Neighbouring-GSM-CellInformation ,  
id-PagingArea-PagingRqst ,  
id-FACH-FlowControlInformation ,  
id-PowerAdjustmentType ,  
id-ProcedureScope-DL-PC-Rqst ,  
id-PropagationDelay ,  
id-RANAP-RelocationInformation ,  
id-RL-Information-PhyChReconfRqstFDD ,  
id-RL-Information-PhyChReconfRqstTDD ,  
id-RL-Information-RL-AdditionRqstFDD ,  
id-RL-Information-RL-AdditionRqstTDD ,  
id-RL-Information-RL-DeletionRqst ,  
id-RL-Information-RL-FailureInd ,  
id-RL-Information-RL-ReconfPrepFDD ,  
id-RL-Information-RL-RestoreInd ,  
id-RL-Information-RL-SetupRqstFDD ,  
id-RL-Information-RL-SetupRqstTDD ,  
id-RL-InformationItem-DM-Rprt ,  
id-RL-InformationItem-DM-Rqst ,



id-RL-InformationItem-DM-Rsp,  
id-RL-InformationItem-RL-PreemptRequiredInd,  
id-RL-InformationItem-RL-SetupRqstFDD,  
id-RL-InformationList-RL-AdditionRqstFDD,  
id-RL-InformationList-RL-DeletionRqst,  
id-RL-InformationList-RL-PreemptRequiredInd,  
id-RL-InformationList-RL-ReconfPrepFDD,  
id-RL-InformationResponse-RL-AdditionRspTDD,  
id-RL-InformationResponse-RL-ReconfReadyTDD,  
id-RL-InformationResponse-RL-ReconfRspTDD,  
id-RL-InformationResponse-RL-SetupRspTDD,  
id-RL-InformationResponseItem-RL-AdditionRspFDD,  
id-RL-InformationResponseItem-RL-ReconfReadyFDD,  
id-RL-InformationResponseItem-RL-ReconfRspFDD,  
id-RL-InformationResponseItem-RL-SetupRspFDD,  
id-RL-InformationResponseList-RL-AdditionRspFDD,  
id-RL-InformationResponseList-RL-ReconfReadyFDD,  
id-RL-InformationResponseList-RL-ReconfRspFDD,  
id-RL-InformationResponseList-RL-SetupRspFDD,  
id-RL-ReconfigurationFailure-RL-ReconfFail,  
id-RL-Set-InformationItem-DM-Rprt,  
id-RL-Set-InformationItem-DM-Rqst,  
id-RL-Set-InformationItem-DM-Rsp,  
id-RL-Set-Information-RL-FailureInd,  
id-RL-Set-Information-RL-RestoreInd,  
id-ReportCharacteristics,  
id-Reporting-Object-RL-FailureInd,  
id-Reporting-Object-RL-RestoreInd,  
id-RxTimingDeviationForTA,  
id-S-RNTI,  
id-SAI,  
id-SRNC-ID,  
id-STTD-SupportIndicator,  
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,  
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,  
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,  
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,  
id-timeSlot-ISCPList-DL-PC-Rqst-TDD,  
id-TransportBearerID,  
id-TransportBearerRequestIndicator,  
id-TransportLayerAddress,  
id-UC-ID,  
id-Transmission-Gap-Pattern-Sequence-Information,  
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,

```

id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,
id-UL-DPCH-InformationItem-RL-AdditionRspTDD,
id-UL-DPCH-InformationItem-RL-SetupRspTDD,
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
id-UL-Physical-Channel-Information-RL-SetupRqstTDD,
id-UL-SIRTarget,
id-URA-Information,
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
id-USCHs-to-Add,
id-USCH-DeleteList-RL-ReconfPrepTDD,
id-USCH-InformationListIE-RL-AdditionRspTDD,
id-USCH-InformationListIEs-RL-SetupRspTDD,
id-USCH-Information,
id-USCH-ModifyList-RL-ReconfPrepTDD,
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD
FROM RNSAP-Constants;

```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```

-- *****
--
-- INFORMATION EXCHANGE INITIATION REQUEST
--
-- *****

```

```

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

```

```

InformationExchangeInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-InformationExchangeID          CRITICALITY reject      TYPE      InformationExchangeID          PRESENCE mandatory
    }|
    { ID      id-InformationExchangeObjectType-InfEx-Rqst  CRITICALITY reject      TYPE      InformationExchangeObjectType-InfEx-Rqst  PRESENCE
    mandatory }|
}

```

```

-- This IE represents both the Information Exchange Object Type IE and the choice based on the Information Exchange Object Type
-- as described in the tabular message format in subclause 9.1.
{ ID      id-InformationType                CRITICALITY reject          TYPE      InformationType                PRESENCE mandatory
} |
{ ID      id-InformationReportCharacteristics  CRITICALITY reject          TYPE      InformationReportCharacteristics  PRESENCE mandatory
},
...
}

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

InformationExchangeObjectType-InfEx-Rqst ::= CHOICE {
cell                Cell-InfEx-Rqst,
...
}

Cell-InfEx-Rqst ::= SEQUENCE {
c-ID                C-ID,
iE-Extensions       ProtocolExtensionContainer { { CellItem-InfEx-Rqst-ExtIEs } } OPTIONAL,
...
}

CellItem-InfEx-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- INFORMATION EXCHANGE INITIATION RESPONSE
--
-- *****

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

InformationExchangeInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
{ ID      id-InformationExchangeID          CRITICALITY ignore          TYPE      InformationExchangeID          PRESENCE mandatory
} |
{ ID      id-InformationExchangeObjectType-InfEx-Rsp  CRITICALITY ignore          TYPE      InformationExchangeObjectType-InfEx-Rsp  PRESENCE
mandatory } |
{ ID      id-CriticalityDiagnostics          CRITICALITY ignore          TYPE      CriticalityDiagnostics          PRESENCE optional
},
...
}

InformationExchangeInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {

```

```

...
}
InformationExchangeObjectType-InfEx-Rsp ::= CHOICE {
  cell Cell-InfEx-Rsp,
  ...
}
Cell-InfEx-Rsp ::= SEQUENCE {
  requestedDataValue RequestedDataValue,
  iE-Extensions ProtocolExtensionContainer { { CellItem-InfEx-Rsp-ExtIEs} } OPTIONAL,
  ...
}
CellItem-InfEx-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- INFORMATION EXCHANGE INITIATION FAILURE
--
-- *****

InformationExchangeInitiationFailure ::= SEQUENCE {
  protocolIEs ProtocolIE-Container {{InformationExchangeInitiationFailure-IEs}},
  protocolExtensions ProtocolExtensionContainer {{InformationExchangeInitiationFailure-Extensions}} OPTIONAL,
  ...
}
InformationExchangeInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-InformationExchangeID CRITICALITY ignore TYPE InformationExchangeID PRESENCE mandatory }|
  { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|
  { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
  ...
}
InformationExchangeInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- INFORMATION REPORT
--
-- *****

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

```

```

InformationReport-IEs RNSAP-PROTOCOL-IES ::= {
  { ID      id-InformationExchangeID          CRITICALITY ignore          TYPE      InformationExchangeID          PRESENCE
  mandatory }|
  { ID      id-InformationExchangeObjectType-InfEx-Rprt  CRITICALITY ignore          TYPE      InformationExchangeObjectType-InfEx-Rprt  PRESENCE
  mandatory },
  ...
}

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

InformationExchangeObjectType-InfEx-Rprt ::= CHOICE {
  cell          Cell-InfEx-Rprt,
  ...
}

Cell-Inf-Rprt ::= SEQUENCE {
  requestedDataValueInformation  RequestedDataValueInformation,
  iE-Extensions                  ProtocolExtensionContainer  {{ CellItem-InfEx-Rprt-ExtIEs }}  OPTIONAL,
  ...
}

CellItem-InfEx-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- INFORMATION EXCHANGE TERMINATION REQUEST
--
-- *****

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

InformationExchangeTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
  { ID      id-InformationExchangeID          CRITICALITY ignore          TYPE      InformationExchangeID          PRESENCE mandatory},
  ...
}

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

-- *****

```

```

--
-- INFORMATION EXCHANGE FAILURE INDICATION
--
-- *****
InformationExchangeFailureIndication ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{InformationExchangeFailureIndication-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{InformationExchangeFailureIndication-Extensions}} OPTIONAL,
    ...
}

InformationExchangeFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-InformationExchangeID          CRITICALITY ignore          TYPE      InformationExchangeID          PRESENCE mandatory } |
    { ID      id-Cause                          CRITICALITY ignore          TYPE      Cause                          PRESENCE mandatory } |
    ...
}

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

```

## 9.3.4 Information Element Definitions

```

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxCodeNumComp-1,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDPCHs,

```

```

maxNrOfErrors,
maxNrOfFDDNeighboursPerRNC,
maxNrOfMACcshSDU-Length,
maxNrOfNeighbouringRNCs,
maxNrOfTDDNeighboursPerRNC,
maxNrOfTS,
maxNrOfULTs,
maxNrOfGSMNeighboursPerRNC,
maxRateMatching,
maxNrOfPoints,
maxNoOfRB,
maxNrOfTFCs,
maxNrOfTFs,
maxCTFC,
maxRNCinURA-1,
maxTFCI1Combs,
maxTFCI2Combs,
maxTFCI2Combs-1,
maxTGPS,
maxTTI-Count,
maxNoGPSTypes,
maxNoSat,

```

```

id-Neighbouring-UMTS-CellInformationItem
FROM RNSAP-Constants

```

```

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

```

```

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

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```
-- B
```

```

BadSatellites ::= SEQUENCE {
  badSatelliteInformation SEQUENCE (SIZE (1..maxNoSat)) OF
    SEQUENCE {
      badSAT-ID SAT-ID,
      iE-Extensions ProtocolExtensionContainer { { BadSatelliteInformation-ExtIEs} } OPTIONAL,
      ...
    },
  iE-Extensions ProtocolExtensionContainer { { BadSatellites-ExtIEs} } OPTIONAL,
  ...
}

```

```

}
BadSatelliteInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
BadSatellites-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
*** UNCHANGED TEXT IS OMITTED ***
BurstModeParameters ::= SEQUENCE {
  burstStart      INTEGER (0..15),
  burstLength    INTEGER (10..25),
  burstFreq      INTEGER (1..16),
  iE-Extensions  ProtocolExtensionContainer { { BurstModeParameters-ExtIEs} } OPTIONAL,
  ...
}
BurstModeParameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
-- C
Cause ::= CHOICE {
  radioNetwork      CauseRadioNetwork,
  transport         CauseTransport,
  protocol          CauseProtocol,
  misc              CauseMisc,
  ...
}
CauseMisc ::= ENUMERATED {
  control-processing-overload,
  hardware-failure,
  om-intervention,
  not-enough-user-plane-processing-resources,
  unspecified,
  ...
}
CauseProtocol ::= ENUMERATED {
  transfer-syntax-error,
  abstract-syntax-error-reject,
  abstract-syntax-error-ignore-and-notify,
  message-not-compatible-with-receiver-state,
  semantic-error,
  unspecified,
  abstract-syntax-error-falsely-constructed-message,
  ...
}

```



```

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,
    combining-resources-not-available,
    combining-not-supported,
    reconfiguration-not-allowed,
    requested-configuration-not-supported,
    synchronisation-failure,
    requested-tx-diversity-mode-not-supported,
    measurement-temporarily-not-available,
    unspecified,
    invalid-CM-settings,
    reconfiguration-CFN-not-elapsed,
    number-of-DL-codes-not-supported,
    dedicated-transport-channel-type-not-supported,
    dl-shared-channel-type-not-supported,
    ul-shared-channel-type-not-supported,
    common-transport-channel-type-not-supported,
    ul-spreading-factor-not-supported,
    dl-spreading-factor-not-supported,
    cm-not-supported,
    transaction-not-supported-by-destination-node-b,
    rl-already-activated-or-allocated,
    ..../
    information-temporarily-not-available,
    information-provision-not-supported-for-the-object
}

```

```

CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- D

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```

DGPSCorrections ::= SEQUENCE {
    gpSTOW                               gpSTOW,
    gps-Status-Health                    GPS-Status-Health,
    satellite-DGPSCorrections-Information SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {

```

```

sAT-ID          SAT-ID,
iode-dgps      BIT STRING (SIZE (8)),
uDRE          UDRE,
pRC           PRC,
range-Correction-Rate  Range-Correction-Rate,
iE-Extensions  ProtocolExtensionContainer { { Satellite-DGPSCorrections-Information-ExtIEs } } OPTIONAL,
...
},
iE-Extensions  ProtocolExtensionContainer { { DGPSCorrections-ExtIEs } } OPTIONAL,
...
}

Satellite-DGPSCorrections-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

DGPSCorrections-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

DGPSThreshold ::= SEQUENCE {
pRCDeviation  PRCDeviation,
iE-Extensions  ProtocolExtensionContainer { { DGPSThreshold-ExtIEs } } OPTIONAL,
...
}

DGPSThreshold-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- G

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```

GPS-Almanac ::= SEQUENCE {
wna-alm      BIT STRING (SIZE (8)),
satellite-Almanac-Information  SEQUENCE (SIZE (1..maxNoSat)) OF
SEQUENCE {
sAT-ID          SAT-ID,
gps-e-alm      BIT STRING (SIZE (16)),
gps-toa-alm    BIT STRING (SIZE (8)),
gps-delta-I-alm  BIT STRING (SIZE (16)),
omegadot-alm   BIT STRING (SIZE (16)),
svhealth-alm   BIT STRING (SIZE (8)),
gps-a-sqrt-alm  BIT STRING (SIZE (24)),
omegazero-alm  BIT STRING (SIZE (24)),

```

```

    m-zero-alm          BIT STRING (SIZE (24)),
    gps-omega-alm       BIT STRING (SIZE (24)),
    gps-af-zero-alm     BIT STRING (SIZE (11)),
    gps-af-one-alm      BIT STRING (SIZE (11)),
    iE-Extensions       ProtocolExtensionContainer { { Satellite-Almanac-Information-ExtIEs} } OPTIONAL,
    ...
  },
  iE-Extensions         ProtocolExtensionContainer { { GPS-Almanac-ExtIEs} } OPTIONAL,
  ...
}

Satellite-Almanac-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

GPS-Almanac-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

GPSInformation ::= SEQUENCE (SIZE (1..maxNoGPSTypes)) OF
  SEQUENCE {
    gPSInformationItem  ENUMERATED {
      gPS-NavigationModel-and-TimeRecovery,
      gPS-Ionospheric-Model,
      gPS-UTC-Model,
      gPS-Almanac,
      gPS-RealTime-Integrity,
      ...
    },
    iE-Extensions       ProtocolExtensionContainer { { GPSInformation-ExtIEs} } OPTIONAL,
    ...
  }
-- This IE shall be present if the Information Type IE indicates 'GPS Information'

GPSInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

GPS-Ionospheric-Model ::= SEQUENCE {
  alpha-zero-ionos      BIT STRING (SIZE (8)),
  alpha-one-ionos       BIT STRING (SIZE (8)),
  alpha-two-ionos       BIT STRING (SIZE (8)),
  alpha-three-ionos     BIT STRING (SIZE (8)),
  beta-zero-ionos       BIT STRING (SIZE (8)),
  beta-one-ionos        BIT STRING (SIZE (8)),
  beta-two-ionos        BIT STRING (SIZE (8)),
  beta-three-ionos      BIT STRING (SIZE (8)),
  iE-Extensions         ProtocolExtensionContainer { { GPS-Ionospheric-Model-ExtIEs} } OPTIONAL,
  ...
}

GPS-Ionospheric-Model-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

}
GPS-NavigationModel-and-TimeRecovery ::= SEQUENCE (SIZE (1..maxNoSat)) OF
  SEQUENCE {
    tx-tow-nav          INTEGER (0..1048575),
    SAT-ID              SAT-ID,
    tlm-message-nav     BIT STRING (SIZE (14)),
    tlm-revd-c-nav      BIT STRING (SIZE (2)),
    ho-word-nav         BIT STRING (SIZE (22)),
    w-n-nav             BIT STRING (SIZE (10)),
    ca-or-p-on-l2-nav  BIT STRING (SIZE (2)),
    user-range-accuracy-index-nav BIT STRING (SIZE (4)),
    sv-health-nav       BIT STRING (SIZE (6)),
    iodc-nav            BIT STRING (SIZE (10)),
    l2-p-dataflag-nav   BIT STRING (SIZE (1)),
    sfl-reserved-nav    BIT STRING (SIZE (87)),
    t-gd-nav            BIT STRING (SIZE (8)),
    t-oc-nav            BIT STRING (SIZE (16)),
    a-f-2-nav           BIT STRING (SIZE (8)),
    a-f-1-nav           BIT STRING (SIZE (16)),
    a-f-zero-nav        BIT STRING (SIZE (22)),
    c-rs-nav            BIT STRING (SIZE (16)),
    delta-n-nav         BIT STRING (SIZE (16)),
    m-zero-nav          BIT STRING (SIZE (32)),
    c-uc-nav            BIT STRING (SIZE (16)),
    gps-e-nav           BIT STRING (SIZE (32)),
    c-us-nav            BIT STRING (SIZE (16)),
    a-sqrt-nav          BIT STRING (SIZE (32)),
    t-oe-nav            BIT STRING (SIZE (16)),
    fit-interval-flag-nav BIT STRING (SIZE (1)),
    aodo-nav            BIT STRING (SIZE (5)),
    c-ic-nav            BIT STRING (SIZE (16)),
    omega-zero-nav      BIT STRING (SIZE (32)),
    c-is-nav            BIT STRING (SIZE (16)),
    i-zero-nav          BIT STRING (SIZE (32)),
    c-rc-nav            BIT STRING (SIZE (16)),
    gps-omega-nav       BIT STRING (SIZE (32)),
    omegadot-nav        BIT STRING (SIZE (24)),
    idot-nav            BIT STRING (SIZE (14)),
    spare-zero-fill     BIT STRING (SIZE (20)),
    iE-Extensions       ProtocolExtensionContainer { { GPS-NavigationModel-and-TimeRecoveryItem-ExtIEs } } OPTIONAL,
    ...
  }
}
GPS-NavigationModel-and-TimeRecoveryItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}
GPS-RealTime-Integrity ::= CHOICE {
  badSatellites      BadSatellites,
  noBadSatellite     NULL
}

```

```

GPS-RX-POS ::= SEQUENCE {
    geographicalCoordinate      GeographicalCoordinate,
    iE-Extensions              ProtocolExtensionContainer { { GPS-RX-POS-ExtIEs } } OPTIONAL,
    ...
}

GPS-RX-POS-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Status-Health ::= ENUMERATED {
    udre-1-0,
    udre-0-75,
    udre-0-5,
    udre-0-3,
    udre-0-1,
    no-data,
    invalid-data
}

GPSTOW ::= INTEGER (0..604799)

GPS-UTC-Model ::= SEQUENCE {
    a-one-utc                  BIT STRING (SIZE (24)),
    a-zero-utc                 BIT STRING (SIZE (32)),
    t-ot-utc                  BIT STRING (SIZE (8)),
    delta-t-ls-utc            BIT STRING (SIZE (8)),
    w-n-t-utc                 BIT STRING (SIZE (8)),
    w-n-lsf-utc               BIT STRING (SIZE (8)),
    dn-utc                    BIT STRING (SIZE (8)),
    delta-t-lsf-utc           BIT STRING (SIZE (8)),
    iE-Extensions             ProtocolExtensionContainer { { GPS-UTC-Model-ExtIEs } } OPTIONAL,
    ...
}

GPS-UTC-Model-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

*** UNCHANGED TEXT IS OMITTED ***

-- I

*** UNCHANGED TEXT IS OMITTED ***

InformationAvailable ::= SEQUENCE {
    requestedDataValue        RequestedDataValue,
    iE-Extensions             ProtocolExtensionContainer { { InformationAvailable-ExtIEs } } OPTIONAL,
    ...
}

InformationAvailable-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

}
InformationExchangeID ::= INTEGER (0..1048575)
InformationNotAvailable ::= NULL
InformationReportCharacteristics ::= CHOICE {
    onDemand          NULL,
    periodic          PeriodicInformation,
    onModification    OnModificationInformation,
    ...
}
InformationReportPeriodicity ::= CHOICE {
    min              INTEGER (1..60,...),
    -- Unit min, Step lmin
    hour            INTEGER (1..24,...),
    -- Unit hour, Step lhour
    ...
}
InformationThreshold ::= CHOICE {
    dGPSThreshold    DGPSThreshold,
    ...
}
InformationType ::= SEQUENCE {
    informationTypeItem  ENUMERATED {
        gA-AccessPointPosition,
        iPDLParameters,
        gPSInformation,
        dGPSCorrections,
        gPS-RX-POS,
        ...
    },
    gPSInformation      GPSInformation OPTIONAL,
    iE-Extensions       ProtocolExtensionContainer { { InformationType-ExtIEs } } OPTIONAL,
    ...
}
-- The GPS Information IE shall be present if the Information Exchange Type IE indicates 'GPS Information'
InformationType-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```

iPDLParameters ::= CHOICE {
    iPDL-FDD-Parameters  IPDL-FDD-Parameters,
    iPDL-TDD-Parameters  IPDL-TDD-Parameters
}

```

```

IPDL-FDD-Parameters ::= SEQUENCE {
    iPSpacingFDD          IPSpacingFDD,
    iPLength              IPLength,
    iPOffset              IPOffset,
    seed                  Seed,
    burstModeParameters  BurstModeParameters OPTIONAL,
    iE-Extensions         ProtocolExtensionContainer { { IPDL-FDD-Parameters-ExtIEs } } OPTIONAL,
    ...
}

```

```

IPDL-FDD-Parameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

IPDL-TDD-Parameters ::= SEQUENCE {
    iPSpacingTDD          IPSpacingTDD,
    iPStart               IPStart,
    iPSlot                IPSlot,
    iP-P-CCPCH            IP-P-CCPCH,
    burstModeParameters  BurstModeParameters OPTIONAL,
    iE-Extensions         ProtocolExtensionContainer { { IPDL-TDD-Parameters-ExtIEs } } OPTIONAL,
    ...
}

```

-- The *BurstModeParameters* IE shall be included if the Idle Periods are arranged in Burst Mode.

```

IPDL-TDD-Parameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

IPLength ::= ENUMERATED {
    ip15,
    ip110,
    ...
}

```

```

IPOffset ::= INTEGER (0..9)

```

```

IP-P-CCPCH ::= ENUMERATED {
    SwitchOff-1-Frame,
    SwitchOff-2-Frames
}

```

```

IPSlot ::= INTEGER (0..14)

```

```

IPSpacingFDD ::= ENUMERATED {
    ipsF5,
    ipsF7,
    ipsF10,
    ipsF15,
    ipsF20,
    ipsF30,
}

```

```

    ipsF40,
    ipsF50,
    ...
}

IPSpacingTDD ::= ENUMERATED {
    ipst30,
    ipst40,
    ipst50,
    ipst70,
    ipst100,
    ...
}

IPStart ::= INTEGER (0..4095)

*** UNCHANGED TEXT IS OMITTED ***

-- O

OnModificationInformation ::= SEQUENCE {
    informationThreshold InformationThreshold,
    iE-Extensions ProtocolExtensionContainer { {OnModificationInformation-ExtIEs} } OPTIONAL,
    ...
}

OnModificationInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- P

*** UNCHANGED TEXT IS OMITTED ***

PeriodicInformation ::= SEQUENCE {
    informationReportPeriodicity InformationReportPeriodicity,
    iE-Extensions ProtocolExtensionContainer { {PeriodicInformation-ExtIEs} } OPTIONAL,
    ...
}

PeriodicInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

*** UNCHANGED TEXT IS OMITTED ***

PRC ::= INTEGER (-2047..2047)
--pseudo range correction; scaling factor 0.32 meters

PRCDeviation ::= ENUMERATED {

```



```

prcd1,
prcd2,
prcd5,
prcd10,
...
}

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- R

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```

Range-Correction-Rate ::= INTEGER (-127..127)
-- scaling factor 0.032 m/s

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```

RequestedDataValue ::= SEQUENCE {
gA-AccessPointPosition          GA-AccessPointPosition          OPTIONAL,
iPDLParameters                  IPDLParameters          OPTIONAL,
dGPSCorrections                 DGPSCorrections         OPTIONAL,
gPS-NavigationModel-and-TimeRecovery GPS-NavigationModel-and-TimeRecovery OPTIONAL,
gPS-Ionospheric-Model           GPS-Ionospheric-Model   OPTIONAL,
gPS-UTC-Model                   GPS-UTC-Model           OPTIONAL,
gPS-Almanac                     GPS-Almanac             OPTIONAL,
gPS-RealTime-Integrity          GPS-RealTime-Integrity  OPTIONAL,
gPS-RX-POS                      GPS-RX-POS              OPTIONAL,
iE-Extensions                   ProtocolExtensionContainer { { RequestedDataValue-ExtIEs } } OPTIONAL,
...
}

```

--at least one of the above IEs shall be present in the requested data value

```

RequestedDataValueItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

```

```

RequestedDataValueInformation ::= CHOICE {
informationAvailable InformationAvailable,
informationNotAvailable InformationNotAvailable
}

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- S

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

```

SAT-ID ::= INTEGER (0..63)

```

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

Seed ::= INTEGER (0..63)

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

-- U

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

UDRE ::= ENUMERATED {  
lessThan1,  
between1-and-4,  
between4-and-8,  
over8,  
 ...  
}

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

## 9.3.6 Constant Definitions

\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*

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

id-commonTransportChannelResourcesInitialisation	ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease	ProcedureCode ::= 1
id-compressedModeCommand	ProcedureCode ::= 2
id-downlinkPowerControl	ProcedureCode ::= 3
id-downlinkPowerTimeslotControl	ProcedureCode ::= 4
id-downlinkSignallingTransfer	ProcedureCode ::= 5
id-errorIndication	ProcedureCode ::= 6
id-measurementFailure	ProcedureCode ::= 7
id-measurementInitiation	ProcedureCode ::= 8
id-measurementReporting	ProcedureCode ::= 9
id-measurementTermination	ProcedureCode ::= 10
id-paging	ProcedureCode ::= 11
id-physicalChannelReconfiguration	ProcedureCode ::= 12

id-privateMessage	ProcedureCode ::= 13
id-radioLinkAddition	ProcedureCode ::= 14
id-radioLinkDeletion	ProcedureCode ::= 15
id-radioLinkFailure	ProcedureCode ::= 16
id-radioLinkPreemption	ProcedureCode ::= 17
id-radioLinkRestoration	ProcedureCode ::= 18
id-radioLinkSetup	ProcedureCode ::= 19
id-relocationCommit	ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation	ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit	ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation	ProcedureCode ::= 23
id-unSynchronisedRadioLinkReconfiguration	ProcedureCode ::= 24
id-uplinkSignallingTransfer	ProcedureCode ::= 25
<u>id-informationExchangeFailure</u>	<u>ProcedureCode ::= 30</u>
<u>id-informationExchangeInitiation</u>	<u>ProcedureCode ::= 31</u>
<u>id-informationReporting</u>	<u>ProcedureCode ::= 32</u>
<u>id-informationExchangeTermination</u>	<u>ProcedureCode ::= 33</u>

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

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

maxFACHCountPlus1	INTEGER ::= 10
maxIBSEG	INTEGER ::= 16
maxTFCI1Combs	INTEGER ::= 512
maxTFCI2Combs	INTEGER ::= 1024
maxTFCI2Combs-1	INTEGER ::= 1023
maxTGPS	INTEGER ::= 6
maxNrOfTS	INTEGER ::= 15
maxNoSat	INTEGER ::= 16
maxNoGPSTypes	INTEGER ::= 8

```
-- *****
--
-- IEs
--
-- *****
```

id-AllowedQueuingTime	ProtocolIE-ID ::= 4
id-BindingID	ProtocolIE-ID ::= 5
id-C-ID	ProtocolIE-ID ::= 6
id-C-RNTI	ProtocolIE-ID ::= 7
id-CFN	ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier	ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier	ProtocolIE-ID ::= 10
id-Cause	ProtocolIE-ID ::= 11
id-CriticalityDiagnostics	ProtocolIE-ID ::= 20
id-D-RNTI	ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication	ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 33
id-DCH-FDD-Information	ProtocolIE-ID ::= 34
id-DCH-TDD-Information	ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 40
id-DCH-InformationResponse	ProtocolIE-ID ::= 43
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation	ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 62

id-DL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 64
id-DLReferencePower	ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst	ProtocolIE-ID ::= 69
id-DRXCycleLengthCoefficient	ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 73
id-DedicatedMeasurementType	ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD	ProtocolIE-ID ::= 82
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD	ProtocolIE-ID ::= 83
id-IMSI	ProtocolIE-ID ::= 84
id-L3-Information	ProtocolIE-ID ::= 85
id-AdjustmentPeriod	ProtocolIE-ID ::= 90
id-MaxAdjustmentStep	ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 92
id-MeasurementID	ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation	ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem	ProtocolIE-ID ::= 95
id-PagingArea-PagingRqst	ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation	ProtocolIE-ID ::= 103
id-PowerAdjustmentType	ProtocolIE-ID ::= 107
id-ProcedureScope-DL-PC-Rqst	ProtocolIE-ID ::= 108
id-RANAP-RelocationInformation	ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD	ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD	ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD	ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst	ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd	ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd	ProtocolIE-ID ::= 117
id-RL-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 119
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 123
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst	ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD	ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD	ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD	ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD	ProtocolIE-ID ::= 135

id-RL-InformationResponseList-RL-ReconfRspFDD	ProtocolIE-ID ::= 136
id-RL-InformationResponse-RL-ReconfRspTDD	ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail	ProtocolIE-ID ::= 141
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst	ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd	ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd	ProtocolIE-ID ::= 147
id-ReportCharacteristics	ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 153
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 154
id-S-RNTI	ProtocolIE-ID ::= 155
id-SAI	ProtocolIE-ID ::= 156
id-SRNC-ID	ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 160
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 161
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 162
id-TransportBearerID	ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator	ProtocolIE-ID ::= 164
id-TransportLayerAddress	ProtocolIE-ID ::= 165
id-UC-ID	ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationAddList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 170
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 177
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 183
id-UL-SIRTarget	ProtocolIE-ID ::= 184
id-URA-Information	ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD	ProtocolIE-ID ::= 190
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 191
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 192
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 193
id-AdjustmentRatio	ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 199
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 200

id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 215
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD	ProtocolIE-ID ::= 218
id-DSCH-FDD-Information	ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 221
id-DSCH-TDD-Information	ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse	ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD	ProtocolIE-ID ::= 228
id-DSCHsToBeAddedOrModified-FDD	ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 230
id-GA-AccessPointPosition	ProtocolIE-ID ::= 231
id-GA-Cell	ProtocolIE-ID ::= 232
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 261
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD	ProtocolIE-ID ::= 266
id-USCHs-to-Add	ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 270
id-USCH-Information	ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 275
id-ClosedLoopModel-SupportIndicator	ProtocolIE-ID ::= 276
id-ClosedLoopMode2-SupportIndicator	ProtocolIE-ID ::= 277
id-STTD-SupportIndicator	ProtocolIE-ID ::= 279
id-CFNReportingIndicator	ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst	ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 24

id-PropagationDelay	ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA	ProtocolIE-ID ::= 36
id-timeSlot-ISCPList-DL-PC-Rqst-TDD	ProtocolIE-ID ::= 37
id-InformationExchangeID	ProtocolIE-ID ::= 287
id-InformationExchangeObjectType-InfEx-Rprt	ProtocolIE-ID ::= 288
id-InformationExchangeObjectType-InfEx-Rqst	ProtocolIE-ID ::= 289
id-InformationExchangeObjectType-InfEx-Rsp	ProtocolIE-ID ::= 290
id-InformationReportCharacteristics	ProtocolIE-ID ::= 291
id-InformationType	ProtocolIE-ID ::= 292

END



## CHANGE REQUEST

⌘ **25.423 CR 336** ⌘ rev **1** ⌘ Current version: **3.4.0** ⌘

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

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

<b>Title:</b>	⌘ Introduction of Cell Geographical Area Additional Shapes		
<b>Source:</b>	⌘ <a href="#">R-WG3</a>		
<b>Work item code:</b>	⌘ LCS1-UEPos-lublur	<b>Date:</b>	⌘ February 2001
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ REL-4
	<p>Use <u>one</u> of the following categories:</p> <p><b>F</b> (essential correction)  <b>A</b> (corresponds to a correction in an earlier release)  <b>B</b> (Addition of feature),  <b>C</b> (Functional modification of feature)  <b>D</b> (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p><b>2</b> (GSM Phase 2)  <b>R96</b> (Release 1996)  <b>R97</b> (Release 1997)  <b>R98</b> (Release 1998)  <b>R99</b> (Release 1999)  <b>REL-4</b> (Release 4)  <b>REL-5</b> (Release 5)</p>

<b>Reason for change:</b>	⌘ In the current RNSAP specification the only way to describe the geographical area relative to a certain cell is by means of the 'polygon' described in the Cell GAI IE. However, there is a 3GPP document (23.032) that defines additional ways of representing geographical area shapes. The Cell GAI IE defined in 25.423 (RNSAP) is not aligned with 23.032, the GAD (Geographical Area Description) specification, thus the current RNSAP specification restricts the available range of GAD shapes defined within 3GPP (23.032). A CR on TS 25.413 (RANAP) proposing the same addition is under discussion in the RAN3 lu SWG.
<b>Summary of change:</b>	⌘ A new optional IE, Cell GA Additional Shapes IE is introduced together with IEs describing new geographical areas. Note: it is not possible to extend the current structure of the Cell GAI IE in a backward compatible way, therefore a new IE is needed. Backward compatibility: this CR is backward compatible with the previous version of TS 25.423. R1 - the ASN.1 part was corrected and syntax checked; - the new IE was correctly placed in the tabular format; - minor corrections were performed. - the identifier was allocated by the rapporteur.
<b>Consequences if not approved:</b>	⌘ 25.423 would not support all geographical shapes defined in 23.032. Moreover, a consistency issue could arise if only the RANAP CR were approved.

**Clauses affected:** ⌘ 8.2.1, 8.3.1, 8.3.2, 9.1.4, 9.1.5, 9.1.7, 9.1.8, 9.1.24, 9.2.1.x (new), 9.3.3, 9.3.4,

		9.3.6	
<b>Other specs affected:</b>	⌘	<input checked="" type="checkbox"/> Other core specifications	⌘ CR 265 on TS 25.413
		<input type="checkbox"/> Test specifications	
		<input type="checkbox"/> O&M Specifications	
<b>Other comments:</b>	⌘		

**How to create CRs using this form:**

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## 8.2 Basic Mobility Procedures

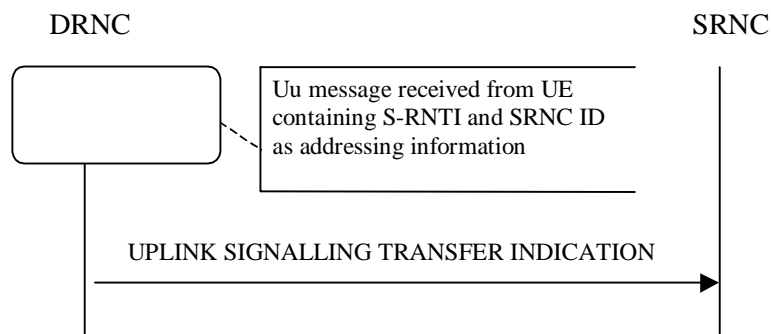
### 8.2.1 Uplink Signalling Transfer

#### 8.2.1.1 General

The procedure is used by the DRNC to forward a Uu message received on the CCCH to the SRNC.

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

#### 8.2.1.2 Successful Operation



**Figure 1444: Uplink Signalling Transfer procedure, Successful Operation**

When the DRNC receives an Uu message on the CCCH where the UE addressing information is U-RNTI, i.e. S-RNTI and SRNC-ID, DRNC shall send the UPLINK SIGNALLING TRANSFER INDICATION message to the SRNC identified by the SRNC-ID received from the UE.

The DRNC shall include the URA Identity of the cell where the Uu message was received (the accessed cell), 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 in the *URA Information IE* in the UPLINK SIGNALLING TRANSFER INDICATION message.

The DRNC shall include in the message the C-RNTI that it allocates to identify the UE in the radio interface in the accessed cell. If there is no valid C-RNTI for the UE in the accessed cell, the DRNS shall allocate a new C-RNTI for the UE. If the DRNS allocates a new C-RNTI it shall also release any C-RNTI previously allocated for the UE.

If the DRNS has any RACH, FACH, and CPCH resources allocated for the UE identified by the U-RNTI in another cell that the accessed cell, the DRNS shall release these RACH, [FDD - CPCH,] and/or FACH resources.

If the message received from the UE was the first message from that UE in the DRNC, the DRNC shall create a UE Context for this UE, allocate a D-RNTI for the UE Context, and include the *D-RNTI IE* and the identifiers for the CN CS Domain and CN PS Domain that the DRNC 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.

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell, represented either by the *Cell GAI IE* or by the *Cell GA Additional Shapes IE*, where the Uu message was received in the UPLINK SIGNALLING TRANSFER INDICATION message.

#### 8.2.1.3 Abnormal Conditions

-

-

## 8.3 DCH procedures

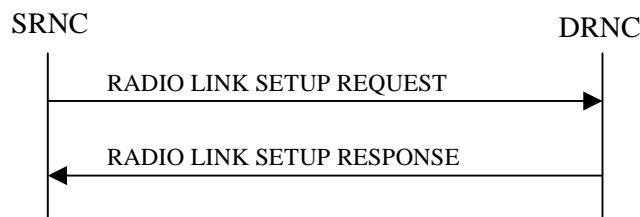
### 8.3.1 Radio Link Setup

#### 8.3.1.1 General

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

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

#### 8.3.1.2 Successful Operation



**Figure 5: Radio Link Setup procedure: Successful Operation**

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

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

[FDD - The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. If the *First RLS indicator* IE is set to "first RLS", the DRNS shall use a TPC pattern of  $n \cdot "01" + "1"$  in the DL of the concerning RL and all RLs which are part of the same RLS, until UL synchronisation is achieved on the Uu. The TPC pattern shall continuously be repeated but shall be restarted at the beginning of every frame with  $CFN \bmod 4 = 0$ . For all other RLs, the DRNS shall use a TPC pattern of all "1"s in the DL until UL synchronisation is achieved on the Uu.]

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

[FDD - If the *Propagation Delay* IE is included, the DRNS may use this information to speed up the detection of L1 synchronisation.]

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

[FDD - If the *Initial DL TX Power* IE and *Uplink SIR Target* IE are present in the message, the DRNS shall use the indicated DL TX Power and Uplink SIR Target as initial value. If the value of the *Initial DL TX Power* IE is outside the configured DL TX power range, the DRNS shall apply these constraints when setting the initial DL TX power. The DRNS shall also include the configured DL TX power range defined by *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message.]

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

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

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

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

[FDD – The DRNS shall start the DL transmission using the indicated DL TX power level (if received) or the decided DL TX power level on each DL channelisation code of a RL until UL synchronisation is achieved for the concerning RLS or a DL POWER CONTROL REQUEST message is received. No innerloop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10] subclause 5.2.1.2) with DPC\_MODE=0 and the power control procedure (see 8.3.7).]

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

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

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

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

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

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

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 and DSCH (if any).

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

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

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

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

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

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the DRNS shall immediately activate the indicated Transmission Gap Pattern Sequences: for each sequence the *TGCFN* refers to latest passed CFN with that value. If during the compressed mode measurement the gaps of two or more pattern sequences overlap, the DRNS shall behave as specified in subclause 8.3.9.]

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

At the reception of the RADIO LINK SETUP REQUEST message, DRNS allocates requested type of channelisation codes and other physical channel resources for each RL and assigns a binding identifier and a transport layer address for

each DCH or set of co-ordinated DCHs and for each DSCH [TDD – and USCH]. This information shall be sent to the SRNC in the message RADIO LINK SETUP RESPONSE when all the RLs have been successfully setup.

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

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

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

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

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

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

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

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

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

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

For any cell neighbouring a cell in which a RL was established, the DRNS shall also provide the SRNC with the UTRAN Cell Identifier (UC-Id), the Frequency Number, the [FDD - Primary Scrambling Code], the [TDD - Cell Parameter ID, the Sync Case, the SCH Time Slot information, the Block STTD Indicator] and the node identification of the CN nodes connected to the RNC controlling the neighbouring cell if the UMTS neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the [FDD - CPICH Power level, cell individual offset]/[TDD - PCCPCH Power level, DPCH Constant Value] and Frame Offset of the UMTS neighbouring cell.

If a UMTS neighbouring cell is controlled by another RNC, the DRNC shall report also the node identifications (i.e. RNC and CN domain nodes) of the RNC controlling the UMTS neighbouring cell. [FDD – If the information is available, the DRNC shall include the *Tx Diversity Indicator* IE and Tx diversity capability (i.e. *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE, and *Closed Loop Mode2 Support Indicator* IE) in the *Neighbouring FDD Cell Information* IE].

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

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

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

[FDD - If the *DRAC Control* IE is set to "requested" in the RADIO LINK SETUP REQUEST message for at least one DCH and if the DRNC supports the DRAC, the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message the *Secondary CCPCH Info* IE to be received on FACH, for each added Radio Link. If the DRNC does not support DRAC, it shall not provide these IEs in the RADIO LINK SETUP RESPONSE message.]

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

After sending of the RADIO LINK SETUP 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 DL user plane as specified in ref. [3].

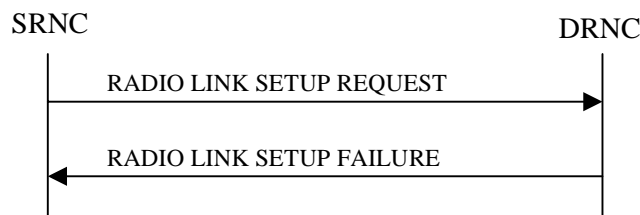
[FDD – When *Diversity Mode* IE is "STTD", "Closed loop mode1", or "Closed loop mode2", the DRNC shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indication* IE].

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

[FDD –The UL out-of-sync algorithm defined in [10] shall for each of the established RL Set(s) use the maximum value of the parameters *N\_OUTSYNC\_IND* and *T\_RLFAILURE*, and the minimum value of the parameters *N\_INSYNC\_IND*, that are configured in the cells supporting the radio links of the RL Set].

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

### 8.3.1.3 Unsuccessful Operation



**Figure 6: Radio Link Setup procedure: Unsuccessful Operation**

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

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

Typical cause values are:

#### Radio Network Layer Causes:

- RL Already Activated/Allocated

- [FDD - UL Scrambling Code Already in Use];
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- Unknown C-ID;
- [FDD - Combining Resources not available];
- Combining not Supported
- Requested Configuration not Supported;
- Cell not Available;
- [FDD - Requested Tx Diversity Mode not Supported];
- Power Level not Supported;
- Invalid CM Settings;
- Number of DL codes not supported;
- Dedicated Transport Channel Type not Supported;
- DL Shared Channel Type not Supported;
- [TDD - UL Shared Channel Type not Supported];
- [FDD - UL Spreading Factor not Supported];
- [FDD - DL Spreading Factor not Supported];
- CM not Supported.

**Transport Layer Causes:**

- Transport Resource Unavailable

**Miscellaneous Causes:**

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

### 8.3.1.4 Abnormal Conditions

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

## 8.3.2 Radio Link Addition

### 8.3.2.1 General

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

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

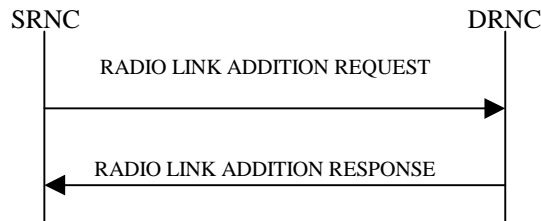
The Radio Link Addition procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.



[FDD – The Radio Link Addition procedure serves to establish one or more new Radio Links which do not contain the DSCH. If the DSCH shall be moved into a new Radio Link, the Radio Link reconfiguration procedure shall be applied.]

[TDD – The Radio Link Addition procedure serves to establish a new Radio Link with the DSCH and USCH included, if they existed before.]

### 8.3.2.2 Successful Operation



**Figure 7: Radio Link Addition procedure: Successful Operation**

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

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

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

The *Diversity Control Field* IE 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. If the *Diversity Control Field* IE is set to "Must", the DRNS shall combine the RL with one of the other RL. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.

[FDD - If the *Primary CPICH Ec/No* IE 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 CPICH Ec/No* IE is not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.]

[TDD - If the *Primary CCPCH RSCP* IE and/or the *DL Time Slot ISCP Info* IE are included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use them in the calculation of the Initial DL TX Power. If the *Primary CCPCH RSCP* IE and *DL Time Slot ISCP Info* IE are not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.]

[FDD - The Initial DL TX Power shall be applied until UL synchronisation is achieved for that RLS or a DL POWER CONTROL REQUEST message is received. No innerloop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10] subclause 5.2.1.2) with DPC\_MODE=0 and the power control procedure (see 8.3.7)].

[TDD – The Initial DL TX Power shall be applied until UL synchronisation is achieved for that RL. No innerloop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22] subclause 4.2.3.3)].

[FDD - The DRNS shall use the provided Uplink SIR Target value as the current target for the inner-loop power control.]

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, SSDT shall, if supported, 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.

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Active Pattern Sequence Information* IE, the DRNS shall use the information to immediately activate all ongoing Transmission Gap Pattern Sequence(s) also in the new RL. For each sequence the *TGCFN* refers to latest passed CFN with that value. If *Active Pattern Sequence Information* IE is not included, the DRNS shall not activate the on going CM pattern in the new RLs, but the on going pattern in the existing RL are maintained.]

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

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

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

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

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* IE 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* IE 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, [TDD – and DSCH, USCH] of the RL in the RADIO LINK ADDITION RESPONSE message.

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

[TDD - If the radio link to be added includes a DSCH, the DRNC shall send a set of valid *DSCH Scheduling Priority* IE and *MAC-c/sh SDU Length* IE parameters to the SRNC in the message RADIO LINK ADDITION RESPONSE message.]

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

For any cell UMTS neighbouring 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 [FDD - Primary Scrambling Code], the [TDD – Cell Parameter Id, the Sync Case, the SCH Time slot information, the Block STTD Indicator] and the node identification of CN nodes connected to the RNC controlling the UMTS neighbouring cell if the UMTS neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the [FDD- *Primary CPICH Power* IE, *Cell Individual Offset* IE]/[TDD - *PCCPCH Power* IE, *DPCH Constant Value* IE], *Frame Offset* IE, [FDD – *Tx Diversity Indicator* IE, and Tx diversity capability, i.e. *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE, and *Closed Loop Mode2 Support Indicator* IE] of the UMTS neighbouring cell.

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

The DRNC shall also provide the configured uplink Maximum SIR and UL Minimum SIR for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

The DRNC shall provide the configured *Maximum DL TX Power* IE and *Minimum DL TX Power* IE for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message.

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.

[FDD - If some Transmission Gap Pattern sequences using SF/2 method are initialised in the DRNS, DRNS shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the RADIO LINK ADDITION RESPONSE message to indicate the Scrambling code change method that it selects for each channelisation code]

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

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 DL user plane as specified in ref. [4].

[FDD - If the UE has been allocated one or several DCH controlled by DRAC (*DRAC Control IE* was set to "requested" in the RADIO LINK ADDITION REQUEST message for at least one DCH) and if the DRNC supports the DRAC, the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message the *Secondary CCPCH Info IE* to be received on FACH, for each added Radio Link. If the DRNC does not support DRAC, it shall not provide these IEs in the RADIO LINK ADDITION RESPONSE message.]

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

[FDD – When *Transmit Diversity Indicator IE* is present the DRNS shall activate/deactivate the Transmit Diversity to each new Radio Link in accordance with the *Transmit Diversity Indicator IE* and the already known diversity mode.]

[FDD – After addition of the new RL(s), the UL out-of-sync algorithm defined in [10] shall for each of the previously existing and newly established RL Set(s) use the maximum value of the parameters *N\_OUTSYNC\_IND* and *T\_RLFAILURE*, and the minimum value of the parameters *N\_INSYNC\_IND*, that are configured in the cells supporting the radio links of the RL Set].

For each Radio Link the DRNC shall include the *URA ID IE* of the cell, the *Multiple URAs Indicator IE* indicating whether or not the cell belongs to multiple URAs, and the RNC Identity of all other RNCs that are having at least one cell within the URA in the cell in the *URA Information IE* in the RADIO LINK ADDITION RESPONSE message.

## 9.1.4 RADIO LINK SETUP RESPONSE

### 9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
<b>RL Information Response</b>		<i>1..&lt;maxno ofRLs&gt;</i>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>Received total wide band power	M		9.2.2.35A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		–	
>Diversity Indication	C-NotFirstRL		9.2.2.7		–	
>CHOICE <i>Diversity Indication</i>	M				–	
>> <i>Combining</i>					–	
>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>> <i>Non Combining or First RL</i>					–	
>>>DCH Information Response	M		9.2.1.16A		–	
>SSDT Support Indicator	M		9.2.2.43		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.2.10		–	
>Minimum DL TX Power	M		DL Power 9.2.2.10		–	
>Primary Scrambling Code	O		9.2.1.45		–	
>UL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>DL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>Primary CPICH Power	O		9.2.1.44		–	
>DSCH Information Response	O		DSCH FDD Information Response 9.2.2.13B		YES	ignore

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		YES	ignore
<u>&gt;Cell GA Additional Shapes</u>	<u>O</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>
Uplink SIR Target	O		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Condition	Explanation
NotFirstRL	The IE is present only if the RL is not the first RL in the RL Information

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

## 9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
<b>RL Information Response</b>		1			YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info	M		9.2.3.13D		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.2.10		–	
>Minimum DL TX Power	M		DL Power 9.2.2.10		–	
>Timing Advance Applied	M		9.2.3.12A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
<b>&gt;UL CCTrCH Information</b>		0..<maxno of CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
<b>&gt;&gt;UL DPCH Information</b>		0..1			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
<b>&gt;DL CCTrCH Information</b>		0..<maxno of CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
<b>&gt;&gt;DL DPCH Information</b>		0..1			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C			
>DCH Information Response	O		9.2.1.16A		YES	ignore
<b>&gt;DSCH Information Response</b>		0..<Maxno of DSCHs>			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
<b>&gt;USCH Information Response</b>		0..<Maxno of USCHs>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		YES	ignore
>Cell GA Additional Shapes	O		9.2.1.X		YES	ignore
Uplink SIR Target	M		Uplink SIR 9.2.1.69		–	
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range bound	Explanation
MaxnoofDSCHs	Maximum number of DSCHs for one UE.
MaxnoofUSCHs	Maximum number of USCHs for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCH for one UE.

## 9.1.5 RADIO LINK SETUP FAILURE

### 9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
CHOICE Cause Level	M				YES	ignore
>General					–	
>>Cause	M		9.2.1.5		–	
>RL Specific					–	
>>Unsuccessful RL Information Response		1...<max number of RLS>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>>Successful RL Information Response		0..<max number of RLS-1>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>RL Set ID	M		9.2.2.35		–	
>>>URA Information	M		9.2.1.70B		–	
>>>SAI	M		9.2.1.52		–	
>>>Cell GAI	O		9.2.1.5A		–	
>>>UTRAN Access Point Position	O		9.2.1.70A		–	
>>>Received total wide band power	M		9.2.2.35A		–	
>>>Secondary CCPCH Info	O		9.2.2.37B		–	
>>>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	ignore
>>>Diversity Indication	M		9.2.2.7		–	
>>>CHOICE Diversity Indication	M				–	
>>>>Combining					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>>>>>Non Combining or First RL					–	
>>>>>DCH Information Response	M		9.2.1.16A		–	
>>>>SSDT Support Indicator	M		9.2.2.43		–	
>>>>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>>>>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>>>>Maximum DL TX Power	M		DL Power 9.2.2.10		–	
>>>>Minimum DL TX Power	M		DL Power 9.2.2.10		–	
>>>>DSCH Information Response	O		DSCH FDD Information Response		YES	ignore



IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>>>Neighbouring UMTS Cell Information	O		9.2.2.13B 9.2.1.41A		-	
>>>Neighbouring GSM Cell Information	O		9.2.1.41C		YES	ignore
>>>Cell GA Additional Shapes	<u>O</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>
Uplink SIR Target	O		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

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

## 9.1.7 RADIO LINK ADDITION RESPONSE

### 9.1.7.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
<b>RL Information Response</b>		<i>1..&lt;maxnoof RLS-1&gt;</i>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>Received total wide band power	M		9.2.2.35A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	ignore
>Diversity Indication	M		9.2.2.7		–	
>CHOICE <i>Diversity Indication</i>	M				–	
>> <i>Combining</i>					–	
>>>RL ID	M		9.2.1.49	Reference RL ID	–	
>> <i>Non Combining</i>					–	
>>>DCH Information Response	M		9.2.1.16A		–	
>SSDT Support Indicator	M		9.2.2.43		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.2.10		–	
>Minimum DL TX Power	M		DL Power 9.2.2.10		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		YES	ignore
> <u>Cell GA Additional Shapes</u>	<u>O</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>
Criticality Diagnostics	O		9.2.1.13		YES	ignore

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

## 9.1.7.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
<b>RL Information Response</b>		1			YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info	M		9.2.3.13D		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.2.10		–	
>Minimum DL TX Power	M		DL Power 9.2.2.10		–	
>Timing Advance Applied	M		9.2.3.12A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
<b>&gt;UL CCTrCH Information</b>		0..<maxnoof CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
<b>&gt;&gt;UL DPCH Information</b>		0..1			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
<b>&gt;DL CCTrCH Information</b>		0..<maxnoof CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
<b>&gt;&gt;DL DPCH Information</b>		0..1			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C		–	
<b>&gt;DCH Information</b>		0..1			–	
>>Diversity Indication	M		9.2.2.7		–	
>>CHOICE Diversity Indication	M				–	
>>>Combining					–	
>>>>RL ID	M		9.2.1.49	Reference RL	–	
>>>>Non Combining					–	
>>>>DCH Information Response	M		9.2.1.16A		–	
<b>&gt;DSCH Information Response</b>		0 .. <Maxnoof DSCHs>			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>Transport Format Management	M		9.2.3.13		–	
>>DSCH Flow Control	M		9.2.1.26B		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Information						
>>CHOICE Diversity Indication	O				–	
>>>Non Combining					–	
>>>>Binding ID	O		9.2.1.3		–	
>>>>Transport Layer Address	O		9.2.1.62		–	
>USCH Information Response		0 .. <Maxnoof USCHs>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Transport Format Management	M		9.2.3.13		–	
>>CHOICE Diversity Indication	O				–	
>>>Non Combining					–	
>>>>BindingID	O		9.2.1.3		–	
>>>>Transport Layer Address	O		9.2.1.62		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		YES	ignore
>Cell GA Additional Shapes	<u>O</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range Bound	Explanation
MaxnoofDSCHs	Maximum number of DSCHs for one UE.
MaxnoofUSCHs	Maximum number of USCHs for one UE.
MaxnoofCCTrCHs	Maximum number of CCTrCHs for one UE.

## 9.1.8 RADIO LINK ADDITION FAILURE

### 9.1.8.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
CHOICE <i>Cause Level</i>	M				YES	ignore
> <i>General</i>					–	
>> <i>Cause</i>	M		9.2.1.5		–	
> <i>RL Specific</i>					–	
>> <b>Unsuccessful RL Information Response</b>		1.. <i>maxnoof RLS-1</i>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>> <b>Successful RL Information Response</b>		0.. <i>maxnoof RLS-2</i>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>RL Set ID	M		9.2.2.35		–	
>>>URA Information	M		9.2.1.70B		–	
>>>SAI	M		9.2.1.52		–	
>>>Cell GAI	O		9.2.1.5A		–	
>>>UTRAN Access Point Position	O		9.2.1.70A		–	
>>>Received total wide band power	M		9.2.2.35A		–	
>>>Secondary CCPCCH Info	O		9.2.2.37B		–	
>>>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	ignore
>>>Diversity Indication	M		9.2.2.7		–	
>>>CHOICE <i>Diversity Indication</i>	M				–	
>>>> <i>Combining</i>					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID	–	
>>>> <i>Non Combining</i>					–	
>>>>>DCH Information Response	M		9.2.1.16A		–	
>>>SSDT Support Indicator	M		9.2.2.43		–	
>>>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>>>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>>>Maximum DL TX Power	M		DL Power 9.2.2.10		–	
>>>Minimum DL TX Power	M		DL Power 9.2.2.10		–	
>>>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>>>Neighbouring GSM Cell Information	O		9.2.1.41C		YES	ignore
>>><u>Cell GA Additional Shapes</u>	<u>O</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>
Criticality Diagnostics	O		9.2.1.13		YES	ignore

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

## 9.1.24 UPLINK SIGNALLING TRANSFER INDICATION

### 9.1.24.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
UC-Id	M		9.2.1.71		YES	ignore
SAI	M		9.2.1.52		YES	ignore
Cell GAI	O		9.2.1.5A		YES	ignore
C-RNTI	M		9.2.1.14		YES	ignore
S-RNTI	M		9.2.1.54		YES	ignore
D-RNTI	O		9.2.1.24		YES	ignore
Propagation Delay	M		9.2.2.23		YES	ignore
STTD Support Indicator	M		9.2.2.45		YES	ignore
Closed Loop Mode1 Support Indicator	M		9.2.2.2		YES	ignore
Closed Loop Mode2 Support Indicator	M		9.2.2.3		YES	ignore
L3 Information	M		9.2.1.32		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
URA Information	M		9.2.1.70B		YES	ignore
Cell GA Additional Shapes	O		9.2.1.X		YES	ignore

### 9.1.24.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
UC-Id	M		9.2.1.71		YES	ignore
SAI	M		9.2.1.52		YES	ignore
Cell GAI	O		9.2.1.5A		YES	ignore
C-RNTI	M		9.2.1.14		YES	ignore
S-RNTI	M		9.2.1.54		YES	ignore
D-RNTI	O		9.2.1.24		YES	ignore
Rx Timing Deviation	M		9.2.3.7A		YES	ignore
L3 Information	M		9.2.1.32		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
URA Information	M		9.2.1.70B		YES	ignore
Cell GA Additional Shapes	O		9.2.1.X		YES	ignore

### 9.2.1.5A Cell Geographical Area Identity (Cell GAI)

The Cell Geographical Area is used to identify the geographical area of a cell. The area is represented as a polygon. See ref. [25].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
<b>Cell GAI</b>				
<b>&gt;Cell GAI Geographical Coordinates</b>		1 .. <maxnoofPoints>		
>>Latitude Sign	M		ENUMERATED (North, South)	
>>Degrees of Latitude	M		INTEGER (0...2 <sup>23</sup> -1)	The IE value (N) is derived by this formula: $N \leq 2^{23} \times X / 90 < N+1$ X being the latitude in degree (0°.. 90°)
>>Degrees of Longitude	M		INTEGER (-2 <sup>23</sup> ...2 <sup>23</sup> -1)	The IE value (N) is derived by this formula: $N \leq 2^{24} \times X / 360 < N+1$ X being the longitude in degree (-180°..+180°)

Range bound	Explanation
maxnoofPoints	Maximum no. of points in polygon.

### 9.2.1.X Cell Geographical Area Additional Shapes (Cell GAI Additional Shapes)

This IE is used to provide several descriptions of the geographical area of a cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
<u>CHOICE Cell GAI Additional Shapes</u>				
<u>&gt;GA Point With Uncertainty</u>				
>>GA Point With Uncertainty	M		9.2.1.x	Ellipsoid point with uncertainty circle
<u>&gt;GA Ellipsoid point with uncertainty Ellipse</u>				
>>GA Ellipsoid point with uncertainty Ellipse	M		9.2.1.x	Ellipsoid point with uncertainty Ellipse
<u>&gt;GA Ellipsoid point with altitude</u>				
>>GA Ellipsoid point with altitude	M		9.2.1.x	Ellipsoid point with altitude
<u>&gt;GA Ellipsoid point with altitude and uncertainty Ellipsoid</u>				
>>GA Ellipsoid point with altitude and uncertainty Ellipsoid	M		9.2.1.x	Ellipsoid point with altitude and uncertainty Ellipsoid
<u>&gt;GA Ellipsoid Arc</u>				
>>GA Ellipsoid Arc	M		9.2.1.x	Ellipsoid Arc

9.2.1.X GA Point with Uncertainty

This IE contains one of the possible descriptions of a Cell Geographical Area.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Geographical Coordinates</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Uncertainty Code</u>	<u>M</u>		<u>INTEGER(0...127)</u>	The uncertainty "r" is derived from the "uncertainty code" k by $r = 10 \times (1.1^k - 1)$

9.2.1.X GA Ellipsoid Point with Uncertainty Ellipse

This IE contains one of the possible descriptions of a Cell Geographical Area.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Geographical Coordinates</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Uncertainty Ellipse</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Confidence</u>	<u>M</u>		<u>INTEGER(0...127)</u>	

9.2.1.X GA Ellipsoid Point with Altitude

This IE contains one of the possible descriptions of a Cell Geographical Area.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Geographical Coordinates</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Altitude and direction</u>	<u>M</u>		<u>9.2.1.x</u>	

9.2.1.X GA Ellipsoid Point with Altitude and Uncertainty Ellipsoid

This IE contains one of the possible descriptions of a Cell Geographical Area.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Geographical Coordinates</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Altitude and direction</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Uncertainty Ellipse</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Uncertainty Altitude</u>	<u>M</u>		<u>INTEGER(0...127)</u>	
<u>Confidence</u>	<u>M</u>		<u>INTEGER(0...127)</u>	



### 9.2.1.X GA Ellipsoid Arc

This IE contains one of the possible descriptions of a Cell Geographical Area.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Geographical Coordinates</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>Inner radius</u>	<u>M</u>		<u>INTEGER (0...2<sup>16</sup>-1)</u>	<u>The relation between the value (N) and the radius (r) in meters it describes is <math>5N \leq r &lt; 5(N+1)</math>, except for <math>N=2^{16}-1</math> for which the range is extended to include all greater values of (r).</u>
<u>Uncertainty radius</u>	<u>M</u>		<u>INTEGER(0...127)</u>	<u>The uncertainty "r" is derived from the "uncertainty code" k by <math>r = 10 \times (1.1^k - 1)</math></u>
<u>Offset angle</u>	<u>M</u>		<u>INTEGER(0...179)</u>	<u>The relation between the value (N) and the angle (a) in degrees it describes is <math>2N \leq a &lt; 2(N+1)</math></u>
<u>Included angle</u>	<u>M</u>		<u>INTEGER(0...179)</u>	<u>The relation between the value (N) and the angle (a) in degrees it describes is <math>2N \leq a &lt; 2(N+1)</math></u>
<u>Confidence</u>	<u>M</u>		<u>INTEGER(0...127)</u>	

### 9.2.1.X Geographical Coordinates

This IE contains the description of geographical coordinates.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Latitude Sign</u>	<u>M</u>		<u>ENUMERATED (North, South)</u>	
<u>Degrees Of Latitude</u>	<u>M</u>		<u>INTEGER (0...2<sup>23</sup>-1)</u>	<u>The IE value (N) is derived by this formula: N ≤ 2<sup>23</sup> X / 90 &lt; N+1 X being the latitude in degree (0°.. 90°)</u>
<u>Degrees Of Longitude</u>	<u>M</u>		<u>INTEGER (-2<sup>23</sup>...2<sup>23</sup>-1)</u>	<u>The IE value (N) is derived by this formula: N ≤ 2<sup>24</sup> X / 360 &lt; N+1 X being the longitude in degree (-180°..+180°)</u>

### 9.2.1.X Uncertainty Ellipse

This IE contains the uncertainty ellipse used to describe a possible shape of the geographical area of a cell.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Uncertainty semi-major</u>	<u>M</u>		<u>INTEGER(0...127)</u>	<u>The uncertainty "r" is derived from the "uncertainty code" k by r = 10x(1.1<sup>k</sup>-1)</u>
<u>Uncertainty semi-minor</u>	<u>M</u>		<u>INTEGER(0...127)</u>	<u>The uncertainty "r" is derived from the "uncertainty code" k by r = 10x(1.1<sup>k</sup>-1)</u>
<u>Orientation of major axis</u>	<u>M</u>		<u>INTEGER(0...179)</u>	<u>The relation between the value (N) and the angle (a) in degrees it describes is 2N ≤ a &lt; 2(N+1)</u>

### 9.2.1.X Altitude and Direction

This IE contains a description of Altitude and Direction.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Direction of Altitude</u>	<u>M</u>		<u>ENUMERATED (Height, Depth)</u>	
<u>Altitude</u>	<u>M</u>		<u>INTEGER (0...2<sup>15</sup>-1)</u>	<u>The relation between the value (N) and the altitude (a) in meters it describes is N ≤ a &lt; N+1, except for N=2<sup>15</sup>-1 for which the range is extended to include all greater values of (a).</u>

### 9.3.3 PDU Definitions

```

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Active-Pattern-Sequence-Information,
    AllocationRetentionPriority,
    AllowedQueuingTime,
    AlphaValue,
    BLER,
    Block-STTD-Indicator,
    BindingID,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    ClosedLoopMode1-SupportIndicator,
    ClosedLoopMode2-SupportIndicator,
    ClosedloopTimingadjustmentmode,
    CN-CS-DomainIdentifier,

----UNAFECTED ASN.1 WAS SKIPPED----

    GA-Cell,
    GA-CellAdditionalShapes,
    IMSI,
    InnerLoopDLPCStatus,
    L3-Information,
    LimitedPowerIncrease,
    MaximumAllowedULTxPower,

```

```

MaxNrDLPhysicalchannels,
MaxNrOfUL-DPCHs,
MaxNrTimeslots,
MaxNrULPhysicalchannels,
MeasurementFilterCoefficient,
MeasurementID,
MidambleShiftAndBurstType,
MinimumSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
Neighbouring-GSM-CellInformation,
Neighbouring-UMTS-CellInformation,
NrOfDLchannelisationcodes,

```

```

Timeslot,

```

```

-----UNAFECTED ASN.1 WAS SKIPPED-----

```

```

FROM RNSAP-IEs

```

```

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

```

```

FROM RNSAP-Containers

```

```

maxNoOfDSCHs,
maxNoOfUSCHs,
maxNrOfCCTrCHs,
maxNrOfDCHs,
maxNrOfTS,
maxNrOfDPCHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfRLs-1,
maxNrOfRLs-2,
maxNrOfULTs,
maxNrOfDLTs,

```

```

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,
id-AllowedQueuingTime,
id-BindingID,
id-C-ID,
id-C-RNTI,

```

```

id-CFN,
id-CFNReportingIndicator,
id-CN-CS-DomainIdentifier,
id-CN-PS-DomainIdentifier,
id-Cause,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,

```

----UNAFECTED ASN.1 WAS SKIPPED----

```

id-GA-AccessPointPosition,
id-GA-Cell,
id-GA-CellAdditionalShapes,
id-IMSI,
id-InnerLoopDLPCStatus,
id-L3-Information,
id-AdjustmentPeriod,
id-MaxAdjustmentStep,
id-MeasurementFilterCoefficient,
id-MeasurementID,
id-Neighbouring-GSM-CellInformation,
id-PagingArea-PagingRqst,
id-FACH-FlowControlInformation,
id-PowerAdjustmentType,
id-ProcedureScope-DL-PC-Rqst,
id-PropagationDelay,
id-RANAP-RelocationInformation,
id-RL-Information-PhyChReconfRqstFDD,
id-RL-Information-PhyChReconfRqstTDD,
id-RL-Information-RL-AdditionRqstFDD,
id-RL-Information-RL-AdditionRqstTDD,
id-RL-Information-RL-DeletionRqst,
id-RL-Information-RL-FailureInd,
id-RL-Information-RL-ReconfPrepFDD,
id-RL-Information-RL-RestoreInd,
id-RL-Information-RL-SetupRqstFDD,
id-RL-Information-RL-SetupRqstTDD,
id-RL-InformationItem-DM-Rprt,
id-RL-InformationItem-DM-Rqst,
id-RL-InformationItem-DM-Rsp,
id-RL-InformationItem-RL-PreemptRequiredInd,
id-RL-InformationItem-RL-SetupRqstFDD,

```

----UNAFECTED ASN.1 WAS SKIPPED----

FROM RNSAP-Constants;

-- \*\*\*\*\*

```

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

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

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

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

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

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

```

```

dSCHInformationResponse      DSCH-InformationResponse-RL-SetupRspFDD OPTIONAL,
neighbouring-UMTS-CellInformation  Neighbouring-UMTS-CellInformation OPTIONAL,
neighbouring-GSM-CellInformation  Neighbouring-GSM-CellInformation-RL-SetupRspFDD OPTIONAL,
iE-Extensions                ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
...
}

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

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

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

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

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

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

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

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

Neighbouring-GSM-CellInformation-RL-SetupRspFDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-SetupRspFDD }}

Neighbouring-GSM-CellInformationItem-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-Neighbouring-GSM-CellInformation  CRITICALITY ignore  TYPE  Neighbouring-GSM-CellInformation PRESENCE mandatory }
}

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-UL-SIRTarget           CRITICALITY ignore TYPE UL-SIR                PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                RL-ID,
    uRA-Information      URA-Information,
    sAI                  SAI,
    gA-Cell              GA-Cell OPTIONAL,
    gA-AccessPointPosition GA-AccessPointPosition OPTIONAL,
    ul-TimeSlot-ISCP-Info UL-TimeSlot-ISCP-Info,
    maxUL-SIR            UL-SIR,
    minUL-SIR            UL-SIR,
    maximumAllowedULTxPower MaximumAllowedULTxPower,
    maximumDLTxPower    DL-Power,
    minimumDLTxPower    DL-Power,
    timingAdvanceApplied TimingAdvanceApplied,
    alphaValue           AlphaValue,
    ul-PhysCH-SF-Variation UL-PhysCH-SF-Variation,
    ul-CCTrCHInformation UL-CCTrCHInformationList-RL-SetupRspTDD OPTIONAL,
    dl-CCTrCHInformation DL-CCTrCHInformationList-RL-SetupRspTDD OPTIONAL,
    dCH-InformationResponse DCH-InformationResponseList-RL-SetupRspTDD OPTIONAL,
    dsch-InformationResponse DSCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    usch-InformationResponse USCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation Neighbouring-GSM-CellInformation-RL-SetupRspTDD OPTIONAL,
    IE-Extensions        ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

```



```

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

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

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

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

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

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

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

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

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

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

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

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

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

```

```

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

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

```

```
Neighbouring-GSM-CellInformation-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-SetupRspTDD }}

```

```
Neighbouring-GSM-CellInformationItem-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-Neighbouring-GSM-CellInformation  CRITICALITY ignore  TYPE Neighbouring-GSM-CellInformation  PRESENCE mandatory }
}

```

```
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 optional } |
  { ID id-CN-PS-DomainIdentifier  CRITICALITY ignore  TYPE CN-PS-DomainIdentifier  PRESENCE optional } |
  { ID id-CN-CS-DomainIdentifier  CRITICALITY ignore  TYPE CN-CS-DomainIdentifier  PRESENCE optional } |
  { ID id-CauseLevel-RL-SetupFailureFDD  CRITICALITY ignore  TYPE CauseLevel-RL-SetupFailureFDD  PRESENCE mandatory } |
  { ID id-UL-SIRTarget            CRITICALITY ignore  TYPE UL-SIR                PRESENCE optional } |
  { ID id-CriticalityDiagnostics  CRITICALITY ignore  TYPE CriticalityDiagnostics  PRESENCE optional },
  ...
}

```

```
CauseLevel-RL-SetupFailureFDD ::= CHOICE {

```

```

    generalCause      GeneralCauseList-RL-SetupFailureFDD,
    rLSpecificCause   RLSpecificCauseList-RL-SetupFailureFDD,
    ...
}

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

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

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

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

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

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

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

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

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

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

```

```

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

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

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

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

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

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

```

```

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

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

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

Neighbouring-GSM-CellInformation-RL-SetupFailureFDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-SetupFailureFDD }}

Neighbouring-GSM-CellInformationItem-RL-SetupFailureFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore    TYPE    Neighbouring-GSM-CellInformation    PRESENCE mandatory }
}

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

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

RLSpecificCauseList-RL-SetupFailureTDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD    Unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD,
    iE-Extensions                                               ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureTDD-ExtIEs } }
    OPTIONAL,
    ...
}

```

**---UNAFECTED ASN.1 WAS SKIPPED---**

```

-- *****
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- *****

```

```

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

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { 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 ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {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,
  rL-Set-ID RL-Set-ID,
  uRA-Information URA-Information,
  sAI SAI,
  gA-Cell GA-Cell OPTIONAL,
  gA-AccessPointPosition GA-AccessPointPosition OPTIONAL,
  received-total-wide-band-power Received-total-wide-band-power,
  secondary-CCPCH-Info Secondary-CCPCH-Info OPTIONAL,
  dl-CodeInformation DL-CodeInformationList-RL-AdditionRspFDD,
  diversityIndication DiversityIndication-RL-AdditionRspFDD,
  -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
  -- the tabular message format in subclause 9.1.
  sSDT-SupportIndicator SSdT-SupportIndicator,
  minUL-SIR UL-SIR,
  maxUL-SIR UL-SIR,
  closedloopTimingadjustmentmode ClosedloopTimingadjustmentmode OPTIONAL,
  maximumAllowedULTxPower MaximumAllowedULTxPower,
  maximumDLTxPower DL-Power,
  minimumDLTxPower DL-Power,
  neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation OPTIONAL,
  neighbouring-GSM-CellInformation Neighbouring-GSM-CellInformation-RL-AdditionRspFDD OPTIONAL,
  IE-Extensions ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
  ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes CRITICALITY ignore EXTENSION GA-CellAdditionalShapes PRESENCE optional },
  ...
}

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

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

DiversityIndication-RL-AdditionRspFDD ::= CHOICE {
  combining Combining-RL-AdditionRspFDD,
  nonCombining NonCombining-RL-AdditionRspFDD
}

Combining-RL-AdditionRspFDD ::= SEQUENCE {
  rL-ID RL-ID,

```

```

    iE-Extensions          ProtocolExtensionContainer { { CombiningItem-RL-AdditionRspFDD-ExtIEs } } OPTIONAL,
    ...
}

CombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NonCombining-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-InformationResponse      DCH-InformationResponse,
    iE-Extensions                ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspFDD-ExtIEs } } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Neighbouring-GSM-CellInformation-RL-AdditionRspFDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-AdditionRspFDD }}

Neighbouring-GSM-CellInformationItem-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation      CRITICALITY ignore TYPE Neighbouring-GSM-CellInformation PRESENCE mandatory }
}

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

```

**---UNAFFECTED ASN.1 WAS SKIPPED---**

```

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

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

RadioLinkAdditionResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { 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,

```



```

uRA-Information          URA-Information,
sAI                      SAI,
gA-Cell                 GA-Cell      OPTIONAL,
gA-AccessPointPosition  GA-AccessPointPosition  OPTIONAL,
ul-TimeSlot-ISCP-Info   UL-TimeSlot-ISCP-Info,
minUL-SIR              UL-SIR,
maxUL-SIR              UL-SIR,
maximumAllowedULTxPower MaximumAllowedULTxPower,
maximumDLTxPower       DL-Power,
minimumDLTxPower       DL-Power,
timingAdvanceApplied    TimingAdvanceApplied,
alphaValue             AlphaValue,
ul-PhysCH-SF-Variation UL-PhysCH-SF-Variation,
ul-CCTrCHInformation   UL-CCTrCHInformationList-RL-AdditionRspTDD  OPTIONAL,
dl-CCTrCHInformation   DL-CCTrCHInformationList-RL-AdditionRspTDD  OPTIONAL,
dCH-Information        DCH-Information-RL-AdditionRspTDD  OPTIONAL,
dSCH-InformationResponse DSCH-InformationResponse-RL-AdditionRspTDD  OPTIONAL,
uSCH-InformationResponse USCH-InformationResponse-RL-AdditionRspTDD  OPTIONAL,
neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation  OPTIONAL,
neighbouring-GSM-CellInformation Neighbouring-GSM-CellInformation-RL-AdditionRspTDD  OPTIONAL,
iE-Extensions          ProtocolExtensionContainer { {RL-InformationResponse-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
...
}

RL-InformationResponse-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes      CRITICALITY ignore  EXTENSION  GA-CellAdditionalShapes  PRESENCE optional },
  ...
}

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

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

UL-CCTrCHInformationListIE-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  OPTIONAL,
  iE-Extensions       ProtocolExtensionContainer { {UL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
  ...
}

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

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

UL-DPCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {

```

```

    { ID id-UL-DPCH-InformationItem-RL-AdditionRspTDD      CRITICALITY ignore  TYPE UL-DPCH-InformationItem-RL-AdditionRspTDD  PRESENCE mandatory
    }
}

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

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

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

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

DL-CCTrCHInformationListIE-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      OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { {DL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

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

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

```

```

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

DCH-Information-RL-AdditionRspTDD ::= SEQUENCE {
    diversityIndication          DiversityIndication-RL-AdditionRspTDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    iE-Extensions                ProtocolExtensionContainer { { DCH-Information-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DiversityIndication-RL-AdditionRspTDD ::= CHOICE {
    combining          Combining-RL-AdditionRspTDD,
    nonCombining      NonCombining-RL-AdditionRspTDD
}

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

CombiningItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NonCombining-RL-AdditionRspTDD ::= SEQUENCE {
    dCH-InformationResponse DCH-InformationResponse,
    iE-Extensions          ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DSCH-InformationListIEs-RL-AdditionRspTDD}}

DSCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationListIE-RL-AdditionRspTDD    CRITICALITY ignore    TYPE DSCH-InformationListIE-RL-AdditionRspTDD    PRESENCE mandatory }
}

DSCH-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCHInformationItem-RL-AdditionRspTDD

DSCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dsch-ID              DSCH-ID,
    transportFormatManagement TransportFormatManagement,
    dsch-FlowControlInformation DSCH-FlowControlInformation,

```

```

    diversityIndication    DiversityIndication-RL-AdditionRspTDD2 OPTIONAL,
    -- diversityIndication present, if CHOICE = nonCombining
    iE-Extensions          ProtocolExtensionContainer { {DSCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

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

DiversityIndication-RL-AdditionRspTDD2 ::= SEQUENCE {
    bindingID              BindingID OPTIONAL,
    transportLayerAddress  TransportLayerAddress OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { {DiversityIndication-RL-AdditionRspTDD2-ExtIEs} } OPTIONAL,
    ...
}

DiversityIndication-RL-AdditionRspTDD2-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{USCH-InformationListIEs-RL-AdditionRspTDD}}

-- *****
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- *****

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

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-AdditionFailureFDD          CRITICALITY ignore          TYPE CauseLevel-RL-AdditionFailureFDD
      PRESENCE mandatory }|
    { ID id-CriticalityDiagnostics          CRITICALITY ignore TYPE CriticalityDiagnostics          PRESENCE optional },
    ...
}

CauseLevel-RL-AdditionFailureFDD ::= CHOICE {
    generalCause          GeneralCauseList-RL-AdditionFailureFDD,
    rLspecificCause       RLspecificCauseList-RL-AdditionFailureFDD,
    ...
}

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

```

```

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

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

RLSpecificCauseItem-RL-AdditionFailureFDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {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 ::= SEQUENCE (SIZE (0..maxNrOfRLs-2)) OF ProtocolIE-Single-Container { {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,
  rL-Set-ID                RL-Set-ID,
  uRA-Information          URA-Information,
  sAI                      SAI,
  gA-Cell                  GA-Cell      OPTIONAL,
  gA-AccessPointPosition  GA-AccessPointPosition      OPTIONAL,
  received-total-wide-band-power  Received-total-wide-band-power,
  secondary-CCPCH-Info      Secondary-CCPCH-Info      OPTIONAL,
  dl-CodeInformation        DL-CodeInformationList-RL-AdditionFailureFDD,
  diversityIndication       DiversityIndication-RL-AdditionFailureFDD,
}

```

```

-- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
-- the tabular message format in subclause 9.1.
sSDT-SupportIndicator          SSdT-SupportIndicator,
minUL-SIR                      UL-SIR,
maxUL-SIR                      UL-SIR,
closedloopTimingadjustmentmode ClosedloopTimingadjustmentmode OPTIONAL,
maximumAllowedULTxPower       MaximumAllowedULTxPower,
maximumDLTxPower              DL-Power,
minimumDLTxPower              DL-Power,
neighbouring-UMTS-CellInformation Neighbouring-UMTS-CellInformation OPTIONAL,
neighbouring-GSM-CellInformation Neighbouring-GSM-CellInformation-RL-AdditionFailureFDD OPTIONAL,
IE-Extensions                  ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
...
}

```

```

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes CRITICALITY ignore EXTENSION GA-CellAdditionalShapes PRESENCE optional },
  ...
}

```

```

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

```

```

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

```

### ---UNAFECTED ASN.1 WAS SKIPPED---

```

-- *****
--
-- UPLINK SIGNALLING TRANSFER INDICATION FDD
--
-- *****

```

```

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

```

```

UplinkSignallingTransferIndicationFDD-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-GA-Cell       CRITICALITY ignore TYPE GA-Cell        PRESENCE optional } |
  { 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-PropagationDelay CRITICALITY ignore TYPE PropagationDelay PRESENCE mandatory } |
  { ID id-STTD-SupportIndicator CRITICALITY ignore TYPE STTD-SupportIndicator PRESENCE mandatory } |
  { ID id-ClosedLoopModel1-SupportIndicator CRITICALITY ignore TYPE ClosedLoopModel1-SupportIndicator PRESENCE mandatory } |
  { ID id-ClosedLoopMode2-SupportIndicator CRITICALITY ignore TYPE ClosedLoopMode2-SupportIndicator PRESENCE mandatory } |
  { 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-Information              CRITICALITY ignore TYPE URA-Information      PRESENCE mandatory } },
    ...
}

UplinkSignallingTransferIndicationFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes      CRITICALITY ignore EXTENSION GA-CellAdditionalShapes PRESENCE optional },
  ...
}

-- *****
--
-- UPLINK SIGNALLING TRANSFER INDICATION TDD
--
-- *****

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

UplinkSignallingTransferIndicationTDD-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-GA-Cell               CRITICALITY ignore TYPE GA-Cell            PRESENCE optional } |
  { 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-RxTimingDeviationForTA CRITICALITY ignore TYPE RxTimingDeviationForTA PRESENCE mandatory } |
  { 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-Information       CRITICALITY ignore TYPE URA-Information     PRESENCE mandatory } },
  ...
}

UplinkSignallingTransferIndicationTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-GA-CellAdditionalShapes      CRITICALITY ignore EXTENSION GA-CellAdditionalShapes PRESENCE optional },
  ...
}

```

### 9.3.4 Information Element Definitions

-- G

```

GapLength ::= INTEGER (1..14)
-- Unit Slot

```

```

GapDuration ::= INTEGER (1..144,...)
-- Unit Frame

```

```

GA-Cell ::= SEQUENCE (SIZE (1..maxNrOfPoints)) OF
SEQUENCE {
    cell-GAIgeographicalCoordinate GeographicalCoordinate,
    iE-Extensions ProtocolExtensionContainer { {GA-Cell-ExtIEs} } OPTIONAL,
    ...
}

```

```

GA-Cell-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

GA-CellAdditionalShapes ::= CHOICE {
    pointWithUncertainty GA-PointWithUnCertainty,
    pointWithUncertaintyEllipse GA-PointWithUnCertaintyEllipse,
    pointWithAltitude GA-PointWithAltitude,
    pointWithAltitudeAndUncertaintyEllipsoid GA-PointWithAltitudeAndUncertaintyEllipsoid,
    ellipsoidArc GA-EllipsoidArc,
    iE-Extensions ProtocolExtensionContainer { {GA-CellAdditionalShapes-ExtIEs} } OPTIONAL,
    ...
}

```

```

GA-CellAdditionalShapes-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

GA-AltitudeAndDirection ::= SEQUENCE {
    directionOfAltitude ENUMERATED {height, depth},
    altitude INTEGER (0..32767),
    ...
}

```

```

GA-EllipsoidArc ::= SEQUENCE {
    geographicalCoordinates GeographicalCoordinate,
    innerRadius INTEGER (0..65535),
    uncertaintyRadius INTEGER (0..127),
    offsetAngle INTEGER (0..179),
    includedAngle INTEGER (0..179),
    confidence INTEGER (0..127),
    iE-Extensions ProtocolExtensionContainer { { GA-EllipsoidArc-ExtIEs} } OPTIONAL,
    ...
}

```

```

GA-EllipsoidArc-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```



```

GA-PointWithAltitude ::= SEQUENCE {
    geographicalCoordinates GeographicalCoordinate,
    altitudeAndDirection   GA-AltitudeAndDirection,
    iE-Extensions          ProtocolExtensionContainer { { GA-PointWithAltitude-ExtIEs } } OPTIONAL,
    ...
}

GA-PointWithAltitude-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithAltitudeAndUncertaintyEllipsoid ::= SEQUENCE {
    geographicalCoordinates GeographicalCoordinate,
    altitudeAndDirection   GA-AltitudeAndDirection,
    uncertaintyEllipse      GA-UncertaintyEllipse,
    uncertaintyAltitude     INTEGER (0..127),
    confidence               INTEGER (0..127),
    iE-Extensions          ProtocolExtensionContainer { { GA-PointWithAltitudeAndUncertaintyEllipsoid-ExtIEs } } OPTIONAL,
    ...
}

GA-PointWithAltitudeAndUncertaintyEllipsoid-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithUnCertaintyEllipse ::= SEQUENCE {
    geographicalCoordinates GeographicalCoordinate,
    uncertaintyEllipse      GA-UncertaintyEllipse,
    confidence               INTEGER (0..127),
    iE-Extensions          ProtocolExtensionContainer { { GA-PointWithUnCertaintyEllipse-ExtIEs } } OPTIONAL,
    ...
}

GA-PointWithUnCertaintyEllipse-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-UncertaintyEllipse ::= SEQUENCE {
    uncertaintySemi-major   INTEGER (0..127),
    uncertaintySemi-minor   INTEGER (0..127),
    orientationOfMajorAxis  INTEGER (0..179),
    ...
}

GA-PointWithUnCertainty ::= SEQUENCE {
    geographicalCoordinates GeographicalCoordinate,
    iE-Extensions          ProtocolExtensionContainer { {GA-PointWithUnCertainty-ExtIEs} } OPTIONAL,
    uncertaintyCode         INTEGER (0..127)
}

GA-PointWithUnCertainty-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

END

## 9.3.6 Constant Definitions

```
-- *****
--
-- IEs
--
-- *****
```

id-AllowedQueuingTime	ProtocolIE-ID ::= 4
id-BindingID	ProtocolIE-ID ::= 5
id-C-ID	ProtocolIE-ID ::= 6
id-C-RNTI	ProtocolIE-ID ::= 7
id-CFN	ProtocolIE-ID ::= 8

**---UNAFECTED ASN.1 WAS SKIPPED---**

id-GA-AccessPointPosition	ProtocolIE-ID ::= 231
id-GA-Cell	ProtocolIE-ID ::= 232
<u>id-GA-CellAdditionalShapes</u>	<u>ProtocolIE-ID ::= 3</u>
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 261
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD	ProtocolIE-ID ::= 266
id-USCHs-to-Add	ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 270
id-USCH-Information	ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 274

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id-UL-Physical-Channel-Information-RL-SetupRqstTDD  
id-ClosedLoopModel-SupportIndicator  
id-ClosedLoopMode2-SupportIndicator  
id-STTD-SupportIndicator  
id-CFNReportingIndicator  
id-CNOriginatedPage-PagingRqst  
id-InnerLoopDLPCStatus  
id-PropagationDelay  
id-RxTimingDeviationForTA  
id-timeSlot-ISCPList-DL-PC-Rqst-TDD

END

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ProtocolIE-ID ::= 275  
ProtocolIE-ID ::= 276  
ProtocolIE-ID ::= 277  
ProtocolIE-ID ::= 279  
ProtocolIE-ID ::= 14  
ProtocolIE-ID ::= 23  
ProtocolIE-ID ::= 24  
ProtocolIE-ID ::= 25  
ProtocolIE-ID ::= 36  
ProtocolIE-ID ::= 37

**3GPP TS 25.423 V3.4.0 (2000-12)**

CR-Form-v3

## CHANGE REQUEST

⌘ **25.423 CR 337** ⌘ rev **1** ⌘ Current version: **3.4.0** ⌘

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

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

<b>Title:</b>	⌘ Introduction of the Common Measurement Procedures in RNSAP		
<b>Source:</b>	⌘ <u>R-WG3</u>		
<b>Work item code:</b>	⌘ LCS1-UEpos-lublur & RANimp-RRMopt	<b>Date:</b>	⌘ 27/02/2001
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ REL-4
	<p>Use <u>one</u> of the following categories:</p> <p><b>F</b> (essential correction)</p> <p><b>A</b> (corresponds to a correction in an earlier release)</p> <p><b>B</b> (Addition of feature),</p> <p><b>C</b> (Functional modification of feature)</p> <p><b>D</b> (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>REL-4 (Release 4)</p> <p>REL-5 (Release 5)</p>

<b>Reason for change:</b>	⌘ This CR is the merge of CR 327 and CR 323 on 25.423.		
<b>Summary of change:</b>	⌘ R1: Editorial corrections, corrections to the ASN.1 and comment in the cover sheet added.  ⌘ R0: Introduction of Common Measurement Procedures in RNSAP.  ⌘ This change is backward compatible.		
<b>Consequences if not approved:</b>	⌘		

<b>Clauses affected:</b>	⌘ 3.1, 3.3, 7, 8.1, 8.5, 9.1, 9.2.1, 9.2.1.28A, 9.2.1.37, 9.2.1.38, 9.2.1.39, 9.2.1.40, 9.2.1.48, 9.3.2, 9.3.3, 9.3.4, 9.3.6 + some new sections.		
<b>Other specs Affected:</b>	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
<b>Other comments:</b>	⌘ If this CR is approved then CR327 and CR323 must be <b>withdrawn</b> .		

### How to create CRs using this form:

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

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

downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

---

## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

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

**Elementary Procedure:** 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 be sorted out when discussing the details of the error cases.

Class 2 EPs are considered always successful.

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

**UE Context:** The UE Context contains the necessary information for the DRNC for communication with a specific UE. The UE Context is created by the Radio Link Setup procedure or by the Uplink Signalling Transfer procedure when the UE makes its first access in a cell controlled by the DRNS. The UE Context is deleted by the Radio Link Deletion procedure or by the Common Transport Channel Resources Release procedure when neither any Radio Links nor any common transport channels are established towards the concerning UE. The UE Context is identified by the SCCP Connection for messages using connection oriented mode of the signalling bearer and the D-RNTI for messages using connectionless mode of the signalling bearer, unless specified otherwise in the procedure text.

**Distant RNC Context:** The Distant RNC context is created by the first Common Measurement Initiation Procedure or Information Exchange Initiation Procedure initiated by one RNC and requested from another RNC. The Distant RNC Context is deleted after the Common Measurement Termination, the Common Measurement Failure, the Information Exchange Termination or the Information Exchange Failure procedure when there is no more Common Measurement and no more Information to be provided by the requested RNC to the requesting RNC. The Distant RNC Context is identified by an SCCP connection as, for common measurements and information exchange, only the connection oriented mode of the signalling bearer is used.

### 3.3 Abbreviations

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

ASN.1	Abstract Syntax Notation One
BLER	Block Error Rate
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel
CCTrCH	Coded Composite Transport Channel
CFN	Connection Frame Number
CM	Compressed Mode
CN	Core Network
CPICH	Common Pilot Channel
CRNC	Controlling RNC
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRNC	Drift RNC
DRNS	Drift RNS
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
<u>GPS</u>	<u>Global Positioning System</u>
IE	Information Element
<u>LCS</u>	<u>LoCation Services</u>
MAC	Medium Access Control
PCPCH	Physical Common Packet Channel
PDU	Protocol Data Unit
PRACH	Physical Random Access Channel
RAB	Radio Access Bearer
RACH	Random Access Channel
RL	Radio Link
RLC	Radio Link Control
RLS	Radio Link Set
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
SCH	Synchronisation Channel
SDU	Signalling Data Unit
SFN	System Frame Number
SRNC	Serving RNC
SRNS	Serving RNS
SSDT	Site Selection Diversity Transmit
TDD	Time Division Duplex
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

Release 2000



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## 7 Functions of RNSAP

The RNSAP protocol has the following functions:

- Radio Link Management. This function allows the SRNC to manage radio links using dedicated resources in a DRNS;
- Physical Channel Reconfiguration. This function allows the DRNC to reallocate the physical channel resources for a Radio Link;
- Radio Link Supervision. This function allows the DRNC to report failures and restorations of a Radio Link;
- Compressed Mode Control [FDD]. This function allows the SRNC to control the usage of compressed mode within a DRNS;
- Measurements on Dedicated Resources. This function allows the SRNC to initiate measurements on dedicated resources in the DRNS. The function also allows the DRNC to report the result of the measurements;
- DL Power Drifting Correction [FDD]. This function allows the SRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links;
- CCCH Signalling Transfer. This function allows the SRNC and DRNC to pass information between the UE and the SRNC on a CCCH controlled by the DRNS;
- Paging. This function allows the SRNC to page a UE in a URA or a cell in the DRNS;
- Common Transport Channel Resources Management. This function allows the SRNC to utilise Common Transport Channel Resources within the DRNS (excluding DSCH resources for FDD);
- Relocation Execution. This function allows the SRNC to finalise a Relocation previously prepared via other interfaces;
- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- DL Power Timeslot Correction [TDD]. This function enables the DRNS to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.
- Measurements on Common Resources. This function allows an RNC to request from another RNC to initiate measurements on Common Resources. The function also allows the requested RNC to report the result of the measurements.

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

**Table 1: Mapping between functions and RNSAP elementary procedures**

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

---

## 8 RNSAP Procedures

### 8.1 Elementary Procedures

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

**Table 2: Class 1**

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE		
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE	
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE	
Physical Channel Reconfiguration	PHYSICAL CHANNEL RECONFIGURATION REQUEST	PHYSICAL CHANNEL RECONFIGURATION COMMAND	PHYSICAL CHANNEL RECONFIGURATION FAILURE	
Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE	
Common Transport Channel Resources Initialisation	COMMON TRANSPORT CHANNEL RESOURCES REQUEST	COMMON TRANSPORT CHANNEL RESOURCES RESPONSE	COMMON TRANSPORT CHANNEL RESOURCES FAILURE	
<a href="#">Common Measurement Initiation</a>	<a href="#">COMMON MEASUREMENT INITIATION REQUEST</a>	<a href="#">COMMON MEASUREMENT INITIATION RESPONSE</a>	<a href="#">COMMON MEASUREMENT INITIATION FAILURE</a>	

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

Table 3: Class 2

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

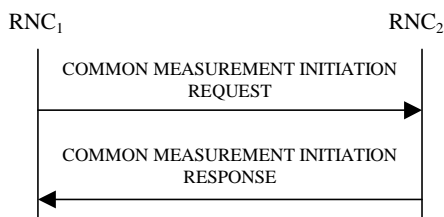
## 8.5.x Common Measurement Initiation

### 8.5.x.1 General

This procedure is used by an RNC to request the initiation of measurements of common resources to another RNC. The requesting RNC is referred to as RNC<sub>1</sub> and the RNC to which the request is sent is referred to as RNC<sub>2</sub>.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Initiation procedure: Successful Operation**

The procedure is initiated with a [COMMON MEASUREMENT INITIATION REQUEST](#) message sent from the RNC<sub>1</sub> to the RNC<sub>2</sub>.

Upon reception, the RNC<sub>2</sub> 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.

[TDD- If the [Time Slot Information](#) is provided in the [Common Measurement Object Type IE](#), the measurement request shall apply to the requested time slot individually.]

If the [Common Measurement Type IE](#) is not set to 'SFN-SFN Observed Time Difference' and the [SFN Reporting Indicator IE](#) is set to "FN Reporting Required", the [SFN IE](#) shall be included in the measurement report or in the measurement response, the latter only in the case the [Report Characteristics IE](#) is set to 'On-Demand'. The reported SFN shall be the SFN at the time when the measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26]. If the [Common Measurement Type IE](#) is set to 'SFN-SFN Observed Time Difference', then the [SFN Reporting Indicator IE](#) is ignored.

If the [SFN IE](#) is provided, it indicates the frame for which the first measurement shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26]. Furthermore, if the [SFN IE](#) is present and if the [Common Measurement Object Type IE](#) is set to "UP Neighbouring Cell", then the [SFN IE](#) relates to the Radio Frames of the Reference Cell identified by the first [UTRAN Cell Identifier IE](#).

#### **Common measurement type**

If the [Common Measurement Type IE](#) is set to 'SFN-SFN Observed Time Difference', then the RNC<sub>2</sub> shall initiate the SFN-SFN Observed Time Difference measurements between the reference cell identified by [C-ID IE](#) and the neighbouring cells identified by the [UTRAN Cell Identifier IE \(UC-Id\)](#).

If the [Common Measurement Type IE](#) is set to 'load', the RNC<sub>2</sub> shall initiate measurements of uplink and downlink load on the measured object. If either uplink or downlink load satisfies the requested report characteristics, the RNC<sub>2</sub> shall report the result of both uplink and downlink measurements.

#### **Report characteristics**

The [Report Characteristics IE](#) indicates how the reporting of the measurement shall be performed.

If the Report Characteristics IE is set to 'On-Demand', the RNC<sub>2</sub> shall report the result of the requested measurement immediately.

If the Report Characteristics IE is set to 'Periodic', the RNC<sub>2</sub> shall periodically initiate a Measurement Reporting procedure for this measurement, with the requested report frequency. Furthermore, if the Common Measurement Type IE is set to 'SFN-SFN Observed Time Difference', then all the available measurements shall be reported in the Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE and the neighbouring cells with no measurement result available shall be reported in the Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE.

If the Report Characteristics IE is set to 'Event A', the RNC<sub>2</sub> 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 RNC<sub>2</sub> shall use the value zero for the hysteresis time.

If the Report Characteristics IE is set to 'Event B', the RNC<sub>2</sub> 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 RNC<sub>2</sub> shall use the value zero for the hysteresis time.

If the Report Characteristics IE is set to 'Event C', the RNC<sub>2</sub> shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.

If the Report Characteristics IE is set to 'Event D', the RNC<sub>2</sub> shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.

If the Report Characteristics IE is set to 'Event E', the RNC<sub>2</sub> shall initiate the Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the Report Periodicity IE is provided, the RNC<sub>2</sub> shall initiate the Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the RNC<sub>2</sub> shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the RNC<sub>2</sub> shall use the value zero as hysteresis times for both Report A and Report B.

If the Report Characteristics IE is set to 'Event F', the RNC<sub>2</sub> shall initiate the Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the Report Periodicity IE is provided the RNC<sub>2</sub> shall also initiate the Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the RNC<sub>2</sub> shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the RNC<sub>2</sub> shall use the value zero as hysteresis times for both Report A and Report B.

If the Report Characteristics IE is set to 'On Modification', the RNC<sub>2</sub> shall report the result of the requested measurement immediately. Then the RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure in accordance to the following conditions:

1. If the Common Measurement Type IE is set to 'UTRAN GPS Timing of Cell Frame for LCS':

- If the T<sub>UTRAN-GPS</sub> Change Limit IE is included in the T<sub>UTRAN-GPS</sub> Measurement Threshold Information IE, the RNC<sub>2</sub> shall each time a new measurement result is received from the physical layer measurement, calculate the change of T<sub>UTRAN-GPS</sub> value (F<sub>n</sub>). The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure and set n equal to zero when the absolute value of F<sub>n</sub> rises above the threshold indicated by the T<sub>UTRAN-GPS</sub> Change Limit IE. The change of T<sub>UTRAN-GPS</sub> value (F<sub>n</sub>) is calculated according to the following:

$$F_n = 0 \text{ for } n=0$$

$$F_n = (M_n - M_{n-1}) \bmod 3715891200000 - ((SFN_n - SFN_{n-1}) \bmod 4096) * 10 * 3.84 * 10^3 * 16 + F_{n-1} \text{ for } n > 0$$

F<sub>n</sub> is the change of the T<sub>UTRAN-GPS</sub> value expressed in unit [1/16 chip] when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

M<sub>n</sub> is the latest measurement result received from the physical layer measurements, measured at SFN<sub>n</sub>.

$M_{n-1}$  is the previous measurement result received from the physical layer measurements, measured at SFN<sub>n-1</sub>.

$M_J$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_0$  is equal to the value reported in the first Common Measurement Reporting at initiation or in the Common Measurement Reporting when the event was triggered.

- If the *Predicted T<sub>UTRAN-GPS</sub> Deviation Limit* IE is included in the *T<sub>UTRAN-GPS</sub> Measurement Threshold Information* IE, the RNC<sub>2</sub> shall, each time a new measurement result is received from the physical layer measurement, update the P<sub>n</sub> and F<sub>n</sub>. The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure and set n equal to zero when F<sub>n</sub> rises above the threshold indicated by the *Predicted T<sub>UTRAN-GPS</sub> Deviation Limit* IE. The P<sub>n</sub> and F<sub>n</sub> are calculated according to the following:

$P_n = b$  for  $n=0$

$P_n = ((1+a) * ((SFN_n - SFN_{n-1}) \bmod 4096) * 10 * 3.84 * 10^3 * 16 + P_{n-1}) \bmod 37158912000000$  for  $n > 0$

$F_n = \min(\text{abs}(M_n - P_n), \text{abs}(M_n - P_n - 37158912000000), \text{abs}(M_n - P_n + 37158912000000))$  for  $n > 0$

P<sub>n</sub> is the predicted T<sub>UTRAN-GPS</sub> value when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

a is the last reported T<sub>UTRAN-GPS</sub> Drift Rate value.

b is the last reported T<sub>UTRAN-GPS</sub> value.

F<sub>n</sub> is the deviation of the last measurement result from the predicted T<sub>UTRAN-GPS</sub> value (P<sub>n</sub>) when n measurements have been received after first Common Measurement Reporting at initiation or after the last event was triggered.

M<sub>n</sub> is the latest measurement result received from the physical layer measurements, measured at SFN<sub>n</sub>.

M<sub>J</sub> is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The T<sub>UTRAN-GPS</sub> Drift Rate is determined by the Node B in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

2. If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference':

- If the *SFN-SFN Change Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the RNC<sub>2</sub> shall each time a new measurement result is received from the physical layer measurement, calculate the change of SFN-SFN value (F<sub>n</sub>). The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set n equal to zero when the absolute value of F<sub>n</sub> rises above the threshold indicated by the *SFN-SFN Change Limit* IE. The change of the SFN-SFN value is calculated according to the following:

$F_n = 0$  for  $n=0$

$F_n = (M_n - a) \bmod 40960$  for  $n > 0$

F<sub>n</sub> is the change of the SFN-SFN value expressed in unit [1/16 chip] when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

a is the last reported SFN-SFN.

M<sub>n</sub> is the latest measurement result received from the physical layer measurements, measured at SFN<sub>n</sub>.

M<sub>J</sub> is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

- If the *Predicted SFN-SFN Deviation Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the RNC<sub>2</sub> shall each time a new measurement result is received from the physical layer measurement, update the P<sub>n</sub> and F<sub>n</sub>. The RNC<sub>2</sub> shall initiate the Common Measurement Reporting procedure

in order to report the particular SFN-SFN measurement which has triggered the event and set n equal to zero when  $F_n$  rises above the threshold indicated by the *Predicted SFN-SFN Deviation Limit* IE. The  $P_n$  and  $F_n$  are calculated according to the following:

$$P_n = b \text{ for } n=0$$

$$P_n = ((a * (15 * ((SFN_n - SFN_{n-1}) \bmod 4096) + (TS_n - TS_{n-1})) * 2560 * 16 + P_{n-1}) \bmod 40960) - 20480 \text{ for } n > 0$$

$$F_n = \min(\text{abs}(M_n - P_n), \text{abs}(M_n - P_n - 40960), \text{abs}(M_n - P_n + 40960)) \text{ for } n > 0$$

$P_n$  is the predicted SFN-SFN value when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

a is the last reported SFN-SFN Drift Rate value.

b is the last reported SFN-SFN value.

$F_n$  is the deviation of the last measurement result from the predicted SFN-SFN value ( $P_n$ ) when n measurements has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at the Time Slot  $TS_n$  of the Frame  $SFN_n$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The SFN-SFN Drift Rate is determined by the Node B in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

If the *Report Characteristics* IE is not set to 'On-Demand', the  $RNC_2$  is required to perform reporting for a common measurement object, in accordance with the conditions provided in the COMMON MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no common measurement object(s) for which a measurement is defined exists any more the  $RNC_2$  shall terminate the measurement locally without reporting this to  $RNC_1$ .

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  $RNC_2$  shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as specified in the COMMON MEASUREMENT INITIATION REQUEST message.

### **Common measurement accuracy**

If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frames for LCS', then the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE included in the *Report Characteristics* IE indicates the minimum accuracy class required in the measurements.

- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates 'Class A', then the concerned  $RNC_2$  shall perform the measurement with the **highest supported** accuracy according to any of the accuracy classes A, B or C.
- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates the 'Class B', then the concerned  $RNC_2$  shall perform the measurements with the **highest supported** accuracy according to class B or C.
- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates 'Class C', then the concerned  $RNC_2$  shall perform the measurements with the **highest supported** accuracy according to class C only.

If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then the concerned  $RNC_2$  shall initiate the SFN-SFN observed Time Difference measurements between the reference cell identified by *UC-ID* IE and the neighbouring cells identified by their UC-ID. The *Report Characteristics* IE applies to each of these measurements.

### **Higher layer filtering**

The *Measurement Filter Coefficient* IE indicates how filtering of the measurement values shall be performed before measurement event evaluation and reporting.



The averaging shall be performed according to the following formula.

$$F_n = (1 - a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows

$F_n$  is the updated filtered measurement result

$F_{n-1}$  is the old filtered measurement result

$M_n$  is the latest received measurement result from physical layer measurements

$a = 1/2^{(k/2)}$ , where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, a shall be set to 1 (no filtering)

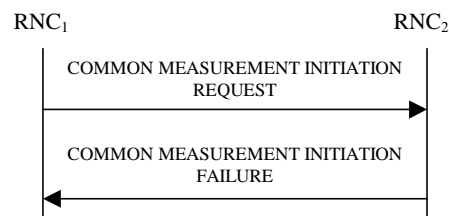
In order to initialise the averaging filter,  $F_0$  is set to  $M_1$  when the first measurement result from the physical layer measurement is received.

#### Response message

If the RNC<sub>2</sub> was able to initiate the measurement requested by RNC<sub>1</sub>, it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message sent. The message shall include the same Measurement ID that was used in the measurement request. Only in the case when the *Report Characteristics* IE is set to "On-Demand" or "On Modification", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result. It shall also the *Common Measurement Achieved Accuracy* IE in the *Common Measurement Value* IE if the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS'.

Furthermore, if the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then all the available measurements shall be reported in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE and the neighbouring cells with no measurement result available shall be reported in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE.

### 8.5.x.3 Unsuccessful Operation



**Figure x: Common Measurement Initiation procedure: Unsuccessful Operation**

If the *Common Measurement Type* received in the *Common Measurement Type* IE is not 'load', and if the *Common Measurement Type* received in the *Common Measurement Type* IE is not defined in ref. [11] or [15] to be measured on the *Common Measurement Object Type* received in the *Common Measurement Object Type* IE in the COMMON MEASUREMENT INITIATION REQUEST message the RNC<sub>2</sub> shall regard the Common Measurement Initiation procedure as failed.

If the requested measurement cannot be initiated, the RNC<sub>2</sub> shall send a COMMON MEASUREMENT INITIATION FAILURE message. The message shall include the same Measurement ID that was used in the COMMON MEASUREMENT INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', but the *Neighbouring Cell Measurement Information* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC<sub>2</sub> shall regard the Common Measurement Initiation procedure as failed.

If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS', but the  $T_{UTRAN-GPS}$  *Measurement Minimum Accuracy Class* IE in the *Common Measurement Accuracy* IE is not received in the COMMON

MEASUREMENT INITIATION REQUEST message, the RNC<sub>2</sub> shall regard the Common Measurement Initiation procedure as failed.

Typical cause values are as follows:

**Radio Network Layer Cause**

- Measurement not supported for the object.
- Measurement Temporarily not Available

**8.5.x.4 Abnormal Conditions**

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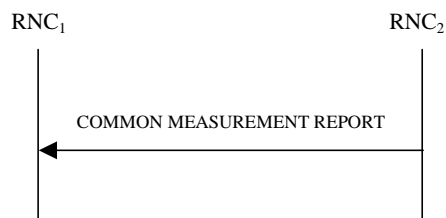
**8.5.x Common Measurement Reporting**

**8.5.x.1 General**

This procedure is used by an RNC to report the result of measurements requested by another RNC using the Common Measurement Initiation.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

**8.5.x.2 Successful Operation**



**Figure x: Common Measurement Reporting procedure: Successful Operation**

If the requested measurement reporting criteria are met, the RNC<sub>2</sub> shall initiate a Measurement Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Common Measurement ID* IE shall be set to the Common Measurement ID provided by RNC<sub>1</sub> when initiating the measurement with the Common Measurement Initiation procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement, the Measurement not available shall be reported.

The RNC<sub>2</sub> shall include the *Common Measurement Achieved Accuracy* IE in the *Common Measurement Value* IE if the measurement was initiated for the 'UTRAN GPS Timing of Cell Frame for LCS' measurement type by the Common Measurement Initiation procedure.

**8.5.x.3 Abnormal Conditions**

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## 8.5.x Common Measurement Termination

### 8.5.x.1 General

This procedure is used by an RNC to terminate a measurement previously requested by the Common Measurement Initiation procedure.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Termination procedure: Successful Operation**

This procedure is initiated with a COMMON MEASUREMENT TERMINATION REQUEST message.

Upon reception, RNC<sub>2</sub> shall terminate reporting of measurements corresponding to the Common Measurement ID.

### 8.5.x.3 Abnormal Conditions

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## 8.5.x Common Measurement Failure

### 8.5.x.1 General

This procedure is used by an RNC to notify another RNC that a measurement previously requested by the Common Measurement Initiation procedure can no longer be reported.

This procedure uses the signalling bearer connection for the relevant [Distant RNC Context](#).

### 8.5.x.2 Successful Operation



**Figure x: Common Measurement Failure procedure: Successful Operation**

This procedure is initiated with a COMMON MEASUREMENT FAILURE INDICATION message, sent from RNC<sub>2</sub> to RNC<sub>1</sub> to inform the RNC<sub>1</sub> that a previously requested measurement can no longer be reported. RNC<sub>2</sub> has locally terminated the indicated measurement.

### 8.5.x.3 Abnormal Conditions

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## 9.1.x COMMON MEASUREMENT INITIATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	M		<u>9.2.1.40</u>		YES	reject
<u>Transaction ID</u>	M		<u>9.2.1.59</u>		=	
<u>Measurement ID</u>	M		<u>9.2.1.37</u>		YES	reject
<u>Common Measurement Object Type</u>	M		<u>9.2.1.x</u>		YES	reject
<u>CHOICE Common Measurement Object Type</u>	M				YES	reject
<u>&gt;Cell</u>					=	
<u>&gt;&gt;UTRAN Cell Identifier</u>	M		<u>9.2.1.71</u>		=	
<u>&gt;&gt;Neighbouring Cell Measurement Information</u>		<u>0..&lt;maxnoof MeasNCells</u> <u>≥</u>			=	
<u>&gt;&gt;&gt; Neighbouring FDD Cell Measurement Information</u>	C-CellInfo		<u>9.2.1.x</u>		=	
<u>&gt;&gt;&gt; Neighbouring TDD Cell Measurement Information</u>	C-CellInfo		<u>9.2.1.x</u>		=	
<u>&gt;&gt;Time Slot</u>	O		<u>9.2.1.56</u>	TDD Only		
<u>Common Measurement Type</u>	M		<u>9.2.1.x</u>		YES	reject
<u>Measurement Filter Coefficient</u>	O		<u>9.2.1.41</u>		YES	reject
<u>Report Characteristics</u>	M		<u>9.2.1.48</u>		YES	reject
<u>SFN reporting indicator</u>	M		FN reporting indicator <u>9.2.1.28A</u>		YES	reject
<u>SFN</u>	O		<u>9.2.1.x</u>		YES	reject
<u>Common Measurement Accuracy</u>	O		<u>9.2.1.x</u>		YES	reject

<u>Range bound</u>	<u>Explanation</u>
<u>maxnoofMeasNCell</u>	Maximum number of neighbouring cells on which measurements can be performed.

<u>Condition</u>	<u>Explanation</u>
<u>CellInfo</u>	Only one Neighbouring Cell Measurement Information IE can be present at the same time.

9.1.x COMMON MEASUREMENT INITIATION RESPONSE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>
<u>CHOICE Common Measurement Object Type</u>	<u>O</u>			<u>Common Measurement Object Type that the measurement was initiated with.</u>	<u>YES</u>	<u>ignore</u>
<u>&gt;Cell</u>					<u>=</u>	
<u>&gt;&gt;Common Measurement value</u>	<u>M</u>		<u>9.2.1.x</u>		<u>=</u>	
<u>SFN</u>	<u>O</u>		<u>9.2.1.x</u>	<u>Common Measurement Time Reference</u>	<u>YES</u>	<u>ignore</u>
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.13</u>		<u>YES</u>	<u>ignore</u>
<u>Common Measurement Achieved Accuracy</u>	<u>O</u>		<u>Common Measurement Accuracy 9.2.1.x</u>		<u>YES</u>	<u>ignore</u>

9.1.x COMMON MEASUREMENT INITIATION FAILURE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>
<u>Cause</u>	<u>M</u>		<u>9.2.1.5</u>		<u>YES</u>	<u>ignore</u>
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.13</u>		<u>YES</u>	<u>ignore</u>

9.1.x COMMON MEASUREMENT REPORT

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>
<u>CHOICE Common Measurement Object Type</u>	<u>M</u>			<u>Common Measurement Object Type that the measurement was initiated with.</u>	<u>YES</u>	<u>ignore</u>
<u>&gt;Cell</u>					<u>=</u>	
<u>&gt;&gt;Common Measurement Value Information</u>	<u>M</u>		<u>9.2.1.x</u>		<u>=</u>	
<u>SFN</u>	<u>O</u>		<u>9.2.1.x</u>	<u>Common Measurement Time Reference</u>	<u>YES</u>	<u>ignore</u>

9.1.x COMMON MEASUREMENT TERMINATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>

9.1.x COMMON MEASUREMENT FAILURE INDICATION

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.40</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.59</u>		<u>=</u>	
<u>Measurement ID</u>	<u>M</u>		<u>9.2.1.37</u>		<u>YES</u>	<u>ignore</u>
<u>Cause</u>	<u>M</u>		<u>9.2.1.5</u>		<u>YES</u>	<u>ignore</u>

### 9.2.1.28A FN reporting indicator

Frame Number reporting indicator.

Indicates if the [SFN or](#) CFN shall be included together with the reported measurement value.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
FN reporting indicator			ENUMERATED(FN reporting required, FN reporting not required)	

### 9.2.1.37 Measurement ID

The Measurement Id uniquely identifies ~~any a dedicated~~ measurement ~~on dedicated resources requested over RNSAP~~ within a UE Context or a common measurement within a Distant RNC Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement ID			INTEGER(0 .. 2 <sup>20</sup> -1)	

### 9.2.1.38 Measurement Increase/Decrease Threshold

The Measurement Increase/Decrease Threshold defines the threshold that shall trigger Event C or D.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	C – Threshold		INTEGER(0..62)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 62: 31dB
SIR Error	C – Threshold		INTEGER(0..124)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 124: 62 dB (FDD only)
Transmitted Code Power	C – Threshold		INTEGER(0..112,...)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 112: 56 dB
RSCP	C – Threshold		INTEGER(0..80)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 80: 40dB (TDD only)
Round Trip Time	C – Threshold		INTEGER(0..32766)	0: 0 chips 1: 0.0625 chips 2: 0.1250 chips ... 32766: 2047.875 chips (FDD only)
<u>Load</u>	<u>C- Threshold</u>		<u>INTEGER(0..9)</u>	<u>Units are the same as for the Uplink Load Value IE and Downlink Load Value IE.</u>
<u>Transmitted Carrier Power</u>	<u>C- Threshold</u>		<u>INTEGER(0..100)</u>	<u>According to mapping in [23] and [24].</u>
<u>Received Total Wide Band Power</u>	<u>C- Threshold</u>		<u>INTEGER(0..620)</u>	<u>0: 0dB 1: 0.1dB 2: 0.2dB ... 620: 62dB</u>
<u>UL Timeslot ISCP</u>	<u>C- Threshold</u>		<u>INTEGER(0..126)</u>	<u>0: 0dB 1: 0.5dB 2: 1dB ... 126: 63dB Only applicable for TDD</u>

Condition	Explanation



<i>Threshold</i>	Only one measurement threshold can be present at the same time.
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### 9.2.1.39 Measurement Threshold

The Measurement Threshold defines which threshold that shall trigger Event A, B, E<sub>2</sub> or ~~F~~ or On Modification.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	<i>C – Threshold</i>		INTEGER(0..63)	According to mapping in ref. [23] and [24].
SIR Error	<i>C – Threshold</i>		INTEGER(0..125)	According to mapping in [23], (FDD only)
Transmitted Code Power	<i>C – Threshold</i>		INTEGER(0..127)	According to mapping in ref. [23] and [24].
RSCP	<i>C – Threshold</i>		INTEGER(0..81)	According to mapping in ref. [24] (TDD only)
Rx Timing Deviation	<i>C – Threshold</i>		INTEGER(0..2047)	According to mapping in [24] (TDD only)
Round Trip Time	<i>C – Threshold</i>		INTEGER(0..32767)	According to mapping in [23] (FDD only)
<a href="#">T<sub>UTRAN-GPS</sub> Measurement Threshold Information</a>	<i>C – Threshold</i>		<a href="#">9.2.1.x</a>	
<a href="#">SFN-SFN Measurement Threshold Information</a>	<i>C – Threshold</i>		<a href="#">9.2.1.x</a>	
<a href="#">Load</a>	<i>C- Threshold</i>		INTEGER(0..9)	<a href="#">0 is the minimum indicated load, and 9 is the maximum indicated load.</a>
<a href="#">Transmitted Carrier Power</a>	<i>C- Threshold</i>		INTEGER(0..100)	According to mapping in [23] and [24].
<a href="#">Received Total Wide Band Power</a>	<i>C- Threshold</i>		INTEGER(0..621)	According to mapping in [23] and [24].
<a href="#">UL Timeslot ISCP</a>	<i>C- Threshold</i>		INTEGER(0..127)	According to mapping in [24]. <a href="#">Only applicable for TDD.</a>

Condition	Explanation
<i>Threshold</i>	Only one measurement threshold can be present at the same time.

### 9.2.1.40 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
<b>Message Type</b>				
<b>&gt;Procedure ID</b>		1		
>>Procedure Code	M		ENUMERATED (RL Setup, RL Addition, RL Deletion, Synchronised RL Reconfiguration Preparation, Synchronised RL Reconfiguration Commit, Synchronised RL Reconfiguration Cancel, Unsynchronised RL Reconfiguration Request, RL Failure, RL Restoration, DL Power Control, DL Power Timeslot Control, Physical Channel Reconfiguration, UL Signalling Transfer, DL Signalling Transfer, Relocation Commit, Paging, Measurement Initiation, Measurement Reporting, Measurement Termination, Measurement Failure, Common Transport Channel Resources Initiation, Common Transport Channel Resources Release,  Compressed Mode Command,  Error Indication, ... <a href="#">Common Measurement Initiation</a> , <a href="#">Common Measurement Reporting</a> , <a href="#">Common Measurement Termination</a> , <a href="#">Common Measurement Failure</a> )	
>>Ddmode	M		ENUMERATED (FDD, TDD, Common, ...)	Common = common to FDD and TDD.
>Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

### 9.2.1.48 Report Characteristics

The Report Characteristics, defines how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
<b>Report Characteristics</b>				
>Report Characteristics Type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F, ..., <a href="#">On Modification</a> .)	
>Periodic Report Information	C – Periodic			
>>Report Periodicity	M		ENUMERATED (10ms...1min, ...) step 10ms, (1min...1hr,...) step 1min,...	The periodicity with which the DRNS shall send measurement reports.
>Event A	C – Event A			
>>Measurement Threshold	M		Measurement Threshold	The threshold for which the DRNS shall trigger a measurement report.
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	
>Event B	C – Event B			
>>Measurement Threshold	M		Measurement Threshold	The threshold for which the DRNS shall trigger a measurement report.
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	
>Event C	C – Event C			
>> Measurement Increase/Decrease Threshold	M		Measurement Increase/Decrease Threshold	
>>Measurement Change Time	M		ENUMERATED (10ms...1min, ...) step 10ms,...	The time within which the measurement entity shall rise, in order to trigger a measurement report.
>Event D	C – Event D			
>> Measurement Increase/Decrease Threshold	M		Measurement Increase/Decrease Threshold	
>>Measurement Change Time	M		ENUMERATED (10ms...1min, ...) step 10ms,...	The time within which the measurement entity shall fall, in order to trigger a measurement report.
>Event E	C – Event E			

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
>>Measurement Threshold 1	M		Measurement Threshold	
>>Measurement Threshold 2	O		Measurement Threshold	
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	The hysteresis time in ms
>>Report Periodicity	O		ENUMERATED (10ms...1min, ...) step 10ms, (1min...1hr, ...) step 1min,...	The periodicity with which the DRNS shall send measurement reports.
>Event F	C - Event F			
>>Measurement Threshold 1	M		Measurement Threshold	
>>Measurement Threshold 2	O		Measurement Threshold	
>>Measurement Hysteresis Time	O		ENUMERATED (10ms...1min, ...) step 10ms,...	The hysteresis time in ms
>>Report Periodicity	O		ENUMERATED (10ms...1min, ...) step 10ms, (1min...1hr, ...) step 1min,...	The periodicity with which the DRNS shall send measurement reports.
>On Modification	C - On Modification			
>>Measurement Threshold			<a href="#">Measurement Threshold 9.2.1.39</a>	

Condition	Explanation
C-Periodic	Valid if <i>Report Characteristics Type</i> IE indicates "periodic"
C-Event A	Valid if <i>Report Characteristics Type</i> IE indicates "Event A"
C-Event B	Valid if <i>Report Characteristics Type</i> IE indicates "Event B"
C-Event C	Valid if <i>Report Characteristics Type</i> IE indicates "Event C"
C-Event D	Valid if <i>Report Characteristics Type</i> IE indicates "Event D"
C-Event E	Valid if <i>Report Characteristics Type</i> IE indicates "Event E"
C-Event F	Valid if <i>Report Characteristics Type</i> IE indicates "Event F"
<a href="#">C-On Modification</a>	Valid if <i>Report Characteristics Type</i> IE indicates ' <a href="#">On Modification</a> '

### 9.2.1.x Common Measurement Accuracy

The Common Measurement Accuracy IE indicates the accuracy of the common measurement.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>TUTRAN-GPS Measurement Accuracy Class</u>	<u>C-MeasurementAccuracy</u>		<u>TUTRAN-GPS Accuracy Class 9.2.1.x</u>	

<u>Condition</u>	<u>Explanation</u>
<u>C-MeasurementAccuracy</u>	<u>Only one IE shall be present.</u>

### 9.2.1.x Common Measurement Object Type

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

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Common Measurement Object Type</u>			<u>ENUMERATED (CELL...)</u>	

### 9.2.1.x Common Measurement Type

The Common Measurement Type identifies which measurement that shall be performed.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Common Measurement Type</u>			<u>ENUMERATED (UTRAN GPS Timing of Cell Frames for LCS, SFN-SFN Observed Time Difference, load, transmitted carrier power, received total wide band power, UL timeslot ISCP, ...)</u>	<u>UL timeslot ISCP shall only be used by TDD</u>

### 9.2.1.x Common Measurement Value

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

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>T<sub>UTRAN-GPS</sub> Measurement Value Information</u>	<u>C</u> <u>MeasValue</u>		<u>9.2.1.x</u>	
<u>SFN-SFN Measurement Value Information</u>	<u>C</u> <u>MeasValue</u>		<u>9.2.1.x</u>	
<u>Load Value</u>	<u>C</u> <u>MeasValue</u>		<u>9.2.1.x</u>	
<u>Transmitted Carrier Power Value</u>	<u>C</u> <u>MeasValue</u>		<u>Transmitted Carrier Power</u> <u>9.2.1.x</u>	
<u>Received Total Wide Band Power Value</u>	<u>C</u> <u>MeasValue</u>		<u>Received Total Wide Band Power</u> <u>9.2.2.35A</u>	
<u>UL Timeslot ISCP Value</u>	<u>C</u> <u>MeasValue</u>		<u>UL Timeslot ISCP</u> <u>9.2.3.13A</u>	<u>Only applicable for TDD.</u>

<u>Condition</u>	<u>Explanation</u>
<u>MeasValue</u>	<u>Only one measurement value can be present at the same time.</u>

### 9.2.1.x Common Measurement Value Information

The Common Measurement Value Information IE provides information both on whether or not the Common Measurement Value is provided in the message or not and if provided also the Common Measurement Value itself.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>CHOICE Measurement Availability</u>	<u>M</u>			
<u>&gt;Measurement Available</u>				
<u>&gt;&gt;Common Measurement Value</u>	<u>M</u>		<u>9.2.1.x</u>	
<u>&gt;Measurement not Available</u>			<u>NULL</u>	

### 9.2.1.x Load Value

The Load Value IE contains the load for both the uplink and downlink.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Uplink Load Value</u>	<u>M</u>		<u>INTEGER(0..9)</u>	<u>Value 0 shall indicate the minimum load, and 9 shall indicate the maximum load. Load should be measured on a linear scale.</u>
<u>Downlink Load Value</u>	<u>M</u>		<u>INTEGER(0..9)</u>	<u>Value 0 shall indicate the minimum load, and 9 shall indicate the maximum load. Load should be measured on a linear scale.</u>

9.2.1.x Neighbouring FDD Cell Measurement Information

This IE provides information on the FDD neighbouring cells used for the purpose of Measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>UTRAN Cell Identifier</u>	M		<u>9.2.1.71</u>	
<u>UARFCN</u>	M		<u>9.2.1.66</u>	<u>Corresponds to Nd [6]</u>
<u>Primary Scrambling Code</u>	M		<u>9.2.1.45</u>	

9.2.1.x Neighbouring TDD Cell Measurement Information

This IE provides information on the TDD neighbouring cells used for the purpose of Measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>UTRAN Cell Identifier</u>	M		<u>9.2.1.71</u>	
<u>UARFCN</u>	M		<u>9.2.1.66</u>	
<u>Cell Parameter ID</u>	M		<u>9.2.1.8</u>	

9.2.1.x SFN

System Frame Number of the cell, see ref. [17].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>SFN</u>			<u>Integer (0..4095)</u>	

9.2.1.x SFN-SFN Measurement Threshold Information

The SFN-SFN Measurement Threshold Information defines the related thresholds SFN-SFN Observed Time Difference measurements which shall trigger the Event On Modification.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>SFN-SFN Change Limit</u>	<u>C - SFNSFNLimit</u>		<u>INTEGER(1..16384,...)</u>	<u>Change of SFN-SFN value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.</u>
<u>Predicted SFN-SFN Deviation Limit</u>	<u>C- SFNSFNLimit</u>		<u>INTEGER(1..16384,...)</u>	<u>Deviation the Predicted SFN-SFN from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.</u>

<u>Condition</u>	<u>Explanation</u>
<u>C- SFNSFNLimit</u>	<u>At least one threshold shall be present.</u>

9.2.1.x SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements as well as other related information.



<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<b>Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information</b>		<i>1..&lt;maxnoofMeasN Cell&gt;</i>		
>UTRAN Cell Identifier			9.2.1.71	
>SFN-SFN	M		INTEGER(-20480..20479)	
>SFN-SFN Quality	M		INTEGER(0..16383)	Indicates the standard deviation of the SFN-SFN measurements.
>SFN-SFN Drift Rate	M		INTEGER(-16383..16383)	Indicates the SFN-SFN drift rate in 1/16 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell.
>SFN-SFN Drift Rate Quality	M		INTEGER(0..16383)	Indicates the standard deviation of the SFN-SFN drift rate measurements.
>SFN	M		9.2.1.x	Indicates the SFN at which this measurement has been performed.
>Timeslot	M		9.2.1.56	Indicates the Time Slot at which this measurement has been performed.
<b>Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information</b>		<i>0..&lt;maxnoofMeasN Cell-1&gt;</i>		
>UTRAN Cell Identifier			9.2.1.71	

<u>Range bound</u>	<u>Explanation</u>
<i>maxnoofMeasNCell</i>	Maximum number of neighbouring cells on which measurements can be performed.

### 9.2.1.x Transmitted Carrier Power

The *Transmitted Carrier Power* IE contains the Transmitted Carrier Power in a cell, as defined in [11] & [14].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
Transmitted Carrier Power			INTEGER(0..100)	According to mapping in [23] and [24].

9.2.1.x T<sub>UTRAN-GPS</sub> Accuracy Class

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Accuracy Class</u>			ENUMERATED(Accuracy Class A, Accuracy Class B, Accuracy Class C....)	More information about Measurement Accuracy Class is included in [23].

9.2.1.x T<sub>UTRAN-GPS</sub> Measurement Threshold Information

The T<sub>UTRAN-GPS</sub> Measurement Threshold Information defines the related thresholds for UTRAN GPS Timing of Cell Frame for LCS measurements shall trigger the Event On Modification.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Change Limit</u>	C- UTRANGP SLimit		INTEGER(1..2^20,...)	Change of T <sub>UTRAN-GPS</sub> value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.
<u>Predicted T<sub>UTRAN-GPS</sub> Deviation Limit</u>	C- UTRANGP SLimit		INTEGER(1..2^20,...)	Deviation of the Predicted T <sub>UTRAN-GPS</sub> from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.

<u>Condition</u>	<u>Explanation</u>
C- UTRANGPSLimit	At least one threshold shall be present.

9.2.1.x T<sub>UTRAN-GPS</sub> Measurement Value Information

The T<sub>UTRAN-GPS</sub> Measurement Value Information IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub></u>	M		INTEGER(0..3715891199999)	Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [223] and [24]
<u>T<sub>UTRAN-GPS</sub> Quality</u>	M		INTEGER(0..2^20-1)	Indicates the standard deviation of the T <sub>UTRAN-GPS</sub> measurements.
<u>T<sub>UTRAN-GPS</sub> Drift Rate</u>	M		INTEGER(-16383..16383)	Indicates the T <sub>UTRAN-GPS</sub> drift rate in 1/16 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.
<u>T<sub>UTRAN-GPS</sub> Drift Rate Quality</u>	M		INTEGER(0..16383)	Indicates the standard deviation of the T <sub>UTRAN-GPS</sub> drift rate measurements.

## 9.3.2 Elementary Procedure Definitions

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

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

IMPORTS

Criticality,  
ProcedureID,  
TransactionID

FROM RNSAP-CommonDataTypes

CommonMeasurementFailureIndication,  
CommonMeasurementInitiationFailure,  
CommonMeasurementInitiationRequest,  
CommonMeasurementInitiationResponse,  
CommonMeasurementReport,  
CommonMeasurementTerminationRequest,  
CommonTransportChannelResourcesFailure,  
CommonTransportChannelResourcesRequest,  
CommonTransportChannelResourcesReleaseRequest,  
CommonTransportChannelResourcesResponseFDD,  
CommonTransportChannelResourcesResponseTDD,  
CompressedModeCommand,  
DedicatedMeasurementFailureIndication,  
DedicatedMeasurementInitiationFailure,  
DedicatedMeasurementInitiationRequest,  
DedicatedMeasurementInitiationResponse,  
DedicatedMeasurementReport,  
DedicatedMeasurementTerminationRequest,  
DL-PowerControlRequest,  
DL-PowerTimeslotControlRequest,  
DownlinkSignallingTransferRequest,  
ErrorIndication,  
PagingRequest,  
PhysicalChannelReconfigurationCommand,  
PhysicalChannelReconfigurationFailure,  
PhysicalChannelReconfigurationRequestFDD,  
PhysicalChannelReconfigurationRequestTDD,  
PrivateMessage,  
RadioLinkAdditionFailureFDD,  
RadioLinkAdditionFailureTDD,  
RadioLinkAdditionRequestFDD,  
RadioLinkAdditionRequestTDD,  
RadioLinkAdditionResponseFDD,  
RadioLinkAdditionResponseTDD,

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RadioLinkDeletionRequest,  
RadioLinkDeletionResponse,  
RadioLinkFailureIndication,  
RadioLinkPreemptionRequiredIndication,  
RadioLinkReconfigurationCancel,  
RadioLinkReconfigurationCommit,  
RadioLinkReconfigurationFailure,  
RadioLinkReconfigurationPrepareFDD,  
RadioLinkReconfigurationPrepareTDD,  
RadioLinkReconfigurationReadyFDD,  
RadioLinkReconfigurationReadyTDD,  
RadioLinkReconfigurationRequestFDD,  
RadioLinkReconfigurationRequestTDD,  
RadioLinkReconfigurationResponseFDD,  
RadioLinkReconfigurationResponseTDD,  
RadioLinkRestoreIndication,  
RadioLinkSetupFailureFDD,  
RadioLinkSetupFailureTDD,  
RadioLinkSetupRequestFDD,  
RadioLinkSetupRequestTDD,  
RadioLinkSetupResponseFDD,  
RadioLinkSetupResponseTDD,  
RelocationCommit,  
UplinkSignallingTransferIndicationFDD,  
UplinkSignallingTransferIndicationTDD

FROM RNSAP-PDU-Contents

id-commonMeasurementFailure,  
id-commonMeasurementInitiation,  
id-commonMeasurementReport,  
id-commonMeasurementTermination,  
id-commonTransportChannelResourcesInitialisation,  
id-commonTransportChannelResourcesRelease,  
id-compressedModeCommand,  
id-downlinkPowerControl,  
id-downlinkSignallingTransfer,  
id-downlinkPowerTimeslotControl,  
id-errorIndication,  
id-measurementFailure,  
id-measurementInitiation,  
id-measurementReporting,  
id-measurementTermination,  
id-paging,  
id-physicalChannelReconfiguration,  
id-privateMessage,  
id-radioLinkAddition,  
id-radioLinkDeletion,  
id-radioLinkFailure,  
id-radioLinkPreemption,  
id-radioLinkRestoration,  
id-radioLinkSetup,  
id-relocationCommit,  
id-synchronisedRadioLinkReconfigurationCancellation,

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```
id-synchronisedRadioLinkReconfigurationCommit,  
id-synchronisedRadioLinkReconfigurationPreparation,  
id-unSynchronisedRadioLinkReconfiguration,  
id-uplinkSignallingTransfer  
FROM RNSAP-Constants;
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

Release 2000

```
-- *****
--
-- 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                    |
    commonTransportChannelResourcesInitialisationFDD
    commonTransportChannelResourcesInitialisationTDD
    ...                                       ,
    commonMeasurementInitiation              /
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
    uplinkSignallingTransferFDD              |
    uplinkSignallingTransferTDD              |
    downlinkSignallingTransfer                |
    relocationCommit                          |
    paging                                    |
    synchronisedRadioLinkReconfigurationCommit
    synchronisedRadioLinkReconfigurationCancellation
    radioLinkFailure                          |
    radioLinkPreemption                       |
    radioLinkRestoration                      |
    measurementReporting                      |
    measurementTermination                    |
    measurementFailure                        |
    downlinkPowerControlFDD                  |
    downlinkPowerTimeslotControl              |
    compressedModeCommandFDD                 |
    commonTransportChannelResourcesRelease    |
    errorIndication                           |
    privateMessage                            |
}
```

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```
...  
commonMeasurementFailure  
commonMeasurementReporting  
commonMeasurementTermination  
}  
  
RNSAP-ELEMENTARY-PROCEDURES-CLASS-3 RNSAP-ELEMENTARY-PROCEDURE ::= {  
...  
}
```

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

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
commonMeasurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementInitiationRequest  
  SUCCESSFUL OUTCOME CommonMeasurementInitiationResponse  
  UNSUCCESSFUL OUTCOME CommonMeasurementInitiationFailure  
  PROCEDURE ID { procedureCode id-commonMeasurementInitiation, ddMode common }  
  CRITICALITY reject  
}
```

```
commonMeasurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementReport  
  PROCEDURE ID { procedureCode id-commonMeasurementReporting, ddMode common }  
  CRITICALITY ignore  
}
```

```
commonMeasurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementTerminationRequest  
  PROCEDURE ID { procedureCode id-commonMeasurementTermination, ddMode common }  
  CRITICALITY ignore  
}
```

```
commonMeasurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE CommonMeasurementFailureIndication  
  PROCEDURE ID { procedureCode id-commonMeasurementFailure, ddMode common }  
  CRITICALITY ignore  
}
```

END



### 9.3.3 PDU Definitions

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

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

#### IMPORTS

```
Active-Pattern-Sequence-Information,  
AllocationRetentionPriority,  
AllowedQueuingTime,  
AlphaValue,  
BLER,  
Block-STTD-Indicator,  
BindingID,  
C-ID,  
C-RNTI,  
CCTrCH-ID,  
CFN,  
ClosedLoopModel-SupportIndicator,  
ClosedLoopMode2-SupportIndicator,  
Closedlooptimingadjustmentmode,  
CN-CS-DomainIdentifier,  
CN-PS-DomainIdentifier,  
CNDomainType,  
Cause,  
CellParameterID,  
ChipOffset,  
CommonMeasurementAccuracy,  
CommonMeasurementType,  
CommonMeasurementValue,  
CommonMeasurementValueInformation,  
CriticalityDiagnostics,  
D-RNTI,  
D-RNTI-ReleaseIndication,  
DCH-FDD-Information,  
DCH-ID,  
DCH-InformationResponse,  
DCH-TDD-Information,  
DL-DPCH-SlotFormat,  
DL-TimeslotISCP,  
DL-Power,  
DL-ScramblingCode,  
DL-Timeslot-Information,  
DL-TimeSlot-ISCP-Info,  
DPCH-ID,  
DRACControl,
```

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DRXCycleLengthCoefficient,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DedicatedMeasurementValueInformation,  
DiversityControlField,  
DiversityMode,  
DSCH-FDD-Information,  
DSCH-FDD-InformationResponse,  
DSCH-FlowControlInformation,  
DSCH-FlowControlItem,  
DSCH-TDD-Information,  
DSCH-ID,  
SchedulingPriorityIndicator,  
FACH-FlowControlInformation,  
FDD-DCHs-to-Modify,  
FDD-DL-ChannelisationCodeNumber,  
FDD-DL-CodeInformation,  
FDD-S-CCPCH-Offset,  
FDD-TPC-DownlinkStepSize,  
FirstRLS-Indicator,  
FNReportingIndicator,  
FrameHandlingPriority,  
FrameOffset,  
GA-AccessPointPosition,  
GA-Cell,  
IMSI,  
InnerLoopDLPCStatus,  
L3-Information,  
LimitedPowerIncrease,  
MaximumAllowedULTxPower,  
MaxNrDLPhysicalchannels,  
MaxNrOfUL-DPCHs,  
MaxNrTimeslots,  
MaxNrULPhysicalchannels,  
MeasurementFilterCoefficient,  
MeasurementID,  
MidambleShiftAndBurstType,  
MinimumSpreadingFactor,  
MinUL-ChannelisationCodeLength,  
MultiplexingPosition,  
NeighbouringFDDCellMeasurementInformation,  
NeighbouringTDDCellMeasurementInformation,  
Neighbouring-GSM-CellInformation,  
Neighbouring-UMTS-CellInformation,  
NrOfDLchannelisationcodes,  
PagingCause,  
PagingRecordType,  
PDSCHCodeMapping,  
PayloadCRC-PresenceIndicator,  
PowerAdjustmentType,  
PowerOffset,  
PrimaryCCPCH-RSCP,  
PrimaryCPICH-EcNo,

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PrimaryCPICH-Power,  
PrimaryScramblingCode,  
PropagationDelay,  
PunctureLimit,  
QE-Selector,  
RANAP-RelocationInformation,  
RB-Info,  
RL-ID,  
RL-Set-ID,  
RNC-ID,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
Received-total-wide-band-power,  
RxTimingDeviationForTA,  
S-FieldLength,  
S-RNTI,  
SCH-TimeSlot,  
SAI,  
SFN,  
SN,  
Secondary-CCPCH-Info,  
SSDT-CellID,  
SSDT-CellID-Length,  
SSDT-Indication,  
SSDT-SupportIndicator,  
STTD-Indicator,  
STTD-SupportIndicator,  
AdjustmentPeriod,  
ScaledAdjustmentRatio,  
MaxAdjustmentStep,  
SecondaryCCPCH-SlotFormat,  
SyncCase,  
TDD-ChannelisationCode,  
TDD-DCHs-to-Modify,  
TDD-DL-Code-Information,  
TDD-DPCHOffset,  
TDD-PhysicalChannelOffset,  
TDD-TPC-DownlinkStepSize,  
TDD-UL-Code-Information,  
TFCI-Coding,  
TFCI-Presence,  
TFCI-SignallingMode,  
TimeSlot,  
TimingAdvanceApplied,  
ToAWE,  
ToAWS,  
TransmitDiversityIndicator,  
TransportBearerID,  
TransportBearerRequestIndicator,  
TFCS,  
Transmission-Gap-Pattern-Sequence-Information,  
Transmission-Gap-Pattern-Sequence-ScramblingCode-Information,

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TransportFormatManagement,  
TransportFormatSet,  
TransportLayerAddress,  
TrCH-SrcStatisticsDescr,  
UARFCN,  
UC-ID,  
UL-DPCCH-SlotFormat,  
UL-SIR,  
UL-FP-Mode,  
UL-PhysCH-SF-Variation,  
UL-ScramblingCode,  
UL-Timeslot-Information,  
UL-TimeSlot-ISCP-Info,  
URA-ID,  
URA-Information,  
USCH-ID,  
USCH-Information  
FROM RNSAP-IES

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

maxNoOfDSCHs,  
maxNoOfUSCHs,  
maxNrOfCCTrCHs,  
maxNrOfDCHs,  
maxNrOfTS,  
maxNrOfDPCHs,  
maxNrOfRLs,  
maxNrOfRLSets,  
maxNrOfRLs-1,  
maxNrOfRLs-2,  
maxNrOfULTs,  
maxNrOfDLTs,  
maxNrOfMeasNCell,

id-Active-Pattern-Sequence-Information,  
id-AdjustmentRatio,  
id-AllowedQueuingTime,  
id-BindingID,  
id-C-ID,  
id-C-RNTI,  
id-CFN,

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id-CFNReportingIndicator,  
id-CN-CS-DomainIdentifier,  
id-CN-PS-DomainIdentifier,  
id-Cause,  
id-CauseLevel-RL-AdditionFailureFDD,  
id-CauseLevel-RL-AdditionFailureTDD,  
id-CauseLevel-RL-ReconfFailure,  
id-CauseLevel-RL-SetupFailureFDD,  
id-CauseLevel-RL-SetupFailureTDD,  
id-ClosedLoopModel-SupportIndicator,  
id-ClosedLoopMode2-SupportIndicator,  
id-CNOriginatedPage-PagingRqst,  
id-CommonMeasurementAccuracy,  
id-CommonMeasurementObjectType-CM-Rprt,  
id-CommonMeasurementObjectType-CM-Rqst,  
id-CommonMeasurementObjectType-CM-Rsp,  
id-CommonMeasurementType,  
id-CriticalityDiagnostics,  
id-D-RNTI,  
id-D-RNTI-ReleaseIndication,  
id-DCHs-to-Add-FDD,  
id-DCHs-to-Add-TDD,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfRqstFDD,  
id-DCH-DeleteList-RL-ReconfRqstTDD,  
id-DCH-FDD-Information,  
id-DCH-TDD-Information,  
id-FDD-DCHs-to-Modify,  
id-TDD-DCHs-to-Modify,  
id-DCH-InformationResponse,  
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,  
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,  
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,  
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-FDD-DL-CodeInformation,  
id-DL-DPCH-Information-RL-ReconfPrepFDD,  
id-DL-DPCH-Information-RL-SetupRqstFDD,  
id-DL-DPCH-Information-RL-ReconfRqstFDD,  
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,  
id-DL-DPCH-InformationItem-RL-AdditionRspTDD,

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id-DL-DPCH-InformationItem-RL-SetupRspTDD,  
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,  
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,  
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,  
id-DL-Physical-Channel-Information-RL-SetupRqstTDD,  
id-DLReferencePower,  
id-DLReferencePowerList-DL-PC-Rqst,  
id-DL-ReferencePowerInformation-DL-PC-Rqst,  
id-DRXCycleLengthCoefficient,  
id-DedicatedMeasurementObjectType-DM-Rprt,  
id-DedicatedMeasurementObjectType-DM-Rqst,  
id-DedicatedMeasurementObjectType-DM-Rsp,  
id-DedicatedMeasurementType,  
id-DSCHs-to-Add-FDD,  
id-DSCHs-to-Add-TDD,  
id-DSCH-DeleteList-RL-ReconfPrepTDD,  
id-DSCH-Delete-RL-ReconfPrepFDD,  
id-DSCH-FDD-Information,  
id-DSCH-InformationListIE-RL-AdditionRspTDD,  
id-DSCH-InformationListIEs-RL-SetupRspTDD,  
id-DSCH-TDD-Information,  
id-DSCH-FDD-InformationResponse,  
id-DSCH-ModifyList-RL-ReconfPrepTDD,  
id-DSCH-Modify-RL-ReconfPrepFDD,  
id-DSCHsToBeAddedOrModified-FDD,  
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,  
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,  
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,  
id-GA-AccessPointPosition,  
id-GA-Cell,  
id-IMSI,  
id-InnerLoopDLPCStatus,  
id-L3-Information,  
id-AdjustmentPeriod,  
id-MaxAdjustmentStep,  
id-MeasurementFilterCoefficient,  
id-MeasurementID,  
id-Neighbouring-GSM-CellInformation,  
id-PagingArea-PagingRqst,  
id-FACH-FlowControlInformation,  
id-PowerAdjustmentType,  
id-ProcedureScope-DL-PC-Rqst,  
id-PropagationDelay,  
id-RANAP-RelocationInformation,  
id-RL-Information-PhyChReconfRqstFDD,  
id-RL-Information-PhyChReconfRqstTDD,  
id-RL-Information-RL-AdditionRqstFDD,  
id-RL-Information-RL-AdditionRqstTDD,  
id-RL-Information-RL-DeletionRqst,  
id-RL-Information-RL-FailureInd,  
id-RL-Information-RL-ReconfPrepFDD,  
id-RL-Information-RL-RestoreInd,  
id-RL-Information-RL-SetupRqstFDD,

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id-RL-Information-RL-SetupRqstTDD,  
id-RL-InformationItem-DM-Rprt,  
id-RL-InformationItem-DM-Rqst,  
id-RL-InformationItem-DM-Rsp,  
id-RL-InformationItem-RL-PreemptRequiredInd,  
id-RL-InformationItem-RL-SetupRqstFDD,  
id-RL-InformationList-RL-AdditionRqstFDD,  
id-RL-InformationList-RL-DeletionRqst,  
id-RL-InformationList-RL-PreemptRequiredInd,  
id-RL-InformationList-RL-ReconfPrepFDD,  
id-RL-InformationResponse-RL-AdditionRspTDD,  
id-RL-InformationResponse-RL-ReconfReadyTDD,  
id-RL-InformationResponse-RL-ReconfRspTDD,  
id-RL-InformationResponse-RL-SetupRspTDD,  
id-RL-InformationResponseItem-RL-AdditionRspFDD,  
id-RL-InformationResponseItem-RL-ReconfReadyFDD,  
id-RL-InformationResponseItem-RL-ReconfRspFDD,  
id-RL-InformationResponseItem-RL-SetupRspFDD,  
id-RL-InformationResponseList-RL-AdditionRspFDD,  
id-RL-InformationResponseList-RL-ReconfReadyFDD,  
id-RL-InformationResponseList-RL-ReconfRspFDD,  
id-RL-InformationResponseList-RL-SetupRspFDD,  
id-RL-ReconfigurationFailure-RL-ReconfFail,  
id-RL-Set-InformationItem-DM-Rprt,  
id-RL-Set-InformationItem-DM-Rqst,  
id-RL-Set-InformationItem-DM-Rsp,  
id-RL-Set-Information-RL-FailureInd,  
id-RL-Set-Information-RL-RestoreInd,  
id-ReportCharacteristics,  
id-Reporting-Object-RL-FailureInd,  
id-Reporting-Object-RL-RestoreInd,  
id-RxTimingDeviationForTA,  
id-S-RNTI,  
id-SAI,  
id-SFN,  
id-SFNReportingIndicator,  
id-SRNC-ID,  
id-STTD-SupportIndicator,  
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,  
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,  
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,  
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,  
id-timeSlot-ISCPList-DL-PC-Rqst-TDD,  
id-TransportBearerID,  
id-TransportBearerRequestIndicator,  
id-TransportLayerAddress,  
id-UC-ID,  
id-Transmission-Gap-Pattern-Sequence-Information,  
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,

Release 2000

```
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,  
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,  
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,  
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,  
id-UL-DPCH-Information-RL-ReconfPrepFDD,  
id-UL-DPCH-Information-RL-ReconfRqstFDD,  
id-UL-DPCH-Information-RL-SetupRqstFDD,  
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,  
id-UL-DPCH-InformationItem-RL-AdditionRspTDD,  
id-UL-DPCH-InformationItem-RL-SetupRspTDD,  
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,  
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,  
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,  
id-UL-Physical-Channel-Information-RL-SetupRqstTDD,  
id-UL-SIRTarget,  
id-URA-Information,  
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,  
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,  
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,  
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,  
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,  
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,  
id-USCHs-to-Add,  
id-USCH-DeleteList-RL-ReconfPrepTDD,  
id-USCH-InformationListIE-RL-AdditionRspTDD,  
id-USCH-InformationListIEs-RL-SetupRspTDD,  
id-USCH-Information,  
id-USCH-ModifyList-RL-ReconfPrepTDD,  
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD
```

FROM RNSAP-Constants;

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

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

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

```
CommonMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
```



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```

{ ID id-MeasurementID
MeasurementID PRESENCE mandatory }| CRITICALITY reject TYPE
{ ID id-CommonMeasurementObjectType-CM-Rqst
mandatory }| CRITICALITY reject TYPE CommonMeasurementObjectType-CM-Rqst PRESENCE
-- This IE represents both the Common Measurement Object Type IE and the choice based on the Common Measurement Object Type
-- as described in the tabular message format in subclause 9.1.
{ ID id-CommonMeasurementType
}| CRITICALITY reject TYPE CommonMeasurementType PRESENCE mandatory
{ ID id-MeasurementFilterCoefficient
}| CRITICALITY reject TYPE MeasurementFilterCoefficient PRESENCE optional
{ ID id-ReportCharacteristics
}| CRITICALITY reject TYPE ReportCharacteristics PRESENCE mandatory
{ ID id-SFNReportingIndicator
}| CRITICALITY reject TYPE FNReportingIndicator PRESENCE mandatory
{ ID id-SFN
}| CRITICALITY reject TYPE SFN PRESENCE optional
{ ID id-CommonMeasurementAccuracy
}| CRITICALITY reject TYPE CommonMeasurementAccuracy PRESENCE optional
},
...
}

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

CommonMeasurementObjectType-CM-Rqst ::= CHOICE {
cell Cell-CM-Rqst,
...
}

Cell-CM-Rqst ::= SEQUENCE {
uC-ID UC-ID,
neighbouringCellMeasurementInformation SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF
CHOICE {
neighbouringFDDCellMeasurementInformation NeighbouringFDDCellMeasurementInformation,
neighbouringTDDCellMeasurementInformation NeighbouringTDDCellMeasurementInformation,
...
}
iE-Extensions ProtocolExtensionContainer { { CellItem-CM-Rqst-ExtIEs } } OPTIONAL,
...
}

CellItem-CM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

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

CommonMeasurementInitiationResponse ::= SEQUENCE {

```

Release 2000

```

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

CommonMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory
    }|
    { ID      id-CommonMeasurementObjectType-CM-Rsp  CRITICALITY ignore          TYPE      CommonMeasurementObjectType-CM-Rsp  PRESENCE optional
    }|
    { ID      id-SFN                      CRITICALITY ignore          TYPE      SFN                      PRESENCE optional
    }|
    { ID      id-CriticalityDiagnostics  CRITICALITY ignore          TYPE      CriticalityDiagnostics          PRESENCE optional
    }|
    { ID      id-CommonMeasurementAccuracy          CRITICALITY reject          TYPE      CommonMeasurementAccuracy          PRESENCE optional
    },
    ...
}

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

CommonMeasurementObjectType-CM-Rsp ::= CHOICE {
    cell          Cell-CM-Rsp,
    ...
}

Cell-CM-Rsp ::= SEQUENCE {
    commonMeasurementValue          CommonMeasurementValue,
    iE-Extensions          ProtocolExtensionContainer   { { CellItem-CM-Rsp-ExtIEs } } OPTIONAL,
    ...
}

CellItem-CM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

CommonMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory }|

```

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```
{ ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|
{ ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },
...
}

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

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

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

CommonMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
{ ID id-MeasurementID CRITICALITY ignore TYPE MeasurementID PRESENCE mandatory }|
{ ID id-CommonMeasurementObjectType-CM-Rprt CRITICALITY ignore TYPE CommonMeasurementObjectType-CM-Rprt PRESENCE mandatory }|
}|
{ ID id-SFN CRITICALITY ignore TYPE SFN PRESENCE optional },
...
}

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

CommonMeasurementObjectType-CM-Rprt ::= CHOICE {
cell Cell-CM-Rprt,
...
}

Cell-CM-Rprt ::= SEQUENCE {
commonMeasurementValueInformation CommonMeasurementValueInformation,
iE-Extensions ProtocolExtensionContainer {{ CellItem-CM-Rprt-ExtIEs }} OPTIONAL,
...
}

CellItem-CM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

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

Release 2000

```
-- *****  
CommonMeasurementTerminationRequest ::= SEQUENCE {  
    protocolIEs          ProtocolIE-Container    {{CommonMeasurementTerminationRequest-IEs}},  
    protocolExtensions   ProtocolExtensionContainer {{CommonMeasurementTerminationRequest-Extensions}} OPTIONAL,  
    ...  
}  
  
CommonMeasurementTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {  
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory },  
    ...  
}  
  
CommonMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
-- *****  
--  
-- COMMON MEASUREMENT FAILURE INDICATION  
--  
-- *****  
CommonMeasurementFailureIndication ::= SEQUENCE {  
    protocolIEs          ProtocolIE-Container    {{CommonMeasurementFailureIndication-IEs}},  
    protocolExtensions   ProtocolExtensionContainer {{CommonMeasurementFailureIndication-Extensions}} OPTIONAL,  
    ...  
}  
  
CommonMeasurementFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {  
    { ID      id-MeasurementID          CRITICALITY ignore          TYPE      MeasurementID          PRESENCE mandatory } |  
    { ID      id-Cause                  CRITICALITY ignore          TYPE      Cause              PRESENCE mandatory } ,  
    ...  
}  
  
CommonMeasurementFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
END
```

## 9.3.4 Information Element Definitions

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxCodeNumComp-1,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDPCHs,
    maxNrOfErrors,
    maxNrOfFDDNeighboursPerRNC,
    maxNrOfMACcshSDU-Length,
    maxNrOfNeighbouringRNCs,
    maxNrOfTDDNeighboursPerRNC,
    maxNrOfTS,
    maxNrOfULTs,
    maxNrOfGSMNeighboursPerRNC,
    maxRateMatching,
    maxNrOfPoints,
    maxNoOfRB,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxTFCI1Combs,
    maxTFCI2Combs,
    maxTFCI2Combs-1,
    maxTGPS,
    maxTTI-Count,
    maxNrOfMeasNCell,
    maxNrOfMeasNCell--1,
```

## Release 2000

```
id-Neighbouring-UMTS-CellInformationItem
FROM RNSAP-Constants
```

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

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

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- C

```
CommonMeasurementAccuracy ::= CHOICE {
    tUTRANGPSMeasurementAccuracyClass    TUTRANGPSAccuracyClass,
    ...
}

CommonMeasurementType ::= ENUMERATED {
    uTRAN-GPS-timing-of-cell-frames-for-LCS,
    sFN-SFN-observerd-time-difference,
    load,
    transmitted-carrier-power,
    received-total-wide-band-power,
    uplink-timeslot-iscp,
    ...
}

CommonMeasurementValue ::= CHOICE {
    tUTRANGPSMeasurementValueInformation    TUTRANGPSMeasurementValueInformation,
    sFNSFNMeasurementValueInformation    SFNSFNMeasurementValueInformation,
    loadValue                                LoadValue,
    transmittedCarrierPowerValue            INTEGER(0..100),
    receivedTotalWideBandPowerValue        INTEGER(0..621),
    uplinkTimeslotISCPValue                UL-Timeslot-ISCP,
    ...
}

CommonMeasurementValueInformation ::= CHOICE {
    measurementAvailable                    CommonMeasurementAvailable,
    measurementnotAvailable                NULL
}
```

Release 2000

```
CommonMeasurementAvailable ::= SEQUENCE {
    commonMeasurementValue CommonMeasurementValue,
    iE-Extensions ProtocolExtensionContainer { { CommonMeasurementAvailableItem-ExtIEs } } OPTIONAL,
    ...
}

CommonMeasurementAvailableItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- L

```
Load-Value-IncrDecrThres ::= INTEGER(0..9)

Load-Value ::= INTEGER(0..9)

LoadValue ::= SEQUENCE {
    uplinkLoadValue INTEGER(0..9),
    downlinkLoadValue INTEGER(0..9)
}
```

-- M

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
MeasurementIncreaseDecreaseThreshold ::= CHOICE {
    sir SIR-Value-IncrDecrThres,
    sir-error SIR-Error-Value-IncrDecrThres,
    transmitted-code-power Transmitted-Code-Power-Value-IncrDecrThres,
    rscp RSCP-Value-IncrDecrThres,
    round-trip-time Round-Trip-Time-IncrDecrThres,
    ...
    load Load-Value-IncrDecrThres,
    transmitted-carrier-power Transmitted-Carrier-Power-Value-IncrDecrThres,
    received-total-wide-band-power Received-Total-Wideband-Power-Value-IncrDecrThres,
    ul-timeslot-iscp UL-Timeslot-ISCSP-Value-IncrDecrThres
}

MeasurementThreshold ::= CHOICE {
    sir SIR-Value,
    sir-error SIR-Error-Value,
    transmitted-code-power Transmitted-Code-Power-Value,
    rscp RSCP-Value,
```

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```
rx-timing-deviation          Rx-Timing-Deviation-Value,  
round-trip-time              Round-Trip-Time-Value,  
...  
t-utran-gps-measurement-threshold-information  TUTRANGPSMeasurementThresholdInformation ,  
sfn-sfn-measurement-threshold-information      SFNSFNMeasurementThresholdInformation ,  
load                                           Load-Value ,  
transmitted-carrier-power                    Transmitted-Carrier-Power-Value ,  
received-total-wide-band-power              Received-Total-Wideband-Power-Value ,  
ul-timeslot-iscp                             UL-Timeslot-ISCP-Value  
}
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- N

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
NeighbouringFDDCellMeasurementInformation ::= SEQUENCE {  
uC-ID          UC-ID,  
uARFCN         UARFCN,  
primaryScramblingCode PrimaryScramblingCode,  
iE-Extensions  ProtocolExtensionContainer { { NeighbouringFDDCellMeasurementInformationItem-ExtIEs } } OPTIONAL,  
...  
}
```

```
NeighbouringFDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
...  
}
```

```
NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {  
uC-ID          UC-ID,  
uARFCN         UARFCN,  
cellParameterID CellParameterID,  
iE-Extensions  ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationItem-ExtIEs } } OPTIONAL,  
...  
}
```

```
NeighbouringTDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
...  
}
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- O



## Release 2000

```
OnModification ::= SEQUENCE {  
    measurementThreshold MeasurementThreshold,  
    iE-Extensions ProtocolExtensionContainer { {OnModification-ExtIEs} } OPTIONAL,  
    ...  
}
```

```
OnModification-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}
```

-- P

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
PredictedSFNSFNDeviationLimit ::= INTEGER (1..16384)
```

```
PredictedTUTRANGPSDeviationLimit ::= INTEGER (1..1048576)
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- R

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
Received-Total-Wideband-Power-Value ::= Received-total-wide-band-power
```

```
Received-Total-Wideband-Power-Value-IncrDecrThres ::= INTEGER(0..620)  
-- Unit dB Step 0.1dB  
-- e.g. value 100 means 10dB
```

```
ReportCharacteristics ::= CHOICE {  
    onDemand          NULL,  
    periodic          Periodic,  
    eventA            EventA,  
    eventB            EventB,  
    eventC            EventC,  
    eventD            EventD,  
    eventE            EventE,  
    eventF            EventF,  
    ...  
    onModification   OnModification  
}
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

Release 2000

```
-- S

**** UNCHANGED TEXT IS OMITTED ****

SFN ::= INTEGER (0..4095)

SFNSFN ::= INTEGER(-20480..20479)

SFNSFNChangeLimit ::= INTEGER (1..16384)

SFNSFNDriftRate ::= INTEGER (-16383..16383)

SFNSFNDriftRateQuality ::= INTEGER (0..16383)

SFNSFNMeasurementThresholdInformation ::= SEQUENCE {
    sFNChangeLimit SFNSFNChangeLimit OPTIONAL,
    predictedSFNSFNDeviationLimit PredictedSFNSFNDeviationLimit OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { SFNSFNMeasurementThresholdInformation-ExtIEs } } OPTIONAL,
    ...
}

SFNSFNMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNMeasurementValueInformation ::= SEQUENCE {
    successfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation SEQUENCE (SIZE(1..maxNrOfMeasNCell)) OF
        SEQUENCE {
            uC-ID UC-ID,
            sFN SFNSFN,
            sFNQuality SFNSFNQuality,
            sFNDriftRate SFNSFNDriftRate,
            sFNDriftRateQuality SFNSFNDriftRateQuality,
            sFN SFN,
            timeSlot TimeSlot,
            iE-Extensions ProtocolExtensionContainer { {
                SuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs } } OPTIONAL,
            ...
        },
    unsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation SEQUENCE (SIZE(0..maxNrOfMeasNCell-1)) OF
        SEQUENCE {
            uC-ID UC-ID,
            iE-Extensions ProtocolExtensionContainer { { UnsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs } } OPTIONAL,
            ...
        },
    iE-Extensions ProtocolExtensionContainer { { SFNSFNMeasurementValueInformationItem-ExtIEs } } OPTIONAL,
    ...
}
```

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```
}  
  
SFNSFNMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
SuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
UnsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {  
    ...  
}  
  
SFNSFNQuality ::= INTEGER (0..16383)
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

-- T

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

```
Transmitted-Carrier-Power-Value ::= INTEGER(0..100)  
-- according to mapping in [23] and [24]  
  
Transmitted-Carrier-Power-Value-IncrDecrThres ::= INTEGER(0..100)  
-- according to mapping in [23] and [24]
```

```
TUTRANGPS ::= INTEGER (0..37158911999999)  
  
TUTRANGPSChangeLimit ::= INTEGER (1..1048576)  
  
TUTRANGPSDriftRate ::= INTEGER (-16383..16383)  
  
TUTRANGPSDriftRateQuality ::= INTEGER (0..16383)  
  
TUTRANGPSAccuracyClass ::= ENUMERATED {  
    accuracy-class-A,  
    accuracy-class-B,  
    accuracy-class-C,  
    ...  
}  
  
TUTRANGPSMeasurementThresholdInformation ::= SEQUENCE {  
    tUTRANGPSChangeLimit          TUTRANGPSChangeLimit          OPTIONAL,
```

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```

predictedTUTRANGPSDeviationLimit                                PredictedTUTRANGPSDeviationLimit
OPTIONAL,
iE-Extensions                ProtocolExtensionContainer { { TUTRANGPSMeasurementThresholdInformation-ExtIEs} } OPTIONAL,
...
}

TUTRANGPSMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

TUTRANGPSMeasurementValueInformation ::= SEQUENCE {
tUTRANGPS                TUTRANGPS,
tUTRANGPSQuality        TUTRANGPSQuality,
tUTRANGPSDriftRate     TUTRANGPSDriftRate,
tUTRANGPSDriftRateQuality TUTRANGPSDriftRateQuality,
iE-Extensions                ProtocolExtensionContainer { { TUTRANGPSMeasurementValueInformationItem-ExtIEs} } OPTIONAL,
...
}

TUTRANGPSMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

TUTRANGPSQuality ::= INTEGER (0..1048575)

-- U

UL-Timeslot-ISCP-Value ::= UL-TimeslotISCP
UL-Timeslot-ISCP-Value-IncrDecrThres ::= INTEGER(0..126)
-- Unit dB. Step 0.5dB
-- e.g. Value 100 means 50dB
```

\*\*\*\* UNCHANGED TEXT IS OMITTED \*\*\*\*

## 9.3.6 Constant Definitions

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

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

id-commonTransportChannelResourcesInitialisation      ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease             ProcedureCode ::= 1
id-compressedModeCommand                             ProcedureCode ::= 2
id-downlinkPowerControl                              ProcedureCode ::= 3
id-downlinkPowerTimeslotControl                     ProcedureCode ::= 4
id-downlinkSignallingTransfer                        ProcedureCode ::= 5
id-errorIndication                                  ProcedureCode ::= 6
id-measurementFailure                               ProcedureCode ::= 7
id-measurementInitiation                            ProcedureCode ::= 8
id-measurementReporting                             ProcedureCode ::= 9
id-measurementTermination                           ProcedureCode ::= 10
id-paging                                            ProcedureCode ::= 11
id-physicalChannelReconfiguration                   ProcedureCode ::= 12
id-privateMessage                                   ProcedureCode ::= 13
id-radioLinkAddition                               ProcedureCode ::= 14
id-radioLinkDeletion                               ProcedureCode ::= 15
id-radioLinkFailure                                 ProcedureCode ::= 16
id-radioLinkPreemption                             ProcedureCode ::= 17
id-radioLinkRestoration                            ProcedureCode ::= 18
id-radioLinkSetup                                   ProcedureCode ::= 19
id-relocationCommit                                 ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit       ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation  ProcedureCode ::= 23
```

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ProcedureCode ::= 24

id-unSynchronisedRadioLinkReconfiguration  
id-uplinkSignallingTransfer ProcedureCode ::= 25  
id-commonMeasurementFailure ProcedureCode ::= 26  
id-commonMeasurementInitiation ProcedureCode ::= 27  
id-commonMeasurementReporting ProcedureCode ::= 28  
id-commonMeasurementTermination ProcedureCode ::= 29

-- \*\*\*\*\*  
--  
-- Lists  
--  
-- \*\*\*\*\*

maxCodeNumComp-1 INTEGER ::= 255  
maxRateMatching INTEGER ::= 256  
maxNoCodeGroups INTEGER ::= 256  
maxNoOfDSCHs INTEGER ::= 10  
maxNoOfRB INTEGER ::= 32  
maxNoOfUSCHs INTEGER ::= 10  
maxNoTFCIGroups INTEGER ::= 256  
maxNrOfTFCs INTEGER ::= 1024  
maxNrOfTFs INTEGER ::= 32  
maxNrOfCCTrCHs INTEGER ::= 16  
maxNrOfDCHs INTEGER ::= 128  
maxNrOfDL-Codes INTEGER ::= 8  
maxNrOfDPCHs INTEGER ::= 240  
maxNrOfErrors INTEGER ::= 256  
maxNrOfMACcshSDU-Length INTEGER ::= 16  
maxNrOfPoints INTEGER ::= 15  
maxNrOfRLs INTEGER ::= 16  
maxNrOfRLSets INTEGER ::= maxNrOfRLs  
maxNrOfRLs-1 INTEGER ::= 15 -- maxNrOfRLs - 1  
maxNrOfRLs-2 INTEGER ::= 14 -- maxNrOfRLs - 2  
maxNrOfULTs INTEGER ::= 15  
maxNrOfDLTs INTEGER ::= 15  
maxRNCinURA-1 INTEGER ::= 15  
maxTTI-Count INTEGER ::= 4  
maxCTFC INTEGER ::= 16777215  
maxNrOfNeighbouringRNCs INTEGER ::= 10  
maxNrOfFDDNeighboursPerRNC INTEGER ::= 256  
maxNrOfGSMNeighboursPerRNC INTEGER ::= 256  
maxNrOfTDDNeighboursPerRNC INTEGER ::= 256  
maxFACHCountPlus1 INTEGER ::= 10  
maxIBSEG INTEGER ::= 16  
maxTFCI1Combs INTEGER ::= 512  
maxTFCI2Combs INTEGER ::= 1024  
maxTFCI2Combs-1 INTEGER ::= 1023  
maxTGPS INTEGER ::= 6  
maxNrOfTS INTEGER ::= 15  
maxNrOfMeasNCell INTEGER ::= 96  
maxNrOfMeasNCell -1 INTEGER ::= 95 -- maxNrOfMeasNCell - 1

-- \*\*\*\*\*

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--  
-- IEs  
--  
-- \*\*\*\*\*

id-AllowedQueuingTime	ProtocolIE-ID ::= 4
id-BindingID	ProtocolIE-ID ::= 5
id-C-ID	ProtocolIE-ID ::= 6
id-C-RNTI	ProtocolIE-ID ::= 7
id-CFN	ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier	ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier	ProtocolIE-ID ::= 10
id-Cause	ProtocolIE-ID ::= 11
id-CriticalityDiagnostics	ProtocolIE-ID ::= 20
id-D-RNTI	ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication	ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 33
id-DCH-FDD-Information	ProtocolIE-ID ::= 34
id-DCH-TDD-Information	ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 40
id-DCH-InformationResponse	ProtocolIE-ID ::= 43
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation	ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 64
id-DLReferencePower	ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst	ProtocolIE-ID ::= 69
id-DRXCycleLengthCoefficient	ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 73
id-DedicatedMeasurementType	ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD	ProtocolIE-ID ::= 82

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id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD	ProtocolIE-ID ::= 83
id-IMSI	ProtocolIE-ID ::= 84
id-L3-Information	ProtocolIE-ID ::= 85
id-AdjustmentPeriod	ProtocolIE-ID ::= 90
id-MaxAdjustmentStep	ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 92
id-MeasurementID	ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation	ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem	ProtocolIE-ID ::= 95
id-PagingArea-PagingRqst	ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation	ProtocolIE-ID ::= 103
id-PowerAdjustmentType	ProtocolIE-ID ::= 107
id-ProcedureScope-DL-PC-Rqst	ProtocolIE-ID ::= 108
id-RANAP-RelocationInformation	ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD	ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD	ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD	ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst	ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd	ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd	ProtocolIE-ID ::= 117
id-RL-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 119
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 123
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst	ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD	ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD	ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD	ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD	ProtocolIE-ID ::= 135
id-RL-InformationResponseList-RL-ReconfRspFDD	ProtocolIE-ID ::= 136
id-RL-InformationResponseList-RL-ReconfRspTDD	ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail	ProtocolIE-ID ::= 141
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst	ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd	ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd	ProtocolIE-ID ::= 147
id-ReportCharacteristics	ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 153



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id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 154
id-S-RNTI	ProtocolIE-ID ::= 155
id-SAI	ProtocolIE-ID ::= 156
id-SRNC-ID	ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 160
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 161
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 162
id-TransportBearerID	ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator	ProtocolIE-ID ::= 164
id-TransportLayerAddress	ProtocolIE-ID ::= 165
id-UC-ID	ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationAddList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 170
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 177
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 183
id-UL-SIRTarget	ProtocolIE-ID ::= 184
id-URA-Information	ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD	ProtocolIE-ID ::= 190
id-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 191
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 192
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 193
id-AdjustmentRatio	ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 199
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 200
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 215

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id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD	ProtocolIE-ID ::= 218
id-DSCH-FDD-Information	ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 221
id-DSCH-TDD-Information	ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse	ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD	ProtocolIE-ID ::= 228
id-DSCHsToBeAddedOrModified-FDD	ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 230
id-GA-AccessPointPosition	ProtocolIE-ID ::= 231
id-GA-Cell	ProtocolIE-ID ::= 232
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 261
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD	ProtocolIE-ID ::= 266
id-USCHs-to-Add	ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 270
id-USCH-Information	ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 275
id-ClosedLoopModel-SupportIndicator	ProtocolIE-ID ::= 276
id-ClosedLoopMode2-SupportIndicator	ProtocolIE-ID ::= 277
id-STTD-SupportIndicator	ProtocolIE-ID ::= 279
id-CFNReportingIndicator	ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst	ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 24
id-PropagationDelay	ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA	ProtocolIE-ID ::= 36
id-timeSlot-ISCPList-DL-PC-Rqst-TDD	ProtocolIE-ID ::= 37
<a href="#">id-CommonMeasurementAccuracy</a>	<a href="#">ProtocolIE-ID ::= 280</a>
<a href="#">id-CommonMeasurementObjectType-CM-Rprt</a>	<a href="#">ProtocolIE-ID ::= 281</a>
<a href="#">id-CommonMeasurementObjectType-CM-Rqst</a>	<a href="#">ProtocolIE-ID ::= 282</a>
<a href="#">id-CommonMeasurementObjectType-CM-Rsp</a>	<a href="#">ProtocolIE-ID ::= 283</a>
<a href="#">id-CommonMeasurementType</a>	<a href="#">ProtocolIE-ID ::= 284</a>
<a href="#">id-SFN</a>	<a href="#">ProtocolIE-ID ::= 285</a>
<a href="#">id-SFNReportingIndicator</a>	<a href="#">ProtocolIE-ID ::= 286</a>

**Release 2000**

END

## CHANGE REQUEST

⌘ **25.433 CR 372** ⌘ rev **2** ⌘ Current version: **3.4.1** ⌘

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

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

**Title:** ⌘ Introduction of the UTRAN-GPS and SFN-SFN timing measurement in NBAP

**Source:** ⌘ [EricssonR-WG3](#)

**Work item code:** ⌘ LCS1-UEpos-lublur

**Date:** ⌘ 2001-02-19

**Category:** ⌘ **B**

**Release:** ⌘ REL-4

Use one of the following categories:

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

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

Use one of the following releases:

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

**Reason for change:** ⌘ Introduction of the UE Positioning methods A-GPS and OTDOA require new common measurement types to be introduced.

**Summary of change:** ⌘ **R0:** Addition of the Common measurement types 'UTRAN GPS Timing of Cell Frames for LCS' and 'SFN-SFN Observed Time Difference'.

**R1:** Changes according to the following. Changes are highlighted with yellow in the CR.

- The CR is backward compatible.
- Correction in the procedure text and tabular format regarding SFN-SFN Measurement according to the proposed WG1 definition (CPICH Slot-Slot OTD). The value ranges related to this measurement is also corrected.
- Addition of the work item code in the cover sheet.

**R2:** Changes according to the following (highlighted with green in the CR):

- Addition of the SFN and Time slot.
- It was clarified that for the 'Periodic' and 'On Demand', all the N-Cell measurement are reported while in the case of 'On Modification' the measurement for only the N-cell that has triggered is reported.
- It was clarified that all the available N-cell measurement are reported in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE* and remaining unavailable N-cell measurements are reported in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE*.

- The value range of the  $T_{UTRAN-GPS}$  Quality IE is changed to (0..2^20-1)
- Related changes to ASN.1 to the above changes.

**Consequences if not approved:** ☼ If the the CR is not approved, these UE positioning methods can not be introduced in a proper way.

**Clauses affected:** ☼ 8.2.8, 9.1.18, 9.1.19, 9.2.1.11, 9.2.1.12, 9.2.1.44, 9.2.1.51, 9.2.1.xx(new IEs), 9.3.3, 9.3.4 and 9.3.6.

**Other specs** ☼  Other core specifications ☼ RNSAP 25.423, CR327

**Affected:**  Test specifications  
 O&M Specifications

**Other comments:** ☼

### How to create CRs using this form:

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

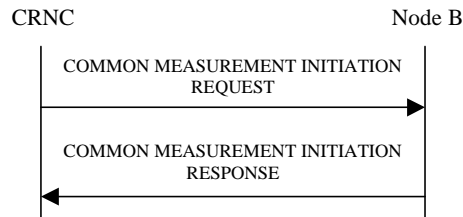
- 1) Fill out the above form. The symbols above marked ☼ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## 8.2.8 Common Measurement Initiation

### 8.2.8.1 General

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

### 8.2.8.2 Successful Operation



**Figure 11: Common Measurement Initiation procedure: Successful Operation**

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the CRNC to the Node B using the Node B control port.

Upon reception, the Node B shall initiate the requested measurement according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

[TDD- If the Time Slot Information is provided in the *Common Measurement Object Type IE* , the measurement request shall apply to the requested time slot individually.]

[FDD- If the Spreading Factor Information is provided in the *Common Measurement Object Type IE*, measurement request shall apply to the PCPCHes whose minimum allowed spreading factor (Min UL Channelisation Code Length) is equal to the value of Spreading Factor Information.

If **the *Common Measurement Type IE* is not set to 'SFN-SFN Observed Time Difference' and** the *SFN Reporting Indicator IE* is set to "FN Reporting Required", the *SFN IE* shall be included in the measurement report or in the measurement response, the latter only in the case the *Report Characteristics IE* is set to 'On-Demand'. The reported SFN shall be the SFN at the time when the measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [25]. **if the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference' and the *SFN Reporting Indicator IE* is ignored,**

If the *SFN IE* is provided, it indicates the frame for which the first measurement shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [25].

#### **Common measurement type**

**If the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference', then the Node B shall initiate the SFN-SFN Observed Time Difference measurements between the reference cell identified by *C-ID IE* and the neighbouring cells identified by the *UTRAN Cell Identifier(UC-Id) IE*.**

#### **Report characteristics**

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

If the *Report Characteristics IE* is set to 'On-Demand', the Node B shall report the result of the requested measurement immediately.

If the *Report Characteristics IE* is set to 'Periodic', the Node B shall periodically initiate a Measurement Reporting procedure for this measurement, with the requested report frequency. **if the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference', all the available measurement results shall be reported in the Successful**

Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE in the SFN-SFN Measurement Value Information IE and the Node B shall indicate in the Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information IE all the remaining neighbouring cells with no measurement result available in the Common Measurement Reporting procedure.

If the *Report Characteristics* IE is set to 'Event A', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event B', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the Node B shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event C', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.

If the *Report Characteristics* IE is set to 'Event D', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.

If the *Report Characteristics* IE is set to 'Event E', the Node B shall initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Periodicity* IE is provided, the Node B shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to 'Event F', the Node B shall initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The Node B shall also initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Periodicity* IE is provided, the Node B shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. If 'Measurement Threshold 2' is not present, the Node B shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the Node B shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to 'On Modification', the Node B shall report the result of the requested measurement immediately. Then the Node B shall initiate the Common Measurement Reporting procedure in accordance to the following conditions:

1. If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS':

- If the  $T_{UTRAN-GPS}$  *Change Limit* IE is included in the  $T_{UTRAN-GPS}$  *Measurement Threshold Information* IE, the Node B shall each time a new measurement result is received from the physical layer measurement, calculate the change of  $T_{UTRAN-GPS}$  value ( $F_n$ ). The Node B shall initiate the Common Measurement Reporting procedure and set n equal to zero when the absolute value of  $F_n$  rises above the threshold indicated by the  $T_{UTRAN-GPS}$  *Change Limit* IE. The change of  $T_{UTRAN-GPS}$  value ( $F_n$ ) is calculated according to the following:

$$F_n = 0 \text{ for } n = 0$$

$$F_n = (M_n - M_{n-1}) \bmod 37152912000000 - ((SFN_n - SFN_{n-1}) \bmod 4096) * 10 * 3.84 * 10^3 * 16 + F_{n-1}$$

$$\text{for } n > 0$$

$F_n$  is the change of the  $T_{UTRAN-GPS}$  value expressed in unit [1/16 chip] when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at  $SFN_n$ .

$M_{n-1}$  is the previous measurement result received from the physical layer measurements, measured at

$SFN_{n-1}$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_0$  is equal to the value reported in the first Common Measurement Reporting at initiation or in the Common Measurement Reporting when the event was triggered.

- If the *Predicted  $T_{UTRAN-GPS}$  Deviation Limit* IE is included in the  *$T_{UTRAN-GPS}$  Measurement Threshold Information* IE, the Node B shall each time a new measurement result is received from the physical layer measurement, update the  $P_n$  and  $F_n$ . The Node B shall initiate the Common Measurement Reporting procedure and set  $n$  equal to zero when the absolute value of  $F_n$  rises above the threshold indicated by the *Predicted  $T_{UTRAN-GPS}$  Deviation Limit* IE. The  $P_n$  and  $F_n$  are calculated according to the following:

$P_n = b$  for  $n=0$

$P_n = ((1+a) * ((SFN_n - SFN_{n-1}) \bmod 4096) * 10 * 3.84 * 10^3 * 16 + P_{n-1}) \bmod 37158912000000$  for  $n > 0$

$F_n = (M_n - P_n)$  for  $n > 0$

$F_n = \min(\text{abs}(M_n - P_n), \text{abs}(M_n - P_n - 37158912000000), \text{abs}(M_n - P_n + 37158912000000))$  for  $n > 0$

$P_n$  is the predicted  $T_{UTRAN-GPS}$  value when  $n$  measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$a$  is the last reported  $T_{UTRAN-GPS}$  Drift Rate value.

$b$  is the last reported  $T_{UTRAN-GPS}$  value.

$\text{abs}$  denotes the absolute value.

$F_n$  is the deviation of the last measurement result from the predicted  $T_{UTRAN-GPS}$  value ( $P_n$ ) when  $n$  measurements has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at  $SFN_n$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The  $T_{UTRAN-GPS}$  Drift Rate is determined by the Node B in an implementation-dependent way after point B in the measurement model [26].

## 2. If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference':

- If the *SFN-SFN Change Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the Node B shall each time a new measurement result is received from the physical layer measurement, calculate the change of SFN-SFN value ( $F_n$ ). The Node B shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set  $n$  equal to zero when the absolute value of  $F_n$  rises above the threshold indicated by the *SFN-SFN Change Limit* IE. The change of the SFN-SFN value is calculated according to the following:

$F_n = 0$  for  $n=0$

$F_n = (M_n - a) \bmod 40960$  for  $n > 0$

$F_n$  is the change of the SFN-SFN

value expressed in unit [1/16 chip] when  $n$  measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$a$  is the last reported SFN-SFN.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at  $SFN_n$ .

$M_1$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.



- If the Predicted SFN-SFN Deviation Limit IE is included in the SFN-SFN Measurement Threshold Information IE, the Node B shall each time a new measurement result is received from the physical layer measurement, update the  $P_n$  and  $F_n$ . The Node B shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set  $n$  equal to zero when the absolute value of  $F_n$  rises above the threshold indicated by the Predicted SFN-SFN Deviation Limit IE. The  $P_n$  and  $F_n$  are calculated according to the following:

$$P_n = b \text{ for } n=0$$

$$P_n = (a * ((SFN_n - SFN_{n-1}) \bmod 4096) * 10^3 * 84 * 10^3 * 16 + P_{n-1}) \text{ for } n > 0$$

$$F_n = (M_n - P_n) \text{ for } n > 0$$

$$P_n = ((a * (15 * ((SFN_n - SFN_{n-1}) \bmod 4096) + (TS_n - TS_{n-1})) * 2560 * 16 + P_{n-1}) \bmod 40960) - 20480 \text{ for } n > 0$$

$$F_n = \min(\text{abs}(M_n - P_n), \text{abs}(M_n - P_n - 40960), \text{abs}(M_n - P_n + 40960)) \text{ for } n > 0$$

$P_n$  is the predicted SFN-SFN value when  $n$  measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$a$  is the last reported SFN-SFN Drift Rate value.

$b$  is the last reported SFN-SFN value.

$\text{abs}$  denotes the absolute value.

$F_n$  is the deviation of the last measurement result from the predicted SFN-SFN value ( $P_n$ ) when  $n$  measurements has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$  is the latest measurement result received from the physical layer measurements, measured at the Time Slot  $TS_n$  of the Frame  $SFN_n$ .

$M_j$  is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The  $T_{\text{UTRAN-GPS}}$  Drift Rate is determined by the Node B in an implementation-dependent way after point B in the measurement model [26].

If the Report Characteristics IE is not set to 'On-Demand', the Node B is required to perform reporting for a common measurement object, in accordance with the conditions provided in the COMMON MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no common measurement object(s) for which a measurement is defined exists any more the Node B shall terminate the measurement locally without reporting this to the CRNC.

If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the Node B shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as specified in the COMMON MEASUREMENT INITIATION REQUEST message.

### Higher layer filtering

The Measurement Filter Coefficient IE indicates how filtering of the measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1 - a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows

$F_n$  is the updated filtered measurement result

$F_{n-1}$  is the old filtered measurement result

$M_n$  is the latest received measurement result from physical layer measurements

$a = 1/2^{(k/2)}$  -, where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, a shall be set to 1 (no filtering)

In order to initialise the averaging filter,  $F_0$  is set to  $M_1$  when the first measurement result from the physical layer measurement is received.

### Common measurement accuracy

If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS', then the Node B shall use the *UTRAN GPS Timing Measurement Accuracy Class* IE included in the *Common Measurement Accuracy* IE according to the following:

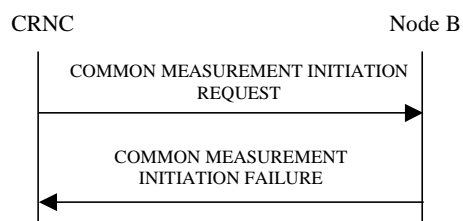
- If the *UTRAN GPS Timing Measurement Accuracy Class* IE indicates 'Class A', then the Node B shall perform the measurement with highest supported accuracy within the accuracy classes A, B and C.
- If the *UTRAN GPS Timing Measurement Accuracy Class* IE indicates 'Class B', then the Node B shall perform the measurement with highest supported accuracy within the accuracy classes B and C.
- If the *UTRAN GPS Timing Measurement Accuracy Class* IE indicates 'Class C' then the Node B shall perform the measurements with the accuracy according to class C.

### **Response message**

If the Node B was able to initiate the measurement requested by the CRNC it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message sent over the Node B control port. The message shall include the same Measurement ID that was used in the measurement request. Only in the case when the *Report Characteristics* IE is set to "On-Demand" or "On Modification", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result, and also the *Common Measurement Achieved Accuracy* IE if the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS'.

If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference' and the *Report Characteristics* IE is set to 'On Demand' or "On Modification", all the available measurement results shall be reported in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE in the *SFN-SFN Measurement Value Information* IE and the Node B shall indicate in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE all the remaining neighbouring cells with no measurement result available in the COMMON MEASUREMENT INITIATION RESPONSE message.

### 8.2.8.3 Unsuccessful Operation



**Figure 12: Common Measurement Initiation procedure: Unsuccessful Operation**

If the Common Measurement Type received in the *Common Measurement Type* IE is not defined in ref. [4] or [5] to be measured on the Common Measurement Object Type received in the *Common Measurement Object Type* IE in the COMMON MEASUREMENT INITIATION REQUEST message the Node B shall regard the Common Measurement Initiation procedure as failed.

If the requested measurement cannot be initiated, the Node B shall send a COMMON MEASUREMENT INITIATION FAILURE message sent over the Node B control port. The message shall include the same Measurement ID that was used in the COMMON MEASUREMENT INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

If the *Common Measurement Type IE* is set to 'SFN-SFN Observed Time Difference', but the *Neighbouring Cell Measurement Information IE* is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.

If the *Common Measurement Type IE* is set to 'UTRAN GPS Timing of Cell Frame for LCS', but the  $T_{UTRAN-GPS}$  *Measurement Accuracy Class IE* in the *Common Measurement Accuracy IE* is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.

If the *Report characteristics type IE* is received with value set to 'On Modification' in the COMMON MEASUREMENT INITIATION REQUEST message where the *Common Measurement Type IE* is set to other values than the 'UTRAN GPS Timing of Cell Frame for LCS' or 'SFN-SFN Observed Time Difference', the Node B shall regard the Common Measurement Initiation procedure as failed.

Typical cause values are as follows:

#### **Radio Network Layer Cause**

- Measurement not supported for the object.
- Measurement Temporarily not Available

#### **8.2.8.4 Abnormal Conditions**

-

## 9.1.18 COMMON MEASUREMENT INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Measurement ID	M		9.2.1.42		YES	reject
Common Measurement Object Type	M		9.2.1.10		YES	reject
CHOICE Common Measurement Object Type	M				YES	reject
>Cell					–	
>>C-ID	M		9.2.1.9		–	
>>Time Slot	O		9.2.3.23	TDD only	–	
<b>&gt;&gt;Neighbouring Cell Measurement Information</b>		<b>0..&lt;maxno MeasNCells&gt;</b>			<b>GLOBAL</b>	<b>ignore</b>
<b>&gt;&gt;&gt;Neighbouring FDD Cell Measurement Information</b>	<b>O</b>		<b>9.2.1.x</b>		<b>=</b>	<b>=</b>
<b>&gt;&gt;&gt;Neighbouring TDD Cell Measurement Information</b>	<b>O</b>		<b>9.2.1.x</b>		<b>=</b>	<b>=</b>
>RACH				FDD only	–	
>>C-ID	M		9.2.1.9		–	
>>Common Transport Channel ID	M		9.2.1.14		–	
>CPCH				FDD only	–	
>>C-ID	M		9.2.1.9		–	
>>Common Transport Channel ID	M		9.2.1.14		–	
>>Spreading Factor	O		Minimum UL Channelisation Code Length 9.2.2.22		–	
Common Measurement Type	M		9.2.1.11		YES	reject
Measurement Filter Coefficient	O		9.2.1.41		YES	reject
Report Characteristics	M		9.2.1.51		YES	reject
SFN reporting indicator	M		FN reporting indicator 9.2.1.29B		YES	reject
SFN	O		9.2.1.53A		YES	reject
<b>Common Measurement Accuracy</b>	<b>O</b>		<b>9.2.1.xx</b>		<b>YES</b>	<b>reject</b>

<b>Range bound</b>	<b>Explanation</b>
<b>maxnoMeasNCells</b>	<b>Maximum number of neighbouring cells that can be measured on.</b>

## 9.1.19 COMMON MEASUREMENT INITIATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Measurement ID	M		9.2.1.42		YES	ignore
CHOICE Common Measurement Object Type	O			Common Measurement Object Type that the measurement was initiated with.	YES	ignore
>Cell					YES	
>>Common Measurement value	M		9.2.1.12		–	
>RACH				FDD only	–	
>>Common Measurement Value	M		9.2.1.12		–	
>CPCH				FDD only	–	
>>Common Measurement Value	M		9.2.1.12		–	
SFN	O		9.2.1.53A	Common Measurement Time Reference	YES	ignore
Criticality Diagnostics	O		9.2.1.17		YES	ignore
<u>Common Measurement Achieved Accuracy</u>	<u>Q</u>		<u>Common Measurement Accuracy 9.2.1.xx</u>		<u>YES</u>	<u>ignore</u>

## 9.2.1.11 Common Measurement Type

The Common Measurement Type identifies which measurement that shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Common Measurement Type			ENUMERATED (Received total wide band power, Transmitted Carrier Power, Acknowledged PRACH preambles, UL Timeslot ISCP, Acknowledged PCPCH Access Preambles, Detected PCPCH Access Preambles, ..., <a href="#">UTRAN GPS Timing of Cell Frames for LCS, SFN-SFN Observed Time Difference</a> )	UL Timeslot ISCP is used by TDD only, Acknowledged PRACH preambles, Acknowledged PCPCH Access Preambles, Detected PCPCH Access Preambles are used by FDD only

## 9.2.1.12 Common Measurement Value

The Common 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
>Transmitted Carrier Power Value	C <i>MeasValue</i>		INTEGER(0..100)	According to mapping in [22] and [23]
>Received total wide band power Value	C <i>MeasValue</i>		INTEGER(0..621)	According to mapping in [22] and [23]
>Acknowledged PRACH Preamble Value (FDD only)	C <i>MeasValue</i>		INTEGER(0..240, ...)	According to mapping in [22]
>UL Timeslot ISCP (TDD only)	C <i>MeasValue</i>		INTEGER(0..81)	According to mapping in [23]
>Acknowledged PCPCH Access Preambles (FDD only)	C <i>MeasValue</i>		INTEGER(0..15,...)	According to mapping in [22]
>Detected PCPCH Access Preambles (FDD only)	C <i>MeasValue</i>		INTEGER(0..240,...)	According to mapping in [22]
<u>&gt;TUTRAN-GPS Measurement Value Information</u>	C <u><i>MeasValue</i></u>		<u>9.2.1.xx</u>	
<u>&gt; SFN-SFN Measurement Value Information</u>	C <u><i>MeasValue</i></u>		<u>9.2.1.xx</u>	

Condition	Explanation
<i>MeasValue</i>	Only one measurement value can be present at the same time.

## 9.2.1.44 Measurement Threshold

The Measurement Threshold defines which threshold that shall trigger Event A, B, E, ~~F~~ or On Modification.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
Received total wide band power	<i>C – Threshold</i>		INTEGER(0..621)	According to mapping in [22] and [23]
Transmitted Carrier Power	<i>C – Threshold</i>		INTEGER(0..100)	According to mapping in [22] and [23]
Acknowledged PRACH Preambles	<i>C – Threshold</i>		INTEGER(0..240,...)	According to mapping in [22], (FDD only)
UL Timeslot ISCP	<i>C – Threshold</i>		INTEGER(0..81)	According to mapping in [23] (TDD only)
SIR	<i>C – Threshold</i>		INTEGER(0..63)	According to mapping in [22] and [23]
SIR Error	<i>C – Threshold</i>		INTEGER(0..125)	According to mapping in [22], (FDD only)
Transmitted Code Power	<i>C – Threshold</i>		INTEGER(0..127)	According to mapping in [22] and [23]
RSCP	<i>C – Threshold</i>		INTEGER(0..81)	According to mapping in [23] (TDD only)
Rx Timing Deviation	<i>C – Threshold</i>		INTEGER(0..2047)	According to mapping in [23] (TDD only)
Round Trip Time	<i>C – Threshold</i>		INTEGER(0..32767)	According to mapping in [22] (FDD only)
Acknowledged PCPCH Access Preambles	<i>C – Threshold</i>		INTEGER(0..15,...)	According to mapping in [22] (FDD only)
Detected PCPCH Access Preambles	<i>C – Threshold</i>		INTEGER(0..240,...)	According to mapping in [22] (FDD only)
<u>T</u> UTRAN-GPS Measurement Threshold Information	<i><u>C – Threshold</u></i>		<u>9.2.1.xx</u>	
<u>S</u> FN-SFN Measurement Threshold Information	<i><u>C – Threshold</u></i>		<u>9.2.1.xx</u>	

Condition	Explanation
<i>Threshold</i>	Only one measurement threshold can be present at the same time.



#### 9.2.1.51 Report Characteristics

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
<b>Report characteristics</b>				
>Report characteristics type			ENUMERATE D(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F,... <b>On Modification.</b> )	
<b>&gt;Periodic Report Information</b>	C – Periodic			
>>Report Periodicity	M		ENUMERATE D (10ms...1min, ...) step 10ms, (1min...1hr,...) step 1min,...	The frequency with which the Node B shall send measurement reports.
<b>&gt;Event A</b>	C – Event A			
>>Measurement Threshold	M		Measurement Threshold 9.2.1.44	The threshold for which the Node B shall trigger a measurement report.
>>Measurement Hysteresis Time	O		ENUMERATE D (10ms...1min, ...) step 10ms,...	
<b>&gt;Event B</b>	C – Event B			
>>Measurement Threshold	M		Measurement Threshold 9.2.1.44	The threshold for which the Node B shall trigger a measurement report.
>>Measurement Hysteresis Time	O		ENUMERATE D (10ms...1min, ...) step 10ms,...	
<b>&gt;Event C</b>	C – Event C			
>>Measurement Increase/Decrease Threshold	M		Measurement Increase/Decrease Threshold 9.2.1.43	
>>Measurement Change Time	M		ENUMERATE D (10ms...1min, ...) step 10ms,...	The time the measurement entity shall rise on (in ms), in order to trigger a measurement report.
<b>&gt;Event D</b>	C – Event D			
>>Measurement Increase/Decrease Threshold	M		Measurement Increase/Decrease Threshold 9.2.1.43	
>>Measurement Change Time	M		ENUMERATE D (10ms...1min, ...) step 10ms,...	The time the measurement entity shall fall (in ms), in order to trigger a measurement report.
<b>&gt;Event E</b>	C – Event E			
>>Measurement Threshold 1	M		Measurement Threshold 9.2.1.44	
>>Measurement	O		Measurement	

Threshold 2			Threshold 9.2.1.44	
>>Measurement Hysteresis Time	O		ENUMERATE D (10ms...1min, ...) step 10ms,...	The hysteresis time in ms
>>Report Periodicity	O		ENUMERATE D (10ms...1min, ...) step 10ms, (1min...1hr, ...) step 1min,...	The frequency with which the Node B shall send measurement reports.
<b>&gt;Event F</b>	C – Event F			
>>Measurement Threshold 1	M		Measurement Threshold 9.2.1.44	
>>Measurement Threshold 2	O		Measurement Threshold 9.2.1.44	
>>Measurement Hysteresis Time	O		ENUMERATE D (10ms...1min, ...) step 10ms,...	The hysteresis time in ms
>>Report Periodicity	O		ENUMERATE D (10ms...1min, ...) step 10ms, (1min...1hr, ...) step 1min,...	The frequency with which the Node B shall send measurement reports.
<u>&gt;On Modification</u>	<u>C-On Modification</u>			
<u>&gt;&gt;Measurement Threshold</u>	<u>M</u>		<u>Measurement Threshold 9.2.1.44</u>	

Condition	Explanation
C-Periodic	Valid if <i>Report Characteristics Type</i> IE indicates "periodic"
C-Event A	Valid if <i>Report Characteristics Type</i> IE indicates "Event A"
C-Event B	Valid if <i>Report Characteristics Type</i> IE indicates "Event B"
C-Event C	Valid if <i>Report Characteristics Type</i> IE indicates "Event C"
C-Event D	Valid if <i>Report Characteristics Type</i> IE indicates "Event D"
C-Event E	Valid if <i>Report Characteristics Type</i> IE indicates "Event E"
C-Event F	Valid if <i>Report Characteristics Type</i> IE indicates "Event F"
<u>C-On Modification</u>	<u>Valid if <i>Report Characteristics Type</i> IE indicates 'On Modification'</u>

### 9.2.1.xx SFN-SFN Measurement Threshold Information

The SFN-SFN Measurement Threshold Information defines the related thresholds SFN-SFN Observed Time Difference measurements which shall trigger the Event On Modification.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
SFN-SFN Change Limit	C- SFNSFNLimit		INTEGER(1.. 2 <sup>20</sup> -16384)	Change of SFN-SFN value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.
Predicted SFN-SFN Deviation Limit	C- SFNSFNLimit		INTEGER(1.. 2 <sup>20</sup> -16384)	Deviation of the predicted SFN-SFN from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.

<u>Condition</u>	<u>Explanation</u>
C- SFNSFNLimit	At least one threshold shall be present.

### 9.2.1.xx SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<b>Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information</b>		1..<maxnoMeasN Cell>		
>UC-Id	M		9.2.1.xx	
>SFN-SFN	M		INTEGER(0.. 3715891199 999922 40961)	According to mapping in [22]. TBD by RAN4.
>SFN-SFN Quality	M		INTEGER(0.. 2 <sup>20</sup> -16383)	Indicates the standard deviation of the SFN-SFN measurements.
>SFN-SFN Drift Rate	M		INTEGER(- 2 <sup>14</sup> ..+2 <sup>14</sup> - 16383..+16383)	Indicates the SFN-SFN drift rate in 1/16 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell.
>SFN-SFN Drift Rate Quality	M		INTEGER(0.. 2 <sup>14</sup> -16383)	Indicates the standard deviation of the SFN-SFN drift rate measurements.
>SFN-SFN Measurement Time Stamp	M		9.2.1.xx	
<b>Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information</b>		0..<maxnoMeasN Cell-1>		
>UC-Id	M		9.2.1.xx	

<u>Range bound</u>	<u>Explanation</u>
<u>maxnoMeasNCell</u>	Maximum number of neighbouring cells that can be measured on.

### 9.2.1.xx T<sub>UTRAN-GPS</sub> Measurement Value Information

The T<sub>UTRAN-GPS</sub> Measurement Value Information IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub></u>	<u>M</u>		<u>INTEGER(0..37158911999999)</u>	<u>Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [22].</u>
<u>T<sub>UTRAN-GPS</sub> Quality</u>	<u>M</u>		<u>INTEGER(0..2<sup>20</sup>-1)</u>	<u>Indicates the standard deviation of the T<sub>UTRAN-GPS</sub> measurements.</u>
<u>T<sub>UTRAN-GPS</sub> Drift Rate</u>	<u>M</u>		<u>INTEGER(-2<sup>14</sup>-1..+2<sup>14</sup>-1)</u>	<u>Indicates the T<sub>UTRAN-GPS</sub> drift rate in 1/16 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.</u>
<u>T<sub>UTRAN-GPS</sub> Drift Rate Quality</u>	<u>M</u>		<u>INTEGER(0..2<sup>14</sup>-1)</u>	<u>Indicates the standard deviation of the T<sub>UTRAN-GPS</sub> drift rate measurements.</u>

### 9.2.1.xx T<sub>UTRAN-GPS</sub> Measurement Threshold Information

The T<sub>UTRAN-GPS</sub> Measurement Threshold Information defines the related thresholds for UTRAN GPS Timing of Cell Frame for LCS measurements shall trigger the event On Modification.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Change Limit</u>	<u>C- UTRANGP SLimit</u>		<u>INTEGER(1..2<sup>20</sup>-1)</u>	<u>Change of T<sub>UTRAN-GPS</sub> value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.</u>
<u>Predicted T<sub>UTRAN-GPS</sub> Deviation Limit</u>	<u>C- UTRANGP SLimit</u>		<u>INTEGER(1..2<sup>20</sup>-1)</u>	<u>Deviation of the predicted T<sub>UTRAN-GPS</sub> from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.</u>

<u>Condition</u>	<u>Explanation</u>
<u>C- UTRANGPSLimit</u>	<u>At least one threshold shall be present.</u>

### 9.2.1.xx Common Measurement Accuracy

The Common Measurement Accuracy IE indicates the accuracy of the common measurement.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Measurement Accuracy Class</u>	<u>C- Measur entAccurac y</u>		<u>T<sub>UTRAN-GPS</sub> Accuracy Class 9.2.1.x</u>	

<u>Condition</u>	<u>Explanation</u>
<u>C-MeasurementAccuracy</u>	<u>Only one IE shall be present.</u>

### 9.2.1.xx T<sub>UTRAN-GPS</sub> Accuracy Class

The T<sub>UTRAN-GPS</sub> Accuracy Class IE indicates the accuracy class of the UTRAN GPS Timing of Cell Frame for LCS measurement.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>T<sub>UTRAN-GPS</sub> Accuracy Class</u>			<u>ENUMERAT ED(Accuracy Class A, Accuracy Class B, Accuracy Class C,...)</u>	<u>More information about T<sub>UTRAN-GPS</sub> Measurement Accuracy Class is included in [22].</u>

### 9.2.1.x Neighbouring FDD Cell Measurement Information

This IE provides information on the FDD neighbouring cells used for the purpose of measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>&gt;UC-Id</u>	<u>M</u>		<u>9.2.1.xx</u>	
<u>&gt;UARFCN</u>	<u>M</u>		<u>9.2.1.65</u>	<u>Corresponds to Nd [14]</u>
<u>&gt;Primary Scrambling Code</u>	<u>M</u>		<u>9.2.2.34</u>	

### 9.2.1.x Neighbouring TDD Cell Measurement Information

This IE provides information on the TDD neighbouring cells used for the purpose of measurements.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>&gt;UC-Id</u>	<u>M</u>		<u>9.2.1.xx</u>	
<u>&gt;UARFCN</u>	<u>M</u>		<u>9.2.1.65</u>	<u>Corresponds to Nt [15]</u>
<u>&gt;Cell Parameter ID</u>	<u>M</u>		<u>9.2.3.4</u>	

### 9.2.1.xx UTRAN Cell Identifier (UC-Id)

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

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>&gt;RNC-Id</u>	<u>M</u>		<u>9.2.1.xx</u>	
<u>&gt;C-Id</u>	<u>M</u>		<u>9.2.1.9</u>	

9.2.1.xx RNC-Id

This is the identifier of one RNC in UTRAN.

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

9.2.1.xx SFN-SFN Measurement Time Stamp

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>SFN</u>	<u>M</u>		<u>9.2.1.53A</u>	<u>Indicates the SFN of the reference cell at which the measurement has been performed.</u>
<u>Time Slot</u>	<u>M</u>		<u>9.2.3.23</u>	<u>Indicates the Primary CPICH Time Slot of the reference cell at which this measurement has been performed (FDD Only).</u> <u>Indicates the Time Slot of the reference cell at which this measurement has been performed (TDD Only).</u>

### 9.3.3 PDU Definitions

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

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Active-Pattern-Sequence-Information,
    AddorDeleteIndicator,
    AICH-Power,
    AICH-TransmissionTiming,
    AllocationRetentionPriority,
    APPreambleSignature,
    APSubChannelNumber,
    AvailabilityStatus,
    BCCH-ModificationTime,
    BindingID,
    BlockingPriorityIndicator,
    BlockSTTD-Indicator,
    Cause,
    CCTrCH-ID,
    CDSubChannelNumbers,
    CellParameterID,
    CFN,
    Channel-Assignment-Indication,
    ChipOffset,
    C-ID,
    Closedlooptimingadjustmentmode,
    CommonChannelsCapacityConsumptionLaw,
    Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
    CommonMeasurementType,
    CommonMeasurementValue,
    CommonMeasurementValueInformation,
```



CommonPhysicalChannelID,  
Common-PhysicalChannel-Status-Information,  
Common-TransportChannel-Status-Information,  
CommonTransportChannelID,  
CommonTransportChannel-InformationResponse,  
CommunicationControlPortID,  
ConfigurationGenerationID,  
ConstantValue,  
CriticalityDiagnostics,  
CPCH-Allowed-Total-Rate,  
CPCHScramblingCodeNumber,  
CPCH-UL-DPCCH-SlotFormat,  
CRNC-CommunicationContextID,  
DCH-FDD-Information,  
DCH-InformationResponse,  
DCH-ID,  
FDD-DCHs-to-Modify,  
TDD-DCHs-to-Modify,  
DCH-TDD-Information,  
DedicatedChannelsCapacityConsumptionLaw,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DedicatedMeasurementValueInformation,  
DiversityControlField,  
DiversityMode,  
DL-DPCH-SlotFormat,  
DL-or-Global-CapacityCredit,  
DL-Power,  
DLPowerAveragingWindowSize,  
DL-ScramblingCode,  
DL-TimeslotISCP,  
DL-Timeslot-Information,  
DL-TimeslotISCPInfo,  
DL-TPC-Pattern01Count,  
DPCH-ID,  
DSCH-ID,  
DSCH-FDD-Information,  
DSCH-InformationResponse,  
DSCH-TDD-Information,  
End-Of-Audit-Sequence-Indicator,  
FDD-DL-ChannelisationCodeNumber,  
FDD-DL-CodeInformation,  
FDD-S-CCPCH-Offset,  
FDD-TPC-DownlinkStepSize,  
FirstRLS-Indicator,  
FNReportingIndicator,  
FrameHandlingPriority,  
FrameOffset,  
IB-OC-ID,  
IB-SG-DATA,  
IB-SG-POS,  
IB-SG-REP,  
IB-Type,

IndicationType,  
InnerLoopDLPCStatus,  
LimitedPowerIncrease,  
Local-Cell-ID,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
Max-Number-of-PCPCHes,  
MaxNrOfUL-DPDCHs,  
MaxPRACH-MidambleShifts,  
MeasurementFilterCoefficient,  
MeasurementID,  
MidambleShiftAndBurstType,  
MinimumDL-PowerCapability,  
MinSpreadingFactor,  
MinUL-ChannelisationCodeLength,  
MultiplexingPosition,  
NEOT,  
NFmax,  
N-INSYNC-IND,  
N-OUTSYNC-IND,  
NeighbouringCellMeasurementInformation,  
NeighbouringFDDCellMeasurementInformation,  
NeighbouringTDDCellMeasurementInformation,  
NodeB-CommunicationContextID,  
NStartMessage,  
PagingIndicatorLength,  
PayloadCRC-PresenceIndicator,  
PCCPCH-Power,  
PCP-Length,  
PDSCH-CodeMapping,  
PDSCHSet-ID,  
PDSCH-ID,  
PICH-Mode,  
PICH-Power,  
PowerAdjustmentType,  
PowerOffset,  
PowerRaiseLimit,  
PRACH-Midamble,  
PreambleSignatures,  
PreambleThreshold,  
PredictedSFNSFNDeviationLimit,  
PredictedTUTRANGPSDeviationLimit,  
PrimaryCPICH-Power,  
PrimaryScramblingCode,  
PropagationDelay,  
SCH-TimeSlot,  
PunctureLimit,  
PUSCHSet-ID,  
PUSCH-ID,  
QE-Selector,  
RACH-SlotFormat,  
RACH-SubChannelNumbers,  
RepetitionLength,

RepetitionPeriod,  
ReportCharacteristics,  
ResourceOperationalState,  
RL-Set-ID,  
RL-ID,  
Received-total-wide-band-power-Value,  
AdjustmentPeriod,  
ScaledAdjustmentRatio,  
MaxAdjustmentStep,  
RNC-ID,  
ScramblingCodeNumber,  
SecondaryCCPCH-SlotFormat,  
Segment-Type,  
S-FieldLength,  
SFN,  
SFNSFN,  
SFNSFNChangeLimit,  
SFNSFNDriftRate,  
SFNSFNDriftRateQuality,  
SFNSFNQuality,  
SFNSFNTimeStamp,  
ShutdownTimer,  
SIB-Originator,  
SSDT-Cell-Identity,  
SSDT-CellID-Length,  
SSDT-Indication,  
Start-Of-Audit-Sequence-Indicator,  
STTD-Indicator,  
SSDT-SupportIndicator,  
SyncCase,  
T-Cell,  
T-RLFFAILURE,  
TDD-ChannelisationCode,  
TDD-DPCHOffset,  
TDD-TPC-DownlinkStepSize,  
TDD-PhysicalChannelOffset,  
TFCI2-BearerInformationResponse,  
TFCI-Coding,  
TFCI-Presence,  
TFCI-SignallingMode,  
TFCS,  
TimeSlot,  
TimeSlotDirection,  
TimeSlotStatus,  
TimingAdvanceApplied,  
ToAWE,  
ToAWS,  
TransmissionDiversityApplied,  
TransmitDiversityIndicator,  
TransmissionGapPatternSequenceCodeInformation,  
Transmission-Gap-Pattern-Sequence-Information,  
TransportBearerRequestIndicator,

```

TransportFormatSet,
TransportLayerAddress,
TSTD-Indicator, TUTRANGPS,
TUTRANGPS,
TUTRANGPSChangeLimit,
TUTRANGPSDriftRate,
TUTRANGPSDriftRateQuality,
TUTRANGPSQuality,
UARFCN,
UC-Id,
USCH-Information,
USCH-InformationResponse,
UL-CapacityCredit,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-Timeslot-Information,
UL-TimeSlot-ISCP-Info,
UL-TimeSlotISCP-Value,
UL-TimeSlotISCP-Value-IncrDecrThres,
USCH-ID
FROM NBAP-IEs

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

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,
id-AICH-Information,
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-AP-AICH-Information,
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
id-BCH-Information,
id-BCCH-ModificationTime,
id-BlockingPriorityIndicator,
id-Cause,
id-CauseLevel-PSCH-ReconfFailureTDD,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CCP-InformationItem-AuditRsp,
id-CCP-InformationList-AuditRsp,

```

id-CCP-InformationItem-  
id-CDCA-ICH-Information,  
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD,  
id-Cell-InformationItem-AuditRsp,  
id-Cell-InformationItem-ResourceStatusInd,  
id-Cell-InformationList-AuditRsp,  
id-CellParameterID,  
id-CFN,  
id-CFNReportingIndicator,  
id-C-ID,  
id-Closed-Loop-Timing-Adjustment-Mode,  
id-CommonMeasurementAccuracy,  
id-CommonMeasurementObjectType-CM-Rprt,  
id-CommonMeasurementObjectType-CM-Rqst,  
id-CommonMeasurementObjectType-CM-Rsp,  
id-CommonMeasurementType,  
id-CommonPhysicalChannelID,  
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD,  
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD,  
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD,  
id-CommonTransportChannelType-CTCH-ReconfRqstTDD,  
id-CommunicationContextInfoItem-Reset,  
id-CommunicationControlPortID,  
id-CommunicationControlPortInfoItem-Reset,  
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,  
id-ConfigurationGenerationID,  
id-CPCH-Information,  
id-CPCH-Parameters-CTCH-SetupRsp,  
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD,  
id-CRNC-CommunicationContextID,  
id-CriticalityDiagnostics,  
id-DCHs-to-Add-FDD,  
id-DCHs-to-Add-TDD,  
id-DCH-AddList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfRqstFDD,  
id-DCH-DeleteList-RL-ReconfRqstTDD,  
id-DCH-FDD-Information,  
id-DCH-TDD-Information,  
id-DCH-InformationResponse,  
id-FDD-DCHs-to-Modify,  
id-TDD-DCHs-to-Modify,  
id-DedicatedMeasurementObjectType-DM-Rprt,  
id-DedicatedMeasurementObjectType-DM-Rqst,  
id-DedicatedMeasurementObjectType-DM-Rsp,  
id-DedicatedMeasurementType,  
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD,

id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD,  
id-DL-DPCH-InformationList-RL-SetupRqstTDD,  
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-Information-RL-ReconfPrepFDD,  
id-DL-DPCH-Information-RL-ReconfRqstFDD,  
id-DL-DPCH-Information-RL-SetupRqstFDD,  
id-DL-ReferencePowerInformationItem-DL-PC-Rqst,  
id-DLReferencePower,  
id-DLReferencePowerList-DL-PC-Rqst,  
id-DL-TPC-Pattern01Count,  
id-DPCHConstant,  
id-DSCH-AddItem-RL-ReconfPrepFDD,  
id-DSCH-AddItem-RL-ReconfRqstFDD,  
id-DSCHs-to-Add-FDD,  
id-DSCH-DeleteItem-RL-ReconfPrepFDD,  
id-DSCH-DeleteItem-RL-ReconfRqstFDD,  
id-DSCH-DeleteList-RL-ReconfPrepFDD,  
id-DSCH-ID,  
id-DSCHs-to-Add-TDD,  
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD,  
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD,  
id-DSCH-InformationResponse,  
id-DSCH-FDD-Information,  
id-DSCH-TDD-Information,  
id-DSCH-ModifyItem-RL-ReconfPrepFDD,  
id-DSCH-ModifyItem-RL-ReconfRqstFDD,  
id-DSCH-ModifyList-RL-ReconfPrepFDD,  
id-End-Of-Audit-Sequence-Indicator,  
id-FACH-Information,  
id-FACHItem-CTCH-SetupRsp,  
id-FACH-ParametersList-CTCH-ReconfRqstTDD,  
id-FACH-ParametersList-CTCH-SetupRsp,  
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD,  
id-FACH-ParametersListIE-CTCH-SetupRqstFDD,  
id-FACH-ParametersListIE-CTCH-SetupRqstTDD,  
id-IndicationType-ResourceStatusInd,  
id-InnerLoopDLPCStatus,  
id-Limited-power-increase-information-Cell-SetupRqstFDD,  
id-Local-Cell-ID,  
id-Local-Cell-Group-InformationItem-AuditRsp,  
id-Local-Cell-Group-InformationItem-ResourceStatusInd,  
id-Local-Cell-Group-InformationItem2-ResourceStatusInd,  
id-Local-Cell-Group-InformationList-AuditRsp,  
id-Local-Cell-InformationItem-AuditRsp,  
id-Local-Cell-InformationItem-ResourceStatusInd,

id-Local-Cell-InformationItem2-  
id-Local-Cell-InformationList-AuditRsp,  
id-AdjustmentPeriod,  
id-MaxAdjustmentStep,  
id-MaximumTransmissionPower,  
id-MeasurementFilterCoefficient,  
id-MeasurementID,  
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,  
[id-NeighbouringCellMeasurementInformation,](#)

## Unaffected parts are omitted!

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

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

CommonMeasurementInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-MeasurementID                CRITICALITY reject          TYPE      MeasurementID                PRESENCE mandatory
    } |
    { ID      id-CommonMeasurementObjectType-CM-Rqst          CRITICALITY reject          TYPE      CommonMeasurementObjectType-CM-Rqst          PRESENCE
    mandatory } |
    -- This IE represents both the Common Measurement Object Type IE and the choice based on the Common Measurement Object Type
    -- as described in the tabular message format in subclause 9.1.
    { ID      id-CommonMeasurementType                CRITICALITY reject          TYPE      CommonMeasurementType                PRESENCE mandatory
    } |
    { ID      id-MeasurementFilterCoefficient          CRITICALITY reject          TYPE      MeasurementFilterCoefficient          PRESENCE
    optional } |
    { ID      id-ReportCharacteristics                CRITICALITY reject          TYPE      ReportCharacteristics                PRESENCE mandatory
    } |
    { ID      id-SFNReportingIndicator                CRITICALITY reject          TYPE      SFNReportingIndicator                PRESENCE mandatory
    } |
    { ID      id-SFN                                  CRITICALITY reject          TYPE      SFN                                  PRESENCE optional
    },
    ...
}

CommonMeasurementInitiationRequest-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    ...
    { ID id-CommonMeasurementAccuracy                CRITICALITY reject          EXTENSION CommonMeasurementAccuracy          PRESENCE optional }
}

```

```

CommonMeasurementObjectType-CM-Rqst ::= CHOICE {
    cell                Cell-CM-Rqst,
    rACH                RACH-CM-Rqst,
    cPCH               CPCH-CM-Rqst,
    ...
}

Cell-CM-Rqst ::= SEQUENCE {
    c-ID,
    timeSlot           TimeSlot OPTIONAL,
    iE-Extensions      ProtocolExtensionContainer { { CellItem-CM-Rqst-ExtIEs } } OPTIONAL,
    ...
}

CellItem-CM-Rqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
    {ID id-NeighbouringCellMeasurementInformation CRITICALITY ignore EXTENSION NeighbouringCellMeasurementInformation PRESENCE
    optional}
}

RACH-CM-Rqst ::= SEQUENCE {
    c-ID,
    commonTransportChannelID CommonTransportChannelID,
    iE-Extensions      ProtocolExtensionContainer { { RACHItem-CM-Rqst-ExtIEs } } OPTIONAL,
    ...
}

RACHItem-CM-Rqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

CPCH-CM-Rqst ::= SEQUENCE {
    c-ID,
    commonTransportChannelID CommonTransportChannelID,
    spreadingfactor         MinUL-ChannelisationCodeLength OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { { CPCHItem-CM-Rqst-ExtIEs } } OPTIONAL,
    ...
}

CPCHItem-CM-Rqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

CommonMeasurementInitiationResponse ::= SEQUENCE {

```



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```

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

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

CommonMeasurementInitiationResponse-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  ...
  {ID id-CommonMeasurementAchievedAccuracy          CRITICALITY ignore          EXTENSION CommonMeasurementAccuracy          PRESENCE optional}
}

CommonMeasurementObjectType-CM-Rsp ::= CHOICE {
  cell          Cell-CM-Rsp,
  rACH          RACH-CM-Rsp,
  cPCH          CPCH-CM-Rsp,
  ...
}

Cell-CM-Rsp ::= SEQUENCE {
  commonMeasurementValue          CommonMeasurementValue,
  iE-Extensions                    ProtocolExtensionContainer  { { CellItem-CM-Rsp-ExtIEs } }  OPTIONAL,
  ...
}

CellItem-CM-Rsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

RACH-CM-Rsp ::= SEQUENCE {
  commonMeasurementValue          CommonMeasurementValue,
  iE-Extensions                    ProtocolExtensionContainer  { { RACHItem-CM-Rsp-ExtIEs } }  OPTIONAL,
  ...
}

RACHItem-CM-Rsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

CPCH-CM-Rsp ::= SEQUENCE {
  commonMeasurementValue          CommonMeasurementValue,
  iE-Extensions                    ProtocolExtensionContainer  { { CPCHItem-CM-Rsp-ExtIEs } }  OPTIONAL,
  ...
}

```

```

CPCHItem-CM-Rsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

**Unaffected parts are omitted!**

### 9.3.4 Information Elements Definitions

```

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

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

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
    maxNrOfTFCS,
    maxNrOfErrors,
    maxCTFC,
    maxNrOfTFs,
    maxTTL-count,
    maxRateMatching,
    maxCodeNrComp-1,
    maxNrOfCodeGroups,
    maxNrOfMeasNCell,
    maxNrOfMeasNCell-1,
    maxNrOfTFCIGroups,
    maxNrOfTFCI1Combs,
    maxNrOfTFCI2Combs,

```

**Unaffected parts are omitted!**

```

-- =====
-- C

```

--

=====

```
Cause ::= CHOICE {
    radioNetwork      CauseRadioNetwork,
    transport         CauseTransport,
    protocol          CauseProtocol,
    misc              CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    oam-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    message-not-compatible-with-receiver-state,
    semantic-error,
    unspecified,
    abstract-syntax-error-falsely-constructed-message,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    rl-already-ActivatedOrAllocated,
    nodeB-Resources-unavailable,
    measurement-not-supported-for-the-object,
    combining-resources-not-available,
    requested-configuration-not-supported,
    synchronisation-failure,
    priority-transport-channel-established,
    sIB-Origination-in-Node-B-not-Supported,
    requested-tx-diversity-mode-not-supported,
    unspecified,
    bCCH-scheduling-error,
    measurement-temporarily-not-available,
    invalid-CM-settings,
    reconfiguration-CFN-not-elapsed,
    number-of-DL-codes-not-supported,
    s-cipch-not-supported,
    combining-not-supported,
}
```

```

    ul-sf-not-supported,
    dl-SF-not-supported,
    common-transport-channel-type-not-supported,
    dedicated-transport-channel-type-not-supported,
    downlink-shared-channel-type-not-supported,
    uplink-shared-channel-type-not-supported,
    cm-not-supported,
    tx-diversity-no-longer-supported,
    unknown-Local-Cell-ID,
    ...
}

CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}

CCTrCH-ID ::= INTEGER (0..15)

CDSubChannelNumbers ::= BIT STRING (SIZE (12))

CellParameterID ::= INTEGER (0..127,...)

CFN ::= INTEGER (0..255)

Channel-Assignment-Indication ::= ENUMERATED {
    cA-Active,
    cA-Inactive
}

ChipOffset ::= INTEGER (0..38399)
-- Unit Chip

C-ID ::= INTEGER (0..65535)

Closedlooptimingadjustmentmode ::= ENUMERATED {
    adj-1-slot,
    adj-2-slot,
    ...
}

CommonChannelsCapacityConsumptionLaw ::= SEQUENCE (SIZE(1..maxNrOfSF)) OF
SEQUENCE {
    dl-Cost      INTEGER (0..65535),
    ul-Cost      INTEGER (0..65535),
    iE-Extensions ProtocolExtensionContainer { { CommonChannelsCapacityConsumptionLaw-ExtIEs } } OPTIONAL,
    ...
}

CommonChannelsCapacityConsumptionLaw-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

CommonMeasurementAccuracy ::= CHOICE {
  tUTRANGPSMeasurementAccuracyClass      TUTRANGPSAccuracyClass,
  ...
}

CommonMeasurementType ::= ENUMERATED {
  received-total-wide-band-power,
  transmitted-carrier-power,
  acknowledged-prach-preambles,
  ul-timeslot-iscp,
  acknowledged-PCPCH-access-preambles,
  detected-PCPCH-access-preambles,
  ...
  uTRAN-GPS-Timing-of-Cell-Frames-for-LCS,
  sFN-SFN-Observed-Time-Difference
}

CommonMeasurementValue ::= CHOICE {
  transmitted-carrier-power                Transmitted-Carrier-Power-Value,
  received-total-wide-band-power           Received-total-wide-band-power-Value,
  acknowledged-prach-preambles             Acknowledged-PRACH-preambles-Value,
  uL-TimeslotISCP                          UL-TimeslotISCP-Value,
  acknowledged-PCPCH-access-preambles     Acknowledged-PCPCH-access-preambles,
  detected-PCPCH-access-preambles         Detected-PCPCH-access-preambles,
  ...
  tUTRANGPSMeasurementValueInformation    TUTRANGPSMeasurementValueInformation,
  sFNSFNMeasurementValueInformation      SFNSFNMeasurementValueInformation
}

```

## Unaffected parts are omitted!

```

-- =====
-- N
-- =====

NEOT ::= INTEGER (0..8)

NFmax ::= INTEGER (1..64,...)

N-INSYNC-IND ::= INTEGER (1..256)

N-OUTSYNC-IND ::= INTEGER (1..256)

NeighbouringCellMeasurementInformation ::= SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF

```

```

CHOICE {
    neighbouringFDDCellMeasurementInformation    NeighbouringFDDCellMeasurementInformation,
    neighbouringTDDCellMeasurementInformation    NeighbouringTDDCellMeasurementInformation,
    ...
}

NeighbouringFDDCellMeasurementInformation ::= SEQUENCE {
    uC-Id                UC-Id,
    uARFCN                UARFCN,
    primaryScramblingCode PrimaryScramblingCode,
    iE-Extensions         ProtocolExtensionContainer { { NeighbouringFDDCellMeasurementInformationItem-ExtIEs } } OPTIONAL,
    ...
}

NeighbouringFDDCellMeasurementInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {
    uC-Id                UC-Id,
    uARFCN                UARFCN,
    cellParameterID      CellParameterID,
    iE-Extensions         ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationItem-ExtIEs } } OPTIONAL,
    ...
}

NeighbouringTDDCellMeasurementInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

NodeB-CommunicationContextID ::= INTEGER (0..1048575)

NStartMessage ::= INTEGER (1..8)

```

## Unaffected parts are omitted!

```

-- =====
-- P
-- =====

PagingIndicatorLength ::= ENUMERATED {
    v2,
    v4,
    v8,
    ...
}

```

```

}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    cRC-Included,
    cRC-NotIncluded,
    ...
}

PCCPCH-Power ::= INTEGER (-150..400,...)
-- PCCPCH-power = power * 10
-- If power <= -15 PCCPCH shall be set to -150
-- If power >= 40 PCCPCH shall be set to 400
-- Unit dBm, Range -15dBm .. +40 dBm, Step +0.1dBm

PCP-Length ::= ENUMERATED{
    v0,
    v8
}

PDSCH-CodeMapping ::= SEQUENCE {
    dl-ScramblingCode          DL-ScramblingCode,
    signallingMethod          CHOICE {
        code-Range            PDSCH-CodeMapping-PDSCH-CodeMappingInformationList,
        tFCI-Range            PDSCH-CodeMapping-DSCH-MappingInformationList,
        explicit                PDSCH-CodeMapping-PDSCH-CodeInformationList,
        ...
    },
    iE-Extensions              ProtocolExtensionContainer  { { PDSCH-CodeMapping-ExtIEs } }    OPTIONAL,
    ...
}

PDSCH-CodeMapping-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCH-CodeMapping-CodeNumberComp ::= INTEGER (0..maxCodeNrComp-1)

PDSCH-CodeMapping-SpreadingFactor ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    v64,
    v128,
    v256,
    ...
}

PDSCH-CodeMapping-PDSCH-CodeMappingInformationList ::= SEQUENCE (SIZE (1..maxNrOfCodeGroups)) OF
SEQUENCE {
    spreadingFactor            PDSCH-CodeMapping-SpreadingFactor,
    multi-CodeInfo            PDSCH-Multi-CodeInfo,
    start-CodeNumber          PDSCH-CodeMapping-CodeNumberComp,

```

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```
stop-CodeNumber          PDSCH-CodeMapping-CodeNumberComp,
iE-Extensions            ProtocolExtensionContainer { { PDSCH-CodeMapping-PDSCH-CodeMappingInformationList-ExtIEs} } OPTIONAL,
...
}

PDSCH-CodeMapping-PDSCH-CodeMappingInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

PDSCH-CodeMapping-DSCH-MappingInformationList ::= SEQUENCE (SIZE (1..maxNrOfTFCIGroups)) OF
SEQUENCE {
maxTFCI-field2-Value      PDSCH-CodeMapping-MaxTFCI-Field2-Value,
spreadingFactor           PDSCH-CodeMapping-SpreadingFactor,
multi-CodeInfo            PDSCH-Multi-CodeInfo,
codeNumber                PDSCH-CodeMapping-CodeNumberComp,
iE-Extensions            ProtocolExtensionContainer { { PDSCH-CodeMapping-DSCH-MappingInformationList-ExtIEs} } OPTIONAL,
...
}

PDSCH-CodeMapping-DSCH-MappingInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

PDSCH-CodeMapping-MaxTFCI-Field2-Value ::= INTEGER (1..1023)

PDSCH-CodeMapping-PDSCH-CodeInformationList ::= SEQUENCE (SIZE (1..maxNrOfTFCI2Combs)) OF
SEQUENCE {
spreadingFactor           PDSCH-CodeMapping-SpreadingFactor,
multi-CodeInfo            PDSCH-Multi-CodeInfo,
codeNumber                PDSCH-CodeMapping-CodeNumberComp,
iE-Extensions            ProtocolExtensionContainer { { PDSCH-CodeMapping-PDSCH-CodeInformationList-ExtIEs} } OPTIONAL,
...
}

PDSCH-CodeMapping-PDSCH-CodeInformationList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

PDSCH-Multi-CodeInfo ::= INTEGER (1..16)

PDSCH-ID ::= INTEGER (0..255)

PDSCHSet-ID ::= INTEGER (0..255)

PICH-Mode ::= ENUMERATED {
v18,
v36,
v72,
v144,
...
}

PICH-Power ::= INTEGER (-10..5)
```



```
-- Unit dB, Range -10dB .. +5dB, Step +1dB

PowerAdjustmentType ::= ENUMERATED {
    none,
    common,
    individual
}

PowerOffset ::= INTEGER (0..24)
-- PowerOffset = offset * 0.25
-- Unit dB, Range 0dB .. +6dB, Step +0.25dB

PowerRaiseLimit ::= INTEGER (0..10)

PRACH-Midamble ::= ENUMERATED {
    inverted,
    direct,
    ...
}

PreambleSignatures ::= BIT STRING (SIZE (16))
-- Bit 0=P0, Bit 1=P1, .. ,Bit 15=P15 [9] --

PreambleThreshold ::= INTEGER (0..72)
-- 0= -36.0dB, 1= -35.5dB, ... , 72= 0.0dB

PredictedSFNSFNDeviationLimit ::= INTEGER (0..104857516384)
PredictedTUTRANGPSDeviationLimit ::= INTEGER (0..1048575)

Pre-emptionCapability ::= ENUMERATED {
    shall-not-trigger-pre-emption,
    may-trigger-pre-emption
}

Pre-emptionVulnerability ::= ENUMERATED {
    not-pre-emptable,
    pre-emptable
}

PrimaryCPICH-Power ::= INTEGER(-100..500)
-- step 0.1 (Range -10.0..50.0) Unit is dBm

PrimaryScramblingCode ::= INTEGER (0..511)

PriorityLevel ::= INTEGER (0..15)
-- 0 = spare, 1 = highest priority, ...14 = lowest priority and 15 = no priority

PropagationDelay ::= INTEGER (0..255)
-- Unit: chips, step size 3 chips
-- example: 0 = 0chip, 1 = 3chips

SCH-TimeSlot ::= INTEGER (0..6)
```

```
PunctureLimit ::= INTEGER (0..15)
-- 0: 40%; 1: 44%; ... 14: 96%; 15: 100%

PUSCH-ID ::= INTEGER (0..255)

PUSCHSet-ID ::= INTEGER (0..255)
```

## Unaffected parts are omitted!

```
-- =====
-- R
-- =====

RACH-SlotFormat ::= ENUMERATED {
    v0,
    v1,
    v2,
    v3,
    ...
}

RACH-SubChannelNumbers ::= BIT STRING (SIZE (12))
-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 11=Sub Channel Number 11

RepetitionLength ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
    v64,
    ...
}

RepetitionNumber ::= INTEGER (1..256)

RefTFCNumber ::= INTEGER (0..3)

ReportCharacteristics ::= CHOICE {
    onDemand          NULL,
    periodic          ReportCharacteristicsType-ReportPeriodicity,
    event-a           ReportCharacteristicsType-EventA,
    event-b           ReportCharacteristicsType-EventB,
```

```

event-c
event-d
event-e
event-f
...
onModification ReportCharacteristicsType-OnModification
}

ReportCharacteristicsType-EventA ::= SEQUENCE {
  measurementThreshold      ReportCharacteristicsType-MeasurementThreshold,
  measurementHysteresisTime ReportCharacteristicsType-ScaledMeasurementHysteresisTime OPTIONAL,
  iE-Extensions             ProtocolExtensionContainer { { ReportCharacteristicsType-EventA-ExtIEs } } OPTIONAL,
  ...
}

ReportCharacteristicsType-EventA-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

ReportCharacteristicsType-EventB ::= SEQUENCE {
  measurementThreshold      ReportCharacteristicsType-MeasurementThreshold,
  measurementHysteresisTime ReportCharacteristicsType-ScaledMeasurementHysteresisTime OPTIONAL,
  iE-Extensions             ProtocolExtensionContainer { { ReportCharacteristicsType-EventB-ExtIEs } } OPTIONAL,
  ...
}

ReportCharacteristicsType-EventB-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

ReportCharacteristicsType-EventC ::= SEQUENCE {
  measurementIncreaseThreshold ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold,
  measurementChangeTime       ReportCharacteristicsType-ScaledMeasurementChangeTime,
  iE-Extensions               ProtocolExtensionContainer { { ReportCharacteristicsType-EventC-ExtIEs } } OPTIONAL,
  ...
}

ReportCharacteristicsType-EventC-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

ReportCharacteristicsType-EventD ::= SEQUENCE {
  measurementDecreaseThreshold ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold,
  measurementChangeTime       ReportCharacteristicsType-ScaledMeasurementChangeTime,
  iE-Extensions               ProtocolExtensionContainer { { ReportCharacteristicsType-EventD-ExtIEs } } OPTIONAL,
  ...
}

ReportCharacteristicsType-EventD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

ReportCharacteristicsType-EventE ::= SEQUENCE {

```

```

    measurementThreshold1
MeasurementThreshold,
    measurementThreshold2      ReportCharacteristicsType-MeasurementThreshold      OPTIONAL,
    measurementHysteresisTime  ReportCharacteristicsType-ScaledMeasurementHysteresisTime  OPTIONAL,
    reportPeriodicity          ReportCharacteristicsType-ReportPeriodicity                OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { ReportCharacteristicsType-EventE-ExtIEs } }  OPTIONAL,
    ...
}

ReportCharacteristicsType-EventE-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-EventF ::= SEQUENCE {
    measurementThreshold1      ReportCharacteristicsType-MeasurementThreshold,
    measurementThreshold2      ReportCharacteristicsType-MeasurementThreshold      OPTIONAL,
    measurementHysteresisTime  ReportCharacteristicsType-ScaledMeasurementHysteresisTime  OPTIONAL,
    reportPeriodicity          ReportCharacteristicsType-ReportPeriodicity                OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { { ReportCharacteristicsType-EventF-ExtIEs } }  OPTIONAL,
    ...
}

ReportCharacteristicsType-EventF-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-OnModification ::= SEQUENCE {
    measurementThreshold      ReportCharacteristicsType-MeasurementThreshold,
    iE-Extensions              ProtocolExtensionContainer { { ReportCharacteristicsType-OnModification-ExtIEs } }  OPTIONAL,
    ...
}

ReportCharacteristicsType-OnModification-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold ::= CHOICE {
    received-total-wide-band-power          Received-total-wide-band-power-Value-IncrDecrThres,
    transmitted-carrier-power               Transmitted-Carrier-Power-Value,
    acknowledged-prach-preambles            Acknowledged-PRACH-preambles-Value,
    uL-TimeslotISCP                          UL-TimeslotISCP-Value-IncrDecrThres,
    sir                                       SIR-Value-IncrDecrThres,
    sir-error                               SIR-Error-Value-IncrDecrThres,
    transmitted-code-power                   Transmitted-Code-Power-Value-IncrDecrThres,
    rscp                                     RSCP-Value-IncrDecrThres,
    round-trip-time                          Round-Trip-Time-IncrDecrThres,
    acknowledged-PCPCH-access-preambles     Acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles          Detected-PCPCH-access-preambles,
    ...
}

ReportCharacteristicsType-MeasurementThreshold ::= CHOICE {
    received-total-wide-band-power          Received-total-wide-band-power-Value,

```

```

transmitted-carrier-power          Transmitted-
acknowledged-prach-preambles      Acknowledged-PRACH-preambles-Value,
uL-TimeslotISCP                    UL-TimeslotISCP-Value,
sir                                 SIR-Value,
sir-error                           SIR-Error-Value,
transmitted-code-power             Transmitted-Code-Power-Value,
rscp                                RSCP-Value,
rx-timing-deviation                Rx-Timing-Deviation-Value,
round-trip-time                     Round-Trip-Time-Value,
acknowledged-PCPCH-access-preambles Acknowledged-PCPCH-access-preambles,
detected-PCPCH-access-preambles    Detected-PCPCH-access-preambles,
.../
t-utran-gps-measurement-threshold-information    TUTRANGPSMeasurementThresholdInformation,
sfn-sfn-measurement-threshold-information        SFNSFNMeasurementThresholdInformation
}

ReportCharacteristicsType-ScaledMeasurementChangeTime ::= CHOICE {
    msec          MeasurementChangeTime-Scaledmsec,
    ...
}

MeasurementChangeTime-Scaledmsec ::= INTEGER (1..6000,...)
-- MeasurementChangeTime-Scaledmsec = Time * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportCharacteristicsType-ScaledMeasurementHysteresisTime ::= CHOICE {
    msec          MeasurementHysteresisTime-Scaledmsec,
    ...
}

MeasurementHysteresisTime-Scaledmsec ::= INTEGER (1..6000,...)
-- MeasurementHysteresisTime-Scaledmsec = Time * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportCharacteristicsType-ReportPeriodicity ::= CHOICE {
    msec          ReportPeriodicity-Scaledmsec,
    min           ReportPeriodicity-Scaledmin,
    ...
}

ReportPeriodicity-Scaledmsec ::= INTEGER (1..6000,...)
-- ReportPeriodicity-msec = ReportPeriodicity * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportPeriodicity-Scaledmin ::= INTEGER (1..60,...)
-- Unit min, Range 1min .. 60min(hour), Step 1min

ResourceOperationalState ::= ENUMERATED {
    enabled,
    disabled
}

CommonTransportChannel-InformationResponse ::= SEQUENCE {

```

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```

commonTransportChannelID
bindingID
transportLayerAddress
iE-Extensions
...
}

CommonTransportChannelID,
BindingID OPTIONAL,
TransportLayerAddress OPTIONAL,
ProtocolExtensionContainer { { CommonTransportChannel-InformationResponse-ExtIEs } } OPTIONAL,
...
}

CommonTransportChannel-InformationResponse-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

LimitedPowerIncrease ::= ENUMERATED {
used,
not-used
}

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

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

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

Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)

Round-Trip-Time-Value ::= INTEGER(0..32767)
-- According to mapping in [22]

RSCP-Value ::= INTEGER (0..81)
-- According to mapping in [23]

RSCP-Value-IncrDecrThres ::= INTEGER (0..80)

Received-total-wide-band-power-Value ::= INTEGER(0..621)
-- According to mapping in [22]/[23]

Received-total-wide-band-power-Value-IncrDecrThres ::= INTEGER (0..620)

Rx-Timing-Deviation-Value ::= INTEGER (0..2047)

-- =====
-- S
-- =====

AdjustmentPeriod ::= INTEGER(1..256)
-- Unit Frame

ScaledAdjustmentRatio ::= INTEGER(0..100)
-- AdjustmentRatio = ScaledAdjustmentRatio / 100

MaxAdjustmentStep ::= INTEGER(1..10)
-- Unit Slot

ScramblingCodeNumber ::= INTEGER (0..15)

```

SecondaryCCPCH-SlotFormat ::= INTEGER(0..17,...)

Segment-Type ::= ENUMERATED {  
 first-segment,  
 first-segment-short,  
 subsequent-segment,  
 last-segment,  
 last-segment-short,  
 complete-SIB,  
 complete-SIB-short,  
 ...  
}

S-FieldLength ::= ENUMERATED {  
 v1,  
 v2,  
 ...  
}

SFN ::= INTEGER (0..4095)

~~SFNSFN ::= INTEGER (0..3715891199999940961)~~

~~SFNSFNChangeLimit ::= INTEGER (0..104857516384)~~

~~SFNSFNDriftRate ::= INTEGER (-16384..16384)~~

~~SFNSFNDriftRateQuality ::= INTEGER (0..16384)~~

~~SFNSFNMeasurementThresholdInformation ::= SEQUENCE {  
 sFNChangeLimit SFNSFNChangeLimit OPTIONAL,  
 predictedSFNSFNDeviationLimit PredictedSFNSFNDeviationLimit OPTIONAL,  
 iE-Extensions ProtocolExtensionContainer { { SFNSFNMeasurementThresholdInformation-ExtIEs } } OPTIONAL,  
 ...  
}~~

~~SFNSFNMeasurementThresholdInformation-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {  
 ...  
}~~

~~SFNSFNMeasurementValueInformation ::= SEQUENCE {  
 successfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation SEQUENCE (SIZE(1..maxNrOfMeasNCell)) OF  
 SEQUENCE {  
 uC-Id UC-Id,  
 sFN SFNSFN,  
 sFNQuality SFNSFNQuality,  
 sFNDriftRate SFNSFNDriftRate,  
 sFNDriftRateQuality SFNSFNDriftRateQuality,  
 sFNTimestamp SFNSFNTimestamp~~

```

    iE-Extensions
    SuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs } } OPTIONAL,
    ...
  },
  unsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation SEQUENCE (SIZE(0..maxNrOfMeasNCell-1)) OF
  SEQUENCE {
    uC-Id UC-Id,
    iE-Extensions ProtocolExtensionContainer { { UnsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-
    ExtIEs} } OPTIONAL,
    ...
  },
  iE-Extensions ProtocolExtensionContainer { { SFNSFNMeasurementValueInformationItem-ExtIEs} } OPTIONAL,
  ...
}

```

```

SFNSFNMeasurementValueInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

SuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

UnsuccessfulNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

SFNSFNQuality ::= INTEGER (0..1048575)

```

```

ShutdownTimer ::= INTEGER (1..3600)
-- Unit sec

```

```

SIB-Originator ::= ENUMERATED {
  nodeB,
  cRNC,
  ...
}

```

```

SIR-Error-Value ::= INTEGER (0..125)

```

```

SFNSFNTimeStamp ::= SEQUENCE
  sFN SFN,
  timeSlot TimeSlot,
  iE-Extensions ProtocolExtensionContainer { { SFNSFNTimeStamp-ExtIEs} } OPTIONAL,
  ...

```



```
SPNSFTimeStam-ExcIEs NBAP-PROTOCOL-EXTENSION ::= {
```

```
SIR-Error-Value-IncrDecrThres ::= INTEGER (0..124)
```

```
SIR-Value ::= INTEGER (0..63)  
-- According to mapping in [22]/[23]
```

```
SIR-Value-IncrDecrThres ::= INTEGER (0..62)
```

```
SSDT-Cell-Identity ::= 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  
}
```

```
Start-Of-Audit-Sequence-Indicator ::= ENUMERATED {  
    start-of-audit-sequence,  
    not-start-of-audit-sequence  
}
```

```
STTD-Indicator ::= ENUMERATED {  
    active,  
    inactive,  
    ...  
}
```

```
SSDT-SupportIndicator ::= ENUMERATED {  
    sSDT-Supported,  
    sSDT-not-supported  
}
```

```
SyncCase ::= INTEGER (1..2,...)
```

```
-- =====  
-- T  
-- =====
```

```
T-Cell ::= ENUMERATED {  
    v0,  
    v1,  
    v2,  
    v3,  
    v4,  
    v5,  
    v6,  
    v7,  
    v8,  
    v9  
}
```

```
T-RLFFAILURE ::= INTEGER (0..255)  
-- Unit seconds, Range 0s .. 25.5s, Step 0.1s
```

```
TDD-ChannelisationCode ::= ENUMERATED {  
    chCode1div1,  
    chCode2div1,  
    chCode2div2,  
    chCode4div1,  
    chCode4div2,  
    chCode4div3,  
    chCode4div4,  
    chCode8div1,  
    chCode8div2,  
    chCode8div3,  
    chCode8div4,  
    chCode8div5,  
    chCode8div6,  
    chCode8div7,  
    chCode8div8,  
    chCode16div1,  
    chCode16div2,  
    chCode16div3,  
    chCode16div4,  
    chCode16div5,  
    chCode16div6,  
    chCode16div7,  
    chCode16div8,  
    chCode16div9,  
    chCode16div10,  
    chCode16div11,  
    chCode16div12,  
    chCode16div13,  
    chCode16div14,  
    chCode16div15,  
    chCode16div16,  
    ...  
}
```

```
TDD-DL-Code-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationItem
```

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```
TDD-DL-Code-InformationItem ::=
  dPCH-ID
  tdd-ChannelisationCode
  iE-Extensions
  ...
}
```

```
TDD-DL-Code-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
TDD-DPCHOffset ::= CHOICE {
  initialOffset      INTEGER (0..255),
  noinitialOffset    INTEGER (0..63)
}
```

```
TDD-PhysicalChannelOffset ::= INTEGER (0..63)
```

```
TDD-TPC-DownlinkStepSize ::= ENUMERATED {
  step-size1,
  step-size2,
  step-size3,
  ...
}
```

```
TransportFormatCombination-Beta ::= CHOICE {
  signalledGainFactors SEQUENCE {
    gainFactor CHOICE {
      fdd SEQUENCE {
        betaC BetaCD,
        betaD BetaCD,
        iE-Extensions ProtocolExtensionContainer { { GainFactorFDD-ExtIEs } } OPTIONAL,
        ...
      },
      tdd BetaCD,
      ...
    },
    refTFCNumber RefTFCNumber OPTIONAL,
    iE-Extensions ProtocolExtensionContainer { { SignalledGainFactors-ExtIEs } } OPTIONAL,
    ...
  },
  computedGainFactors RefTFCNumber,
  ...
}
```

```
GainFactorFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
SignalledGainFactors-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

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```
SEQUENCE {
  DPCH-ID,
  TDD-ChannelisationCode,
  ProtocolExtensionContainer { { TDD-DL-Code-InformationItem-ExtIEs } } OPTIONAL,
}
```

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```
TDD-UL-Code-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-
InformationItem

TDD-UL-Code-InformationItem ::= SEQUENCE {
    dPCH-ID                DPCH-ID,
    tdd-ChannelisationCode TDD-ChannelisationCode,
    iE-Extensions          ProtocolExtensionContainer { { TDD-UL-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-InformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    ...
}

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

TFCI-SignallingMode ::= SEQUENCE {
    tFCI-SignallingOption TFCI-SignallingMode-TFCI-SignallingOption,
    splitType             TFCI-SignallingMode-SplitType OPTIONAL,
    -- This IE is only present if TFCI signalling option is split --
    lengthOfTFCI2         TFCI-SignallingMode-LengthOfTFCI2 OPTIONAL,
    -- This IE is only present if split type is logical --
    iE-Extensions        ProtocolExtensionContainer { { TFCI-SignallingMode-ExtIEs} } OPTIONAL,
    ...
}

TFCI-SignallingMode-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCI-SignallingMode-LengthOfTFCI2 ::= INTEGER (1..10)

TFCI-SignallingMode-SplitType ::= ENUMERATED {
    hard,
    logical
}

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

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```
TFCI2-BearerInformationResponse ::=
    bindingID
    transportLayerAddress
    iE-Extensions
    ...
}

TFCI2-BearerInformationResponse-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TGD ::= INTEGER (0|15..269)
-- 0 = Undefined, only one transmission gap in the transmission gap pattern sequence

TGPRC ::= INTEGER (0..63)
-- 0 = infinity

TGPSID ::= INTEGER (1.. maxTGPS)

TGSN ::= INTEGER (0..14)

TimeSlot ::= INTEGER (0..14)

TimeSlotDirection ::= ENUMERATED {
    ul,
    dl,
    ...
}

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

TimingAdvanceApplied ::= ENUMERATED {
    yes,
    no
}

ToAWE ::= INTEGER (0..2559)
-- Unit ms

ToAWS ::= INTEGER (0..1279)
-- Unit ms

Transmission-Gap-Pattern-Sequence-Information ::= SEQUENCE (SIZE (1..maxTGPS)) OF
    SEQUENCE {
```

```

tGPSID          TGPSID,
tGSN            TGSN,
tGL1            GapLength,
tGL2            GapLength  OPTIONAL,
tGD             TGD,
tGPL1           GapDuration,
tGPL2           GapDuration OPTIONAL,
uL-DL-mode      UL-DL-mode,
downlink-Compressed-Mode-Method  Downlink-Compressed-Mode-Method  OPTIONAL,
  -- This IE is only present if the value of the UL/DL mode IE is "DL only" or "UL/DL"
uplink-Compressed-Mode-Method    Uplink-Compressed-Mode-Method    OPTIONAL,
  -- This IE is only present if the value of the UL/DL mode IE is "UL only" or "UL/DL"
dL-FrameType     DL-FrameType,
delta-SIR1        DeltaSIR,
delta-SIR-after1  DeltaSIR,
delta-SIR2        DeltaSIR  OPTIONAL,
delta-SIR-after2  DeltaSIR  OPTIONAL,
iE-Extensions     ProtocolExtensionContainer { {Transmission-Gap-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
  ...
}

Transmission-Gap-Pattern-Sequence-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TransmissionGapPatternSequenceCodeInformation ::= ENUMERATED{
  code-change,
  nocode-change
}

Transmitted-Carrier-Power-Value ::= INTEGER(0..100)
-- According to mapping in [4]/[5]

Transmitted-Code-Power-Value ::= INTEGER (0..127)
-- According to mapping in [4]/[5]

Transmitted-Code-Power-Value-IncrDecrThres ::= INTEGER (0..112,...)

TransmissionDiversityApplied ::= BOOLEAN
-- true: applied, false: not applied

TransmitDiversityIndicator ::= ENUMERATED {
  active,
  inactive
}

```

```

}

TFCS ::= SEQUENCE {
    tFCSvalues
        CHOICE {
            no-Split-in-TFCI          TFCS-TFCSList,
            split-in-TFCI             SEQUENCE {
                transportFormatCombination-DCH    TFCS-DCHList,
                signallingMethod                  CHOICE {
                    tFCI-Range                    TFCS-MappingOnDSCHList,
                    explicit                       TFCS-DSCHList,
                    ...
                },
                iE-Extensions                    ProtocolExtensionContainer { { Split-in-TFCI-ExtIEs } }    OPTIONAL,
                ...
            },
            ...
        },
    iE-Extensions    ProtocolExtensionContainer { { TFCS-ExtIEs } }    OPTIONAL,
    ...
}

Split-in-TFCI-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-TFCSList ::= SEQUENCE (SIZE (1..maxNrOfTFCS)) OF
    SEQUENCE {
        cTFC                TFCS-CTFC,
        tFC-Beta            TransportFormatCombination-Beta    OPTIONAL,
        iE-Extensions        ProtocolExtensionContainer { { TFCS-TFCSList-ExtIEs } }    OPTIONAL,
        ...
    }

TFCS-TFCSList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-CTFC ::= CHOICE {
    ctfc2bit                INTEGER (0..3),
    ctfc4bit                INTEGER (0..15),
    ctfc6bit                INTEGER (0..63),
    ctfc8bit                INTEGER (0..255),
    ctfc12bit              INTEGER (0..4095),
    ctfc16bit              INTEGER (0..65535),
    ctfcmaxbit             INTEGER (0..maxCTFC)
}

TFCS-DCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCI1Combs)) OF
    SEQUENCE {

```

```

        cTFC          TFCS-CTFC,
        iE-Extensions ProtocolExtensionContainer { { TFCS-DCHList-ExtIEs } }    OPTIONAL,
    ...
}

TFCS-DCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-MappingOnDSCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCIGroups)) OF
    SEQUENCE {
        maxTFCI-field2-Value      TFCS-MaxTFCI-field2-Value,
        cTFC-DSCH                 TFCS-CTFC,
        iE-Extensions             ProtocolExtensionContainer { { TFCS-MappingOnDSCHList-ExtIEs } }    OPTIONAL,
    ...
}

TFCS-MappingOnDSCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-MaxTFCI-field2-Value ::= INTEGER (1..maxNrOfTFCI2Combs-1)

TFCS-DSCHList ::= SEQUENCE (SIZE (1..maxNrOfTFCI2Combs)) OF
    SEQUENCE {
        cTFC-DSCH                 TFCS-CTFC,
        iE-Extensions             ProtocolExtensionContainer { { TFCS-DSCHList-ExtIEs } }    OPTIONAL,
    ...
}

TFCS-DSCHList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportBearerRequestIndicator ::= ENUMERATED {
    bearerRequested,
    bearerNotRequested,
    ...
}

TransportFormatSet ::= SEQUENCE {
    dynamicParts      TransportFormatSet-DynamicPartList,
    semi-staticPart   TransportFormatSet-Semi-staticPart,
    iE-Extensions     ProtocolExtensionContainer { { TransportFormatSet-ExtIEs } }    OPTIONAL,
    ...
}

TransportFormatSet-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
    SEQUENCE {

```



```

nrOfTransportBlocks                                     TransportFormatSet-NrOfTransportBlocks,
transportBlockSize      TransportFormatSet-TransportBlockSize      OPTIONAL,
-- This IE is only present if "Number of Transport Blocks" is greater than 0
mode                    TransportFormatSet-ModeDP,
iE-Extensions          ProtocolExtensionContainer { { TransportFormatSet-DynamicPartList-ExtIEs} }  OPTIONAL,
...
}

TransportFormatSet-DynamicPartList-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

TDD-TransportFormatSet-ModeDP ::= SEQUENCE {
  transmissionTimeIntervalInformation      TransmissionTimeIntervalInformation      OPTIONAL,
  -- This IE is mandatory if the "Transmission Time Interval" of the "Semi-static Transport Format Information" is "dynamic". Otherwise it is
  absent.
  iE-Extensions                          ProtocolExtensionContainer { {TDD-TransportFormatSet-ModeDP-ExtIEs} } OPTIONAL,
  ...
}

TDD-TransportFormatSet-ModeDP-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

TransmissionTimeIntervalInformation ::= SEQUENCE (SIZE (1..maxTTI-count)) OF
SEQUENCE {
  transmissionTimeInterval      TransportFormatSet-TransmissionTimeIntervalDynamic,
  iE-Extensions                ProtocolExtensionContainer { { TransmissionTimeIntervalInformation-ExtIEs} }  OPTIONAL,
  ...
}

TransmissionTimeIntervalInformation-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
  transmissionTimeInterval      TransportFormatSet-TransmissionTimeIntervalSemiStatic,
  channelCoding                TransportFormatSet-ChannelCodingType,
  codingRate                   TransportFormatSet-CodingRate      OPTIONAL,
  -- This IE is only present if channelCoding is 'convolutional' or 'turbo'
  rateMatchingAttribute        TransportFormatSet-RateMatchingAttribute,
  crc-Size                    TransportFormatSet-CRC-Size,
  mode                        TransportFormatSet-ModeSSP,
  iE-Extensions              ProtocolExtensionContainer { { TransportFormatSet-Semi-staticPart-ExtIEs} }  OPTIONAL,
  ...
}

TransportFormatSet-Semi-staticPart-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

TransportFormatSet-ChannelCodingType ::= ENUMERATED {
  no-coding,

```

```
convolutional-coding,  
turbo-coding,  
...  
}  
  
TransportFormatSet-CodingRate ::= ENUMERATED {  
    half,  
    third,  
    ...  
}  
  
TransportFormatSet-CRC-Size ::= ENUMERATED {  
    v0,  
    v8,  
    v12,  
    v16,  
    v24,  
    ...  
}  
  
TransportFormatSet-ModeDP ::= CHOICE {  
    tdd                TDD-TransportFormatSet-ModeDP,  
    notApplicable      NULL,  
    ...  
}  
  
TransportFormatSet-ModeSSP ::= CHOICE {  
    tdd                TransportFormatSet-SecondInterleavingMode,  
    notApplicable      NULL,  
    ...  
}  
  
TransportFormatSet-NrOfTransportBlocks ::= INTEGER (0..512)  
  
TransportFormatSet-RateMatchingAttribute ::= INTEGER (1..maxRateMatching)  
  
TransportFormatSet-SecondInterleavingMode ::= ENUMERATED {  
    frame-related,  
    timeSlot-related,  
    ...  
}  
  
TransportFormatSet-TransmissionTimeIntervalDynamic ::= ENUMERATED {  
    msec-10,  
    msec-20,  
    msec-40,  
    msec-80,  
    ...  
}  
  
TransportFormatSet-TransmissionTimeIntervalSemiStatic ::= ENUMERATED {  
    msec-10,  
    msec-20,
```

```

    msec-40,
    msec-80,
    dynamic,
    ...
}

TransportFormatSet-TransportBlockSize ::= INTEGER (0..5000)

TransportLayerAddress ::= BIT STRING (SIZE (1..160, ...))

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

TUTRANGPS ::= INTEGER (0..37158911999999)

TUTRANGPSChangeLimit ::= INTEGER (0..1048575)

TUTRANGPSDriftRate ::= INTEGER (-16385..16384)
TUTRANGPSDriftRateQuality ::= INTEGER (0..16383)

TUTRANGPSAccuracyClass ::= ENUMERATED {
    accuracy-class-A,
    accuracy-class-B,
    accuracy-class-C,
    ...
}

TUTRANGPSMeasurementThresholdInformation ::= SEQUENCE {
    tTUTRANGPSChangeLimit          TUTRANGPSChangeLimit          OPTIONAL,
    predictedTUTRANGPSDeviationLimit PredictedTUTRANGPSDeviationLimit OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { { TUTRANGPSMeasurementThresholdInformation-ExtIEs} } OPTIONAL,
    ...
}

TUTRANGPSMeasurementThresholdInformation-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TUTRANGPSMeasurementValueInformation ::= SEQUENCE {
    tTUTRANGPS          TUTRANGPS,
    tTUTRANGPSQuality   TUTRANGPSQuality,
    tTUTRANGPSDriftRate TUTRANGPSDriftRate,
    tTUTRANGPSDriftRateQuality TUTRANGPSDriftRateQuality,
    iE-Extensions      ProtocolExtensionContainer { {TUTRANGPSMeasurementValueInformationItem-ExtIEs} } OPTIONAL,
    ...
}

TUTRANGPSMeasurementValueInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

```

```

    ...
}
TUTRANGPSQuality ::= INTEGER (0..104857)

-- =====
-- U
-- =====

UARFCN ::= INTEGER (0..16383, ...)
-- corresponds to 1885.2MHz .. 2024.8MHz

UC-Id ::= SEQUENCE {
    rNC-ID          RNC-ID,
    c-ID            C-ID,
    iE-Extensions  ProtocolExtensionContainer { {UC-Id-ExtIEs} } OPTIONAL,
    ...
}
UC-Id-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

Unaffected parts are omitted!

## 9.3.6 Constant Definitions

```

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

NBAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Constants (4)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;

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

```

```

--
*****
id-audit ProcedureCode ::= 0
id-auditRequired ProcedureCode ::= 1
id-blockResource ProcedureCode ::= 2
id-cellDeletion ProcedureCode ::= 3
id-cellReconfiguration ProcedureCode ::= 4
id-cellSetup ProcedureCode ::= 5
id-commonMeasurementFailure ProcedureCode ::= 6
id-commonMeasurementInitiation ProcedureCode ::= 7
id-commonMeasurementReport ProcedureCode ::= 8
id-commonMeasurementTermination ProcedureCode ::= 9
id-commonTransportChannelDelete ProcedureCode ::= 10
id-commonTransportChannelReconfigure ProcedureCode ::= 11
id-commonTransportChannelSetup ProcedureCode ::= 12
id-compressedModeCommand ProcedureCode ::= 14
id-dedicatedMeasurementFailure ProcedureCode ::= 16
id-dedicatedMeasurementInitiation ProcedureCode ::= 17
id-dedicatedMeasurementReport ProcedureCode ::= 18
id-dedicatedMeasurementTermination ProcedureCode ::= 19
id-downlinkPowerControl ProcedureCode ::= 20
id-downlinkPowerTimeslotControl ProcedureCode ::= 38
id-errorIndicationForCommon ProcedureCode ::= 35
id-errorIndicationForDedicated ProcedureCode ::= 21
id-physicalSharedChannelReconfiguration ProcedureCode ::= 37
id-privateMessageForCommon ProcedureCode ::= 36
id-privateMessageForDedicated ProcedureCode ::= 22
id-radioLinkAddition ProcedureCode ::= 23
id-radioLinkDeletion ProcedureCode ::= 24
id-radioLinkFailure ProcedureCode ::= 25
id-radioLinkPreemption ProcedureCode ::= 39
id-radioLinkRestoration ProcedureCode ::= 26
id-radioLinkSetup ProcedureCode ::= 27
id-reset ProcedureCode ::= 13
id-resourceStatusIndication ProcedureCode ::= 28
id-synchronisedRadioLinkReconfigurationCancellation ProcedureCode ::= 29
id-synchronisedRadioLinkReconfigurationCommit ProcedureCode ::= 30
id-synchronisedRadioLinkReconfigurationPreparation ProcedureCode ::= 31
id-systemInformationUpdate ProcedureCode ::= 32
id-unblockResource ProcedureCode ::= 33
id-unSynchronisedRadioLinkReconfiguration ProcedureCode ::= 34

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

maxNrOfCodes INTEGER ::= 10
maxNrOfDLTSs INTEGER ::= 15
maxNrOfDLCodes INTEGER ::= 8
maxNrOfErrors INTEGER ::= 256

```

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```
maxNrOfTFs          INTEGER ::= 32
maxNrOfTFCS         INTEGER ::= 1024
maxNrOfRRLs         INTEGER ::= 16
maxNrOfRRLSets      INTEGER ::= maxNrOfRRLs
maxNrOfDPCHs        INTEGER ::= 240
maxNrOfSCCPCHs      INTEGER ::= 8
maxNrOfCPCHs        INTEGER ::= 4
maxNrOfPCPCHs       INTEGER ::= 64
maxNrOfDCHs         INTEGER ::= 128
maxNrOfDSCHs        INTEGER ::= 32
maxNrOfFACHs        INTEGER ::= 8
maxNrOfCCTrCHs      INTEGER ::= 16
maxNrOfPDSCHs       INTEGER ::= 256
maxNrOfPUSCHs       INTEGER ::= 256
maxNrOfPDSCHSets    INTEGER ::= 256
maxNrOfPUSCHSets    INTEGER ::= 256
maxNrOfULTSs        INTEGER ::= 15
maxNrOfUSCHs        INTEGER ::= 32
maxAPSigNum         INTEGER ::= 16
maxNrOfSlotFormatsPRACH INTEGER ::= 8
maxCellinNodeB      INTEGER ::= 256
maxCCPinNodeB       INTEGER ::= 256
maxCPCHCell         INTEGER ::= maxNrOfCPCHs
maxCTFC             INTEGER ::= 16777215
maxLocalCellinNodeB INTEGER ::= maxCellinNodeB
maxNoofLen          INTEGER ::= 7
maxRACHCell         INTEGER ::= maxPRACHCell
maxPRACHCell        INTEGER ::= 16
maxPCPCHCell        INTEGER ::= 64
maxSCCPCHCell       INTEGER ::= 32
maxSCPICHCell       INTEGER ::= 32
maxTTI-count        INTEGER ::= 4
maxIBSEG            INTEGER ::= 16
maxIB               INTEGER ::= 64
maxFACHCell         INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching     INTEGER ::= 256
maxCodeNrComp-1     INTEGER ::= 256
maxNrOfCodeGroups   INTEGER ::= 256
maxNrOfMeasNCell    INTEGER ::= 96
maxNrOfMeasNCell-1  INTEGER ::= 95 -- maxNrOfMeasNCell - 1
maxNrOfTFCIGroups   INTEGER ::= 256
maxNrOfTFCI1Combs   INTEGER ::= 512
maxNrOfTFCI2Combs   INTEGER ::= 1024
maxNrOfTFCI2Combs-1 INTEGER ::= 1023
maxNrOfSF           INTEGER ::= 8
maxTGPS             INTEGER ::= 6
maxCommunicationContext INTEGER ::= 1048575
```

```
-- *****
--
-- IEs
--
-- *****
```

id-AICH-Information	ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 1
id-BCH-Information	ProtocolIE-ID ::= 7
id-BCH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 8
id-BCCH-ModificationTime	ProtocolIE-ID ::= 9
id-BlockingPriorityIndicator	ProtocolIE-ID ::= 10
id-Cause	ProtocolIE-ID ::= 13
id-CCP-InformationItem-AuditRsp	ProtocolIE-ID ::= 14
id-CCP-InformationList-AuditRsp	ProtocolIE-ID ::= 15
id-CCP-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 16
id-Cell-InformationItem-AuditRsp	ProtocolIE-ID ::= 17
id-Cell-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 18
id-Cell-InformationList-AuditRsp	ProtocolIE-ID ::= 19
id-CellParameterID	ProtocolIE-ID ::= 23
id-CFN	ProtocolIE-ID ::= 24
id-C-ID	ProtocolIE-ID ::= 25
<u>id-CommonMeasurementAccuracy</u>	<u>ProtocolIE-ID ::= 39</u>
id-CommonMeasurementObjectType-CM-Rprt	ProtocolIE-ID ::= 31
id-CommonMeasurementObjectType-CM-Rqst	ProtocolIE-ID ::= 32
id-CommonMeasurementObjectType-CM-Rsp	ProtocolIE-ID ::= 33
id-CommonMeasurementType	ProtocolIE-ID ::= 34
id-CommonPhysicalChannelID	ProtocolIE-ID ::= 35
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 36
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 37
id-CommonTransportChannelType-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 38
id-CommunicationControlPortID	ProtocolIE-ID ::= 40
id-ConfigurationGenerationID	ProtocolIE-ID ::= 43
id-CRNC-CommunicationContextID	ProtocolIE-ID ::= 44
id-CriticalityDiagnostics	ProtocolIE-ID ::= 45
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 48
id-DCH-AddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 49
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 50
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 52
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 53
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 54
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 55
id-DCH-FDD-Information	ProtocolIE-ID ::= 56
id-DCH-TDD-Information	ProtocolIE-ID ::= 57
id-DCH-InformationResponse	ProtocolIE-ID ::= 59
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 62
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 63
id-DCH-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 65
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 67
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 68
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 69
id-DedicatedMeasurementType	ProtocolIE-ID ::= 70
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 72
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 73
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 76
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 79
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 81

id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 82
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 83
id-DL-ReferencePowerInformation-DL-PC-Rqst	ProtocolIE-ID ::= 84
id-DLReferencePower	ProtocolIE-ID ::= 85
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 86
id-DSCH-AddItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 87
id-DSCH-AddItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 88
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 89
id-DSCH-DeleteItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 91
id-DSCH-DeleteItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 92
id-DSCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 93
id-DSCH-ID	ProtocolIE-ID ::= 95
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 96
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 98
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 100
id-DSCH-InformationResponse	ProtocolIE-ID ::= 105
id-DSCH-FDD-Information	ProtocolIE-ID ::= 106
id-DSCH-TDD-Information	ProtocolIE-ID ::= 107
id-DSCH-ModifyItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 108
id-DSCH-ModifyItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 109
id-DSCH-ModifyList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 112
id-End-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 113
id-FACH-Information	ProtocolIE-ID ::= 116
id-FACH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 117
id-FACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 118
id-FACH-ParametersList-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 120
id-FACH-ParametersListIE-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 121
id-FACH-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 122
id-IndicationType-ResourceStatusInd	ProtocolIE-ID ::= 123
id-Local-Cell-ID	ProtocolIE-ID ::= 124
id-Local-Cell-Group-InformationItem-AuditRsp	ProtocolIE-ID ::= 2
id-Local-Cell-Group-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 3
id-Local-Cell-Group-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 4
id-Local-Cell-Group-InformationList-AuditRsp	ProtocolIE-ID ::= 5
id-Local-Cell-InformationItem-AuditRsp	ProtocolIE-ID ::= 125
id-Local-Cell-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 126
id-Local-Cell-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 127
id-Local-Cell-InformationList-AuditRsp	ProtocolIE-ID ::= 128
id-AdjustmentPeriod	ProtocolIE-ID ::= 129
id-MaxAdjustmentStep	ProtocolIE-ID ::= 130
id-MaximumTransmissionPower	ProtocolIE-ID ::= 131
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 132
id-MeasurementID	ProtocolIE-ID ::= 133
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst	ProtocolIE-ID ::= 134
id-NodeB-CommunicationContextID	ProtocolIE-ID ::= 143
<u>id-NeighbouringCellMeasurementInformation</u>	<u>ProtocolIE-ID ::= 455</u>
id-P-CCPCH-Information	ProtocolIE-ID ::= 144
id-P-CCPCH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 145

Remaining parts are unaffected and omitted.



## CHANGE REQUEST

⌘ **25.433 CR 374** ⌘ rev **2** ⌘ Current version: **3.4.1** ⌘

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

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

<b>Title:</b>	⌘ Introduction of Information Exchange procedures over lub		
<b>Source:</b>	⌘ R-WG3		
<b>Work item code:</b>	⌘ LCS1-UEPos-lublur	<b>Date:</b>	⌘ February, 2001
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ REL-4
	<p>Use <u>one</u> of the following categories:</p> <p><b>F</b> (essential correction)  <b>A</b> (corresponds to a correction in an earlier release)  <b>B</b> (Addition of feature),  <b>C</b> (Functional modification of feature)  <b>D</b> (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p><b>2</b> (GSM Phase 2)  <b>R96</b> (Release 1996)  <b>R97</b> (Release 1997)  <b>R98</b> (Release 1998)  <b>R99</b> (Release 1999)  <b>REL-4</b> (Release 4)  <b>REL-5</b> (Release 5)</p>

<b>Reason for change:</b>	⌘ Currently there is no support over lub for exchanging information like for example assistance data for A-GPS positioning purposes. This CR introduces a new set of Information Exchange EPs in order to provide this support.
<b>Summary of change:</b>	<p>⌘ A new set of Elementary Procedures is introduced:</p> <ul style="list-style-type: none"> <li>- Information Exchange Initiation;</li> <li>- Information Reporting;</li> <li>- Information Exchange Termination;</li> <li>- Information Exchange Failure;</li> </ul> <p>These EPs allow flexible provision of information from the Node B to the CRNC.</p> <ul style="list-style-type: none"> <li>- Rev1: the ASN.1 part was added.</li> <li>- Rev2: the identifiers were allocated in the ASN.1 part and references were added to the IE descriptions in subclause 9.2.1.</li> </ul>
<b>Consequences if not approved:</b>	<p>⌘ In general, lub wouldn't be able to support the provision of assistance data from the Node B to the CRNC. With regards to UE Positioning, lub wouldn't support GPS assistance data signalling and therefore a GPS receiver located at the Node B wouldn't be useful with regards to GPS data provision to the CRNC.</p> <p>Backward compatibility: this CR is backward compatible with TS 25.433 V3.4.1.</p>

<b>Clauses affected:</b>	⌘ 2, 7, 8.1, 8.2.X (new), 9.1.X (new), 9.2.1.X (new), 9.3.2, 9.3.3, 9.3.4, 9.3.6	
<b>Other specs affected:</b>	<p>⌘ <input checked="" type="checkbox"/> Other core specifications</p> <p><input type="checkbox"/> Test specifications</p> <p><input type="checkbox"/> O&amp;M Specifications</p>	⌘ CR 328 to TS 25.423

**Other comments:** ☹

**How to create CRs using this form:**

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

- 1) Fill out the above form. The symbols above marked ☹ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request

---

## 2 References

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

References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

For a specific reference, subsequent revisions do not apply.

For a non-specific reference, the latest version applies.

- [1] 3GPP TS 25.401: "UTRAN Overall Description".
- [2] 3GPP TS 25.426: "UTRAN  $I_{ur}$  and  $I_{ub}$  Interface Data Transport & Transport Signalling for DCH Data Streams".
- [3] CCITT Recommendation X.731 (01/92): "Information Technology – Open Systems Interconnection – Systems Management: State Management function".
- [4] 3GPP TS 25.215: "Physical layer – Measurements (FDD)".
- [5] 3GPP TS 25.225: "Physical layer – Measurements (TDD)".
- [6] 3GPP TS 25.430: "UTRAN  $I_{ub}$  General Aspect and Principle".
- [7] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
- [8] 3GPP TS 25.212: "Multiplexing and channel coding (FDD)".
- [9] 3GPP TS 25.213: "Spreading and modulation (FDD)".
- [10] 3GPP TS 25.214: "Physical layer procedures (FDD)".
- [11] X.691, (12/97) "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".
- [12] X.680, (12/97) "Information Technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".
- [13] X.681, (12/97) "Information Technology - Abstract Syntax Notation One (ASN.1): Information object specification"
- [14] 3GPP TS 25.104: "UTRA (BS) FDD; Radio Transmission and Reception".
- [15] 3GPP TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".
- [16] 3GPP TS25.427: "UTRAN  $I_{ur}/I_{ub}$  Interface User Plane Protocol for DCH Data Stream"
- [17] 3GPP TS25.402: "Synchronisation in UTRAN Stage2"
- [18] 3GPP TS25.331: "RRC Protocol Specification"
- [19] 3GPP TS25.221: "Physical channels and mapping of transport channels onto physical channels[TDD]"
- [20] 3GPP TS25.223: "Spreading and modulation (TDD)"
- [21] 3GPP TS25.224: "Physical Layer Procedures (TDD)"
- [22] 3GPP TS 25.133 (V3.3): "Requirements for support of Radio Resource management (FDD)"
- [23] 3GPP TS 25.123 (V3.3): " Requirements for support of Radio Resource management (TDD)"

- [24] 3GPP TS 25.435: "UTRAN Iub Interface: User Plane Protocols for Common Transport Channel Data Streams".
- [25] 3GPP TS 25.302: "Services Provided by the Physical Layer".
- [26] 3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling".
- [27] ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".
- [28] RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".

## 7 Functions of NBAP

The NBAP protocol has the following functions:

- Cell Configuration Management. This function gives the CRNC the possibility to manage the cell configuration information in a Node B.
- Common Transport Channel Management. This function gives the CRNC the possibility to manage the configuration of Common Transport Channels in a Node B.
- System Information Management. This function gives the CRNC the ability to manage the scheduling of System Information to be broadcast in a cell.
- Resource Event Management. This function gives the Node B the ability to inform the CRNC about the status of Node B resources.
- Configuration Alignment. This function gives the CRNC and the Node B the possibility to verify and enforce that both nodes has the same information on the configuration of the radio resources.
- Measurements on Common Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.
- Radio Link Management. This function allows the CRNC to manage radio links using dedicated resources in a Node B.
- Radio Link Supervision. This function allows the CRNC to report failures and restorations of a Radio Link.
- Compressed Mode Control [FDD]. This function allows the CRNC to control the usage of compressed mode in a Node B.
- Measurements on Dedicated Resources. This function allows the CRNC to initiate measurements in the Node B. The function also allows the Node B to report the result of the measurements.
- DL Power Drifting Correction [FDD]. This function allows the CRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links.
- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- Physical Shared Channel Management [TDD]. This function allows the CRNC to manage physical resources in the Node B belonging to Shared Channels (USCH/DSCH).
- DL Power Timeslot Correction [TDD]. This function enables the Node B to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.
- Information Exchange. This function allows the CRNC to initiate information provision from the Node B. The function also allows the Node B to report the requested information.

The mapping between the above functions and NBAP elementary procedures is shown in the table below.

**Table 1: Mapping between functions and NBAP elementary procedures**

Function	Elementary Procedure(s)
Cell Configuration Management	a) Cell Setup b) Cell Reconfiguration c) Cell Deletion
Common Transport Channel Management	a) Common Transport Channel Setup b) Common Transport Channel Reconfiguration c) Common Transport Channel Deletion
System Information Management	System Information Update
Resource Event Management	a) Block Resource b) Unblock Resource c) Resource Status Indication
Configuration Alignment	a) Audit Required b) Audit c) Reset
Measurements on Common Resources	a) Common Measurement Initiation b) Common Measurement Reporting c) Common Measurement Termination d) Common Measurement Failure
Radio Link Management.	a) RL Setup b) RL Addition c) RL Deletion d) Unsynchronised RL Reconfiguration e) Synchronised RL Reconfiguration Preparation f) Synchronised RL Reconfiguration Commit g) Synchronised RL Reconfiguration Cancellation h) Radio Link Pre-emption
Radio Link Supervision.	a) RL Failure b) RL Restoration
Compressed Mode Control [FDD]	a) Radio Link Setup b) Radio Link Addition c) Compressed Mode Command d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation
Measurements on Dedicated Resources	a) Dedicated Measurement Initiation b) Dedicated Measurement Reporting c) Dedicated Measurement Termination d) Dedicated Measurement Failure
DL Power Drifting Correction [FDD]	Downlink Power Control
Reporting of General Error Situations	Error Indication
Physical Shared Channel Management [TDD]	Physical Shared Channel Reconfiguration
DL Power Timeslot Correction [TDD]	Downlink Power Timeslot Control
<u>Information Exchange</u>	<u>a) Information Exchange Initiation</u> <u>b) Information Reporting</u> <u>c) Information Exchange Termination</u> <u>d) Information Exchange Failure</u>

## 8 NBAP Procedures

### 8.1 Elementary Procedures

NBAP procedures are divided into common procedures and dedicated procedures.

- NBAP common procedures are procedures that request initiation of a UE context for a specific UE in Node B or are not related to a specific UE. NBAP common procedures also incorporate logical O&M [1] procedures.
- NBAP dedicated procedures are procedures that are related to a specific UE context in Node B. This UE context is identified by a UE context identity.

The two types of procedures may be carried on separate signalling links.  
In the following tables, all EPs are divided into Class 1 and Class 2 EPs:

Table 1: Class 1

Elementary Procedure	Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
Cell Setup	CELL SETUP REQUEST	CELL SETUP RESPONSE	CELL SETUP FAILURE	
Cell Reconfiguration	CELL RECONFIGURATION REQUEST	CELL RECONFIGURATION RESPONSE	CELL RECONFIGURATION FAILURE	
Cell Deletion	CELL DELETION REQUEST	CELL DELETION RESPONSE		
Common Transport Channel Setup	COMMON TRANSPORT CHANNEL SETUP REQUEST	COMMON TRANSPORT CHANNEL SETUP RESPONSE	COMMON TRANSPORT CHANNEL SETUP FAILURE	
Common Transport Channel Reconfiguration	COMMON TRANSPORT CHANNEL RECONFIGURATION REQUEST	COMMON TRANSPORT CHANNEL RECONFIGURATION RESPONSE	COMMON TRANSPORT CHANNEL RECONFIGURATION FAILURE	
Common Transport Channel Deletion	COMMON TRANSPORT CHANNEL DELETION REQUEST	COMMON TRANSPORT CHANNEL DELETION RESPONSE		
Physical Shared Channel Reconfigure [TDD]	PHYSICAL SHARED CHANNEL RECONFIGURATION REQUEST	PHYSICAL SHARED CHANNEL RECONFIGURATION RESPONSE	PHYSICAL SHARED CHANNEL RECONFIGURATION FAILURE	
Audit	AUDIT REQUEST	AUDIT RESPONSE	AUDIT FAILURE	
Block Resource	BLOCK RESOURCE REQUEST	BLOCK RESOURCE RESPONSE	BLOCK RESOURCE FAILURE	
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE	
System Information Update	SYSTEM INFORMATION UPDATE REQUEST	SYSTEM INFORMATION UPDATE RESPONSE	SYSTEM INFORMATION UPDATE FAILURE	
Common Measurement Initiation	COMMON MEASUREMENT INITIATION REQUEST	COMMON MEASUREMENT INITIATION RESPONSE	COMMON MEASUREMENT INITIATION FAILURE	
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE	
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE		
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE	
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE	
Dedicated Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE	
Reset	RESET REQUEST	RESET RESPONSE		
<u>Information Exchange Initiation</u>	<u>INFORMATION EXCHANGE INITIATION REQUEST</u>	<u>INFORMATION EXCHANGE INITIATION RESPONSE</u>	<u>INFORMATION EXCHANGE INITIATION FAILURE</u>	



Table 2: Class 2

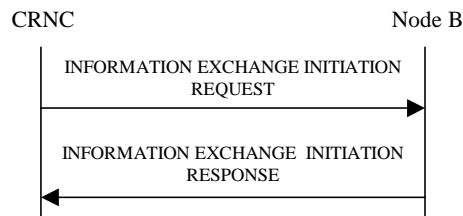
Elementary Procedure	Message
Resource Status Indication	RESOURCE STATUS INDICATION
Audit Required	AUDIT REQUIRED INDICATION
Common Measurement Reporting	COMMON MEASUREMENT REPORT
Common Measurement Termination	COMMON MEASUREMENT TERMINATION REQUEST
Common Measurement Failure	COMMON MEASUREMENT FAILURE INDICATION
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCELLATION
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Dedicated Measurement Reporting	DEDICATED MEASUREMENT REPORT
Dedicated Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Dedicated Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Command [FDD]	COMPRESSED MODE COMMAND
Unblock Resource	UNBLOCK RESOURCE INDICATION
Error Indication	ERROR INDICATION
Downlink Power Timeslot Control [TDD]	DL POWER TIMESLOT CONTROL REQUEST
Radio Link Pre-emption	RADIO LINK PREEMPTION REQUIRED INDICATION
<u>Information Reporting</u>	<u>INFORMATION REPORT</u>
<u>Information Exchange Termination</u>	<u>INFORMATION EXCHANGE TERMINATION REQUEST</u>
<u>Information Exchange Failure</u>	<u>INFORMATION EXCHANGE FAILURE INDICATION</u>

## 8.2.X Information Exchange Initiation

### 8.2.x.1 General

This procedure is used by a CRNC to request the initiation of information provisioning from a Node B.

### 8.2.x.2 Successful Operation



**Figure X: Information Exchange Initiation procedure, Successful Operation**

The procedure is initiated with the INFORMATION EXCHANGE INITIATION REQUEST message sent from the CRNC to the Node B using the Node B control port.

Upon reception, the Node B shall provide the requested information according to the *Information Type Item IE*. Unless specified below, the meaning of the parameters are given in other specifications.

#### Information Report Characteristics

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

If the *Information Report Characteristics IE* is set to 'On Demand', the Node B shall report the requested information immediately.

If the *Information Report Characteristics IE* is set to 'Periodic', the Node B shall periodically initiate the Information Reporting procedure for all the requested information, with the requested reporting frequency.

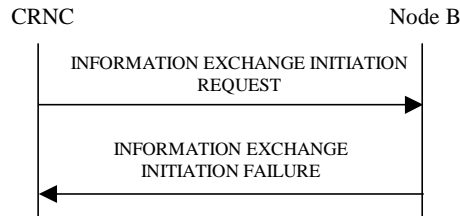
If the *Information Report Characteristics IE* is set to 'On Modification', the Node B shall immediately report the requested information and then shall initiate the Information Reporting procedure in accordance to the following conditions related to the *Information Type IE*:

1. If the *Information Type Item IE* is set to 'DGPS Corrections', the Node B shall initiate the Information Reporting procedure when either the PRC has drifted from the previously reported value more than the threshold indicated in the *PRC Deviation IE* or a change has occurred in the *IODE*.
2. If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS Navigation Model & Time Recovery', the Node B shall initiate the Information Reporting procedure for this specific GPS Information Item when a change has occurred regarding either the *IODC* or the list of visible satellites, identified by the *SatID IEs*.
3. If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS Ionospheric Model', the Node B shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.
4. If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS UTC Model', the Node B shall initiate the Information Reporting procedure for this specific GPS Information Item when a change has occurred in the *t<sub>ot</sub>* parameter.
5. If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS Almanac', the Node B shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.
6. If the *Information Type Item IE* is set to 'GPS Information' and the *GPS Information Item IE* includes 'GPS Real-Time Integrity', the Node B shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.

**Response message**

If the Node B was able to initiate the information provision requested by the CRNC it shall respond with the INFORMATION EXCHANGE INITIATION RESPONSE message sent over the Node B control port. The message shall include the same Information Exchange ID that was included in the INFORMATION EXCHANGE REQUEST message.

**8.2.x.3 Unsuccessful Operation**



**Figure X: Information Exchange Initiation procedure, Unsuccessful Operation**

If the Information Type Item received in the *Information Type Item* IE indicates a type of information that cannot be provided, the Node B shall regard the Information Exchange Initiation procedure as failed. If the requested information provision cannot be initiated, the Node B shall send the INFORMATION EXCHANGE INITIATION FAILURE message over the Node B control port. The message shall include the same Information Exchange ID that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

**Radio Network Layer Cause**

- Information temporarily not available.
- Information Provision not supported for the object.

**8.2.x.4 Abnormal Conditions**

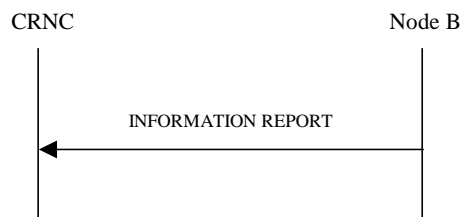
=

**8.2.X Information Reporting**

**8.2.X.1 General**

This procedure is used by a Node B to report the information requested by the CRNC with the Information Exchange Initiation procedure.

**8.2.X.2 Successful Operation**



**Figure X: Information Reporting procedure, Successful Operation**

If the requested information reporting criteria are met, the Node B shall initiate the Information Reporting procedure. The INFORMATION REPORT message shall use the Node B control port. Unless specified below, the meaning of the parameters are given in other specifications.

The *Information Exchange ID IE* shall be set to the Information Exchange ID provided by the CRNC when initiating the Information Exchange with the Information Exchange Initiation procedure.

**8.2.X.3 Abnormal Conditions**

=

**8.2.X Information Exchange Termination**

**8.2.X.1 General**

This procedure is used by the CRNC to terminate the provision of information previously requested by the Information Exchange Initiation procedure.

**8.2.X.2 Successful Operation**



**Figure X: Information Exchange Termination procedure, Successful Operation**

This procedure is initiated with an INFORMATION EXCHANGE TERMINATION REQUEST message, sent from the CRNC to the Node B using the Node B control port.

Upon reception, the Node B shall terminate the provision of information corresponding to the Information Exchange ID.

**8.2.X.3 Abnormal Conditions**

=

**8.2.X Information Exchange Failure**

**8.2.X.1 General**

This procedure is used by the Node B to notify the CRNC that information previously requested by the Information Exchange Initiation procedure can no longer be reported.

**8.2.X.2 Successful Operation**



**Figure X: Information Exchange Failure procedure, Successful Operation**

This procedure is initiated with the INFORMATION EXCHANGE FAILURE INDICATION message, sent from the Node B to the CRNC using the Node B control port, to inform the CRNC that information previously requested by the Information Exchange Initiation procedure can no longer be reported. The message shall include the same Information Exchange ID that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause IE* set to an appropriate value.

9.1.X INFORMATION EXCHANGE INITIATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>Information Exchange Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>CHOICE Information Exchange Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>&gt;Cell</u>					<u>:</u>	
<u>&gt;&gt;C-ID</u>	<u>M</u>		<u>9.2.1.9</u>		<u>:</u>	
<u>Information Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>
<u>Information Report Characteristics</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>reject</u>

9.1.X INFORMATION EXCHANGE INITIATION RESPONSE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>CHOICE Information Exchange Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>&gt;Cell</u>					<u>:</u>	
<u>&gt;&gt;Requested Data Value</u>	<u>M</u>		<u>9.2.1.x</u>		<u>:</u>	
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.17</u>		<u>YES</u>	<u>ignore</u>

9.1.X INFORMATION EXCHANGE INITIATION FAILURE

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>reject</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>Cause</u>	<u>M</u>		<u>9.2.1.6</u>		<u>YES</u>	<u>ignore</u>
<u>Criticality Diagnostics</u>	<u>O</u>		<u>9.2.1.17</u>		<u>YES</u>	<u>ignore</u>

9.1.X INFORMATION REPORT

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>CHOICE Information Exchange Object Type</u>	<u>M</u>		<u>9.2.1.x</u>		<u>YES</u>	<u>ignore</u>
<u>&gt;Cell</u>					<u>:</u>	
<u>&gt;&gt;Requested Data Value Information</u>	<u>M</u>		<u>9.2.1.x</u>		<u>:</u>	

9.1.X INFORMATION EXCHANGE TERMINATION REQUEST

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>

9.1.X INFORMATION EXCHANGE FAILURE INDICATION

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Discriminator</u>	<u>M</u>		<u>9.2.1.45</u>		<u>=</u>	
<u>Message Type</u>	<u>M</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>ignore</u>
<u>Transaction ID</u>	<u>M</u>		<u>9.2.1.62</u>		<u>=</u>	
<u>Information Exchange ID</u>	<u>M</u>		<u>9.2.1.X</u>		<u>YES</u>	<u>ignore</u>
<u>Cause</u>	<u>M</u>		<u>9.2.1.6</u>		<u>YES</u>	<u>ignore</u>

## 9.2.1.6 Cause

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE Cause group				
>Radio Network Layer				
>Radio Network Layer Cause	M		Enumerated (unknown C-ID, Cell not available, Power level not supported, DL radio resources not available, UL radio resources not available, RL Already Activated/allocated, Node B Resources Unavailable, Measurement not supported for the object, Combining Resources not available, Requested configuration not supported, Synchronization failure, Priority transport channel established, SIB Origination in Node B not Supported, Requested Tx Diversity Mode not supported, Unspecified, BCCH scheduling error, Measurement Temporarily not Available, Invalid CM Setting, Reconfiguration CFN not elapsed, Number of DL codes not supported, S-CPICH not supported, Combining not supported, UL SF not supported, DL SF not supported, Common Transport Channel Type not supported, Dedicated Transport Channel Type not supported, Downlink Shared Channel Type not supported, Uplink Shared Channel Type not supported, CM not supported, Tx diversity no longer supported, Unknown Local Cell ID, .... <a href="#">Information temporarily not available, Information Provision not supported for the object</a> )	
>Transport Layer				
>Transport Layer Cause	M		Enumerated (Transport resource unavailable, Unspecified, ...)	
>Protocol				

>Protocol Cause			Enumerated (Transfer syntax error, Abstract syntax error (reject), Abstract syntax error (ignore and notify), Message not compatible with receiver state, Semantic error, Unspecified, Abstract syntax error (falsely constructed message), ...)
>Misc			
>Miscellaneous Cause	M		Enumerated (Control processing overload Hardware failure, O&M intervention, Not enough user plane processing resources, Unspecified, ...)

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.

<b>Radio Network Layer cause</b>	<b>Meaning</b>
BCCH scheduling error	The Node B has detected an illegal BCCH schedule update (see 8.2.16.3)
Cell not Available,	The concerning cell or local cell is not available
Combining not supported	The Node B does not support RL combining for the concerning cells
Combining Resources Not Available	The value of the received <i>Diversity Control Field</i> IE was set to 'Must', but the Node B cannot perform the requested combining
CM not supported	The concerning cell(s) do not support Compressed Mode
Common Transport Channel Type not supported	The concerning cell(s) do not support the RACH and/or FACH and/or CPCH Common Transport Channel Type
Dedicated Transport Channel Type not supported	The concerning cell(s) do not support the Dedicated Transport Channel Type
DL Radio Resources not Available	The Node B does not have sufficient DL radio resources available
DL SF not supported	The concerning cell(s) do not support the requested DL SF
DL Shared Channel Type not supported	The concerning cell(s) do not support the Downlink Shared Channel Type
<u>Information Provision not supported for the object</u>	<u>The requested information provision is not supported for the concerned object types</u>
<u>Information temporarily not available</u>	<u>The requested information can temporarily not be provided</u>
Invalid CM Settings	The concerning cell(s) consider the requested Compressed Mode settings invalid
Measurement not Supported For The Object	At least one of the concerning cell(s) does not support the requested measurement on the concerning object type
Measurement Temporarily not Available	The Node B can temporarily not provide the requested measurement value
Node B resources unavailable	The Node B does not have sufficient resources available
Number of DL codes not supported	The concerning cell(s) do not support the requested number of DL codes
Power Level not Supported	A DL power level was requested which the concerning cell(s) do not support
Priority transport channel established	The CRNC cannot perform the requested blocking since a transport channel with a high priority is present
Reconfiguration CFN not elapsed	The requested action cannot be performed due to that a COMMIT message was received previously, but the concerning CFN has not yet elapsed
Requested Configuration not Supported	The concerning cell(s) do not support the requested configuration i.e. power levels, Transport Formats, physical channel parameters,.....
Requested Tx Diversity mode not supported	The concerning cell(s) do not support the requested transmit diversity mode



RL already Activated/ allocated	The Node B has already allocated an RL with the requested RL-id for this UE context
S-CPICH not supported	The concerning cell(s) do not support S-CPICH
SIB origination in Node B not supported	The Node B does not support the origination of the requested SIB for the concerning cell
Synchronisation Failure	Loss of UL Uu synchronisation
Tx diversity no longer supported	Tx diversity can no longer be supported in the concerning cell.
UL Radio Resources not Available	The Node B does not have sufficient UL radio resources available
UL SF not supported	The concerning cell(s) do not support the requested UL SF
UL Shared Channel Type not supported	The concerning cell(s) do not support the Uplink Shared Channel Type
Unknown C-ID	The Node B is not aware of a cell with the provided C-ID
Unknown Local Cell ID	The Node B is not aware of a local cell with the provided Local Cell ID
Unspecified	Sent when none of the above cause values applies but still the cause is Radio Network layer related

### 9.2.1.46 Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				
>Procedure ID	M	1		
>>Procedure Code	M		ENUMERATED ( COMMON TRANSPORT CHANNEL SETUP, COMMON TRANSPORT CHANNEL RECONFIGURATION, COMMON TRANSPORT CHANNEL DELETION, BLOCK RESOURCE, UNBLOCK RESOURCE, AUDIT REQUIRED, AUDIT, COMMON MEASUREMENT INITIATION, COMMON MEASUREMENT REPORTING, COMMON MEASUREMENT TERMINATION, COMMON MEASUREMENT FAILURE, CELL SETUP, CELL RECONFIGURATION, CELL DELETION, RESOURCE STATUS INDICATION, SYSTEM INFORMATION UPDATE, RL SETUP, RL ADDITION, SYNCHRONISED RL RECONFIGURATION PREPARATION, SYNCHRONISED RL RECONFIGURATION COMMIT, SYNCHRONISED RL RECONFIGURATION CANCELLATION, UNSYNCHRONISED RL RECONFIGURATION, RL DELETION, DL POWER CONTROL, DL POWER TIMESLOT CONTROL, DEDICATED MEASUREMENT INITIATION, DEDICATED MEASUREMENT REPORTING, DEDICATED MEASUREMENT TERMINATION, DEDICATED MEASUREMENT FAILURE, RL FAILURE, RL RESTORATION, COMPRESSED MODE COMMAND, ERROR INDICATION, PHYSICAL SHARED CHANNEL RECONFIGURATION, RESET, ...: <u>INFORMATION EXCHANGE INITIATION,</u> <u>INFORMATION REPORTING,</u> <u>INFORMATION EXCHANGE TERMINATION,</u> <u>INFORMATION EXCHANGE FAILURE)</u>	
>>Ddmode	M		ENUMERATED (FDD, TDD, Common, ...)	Common = common to FDD and TDD.
>Type of Message	M		ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

### 9.2.1.X Information Exchange Object Type

The Information Exchange Object type indicates the type of object that the requested information shall be valid for.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Information Exchange Object Type</u>			ENUMERATED (Cell, ...)	

### 9.2.1.X Information Report Characteristics

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

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Information Report Characteristics Type</u>	M		ENUMERATED (On Demand, Periodic, On Modification, ...)	
<b>Periodic</b>	C-Periodic			
>Information Report Periodicity	M		ENUMERATED (1min...1hr, ...) step 1min, (1hr...24hr, ...) step 1hr, ...)	The frequency with which the Node B shall send information reports.
<b>On Modification</b>	C-OnModification			
>Information Threshold	M		9.2.1.X	

<u>Condition</u>	<u>Explanation</u>
Periodic	This IE shall be present if the <i>Information Report Characteristics Type</i> IE indicates 'periodic'
OnModification	This IE shall be present if the <i>Information Report Characteristics Type</i> IE indicates 'On Modification' and the concerning information type requires threshold information

### 9.2.1.X Information Exchange ID

The Information Exchange ID uniquely identifies any requested information per Node B.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Information Exchange ID</u>	M		INTEGER (0 .. 2 <sup>20</sup> -1)	

### 9.2.1.X Information Type

The Information Type indicates which kind of information the Node B shall provide.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>Information Type Item</u>	<u>M</u>		<u>ENUMERATED (GPS Information, DGPS Corrections, GPS RX Pos, ...)</u>	
<u>GPS Information</u>	<u>C-GPS</u>	<u>0..&lt;MaxNoGPSItems&gt;</u>		
<u>&gt; GPS Information Item</u>			<u>ENUMERATED (GPS Navigation Model &amp; Time Recovery, GPS Ionospheric Model, GPS UTC Model, GPS Almanac, GPS Real-Time Integrity, ...)</u>	

<u>Condition</u>	<u>Explanation</u>
<u>GPS</u>	<u>This IE shall be present if the Information Type Item IE indicates 'GPS Information'</u>

<u>Range Bound</u>	<u>Explanation</u>
<u>MaxNoGPSItems</u>	<u>Maximum number of GPS Information Items supported in one Information Exchange</u>

### 9.2.1.X Information Threshold

The Information Threshold indicates which kind of information shall trigger the Information Reporting procedure.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>CHOICE Information Type Item</u>	<u>M</u>			
<u>&gt;DGPS</u>				
<u>&gt;&gt;PRC Deviation</u>	<u>M</u>		<u>ENUMERATED (1, 2, 5, 10, ...)</u>	<u>PRC deviation in meters from the previously reported value, which shall trigger a report</u>

### 9.2.1.X Requested Data Value

The *Requested Data Value* IE contains the relevant data concerning the ongoing information exchange.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
DGPS Corrections	C-DataVal		9.2.1.X	
GPS Navigation Model & Time Recovery	C-DataVal		9.2.1.X	
GPS Ionospheric Model	C-DataVal		9.2.1.X	
GPS UTC Model	C-DataVal		9.2.1.X	
GPS Almanac	C-DataVal		9.2.1.X	
GPS Real-Time Integrity	C-DataVal		9.2.1.X	
GPS RX Pos	C-DataVal		9.2.1.X	

<u>Condition</u>	<u>Explanation</u>
C-DataVal	At least one of these IEs shall be present

### 9.2.1.X Requested Data Value Information

The *Requested Data Value Information* IE provides information both on whether or not the Requested Data Value is provided in the message or not and if provided also the Requested Data Value itself. In case of periodic reporting, 'Information Not Available' shall be used when at least one part of the requested information was not available at the moment of initiating the Information Reporting procedure.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<i>CHOICE Information Availability Indicator</i>	M				=	
<i>&gt;Information Available</i>					=	
<i>&gt;&gt;Requested Data Value</i>	M		9.2.1.X		=	
<i>&gt;Information not Available</i>			NULL		=	

### 9.2.1.X DGPS Corrections

The DGPS Corrections IE contains DGPS information used by the UE Positioning A-GPS method. For further details on the meaning of parameters, see [28].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>GPS TOW</u>	<u>M</u>		<u>INTEGER (0..604799)</u>	<u>Time in seconds. This field indicates the baseline time for which the corrections are valid</u>
<u>Status/Health</u>	<u>M</u>		<u>ENUMERATED (UDRE scale 1.0, UDRE scale 0.75, UDRE scale 0.5, UDRE scale 0.3, UDRE scale 0.1, no data, invalid data)</u>	<u>This field indicates the status of the differential corrections</u>
<b><u>Satellite Information</u></b>		<u>1..&lt;MaxNoSat&gt;</u>		
<u>&gt;SatID</u>	<u>M</u>		<u>INTEGER (0..63)</u>	<u>Satellite ID</u>
<u>&gt;IODE</u>	<u>M</u>		<u>Bit string(8)</u>	<u>This IE is the sequence number for the ephemeris for the particular satellite. It can be used to determine if new ephemeris is used for calculating the corrections that are provided. This eight-bit IE is incremented for each new set of ephemeris for the satellite and may occupy the numerical range of [0, 239] during normal operations.</u>
<u>&gt;UDRE</u>	<u>M</u>		<u>ENUMERATED (UDRE <math>\leq 1.0m</math>, <math>1.0m &lt; UDRE \leq 4.0m</math>, <math>4.0m &lt; UDRE \leq 8.0m</math>, <math>8.0m &lt; UDRE</math>)</u>	<u>User Differential Range Error. This field provides an estimate of the uncertainty (<math>1-\sigma</math>) in the corrections for the particular satellite. The value in this field shall be multiplied by the UDRE Scale Factor in the common Corrections Status/Health field to determine the final UDRE estimate for the particular satellite</u>
<u>&gt;PRC</u>	<u>M</u>		<u>INTEGER (-2047..2047)</u>	<u>Pseudo Range Correction Scaling factor 0.32 meters</u>
<u>&gt;Range Correction Rate</u>	<u>M</u>		<u>INTEGER (-127.. 127)</u>	<u>Scaling factor 0.032 m/s</u>

<u>Range Bound</u>	<u>Explanation</u>
<u>MaxNoSat</u>	<u>Maximum number of satellites for which information can be provided</u>

9.2.1.X GPS Navigation Model & Time Recovery.

This IE contains subframes 1 to 3 of the GPS navigation message. For further details on the meaning of parameters, see [27].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<b><u>Navigation Message 1to3</u></b>		<i>1..&lt;MaxNoSat&gt;</i>		
<u>&gt;Transmission TOW</u>	<u>M</u>		<u>INTEGER (0..1048575)</u>	<u>Time of the Week when the message is broadcast.</u>
<u>&gt;SatID</u>	<u>M</u>		<u>INTEGER (0..63)</u>	<u>Satellite ID of the satellite from which the information is obtained</u>
<u>&gt;TLM Message</u>	<u>M</u>		<u>Bit string(14)</u>	
<u>&gt;Tlm Revd (C)</u>	<u>M</u>		<u>Bit string(2)</u>	
<u>&gt;HO-Word</u>	<u>M</u>		<u>Bit string(22)</u>	
<u>&gt;WN</u>	<u>M</u>		<u>Bit string(10)</u>	
<u>&gt;C/A or P on L2</u>	<u>M</u>		<u>Bit string(2)</u>	
<u>&gt;User Range Accuracy Index</u>	<u>M</u>		<u>Bit string(4)</u>	
<u>&gt;SV Health</u>	<u>M</u>		<u>Bit string(6)</u>	
<u>&gt;IODC</u>	<u>M</u>		<u>Bit string(10)</u>	
<u>&gt;L2 P Data Flag</u>	<u>M</u>		<u>Bit string(1)</u>	
<u>&gt;SF 1 Reserved</u>	<u>M</u>		<u>Bit string(87)</u>	
<u>&gt;T<sub>GD</sub></u>	<u>M</u>		<u>Bit string(8)</u>	
<u>&gt;t<sub>oc</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;af<sub>2</sub></u>	<u>M</u>		<u>Bit string(8)</u>	
<u>&gt;af<sub>1</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;af<sub>0</sub></u>	<u>M</u>		<u>Bit string(22)</u>	
<u>&gt;C<sub>rs</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;Δn</u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;M<sub>0</sub></u>	<u>M</u>		<u>Bit string(32)</u>	
<u>&gt;C<sub>uc</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;e</u>	<u>M</u>		<u>Bit string(32)</u>	
<u>&gt;C<sub>us</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;(A)<sup>1/2</sup></u>	<u>M</u>		<u>Bit string(32)</u>	
<u>&gt;t<sub>oe</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;Fit Interval Flag</u>	<u>M</u>		<u>Bit string(1)</u>	
<u>&gt;AODO</u>	<u>M</u>		<u>Bit string(5)</u>	
<u>&gt;C<sub>ic</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;OMEGA<sub>0</sub></u>	<u>M</u>		<u>Bit string(32)</u>	
<u>&gt;C<sub>is</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;i<sub>0</sub></u>	<u>M</u>		<u>Bit string(32)</u>	
<u>&gt;C<sub>rc</sub></u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;ω</u>	<u>M</u>		<u>Bit string(32)</u>	
<u>&gt;OMEGA<sub>dot</sub></u>	<u>M</u>		<u>Bit string(24)</u>	
<u>&gt;Idot</u>	<u>M</u>		<u>Bit string(14)</u>	
<u>&gt;Spare/zero fill</u>	<u>M</u>		<u>Bit string(20)</u>	

<u>Range Bound</u>	<u>Explanation</u>
<u>MaxNoSat</u>	<u>Maximum number of satellites for which information can be provided</u>

### 9.2.1.X GPS Ionospheric Model.

This IE provides the information regarding the GPS Ionospheric Model. For further details on the meaning of parameters, see [27].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
$\alpha_0$	M		Bit string(8)	
$\alpha_1$	M		Bit string(8)	
$\alpha_2$	M		Bit string(8)	
$\alpha_3$	M		Bit string(8)	
$\beta_0$	M		Bit string(8)	
$\beta_1$	M		Bit string(8)	
$\beta_2$	M		Bit string(8)	
$\beta_3$	M		Bit string(8)	

### 9.2.1.X GPS UTC Model.

This IE provides the information regarding the GPS UTC Model. For further details on the meaning of parameters, see [27].

<u>IE/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
$A_1$	M		Bit string(24)	
$A_0$	M		Bit string(32)	
$t_{ot}$	M		Bit string(8)	
$\Delta t_{LS}$	M		Bit string(8)	
$WN_t$	M		Bit string(8)	
$WN_{LSF}$	M		Bit string(8)	
DN	M		Bit string(8)	
$\Delta t_{LSF}$	M		Bit string(8)	

### 9.2.1.X GPS Real-Time Integrity.

This IE provides the information regarding the status of the GPS constellation. For further details on the meaning of parameters, see [27].

<u>IE/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
CHOICE <i>Bad Satellites Presence</i>	M			
> <i>Bad Satellites</i>				
>> <u>Satellite information</u>		$1..<MaxNoSat>$		
>>>BadSatID	M		INTEGER (0..63)	Satellite ID
> <i>No Bad Satellites</i>			NULL	

<u>Range Bound</u>	<u>Explanation</u>
MaxNoSat	Maximum number of satellites for which information can be provided



### 9.2.1.X GPS Almanac.

This IE provides the information regarding the GPS Almanac. For further details on the meaning of parameters, see [27].

<u>IE/Group name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics description</u>
<u>WN<sub>a</sub></u>	<u>M</u>		<u>Bit string(8)</u>	
<u>Satellite information</u>	<u>M</u>	<u>1..&lt;MaxNo Sat&gt;</u>		
<u>&gt;SatID</u>	<u>M</u>		<u>INTEGER (0..63)</u>	<u>Satellite ID</u>
<u>&gt;e</u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;t<sub>0a</sub></u>	<u>M</u>		<u>Bit string(8)</u>	
<u>&gt;δi</u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;OMEGADOT</u>	<u>M</u>		<u>Bit string(16)</u>	
<u>&gt;SV Health</u>	<u>M</u>		<u>Bit string(8)</u>	
<u>&gt;A<sup>1/2</sup></u>	<u>M</u>		<u>Bit string(24)</u>	
<u>&gt;OMEGA<sub>0</sub></u>	<u>M</u>		<u>Bit string(24)</u>	
<u>&gt;M<sub>0</sub></u>	<u>M</u>		<u>Bit string(24)</u>	
<u>&gt;ω</u>	<u>M</u>		<u>Bit string(24)</u>	
<u>&gt;af<sub>0</sub></u>	<u>M</u>		<u>Bit string(11)</u>	
<u>&gt;af<sub>1</sub></u>	<u>M</u>		<u>Bit string(11)</u>	

<u>Range Bound</u>	<u>Explanation</u>
<u>MaxNoSat</u>	<u>Maximum number of satellites for which information can be provided</u>

### 9.2.1.X GPS Receiver Geographical Position (GPS RX Pos).

The GPS Receiver Geographical Position is used to identify the geographical coordinates of a GPS receiver relevant for a certain Information Exchange Object.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Latitude Sign</u>	<u>M</u>		<u>ENUMERATED (North, South)</u>	
<u>Degrees of Latitude</u>	<u>M</u>		<u>INTEGER (0...2<sup>23</sup>-1)</u>	<u>The IE value (N) is derived by this formula: N ≤ 2<sup>23</sup> X / 90 &lt; N+1 X being the latitude in degree (0°.. 90°)</u>
<u>Degrees of Longitude</u>	<u>M</u>		<u>INTEGER (-2<sup>23</sup>...2<sup>23</sup>-1)</u>	<u>The IE value (N) is derived by this formula: N ≤ 2<sup>24</sup> X / 360 &lt; N+1 X being the longitude in degree (-180°..+180°)</u>

## 9.3.2 Elementary Procedure Definitions

```

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

NBAP-PDU-Discriptions {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Criticality,
    ProcedureID,
    MessageDiscriminator,
    TransactionID
FROM NBAP-CommonDataTypes

    CommonTransportChannelSetupRequestFDD,
    CommonTransportChannelSetupRequestTDD,
    CommonTransportChannelSetupResponse,
    CommonTransportChannelSetupFailure,
    CommonTransportChannelReconfigurationRequestFDD,
    CommonTransportChannelReconfigurationRequestTDD,
    CommonTransportChannelReconfigurationResponse,
    CommonTransportChannelReconfigurationFailure,
    CommonTransportChannelDeletionRequest,
    CommonTransportChannelDeletionResponse,
    BlockResourceRequest,
    BlockResourceResponse,
    BlockResourceFailure,
    UnblockResourceIndication,
    AuditFailure,
    AuditRequiredIndication,
    AuditRequest,
    AuditResponse,
    CommonMeasurementInitiationRequest,
    CommonMeasurementInitiationResponse,
    CommonMeasurementInitiationFailure,

```

CommonMeasurementReport,  
CommonMeasurementTerminationRequest,  
CommonMeasurementFailureIndication,  
CellSetupRequestFDD,  
CellSetupRequestTDD,  
CellSetupResponse,  
CellSetupFailure,  
CellReconfigurationRequestFDD,  
CellReconfigurationRequestTDD,  
CellReconfigurationResponse,  
CellReconfigurationFailure,  
CellDeletionRequest,  
CellDeletionResponse,  
InformationExchangeInitiationRequest,  
InformationExchangeInitiationResponse,  
InformationExchangeInitiationFailure,  
InformationReport,  
InformationExchangeTerminationRequest  
InformationExchangeFailureIndication,  
ResourceStatusIndication,  
SystemInformationUpdateRequest,  
SystemInformationUpdateResponse,  
SystemInformationUpdateFailure,  
ResetRequest,  
ResetResponse,  
RadioLinkPreemptionRequiredIndication,  
RadioLinkSetupRequestFDD,  
RadioLinkSetupRequestTDD,  
RadioLinkSetupResponseFDD,  
RadioLinkSetupResponseTDD,  
RadioLinkSetupFailureFDD,  
RadioLinkSetupFailureTDD,  
RadioLinkAdditionRequestFDD,  
RadioLinkAdditionRequestTDD,  
RadioLinkAdditionResponseFDD,  
RadioLinkAdditionResponseTDD,  
RadioLinkAdditionFailureFDD,  
RadioLinkAdditionFailureTDD,  
RadioLinkReconfigurationPrepareFDD,  
RadioLinkReconfigurationPrepareTDD,  
RadioLinkReconfigurationReady,  
RadioLinkReconfigurationFailure,  
RadioLinkReconfigurationCommit,  
RadioLinkReconfigurationCancel,  
RadioLinkReconfigurationRequestFDD,  
RadioLinkReconfigurationRequestTDD,  
RadioLinkReconfigurationResponse,  
RadioLinkDeletionRequest,  
RadioLinkDeletionResponse,  
DL-PowerControlRequest,  
  
DL-PowerTimeslotControlRequest,  
DedicatedMeasurementInitiationRequest,

DedicatedMeasurementInitiationResponse,  
DedicatedMeasurementInitiationFailure,  
DedicatedMeasurementReport,  
DedicatedMeasurementTerminationRequest,  
DedicatedMeasurementFailureIndication,  
RadioLinkFailureIndication,  
RadioLinkRestoreIndication,  
CompressedModeCommand,  
ErrorIndication,  
PrivateMessage,  
PhysicalSharedChannelReconfigurationRequestTDD,  
PhysicalSharedChannelReconfigurationResponseTDD,  
PhysicalSharedChannelReconfigurationFailureTDD  
FROM NBAP-PDU-Contents

id-audit,  
id-auditRequired,  
id-blockResource,  
id-cellDeletion,  
id-cellReconfiguration,  
id-cellSetup,  
id-commonMeasurementFailure,  
id-commonMeasurementInitiation,  
id-commonMeasurementReport,  
id-commonMeasurementTermination,  
id-commonTransportChannelDelete,  
id-commonTransportChannelReconfigure,  
id-commonTransportChannelSetup,  
id-compressedModeCommand,  
id-dedicatedMeasurementFailure,  
id-dedicatedMeasurementInitiation,  
id-dedicatedMeasurementReport,  
id-dedicatedMeasurementTermination,  
id-downlinkPowerControl,  
id-downlinkPowerTimeslotControl,  
id-errorIndicationForDedicated,  
id-errorIndicationForCommon,  
id-informationExchangeFailure,  
id-informationExchangeInitiation,  
id-informationReporting,  
id-informationExchangeTermination,  
id-physicalSharedChannelReconfiguration,  
id-privateMessageForDedicated,  
id-privateMessageForCommon,  
id-radioLinkAddition,  
id-radioLinkDeletion,  
id-radioLinkFailure,  
id-radioLinkPreemption,  
id-radioLinkRestoration,  
id-radioLinkSetup,  
  
id-reset,  
id-resourceStatusIndication,

```

    id-synchronisedRadioLinkReconfigurationCancellation,
    id-synchronisedRadioLinkReconfigurationCommit,
    id-synchronisedRadioLinkReconfigurationPreparation,
    id-systemInformationUpdate,
    id-unblockResource,
    id-unSynchronisedRadioLinkReconfiguration
FROM NBAP-Constants;

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

NBAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage          ,
    &SuccessfulOutcome          OPTIONAL,
    &UnsuccessfulOutcome        OPTIONAL,
    &Outcome                    OPTIONAL,
    &messageDiscriminator        MessageDiscriminator,
    &procedureID                ProcedureID    UNIQUE,
    &criticality                 Criticality    DEFAULT ignore
}

WITH SYNTAX {
    INITIATING MESSAGE          &InitiatingMessage
    [SUCCESSFUL OUTCOME        &SuccessfulOutcome]
    [UNSUCCESSFUL OUTCOME      &UnsuccessfulOutcome]
    [OUTCOME                    &Outcome]
    MESSAGE DISCRIMINATOR      &messageDiscriminator
    PROCEDURE ID                &procedureID
    [CRITICALITY                &criticality]
}

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

NBAP-PDU ::= CHOICE {
    initiatingMessage          InitiatingMessage,
    successfulOutcome          SuccessfulOutcome,
    unsuccessfulOutcome        UnsuccessfulOutcome,
    outcome                    Outcome,
    ...
}

InitiatingMessage ::= SEQUENCE {
    procedureID                NBAP-ELEMENTARY-PROCEDURE.&procedureID    ({NBAP-ELEMENTARY-PROCEDURES}),

    criticality                 NBAP-ELEMENTARY-PROCEDURE.&criticality    ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    messageDiscriminator        NBAP-ELEMENTARY-PROCEDURE.&messageDiscriminator    ({NBAP-ELEMENTARY-PROCEDURES}{@procedureID}),
}

```

```

    transactionID      TransactionID,
    value              NBAP-ELEMENTARY-PROCEDURE.&InitiatingMessage({NBAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

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

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

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

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

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

NBAP-ELEMENTARY-PROCEDURES-CLASS-1 NBAP-ELEMENTARY-PROCEDURE ::= {
    cellSetupFDD
    cellSetupTDD
    cellReconfigurationFDD
    cellReconfigurationTDD
    cellDeletion
    commonTransportChannelSetupFDD
    commonTransportChannelSetupTDD
    commonTransportChannelReconfigureFDD
    commonTransportChannelReconfigureTDD
    commonTransportChannelDelete
    audit
    blockResource
}

```

```

radioLinkSetupFDD
radioLinkSetupTDD
systemInformationUpdate
commonMeasurementInitiation
radioLinkAdditionFDD
radioLinkAdditionTDD
radioLinkDeletion
reset
synchronisedRadioLinkReconfigurationPreparationFDD
synchronisedRadioLinkReconfigurationPreparationTDD
unSynchronisedRadioLinkReconfigurationFDD
unSynchronisedRadioLinkReconfigurationTDD
dedicatedMeasurementInitiation
physicalSharedChannelReconfiguration
...
informationExchangeInitiation
}

NBAP-ELEMENTARY-PROCEDURES-CLASS-2 NBAP-ELEMENTARY-PROCEDURE ::= {
resourceStatusIndication
auditRequired
commonMeasurementReport
commonMeasurementTermination
commonMeasurementFailure
synchronisedRadioLinkReconfigurationCommit
synchronisedRadioLinkReconfigurationCancellation
radioLinkFailure
radioLinkPreemption
radioLinkRestoration
dedicatedMeasurementReport
dedicatedMeasurementTermination
dedicatedMeasurementFailure
downlinkPowerControlFDD
downlinkPowerTimeslotControl
compressedModeCommand
unblockResource
errorIndicationForDedicated
errorIndicationForCommon
privateMessageForDedicated
privateMessageForCommon
...
informationReporting
informationExchangeTermination
informationExchangeFailure
}

```

```

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

```

```

--
-- *****
-- Class 1
-- *** CellSetup (FDD) ***
cellSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellSetupRequestFDD
    SUCCESSFUL OUTCOME      CellSetupResponse
    UNSUCCESSFUL OUTCOME    CellSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellSetup, ddMode fdd }
    CRITICALITY             reject
}
-- *** CellSetup (TDD) ***
cellSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellSetupRequestTDD
    SUCCESSFUL OUTCOME      CellSetupResponse
    UNSUCCESSFUL OUTCOME    CellSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellSetup, ddMode tdd }
    CRITICALITY             reject
}
-- *** CellReconfiguration(FDD) ***
cellReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellReconfigurationRequestFDD
    SUCCESSFUL OUTCOME      CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CellReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellReconfiguration, ddMode fdd }
    CRITICALITY             reject
}
-- *** CellReconfiguration(TDD) ***
cellReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellReconfigurationRequestTDD
    SUCCESSFUL OUTCOME      CellReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CellReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellReconfiguration, ddMode tdd }
    CRITICALITY             reject
}
-- *** CellDeletion ***
cellDeletion NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CellDeletionRequest
    SUCCESSFUL OUTCOME      CellDeletionResponse

    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-cellDeletion, ddMode common }
    CRITICALITY             reject
}

```



```
}

-- *** CommonTransportChannelSetup (FDD) ***
commonTransportChannelSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelSetupRequestFDD
    SUCCESSFUL OUTCOME      CommonTransportChannelSetupResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelSetup, ddMode fdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelSetup (TDD) ***
commonTransportChannelSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelSetupRequestTDD
    SUCCESSFUL OUTCOME      CommonTransportChannelSetupResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelSetupFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelSetup, ddMode tdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelReconfigure (FDD) ***
commonTransportChannelReconfigureFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelReconfigurationRequestFDD
    SUCCESSFUL OUTCOME      CommonTransportChannelReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelReconfigure, ddMode fdd }
    CRITICALITY             reject
}

-- *** CommonTransportChannelReconfigure (TDD) ***
commonTransportChannelReconfigureTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonTransportChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME      CommonTransportChannelReconfigurationResponse
    UNSUCCESSFUL OUTCOME    CommonTransportChannelReconfigurationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonTransportChannelReconfigure, ddMode tdd }
    CRITICALITY             reject
}

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

-- *** Audit ***
audit NBAP-ELEMENTARY-PROCEDURE ::= {
```

```
INITIATING MESSAGE      AuditRequest
SUCCESSFUL OUTCOME      AuditResponse
UNSUCCESSFUL OUTCOME    AuditFailure
MESSAGE DISCRIMINATOR  common
PROCEDURE ID           { procedureCode id-audit, ddMode common }
CRITICALITY            reject
}

-- *** BlockResourceRequest ***
blockResource NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      BlockResourceRequest
  SUCCESSFUL OUTCOME      BlockResourceResponse
  UNSUCCESSFUL OUTCOME    BlockResourceFailure
  MESSAGE DISCRIMINATOR  common
  PROCEDURE ID           { procedureCode id-blockResource, ddMode common }
  CRITICALITY            reject
}

-- *** RadioLinkSetup (FDD) ***
radioLinkSetupFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkSetupRequestFDD
  SUCCESSFUL OUTCOME      RadioLinkSetupResponseFDD
  UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureFDD
  MESSAGE DISCRIMINATOR  common
  PROCEDURE ID           { procedureCode id-radioLinkSetup, ddMode fdd }
  CRITICALITY            reject
}

-- *** RadioLinkSetup (TDD) ***
radioLinkSetupTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkSetupRequestTDD
  SUCCESSFUL OUTCOME      RadioLinkSetupResponseTDD
  UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureTDD
  MESSAGE DISCRIMINATOR  common
  PROCEDURE ID           { procedureCode id-radioLinkSetup, ddMode tdd }
  CRITICALITY            reject
}

-- *** SystemInformationUpdate ***
systemInformationUpdate NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      SystemInformationUpdateRequest
  SUCCESSFUL OUTCOME      SystemInformationUpdateResponse
  UNSUCCESSFUL OUTCOME    SystemInformationUpdateFailure
  MESSAGE DISCRIMINATOR  common
  PROCEDURE ID           { procedureCode id-systemInformationUpdate, ddMode common }
  CRITICALITY            reject
}

-- *** Reset ***

reset NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      ResetRequest
```

```

    SUCCESSFUL OUTCOME      ResetResponse
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-reset, ddMode common }
    CRITICALITY             reject
}

-- *** CommonMeasurementInitiation ***
commonMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonMeasurementInitiationRequest
    SUCCESSFUL OUTCOME      CommonMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    CommonMeasurementInitiationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonMeasurementInitiation, ddMode common }
    CRITICALITY             reject
}

-- *** RadioLinkAddition (FDD) ***
radioLinkAdditionFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkAdditionRequestFDD
    SUCCESSFUL OUTCOME      RadioLinkAdditionResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureFDD
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkAddition, ddMode fdd }
    CRITICALITY             reject
}

-- *** RadioLinkAddition (TDD) ***
radioLinkAdditionTDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkAdditionRequestTDD
    SUCCESSFUL OUTCOME      RadioLinkAdditionResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureTDD
    MESSAGE DISCRIMINATOR   dedicated
    PROCEDURE ID            { procedureCode id-radioLinkAddition, ddMode tdd }
    CRITICALITY             reject
}

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

-- *** SynchronisedRadioLinkReconfigurationPreparation (FDD) ***
synchronisedRadioLinkReconfigurationPreparationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkReconfigurationPrepareFDD
    SUCCESSFUL OUTCOME      RadioLinkReconfigurationReady
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
}

```

```

MESSAGE DISCRIMINATOR    dedicated
PROCEDURE ID             { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode fdd }
CRITICALITY              reject
}

-- *** SynchronisedRadioLinkReconfigurationPreparation (TDD) ***
synchronisedRadioLinkReconfigurationPreparationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkReconfigurationPrepareTDD
  SUCCESSFUL OUTCOME      RadioLinkReconfigurationReady
  UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode tdd }
  CRITICALITY             reject
}

-- *** UnSynchronisedRadioLinkReconfiguration (FDD) ***
unSynchronisedRadioLinkReconfigurationFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkReconfigurationRequestFDD
  SUCCESSFUL OUTCOME      RadioLinkReconfigurationResponse
  UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode fdd }
  CRITICALITY             reject
}

-- *** UnSynchronisedRadioLinkReconfiguration (TDD) ***
unSynchronisedRadioLinkReconfigurationTDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      RadioLinkReconfigurationRequestTDD
  SUCCESSFUL OUTCOME      RadioLinkReconfigurationResponse
  UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode tdd }
  CRITICALITY             reject
}

-- *** DedicatedMeasurementInitiation ***
dedicatedMeasurementInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      DedicatedMeasurementInitiationRequest
  SUCCESSFUL OUTCOME      DedicatedMeasurementInitiationResponse
  UNSUCCESSFUL OUTCOME    DedicatedMeasurementInitiationFailure
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-dedicatedMeasurementInitiation, ddMode common }
  CRITICALITY             reject
}

-- *** PhysicalSharedChannelReconfiguration (TDD only) ***
physicalSharedChannelReconfiguration NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PhysicalSharedChannelReconfigurationRequestTDD
  SUCCESSFUL OUTCOME      PhysicalSharedChannelReconfigurationResponseTDD

  UNSUCCESSFUL OUTCOME    PhysicalSharedChannelReconfigurationFailureTDD
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-physicalSharedChannelReconfiguration, ddMode tdd }
}

```

```

    CRITICALITY      reject
}

--*** InformationExchangeInitiation ***
informationExchangeInitiation NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeInitiationRequest
    SUCCESSFUL OUTCOME      InformationExchangeInitiationResponse
    UNSUCCESSFUL OUTCOME    InformationExchangeInitiationFailure
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-informationExchangeInitiation, ddMode common }
    CRITICALITY             reject
}

-- Class 2

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

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

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

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

-- *** CommonMeasurementFailure ***
commonMeasurementFailure NBAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonMeasurementFailureIndication
    MESSAGE DISCRIMINATOR   common
    PROCEDURE ID            { procedureCode id-commonMeasurementFailure, ddMode common }
}

```

```
    CRITICALITY          ignore
}

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

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

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

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

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

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

-- *** DedicatedMeasurementTermination ***
dedicatedMeasurementTermination NBAP-ELEMENTARY-PROCEDURE ::= {
```

```

INITIATING MESSAGE    DedicatedMeasurementTerminationRequest
MESSAGE DISCRIMINATOR dedicated
PROCEDURE ID          { procedureCode id-dedicatedMeasurementTermination, ddMode common }
CRITICALITY           ignore
}

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

-- *** DLPowerControl (FDD only) ***
downlinkPowerControlFDD NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    DL-PowerControlRequest
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-downlinkPowerControl, ddMode fdd }
  CRITICALITY           ignore
}

-- *** DLPowerTimeslotControl (TDD only) ***
downlinkPowerTimeslotControl NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    DL-PowerTimeslotControlRequest
  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-downlinkPowerTimeslotControl, ddMode tdd }
  CRITICALITY           ignore
}

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

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

-- *** ErrorIndication for Dedicated procedures ***
errorIndicationForDedicated NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE    ErrorIndication

  MESSAGE DISCRIMINATOR dedicated
  PROCEDURE ID          { procedureCode id-errorIndicationForDedicated, ddMode common }
  CRITICALITY           ignore
}

```

```
}

-- *** ErrorIndication for Common procedures ***
errorIndicationForCommon NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      ErrorIndication
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-errorIndicationForCommon, ddMode common }
  CRITICALITY             ignore
}

-- *** PrivateMessage for Dedicated procedures ***
privateMessageForDedicated NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PrivateMessage
  MESSAGE DISCRIMINATOR   dedicated
  PROCEDURE ID            { procedureCode id-privateMessageForDedicated, ddMode common }
  CRITICALITY             ignore
}

-- *** PrivateMessage for Common procedures ***
privateMessageForCommon NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      PrivateMessage
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-privateMessageForCommon, ddMode common }
  CRITICALITY             ignore
}

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

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

-- *** InformationExchangeFailure ***
informationExchangeFailure NBAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE      InformationExchangeFailureIndication
  MESSAGE DISCRIMINATOR   common
  PROCEDURE ID            { procedureCode id-informationExchangeFailure, ddMode common }
  CRITICALITY             ignore
}
```

END



### 9.3.3 PDU Definitions

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

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
  Active-Pattern-Sequence-Information,
  AddorDeleteIndicator,
  AICH-Power,
  AICH-TransmissionTiming,
  AllocationRetentionPriority,
  APPreambleSignature,
  APSubChannelNumber,
  AvailabilityStatus,
  BCCH-ModificationTime,
  BindingID,
  BlockingPriorityIndicator,
  BlockSTTD-Indicator,
  Cause,
  CCTrCH-ID,
  CDSubChannelNumbers,
  CellParameterID,
  CFN,
  Channel-Assignment-Indication,
  ChipOffset,
  C-ID,
  Closedlooptimingadjustmentmode,
  CommonChannelsCapacityConsumptionLaw,
  Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
  CommonMeasurementType,
  CommonMeasurementValue,
  CommonMeasurementValueInformation,
  CommonPhysicalChannelID,
  Common-PhysicalChannel-Status-Information,
  Common-TransportChannel-Status-Information,
```

CommonTransportChannelID,  
CommonTransportChannel-InformationResponse,  
CommunicationControlPortID,  
ConfigurationGenerationID,  
ConstantValue,  
CriticalityDiagnostics,  
CPCH-Allowed-Total-Rate,  
CPCHScramblingCodeNumber,  
CPCH-UL-DPCCH-SlotFormat,  
CRNC-CommunicationContextID,  
DCH-FDD-Information,  
DCH-InformationResponse,  
DCH-ID,  
FDD-DCHs-to-Modify,  
TDD-DCHs-to-Modify,  
DCH-TDD-Information,  
DedicatedChannelsCapacityConsumptionLaw,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DedicatedMeasurementValueInformation,  
DiversityControlField,  
DiversityMode,  
DL-DPCH-SlotFormat,  
DL-or-Global-CapacityCredit,  
DL-Power,  
DLPowerAveragingWindowSize,  
DL-ScramblingCode,  
DL-TimeslotISCP,  
DL-Timeslot-Information,  
DL-TimeslotISCPInfo,  
DL-TPC-Pattern01Count,  
DPCH-ID,  
DSCH-ID,  
DSCH-FDD-Information,  
DSCH-InformationResponse,  
DSCH-TDD-Information,  
End-Of-Audit-Sequence-Indicator,  
FDD-DL-ChannelisationCodeNumber,  
FDD-DL-CodeInformation,  
FDD-S-CCPCH-Offset,  
FDD-TPC-DownlinkStepSize,  
FirstRLS-Indicator,  
FNReportingIndicator,  
FrameHandlingPriority,  
FrameOffset,  
IB-OC-ID,  
IB-SG-DATA,  
IB-SG-POS,  
IB-SG-REP,  
IB-Type,  
IndicationType,  
InformationExchangeID,  
InformationReportCharacteristics,

InformationType,  
InnerLoopDLPCStatus,  
LimitedPowerIncrease,  
Local-Cell-ID,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
Max-Number-of-PCPCHes,  
MaxNrOfUL-DPDCHs,  
MaxPRACH-MidambleShifts,  
MeasurementFilterCoefficient,  
MeasurementID,  
MidambleShiftAndBurstType,  
MinimumDL-PowerCapability,  
MinSpreadingFactor,  
MinUL-ChannelisationCodeLength,  
MultiplexingPosition,  
NEOT,  
NFmax,  
N-INSYNC-IND,  
N-OUTSYNC-IND,  
NodeB-CommunicationContextID,  
NStartMessage,  
PagingIndicatorLength,  
PayloadCRC-PresenceIndicator,  
PCCPCH-Power,  
PCP-Length,  
PDSCH-CodeMapping,  
PDSCHSet-ID,  
PDSCH-ID,  
PICH-Mode,  
PICH-Power,  
PowerAdjustmentType,  
PowerOffset,  
PowerRaiseLimit,  
PRACH-Midamble,  
PreambleSignatures,  
PreambleThreshold,  
PrimaryCPICH-Power,  
PrimaryScramblingCode,  
PropagationDelay,  
SCH-TimeSlot,  
PunctureLimit,  
PUSCHSet-ID,  
PUSCH-ID,  
QE-Selector,  
RACH-SlotFormat,  
  
RACH-SubChannelNumbers,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
RequestedDataValue,  
RequestedDataValueInformation,

ResourceOperationalState,  
 RL-Set-ID,  
 RL-ID,

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

id-FACH-ParametersListIE-CTCH-SetupRqstFDD,  
 id-FACH-ParametersListIE-CTCH-SetupRqstTDD,  
 id-IndicationType-ResourceStatusInd,  
id-InformationExchangeID,  
id-InformationExchangeObjectType-InfEx-Rqst,  
id-InformationExchangeObjectType-InfEx-Rsp,  
id-InformationExchangeObjectType-InfEx-Rprt,  
id-InformationReportCharacteristics,  
id-InformationType,  
 id-InnerLoopDLPCStatus,  
 id-Limited-power-increase-information-Cell-SetupRqstFDD,  
 id-Local-Cell-ID,  
 id-Local-Cell-Group-InformationItem-AuditRsp,  
 id-Local-Cell-Group-InformationItem-ResourceStatusInd,  
 id-Local-Cell-Group-InformationItem2-ResourceStatusInd,  
 id-Local-Cell-Group-InformationList-AuditRsp,  
 id-Local-Cell-InformationItem-AuditRsp,  
 id-Local-Cell-InformationItem-ResourceStatusInd,  
 id-Local-Cell-InformationItem2-ResourceStatusInd,  
 id-Local-Cell-InformationList-AuditRsp,  
 id-AdjustmentPeriod,  
 id-MaxAdjustmentStep,  
 id-MaximumTransmissionPower,  
 id-MeasurementFilterCoefficient,  
 id-MeasurementID,  
 id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,  
 id-NodeB-CommunicationContextID,  
 id-P-CCPCH-Information,  
 id-P-CPICH-Information,  
 id-P-SCH-Information,  
 id-PCCPCH-Information-Cell-ReconfRqstTDD,  
 id-PCCPCH-Information-Cell-SetupRqstTDD,  
 id-PCH-Parameters-CTCH-ReconfRqstTDD,  
 id-PCH-Parameters-CTCH-SetupRsp,

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

maxNrOfCCTrCHs,  
 maxNrOfCodes,  
 maxNrOfCPCHs,  
 maxNrOfDCHs,  
 maxNrOfDLCodes,  
 maxNrOfDLTSS,

```

maxNrOfDPCHs,
maxNrOfDSCHs,
maxNrOfFACHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfPCPCHs,
maxNrOfPDSCHs,
maxNrOfPUSCHs,
maxNrOfPDSCHSets,
maxNrOfPUSCHSets,
maxNrOfSCCPCHs,
maxNrOfULTSs,
maxNrOfUSCHs,
maxAPSigNum,
maxCPCHCell,
maxFACHCell,
maxNoofLen,
maxRACHCell,
maxPCPCHCell,
maxPRACHCell,
maxSCCPCHCell,
maxSCPICHCell,
maxCellinNodeB,
maxCCPinNodeB,
maxCommunicationContext,
maxLocalCellinNodeB,
maxNrOfSlotFormatsPRACH,
maxIB,
maxIBSEG
FROM NBAP-Constants;

```

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

```

-- *****
--
-- INFORMATION EXCHANGE INITIATION REQUEST
--
-- *****

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

InformationExchangeInitiationRequest-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-InformationExchangeID          CRITICALITY reject          TYPE      InformationExchangeID
      PRESENCE mandatory }|
    { ID      id-InformationExchangeObjectType-InfEx-Rqst          CRITICALITY reject          TYPE      InformationExchangeObjectType-InfEx-Rqst
      PRESENCE mandatory }|
    -- This IE represents both the Information Exchange Object Type IE and the choice based on the Information Exchange Object Type

```

```

-- as described in the tabular message format in subclause 9.1.
{ ID id-InformationType CRITICALITY reject TYPE InformationType
PRESENCE mandatory }]
{ ID id-InformationReportCharacteristics CRITICALITY reject TYPE InformationReportCharacteristics
PRESENCE mandatory},
...
}

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

InformationExchangeObjectType-InfEx-Rqst ::= CHOICE {
cell Cell-InfEx-Rqst,
...
}

Cell-InfEx-Rqst ::= SEQUENCE {
c-ID C-ID,
iE-Extensions ProtocolExtensionContainer { { CellItem-InfEx-Rqst-ExtIEs} } OPTIONAL,
...
}

CellItem-InfEx-Rqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
...
}

-- *****
--
-- INFORMATION EXCHANGE INITIATION RESPONSE
--
-- *****

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

InformationExchangeInitiationResponse-IEs NBAP-PROTOCOL-IES ::= {
{ ID id-InformationExchangeID CRITICALITY ignore TYPE InformationExchangeID
PRESENCE mandatory }]
{ ID id-InformationExchangeObjectType-InfEx-Rsp CRITICALITY ignore TYPE InformationExchangeObjectType-InfEx-Rsp
PRESENCE mandatory }]
{ ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics
PRESENCE optional },
...
}

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

```

```

    ...
  ]

InformationExchangeObjectType-InfEx-Rsp ::= CHOICE {
  cell                               Cell-InfEx-Rsp,
  ...
}

Cell-InfEx-Rsp ::= SEQUENCE {
  requestedDataValue                 RequestedDataValue,
  iE-Extensions                      ProtocolExtensionContainer { { CellItem-InfEx-Rsp-ExtIEs } } OPTIONAL,
  ...
}

CellItem-InfEx-Rsp-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- INFORMATION EXCHANGE INITIATION FAILURE
--
-- *****

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

InformationExchangeInitiationFailure-IEs NBAP-PROTOCOL-IES ::= {
  { ID      id-InformationExchangeID      CRITICALITY  ignore      TYPE      InformationExchangeID
  PRESENCE  mandatory } |
  { ID      id-Cause                      CRITICALITY  ignore      TYPE      Cause
  PRESENCE  mandatory } |
  { ID      id-CriticalityDiagnostics     CRITICALITY  ignore      TYPE      CriticalityDiagnostics
  PRESENCE  optional }
  ,
  ...
}

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

-- *****
--
-- INFORMATION REPORT
--
-- *****

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

```

```

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

InformationReport-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-InformationExchangeID                CRITICALITY ignore          TYPE InformationExchangeID
      PRESENCE mandatory }
    { ID      id-InformationExchangeObjectType-InfEx-Rprt  CRITICALITY ignore          TYPE InformationExchangeObjectType-InfEx-Rprt
      PRESENCE mandatory },
    ...
}

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

InformationExchangeObjectType-InfEx-Rprt ::= CHOICE {
    cell          Cell-Inf-Rprt,
    ...
}

Cell-Inf-Rprt ::= SEQUENCE {
    requestedDataValueInformation      RequestedDataValueInformation,
    iE-Extensions                      ProtocolExtensionContainer  {{ CellItem-Inf-Rprt-ExtIEs }}  OPTIONAL,
    ...
}

CellItem-Inf-Rprt-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- INFORMATION EXCHANGE TERMINATION REQUEST
--
-- *****

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

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

```



```

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

-- *****
--
-- INFORMATION EXCHANGE FAILURE INDICATION
--
-- *****

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

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

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

```

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

## 9.3.4 Information Elements Definitions

```

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

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

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS
    maxNrOfTFCs,
    maxNrOfErrors,
    maxCTFC,

```

```

maxNrOfTFs ,
maxTTI-count ,
maxRateMatching ,
maxCodeNrComp-1 ,
maxNrOfCodeGroups ,
maxNrOfTFGroups ,
maxNrOfTFCombs ,
maxNrOfTF2Combs ,
maxNrOfTF2Combs-1 ,
maxNrOfSF ,
maxTGPS ,
maxNrOfUSCHs ,
maxNrOfULTSs ,
maxNrOfDPCHs ,
maxNrOfCodes ,
maxNrOfDSCHs ,
maxNrOfDLTSs ,
maxNrOfDCHs ,
maxNoGPSItems ,
maxNoSat
FROM NBAP-Constants

```

```

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

```

```

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

```

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

```

-- =====
-- C
-- =====

```

```

Cause ::= CHOICE {
    radioNetwork      CauseRadioNetwork ,
    transport         CauseTransport ,
    protocol          CauseProtocol ,
    misc              CauseMisc ,
    ...
}

```

```

CauseMisc ::= ENUMERATED {
    control-processing-overload ,
    hardware-failure ,
}

```

```

    oam-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    message-not-compatible-with-receiver-state,
    semantic-error,
    unspecified,
    abstract-syntax-error-falsely-constructed-message,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    rl-already-ActivatedOrAlocated,
    nodeB-Resources-unavailable,
    measurement-not-supported-for-the-object,
    combining-resources-not-available,
    requested-configuration-not-supported,
    synchronisation-failure,
    priority-transport-channel-established,
    sIB-Origination-in-Node-B-not-Supported,
    requested-tx-diversity-mode-not-supported,
    unspecified,
    bCCH-scheduling-error,
    measurement-temporarily-not-available,
    invalid-CM-settings,
    reconfiguration-CFN-not-elapsed,
    number-of-DL-codes-not-supported,
    s-cipch-not-supported,
    combining-not-supported,
    ul-sf-not-supported,
    dl-SF-not-supported,
    common-transport-channel-type-not-supported,
    dedicated-transport-channel-type-not-supported,
    downlink-shared-channel-type-not-supported,
    uplink-shared-channel-type-not-supported,
    cm-not-supported,
    tx-diversity-no-longer-supported,
    unknown-Local-Cell-ID,
    ...
    information-temporarily-not-available,
    information-provision-not-supported-for-the-object
}

```

```
CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}
```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```
-- =====
-- D
-- =====
```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```
DGPSCorrections ::= SEQUENCE {
    gpstow GPSTOW,
    status-health GPS-Status-Health,
    satelliteinfo SAT-Info-DGPSCorrections,
    ie-Extensions ProtocolExtensionContainer { { DGPSCorrections-ExtIEs } } OPTIONAL,
    ...
}
```

```
DGPSCorrections-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
DGPSThresholds ::= SEQUENCE {
    prcdeviation PRCDiviation,
    ie-Extensions ProtocolExtensionContainer { { DGPSThresholds-ExtIEs } } OPTIONAL,
    ...
}
```

```
DGPSThresholds-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```
-- =====
-- G
-- =====
```

```
GapLength ::= INTEGER (1..14)
-- Unit slot
```

```
GapDuration ::= INTEGER (1..144,...)
-- Unit frame
```

```
GPS-Almanac ::= SEQUENCE {
  wna-alm BIT STRING (SIZE (8)),
  sat-info-almanac SAT-Info-Almanac,
  ie-Extensions ProtocolExtensionContainer { { GPS-Almanac-ExtIEs } } OPTIONAL,
  ...
}
```

```
GPS-Almanac-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
GPS-Ionospheric-Model ::= SEQUENCE {
  alpha-zero-ionos BIT STRING (SIZE (8)),
  alpha-one-ionos BIT STRING (SIZE (8)),
  alpha-two-ionos BIT STRING (SIZE (8)),
  alpha-three-ionos BIT STRING (SIZE (8)),
  beta-zero-ionos BIT STRING (SIZE (8)),
  beta-one-ionos BIT STRING (SIZE (8)),
  beta-two-ionos BIT STRING (SIZE (8)),
  beta-three-ionos BIT STRING (SIZE (8)),
  ie-Extensions ProtocolExtensionContainer { { GPS-Ionospheric-Model-ExtIEs } } OPTIONAL,
  ...
}
```

```
GPS-Ionospheric-Model-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
GPS-Information ::= SEQUENCE (SIZE (0..maxNoGPSItems)) OF GPS-Information-Item
-- This IE shall be present if the Information Type Item IE indicates 'GPS Information'
```

```
GPS-Information-Item ::= ENUMERATED {
  gps-navigation-model-and-time-recovery,
  gps-ionospheric-model,
  gps-utc-model,
  gps-almanac,
  gps-rt-integrity,
  ...
}
```

```
GPS-RealTime-Integrity ::= CHOICE {
  bad-satellites GPSBadSat-Info-RealTime-Integrity,
  no-bad-satellites NULL
}
```

```

}

GPSBadSat-Info-RealTime-Integrity ::= SEQUENCE {
    sat-info          SATInfo-RealTime-Integrity,
    ie-Extensions     ProtocolExtensionContainer { { GPSBadSat-Info-RealTime-Integrity-ExtIEs } } OPTIONAL,
    ...
}

GPSBadSat-Info-RealTime-Integrity-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-NavandRecovery-Item ::= SEQUENCE (SIZE (1..maxNoSat)) OF GPS-NavandRecovery-Item

GPS-NavandRecovery-Item ::= SEQUENCE {
    tx-tow-nav          INTEGER (0..1048575),
    sat-id-nav          SAT-ID,
    tlm-message-nav     BIT STRING (SIZE (14)),
    tlm-revd-c-nav      BIT STRING (SIZE (2)),
    ho-word-nav         BIT STRING (SIZE (22)),
    w-n-nav            BIT STRING (SIZE (10)),
    ca-or-p-on-l2-nav   BIT STRING (SIZE (2)),
    user-range-accuracy-index-nav BIT STRING (SIZE (4)),
    sv-health-nav       BIT STRING (SIZE (6)),
    iodc-nav           BIT STRING (SIZE (10)),
    l2-p-dataflag-nav   BIT STRING (SIZE (1)),
    sfl-reserved-nav    BIT STRING (SIZE (87)),
    t-gd-nav           BIT STRING (SIZE (8)),
    t-oc-nav           BIT STRING (SIZE (16)),
    a-f-2-nav          BIT STRING (SIZE (8)),
    a-f-1-nav          BIT STRING (SIZE (16)),
    a-f-zero-nav        BIT STRING (SIZE (22)),
    c-rs-nav           BIT STRING (SIZE (16)),
    delta-n-nav        BIT STRING (SIZE (16)),
    m-zero-nav         BIT STRING (SIZE (32)),
    c-uc-nav           BIT STRING (SIZE (16)),
    gps-e-nav          BIT STRING (SIZE (32)),
    c-us-nav           BIT STRING (SIZE (16)),
    a-sqrt-nav         BIT STRING (SIZE (32)),
    t-oe-nav           BIT STRING (SIZE (16)),
    fit-interval-flag-nav BIT STRING (SIZE (1)),
    aodo-nav           BIT STRING (SIZE (5)),
    c-ic-nav           BIT STRING (SIZE (16)),
    omega-zero-nav     BIT STRING (SIZE (32)),
    c-is-nav           BIT STRING (SIZE (16)),
    i-zero-nav         BIT STRING (SIZE (32)),
    c-rc-nav           BIT STRING (SIZE (16)),
    gps-omega-nav      BIT STRING (SIZE (32)),
    omegadot-nav       BIT STRING (SIZE (24)),
}

```

```

    idot-nav                BIT STRING (SIZE (14)),
    spare-zero-fill        BIT STRING (SIZE (20)),
    ie-Extensions          ProtocolExtensionContainer { { GPS-NavandRecovery-Item-ExtIEs} } OPTIONAL,
    ...
}

GPS-NavandRecovery-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-RX-POS ::= SEQUENCE {
    latitudeSign            ENUMERATED {north, south},
    latitude                INTEGER (0..8388607),
    longitude               INTEGER (-8388608..8388607),
    iE-Extensions          ProtocolExtensionContainer { { GPS-RX-POS-ExtIEs} } OPTIONAL,
    ...
}

GPS-RX-POS-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Status-Health ::= ENUMERATED {
    udre-scale-ldot0,
    udre-scale-0dot75,
    udre-scale-0dot5,
    udre-scale-0dot3,
    udre-scale-0dot1,
    no-data,
    invalid-data
}

GPSTOW ::= INTEGER (0..604799)

GPS-UTC-Model ::= SEQUENCE {
    a-one-utc              BIT STRING (SIZE (24)),
    a-zero-utc             BIT STRING (SIZE (32)),
    t-ot-utc               BIT STRING (SIZE (8)),
    delta-t-ls-utc        BIT STRING (SIZE (8)),
    w-n-t-utc              BIT STRING (SIZE (8)),
    w-n-lsf-utc           BIT STRING (SIZE (8)),
    dn-utc                 BIT STRING (SIZE (8)),
    delta-t-lsf-utc       BIT STRING (SIZE (8)),
    ie-Extensions          ProtocolExtensionContainer { { GPS-UTC-Model-ExtIEs} } OPTIONAL,
    ...
}

```

```

GPS-UTC-Model-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```

-- =====
-- I
-- =====

```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```

InformationReportCharacteristics ::= CHOICE {
  onDemand          NULL,
  periodic          InformationReportCharacteristicsType-ReportPeriodicity,
  onModification   InformationReportCharacteristicsType-OnModification,
  ...
}

```

```

InformationReportCharacteristicsType-ReportPeriodicity ::= CHOICE {
  min          ReportPeriodicity-Scaledmin,
  hours       ReportPeriodicity-Scaledhour,
  ...
}

```

```

InformationReportCharacteristics-OnModification ::= SEQUENCE {
  information-thresholds InformationThresholds,
  ie-Extensions         ProtocolExtensionContainer { { InformationReportCharacteristics-OnModification-ExtIEs } } OPTIONAL,
  ...
}

```

```

InformationReportCharacteristics-OnModification-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

InformationThresholds ::= CHOICE {
  dgps          DGPSThresholds,
  ...
}

```

```

InformationExchangeID ::= INTEGER (0..1048575)

```

```

InformationType ::= SEQUENCE {
  information-Type-Item Information-Type-Item,
  gPSInformation        GPS-Information OPTIONAL,
  iE-Extensions        ProtocolExtensionContainer { { Information-Type-ExtIEs } } OPTIONAL,
  ...
}

```



```

}
Information-Type-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
Information-Type-Item ::= ENUMERATED {
    gpsinformation,
    dgpscorrections,
    gpsrxpos,
    ...
}

```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```

-- =====
-- O
-- =====
-- =====
-- P
-- =====

```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```

PRC ::= INTEGER (-2047..2047)
--pseudo range correction; scaling factor 0.32 meters
PRCDeviation ::= ENUMERATED {
    one,
    two,
    five,
    ten,
    ...
}

```

\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\*

```

-- -- =====
-- R
-- =====
RACH-SlotFormat ::= ENUMERATED {
    v0,
    v1,
    v2,
    v3,
}

```

```

}
...
RACH-SubChannelNumbers ::= BIT STRING (SIZE (12))
-- Bit 0=Sub Channel Number 0, Bit 1=Sub Channel Number 1, ..., Bit 11=Sub Channel Number 11

Range-Correction-Rate ::= INTEGER (-127..127)
-- scaling factor 0.032 m/s

RepetitionLength ::= INTEGER (1..63)

***UNAFFECTED PARTS ARE SKIPPED***

ReportPeriodicity-Scaledmsec ::= INTEGER (1..6000,...)
-- ReportPeriodicity-msec = ReportPeriodicity * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportPeriodicity-Scaledmin ::= INTEGER (1..60,...)
-- Unit min, Range 1min .. 60min(hour), Step 1min

ReportPeriodicity-Scaledhour ::= INTEGER (1..24,...)
-- Unit hour, Range 1hour .. 24hours(day), Step 1hour

ResourceOperationalState ::= ENUMERATED {
    enabled,
    disabled
}

CommonTransportChannel-InformationResponse ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    bindingID                     BindingID OPTIONAL,
    transportLayerAddress         TransportLayerAddress OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { { CommonTransportChannel-InformationResponse-ExtIEs } } OPTIONAL,
    ...
}

CommonTransportChannel-InformationResponse-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

LimitedPowerIncrease ::= ENUMERATED {
    used,
    not-used
}

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

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

Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)

Round-Trip-Time-Value ::= INTEGER(0..32767)

```

-- According to mapping in [22]

RSCP-Value ::= INTEGER (0..81)  
 -- According to mapping in [23]

RSCP-Value-IncrDecrThres ::= INTEGER (0..80)

Received-total-wide-band-power-Value ::= INTEGER(0..621)  
 -- According to mapping in [22]/[23]

Received-total-wide-band-power-Value-IncrDecrThres ::= INTEGER (0..620)

RequestedDataValueInformation ::= CHOICE {  
informationAvailable InformationAvailable,  
informationnotAvailable InformationnotAvailable  
}

InformationAvailable ::= SEQUENCE {  
requesteddataValue RequestedDataValue,  
ie-Extensions ProtocolExtensionContainer { { InformationAvailableItem-ExtIEs} } OPTIONAL,  
...  
}

InformationAvailableItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {  
...  
}

InformationnotAvailable ::= NULL

RequestedDataValue ::= SEQUENCE {  
dgps-corrections DGPSCorrections OPTIONAL,  
gps-navandrecovery GPS-NavigationModel-and-TimeRecovery OPTIONAL,  
gps-ionos-model GPS-Ionospheric-Model OPTIONAL,  
gps-utc-model GPS-UTC-Model OPTIONAL,  
gps-almanac GPS-Almanac OPTIONAL,  
gps-rt-integrity GPS-RealTime-Integrity OPTIONAL,  
gpsrxpos GPS-RX-POS OPTIONAL,  
...  
}

--at least one of the above IEs shall be present in the requested data value

Rx-Timing-Deviation-Value ::= INTEGER (0..2047)

-- =====  
 -- S  
 -- =====

```
AdjustmentPeriod ::= INTEGER(1..256)
-- Unit Frame
```

```
SAT-ID ::= INTEGER (0..63)
```

```
SAT-Info-Almanac ::= SEQUENCE (SIZE (1..maxNoSat)) OF SAT-Info-Almanac-Item
```

```
SAT-Info-Almanac-Item ::= SEQUENCE {
  sat-id          SAT-ID,
  gps-e-alm       BIT STRING (SIZE (16)),
  gps-toa-alm     BIT STRING (SIZE (8)),
  gps-delta-I-alm BIT STRING (SIZE (16)),
  omegadot-alm    BIT STRING (SIZE (16)),
  svhealth-alm   BIT STRING (SIZE (8)),
  gps-a-sqrt-alm  BIT STRING (SIZE (24)),
  omegazero-alm   BIT STRING (SIZE (24)),
  m-zero-alm     BIT STRING (SIZE (24)),
  gps-omega-alm  BIT STRING (SIZE (24)),
  gps-af-zero-alm BIT STRING (SIZE (11)),
  gps-af-one-alm BIT STRING (SIZE (11)),
  ie-Extensions  ProtocolExtensionContainer { { SAT-Info-Almanac-Item-ExtIEs} } OPTIONAL,
  ...
}
```

```
SAT-Info-Almanac-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
SAT-Info-DGPSCorrections ::= SEQUENCE (SIZE (1..maxNoSat)) OF SAT-Info-DGPSCorrections-Item
```

```
SAT-Info-DGPSCorrections-Item ::= SEQUENCE {
  sat-id          SAT-ID,
  iode-dgps       BIT STRING (SIZE (8)),
  udre            UDRE,
  prc             PRC,
  range-correction-rate Range-Correction-Rate,
  ie-Extensions  ProtocolExtensionContainer { { SAT-Info-DGPSCorrections-Item-ExtIEs} } OPTIONAL,
  ...
}
```

```
SAT-Info-DGPSCorrections-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}
```

```
SATInfo-RealTime-Integrity ::= SEQUENCE (SIZE (1..maxNoSat)) OF SAT-Info-RealTime-Integrity-Item
```

```
SAT-Info-RealTime-Integrity-Item ::= SEQUENCE {
  bad-sat-id      SAT-ID,
  ie-Extensions  ProtocolExtensionContainer { { SAT-Info-RealTime-Integrity-Item-ExtIEs} } OPTIONAL,
  ...
}
```

```
SAT-Info-RealTime-Integrity-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

```
-- =====
-- U
-- =====
```

```
UARFCN ::= INTEGER (0..16383, ...)
-- corresponds to 1885.2MHz .. 2024.8MHz
```

```
UDRE ::= ENUMERATED {
    udre-minusequal-one-m,
    udre-betweenoneandfour-m,
    udre-betweenfourandeight-m,
    udre-greaterequaleight-m
}
```

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

END

## 9.3.6 Constant Definitions

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

NBAP-Constants {
    itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
    umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Constants (4)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM NBAP-CommonDataTypes;
```

```

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

id-audit                               ProcedureCode ::= 0
id-auditRequired                       ProcedureCode ::= 1
id-blockResource                       ProcedureCode ::= 2
id-cellDeletion                        ProcedureCode ::= 3
id-cellReconfiguration                 ProcedureCode ::= 4
id-cellSetup                           ProcedureCode ::= 5
id-commonMeasurementFailure            ProcedureCode ::= 6
id-commonMeasurementInitiation         ProcedureCode ::= 7
id-commonMeasurementReport             ProcedureCode ::= 8
id-commonMeasurementTermination        ProcedureCode ::= 9
id-commonTransportChannelDelete        ProcedureCode ::= 10
id-commonTransportChannelReconfigure   ProcedureCode ::= 11
id-commonTransportChannelSetup         ProcedureCode ::= 12
id-compressedModeCommand               ProcedureCode ::= 14
id-dedicatedMeasurementFailure         ProcedureCode ::= 16
id-dedicatedMeasurementInitiation      ProcedureCode ::= 17
id-dedicatedMeasurementReport          ProcedureCode ::= 18
id-dedicatedMeasurementTermination     ProcedureCode ::= 19
id-downlinkPowerControl                ProcedureCode ::= 20
id-downlinkPowerTimeslotControl        ProcedureCode ::= 38
id-errorIndicationForCommon            ProcedureCode ::= 35
id-errorIndicationForDedicated         ProcedureCode ::= 21
id-informationExchangeFailure           ProcedureCode ::= 40
id-informationExchangeInitiation        ProcedureCode ::= 41
id-informationExchangeTermination       ProcedureCode ::= 42
id-informationReporting                 ProcedureCode ::= 43
id-physicalSharedChannelReconfiguration ProcedureCode ::= 37
id-privateMessageForCommon              ProcedureCode ::= 36
id-privateMessageForDedicated           ProcedureCode ::= 22
id-radioLinkAddition                   ProcedureCode ::= 23
id-radioLinkDeletion                   ProcedureCode ::= 24
id-radioLinkFailure                    ProcedureCode ::= 25
id-radioLinkPreemption                  ProcedureCode ::= 39
id-radioLinkRestoration                 ProcedureCode ::= 26
id-radioLinkSetup                       ProcedureCode ::= 27
id-reset                                ProcedureCode ::= 13
id-resourceStatusIndication             ProcedureCode ::= 28
id-synchronisedRadioLinkReconfiguration ProcedureCode ::= 29
id-synchronisedRadioLinkReconfiguration Commit ProcedureCode ::= 30
id-synchronisedRadioLinkReconfiguration Preparation ProcedureCode ::= 31
id-systemInformationUpdate              ProcedureCode ::= 32
id-unblockResource                      ProcedureCode ::= 33
id-unSynchronisedRadioLinkReconfiguration ProcedureCode ::= 34
-- *****
--
-- Lists

```

```

--
-- *****
maxNrOfCodes           INTEGER ::= 10
maxNrOfDLTSs          INTEGER ::= 15
maxNrOfDLCodes        INTEGER ::= 8
maxNrOfErrors         INTEGER ::= 256
maxNrOfTFs            INTEGER ::= 32
maxNrOfTFCs           INTEGER ::= 1024
maxNrOfRLs            INTEGER ::= 16
maxNrOfRLSets        INTEGER ::= maxNrOfRLs
maxNrOfDPCHs          INTEGER ::= 240
maxNrOfSCCPCHs        INTEGER ::= 8
maxNrOfCPCHs          INTEGER ::= 4
maxNrOfPCPCHs         INTEGER ::= 64
maxNrOfDCHs           INTEGER ::= 128
maxNrOfDSCHs          INTEGER ::= 32
maxNrOfFACHs          INTEGER ::= 8
maxNrOfCCTrCHs        INTEGER ::= 16
maxNrOfPDSCHs         INTEGER ::= 256
maxNrOfPUSCHs         INTEGER ::= 256
maxNrOfPDSCHSets      INTEGER ::= 256
maxNrOfPUSCHSets      INTEGER ::= 256
maxNrOfULTSs          INTEGER ::= 15
maxNrOfUSCHs          INTEGER ::= 32
maxAPSigNum           INTEGER ::= 16
maxNrOfSlotFormatsPRACH INTEGER ::= 8
maxCellInNodeB        INTEGER ::= 256
maxCCPinNodeB         INTEGER ::= 256
maxCPCHCell           INTEGER ::= maxNrOfCPCHs
maxCTFC               INTEGER ::= 16777215
maxLocalCellInNodeB   INTEGER ::= maxCellInNodeB
maxNoofLen            INTEGER ::= 7
maxRACHCell           INTEGER ::= maxPRACHCell
maxPRACHCell          INTEGER ::= 16
maxPCPCHCell          INTEGER ::= 64
maxSCCPCHCell         INTEGER ::= 32
maxSCPICHCell         INTEGER ::= 32
maxTTI-count          INTEGER ::= 4
maxIBSEG              INTEGER ::= 16
maxIB                 INTEGER ::= 64
maxFACHCell           INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching       INTEGER ::= 256
maxCodeNrComp-1       INTEGER ::= 256
maxNrOfCodeGroups     INTEGER ::= 256
maxNrOfTFCIGroups     INTEGER ::= 256
maxNrOfTFCI1Combs     INTEGER ::= 512
maxNrOfTFCI2Combs     INTEGER ::= 1024
maxNrOfTFCI2Combs-1   INTEGER ::= 1023
maxNrOfSF              INTEGER ::= 8
maxTGPS               INTEGER ::= 6
maxCommunicationContext INTEGER ::= 1048575
maxNoSat               INTEGER ::= 16

```

maxNoGPSItems INTEGER ::= 8

```

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

id-AICH-Information ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 1
id-BCH-Information ProtocolIE-ID ::= 7
id-BCH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 8
id-BCCH-ModificationTime ProtocolIE-ID ::= 9
id-BlockingPriorityIndicator ProtocolIE-ID ::= 10
id-Cause ProtocolIE-ID ::= 13
id-CCP-InformationItem-AuditRsp ProtocolIE-ID ::= 14
id-CCP-InformationList-AuditRsp ProtocolIE-ID ::= 15
id-CCP-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 16
id-Cell-InformationItem-AuditRsp ProtocolIE-ID ::= 17
id-Cell-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 18
id-Cell-InformationList-AuditRsp ProtocolIE-ID ::= 19
id-CellParameterID ProtocolIE-ID ::= 23
id-CFN ProtocolIE-ID ::= 24
id-C-ID ProtocolIE-ID ::= 25
id-CommonMeasurementObjectType-CM-Rprt ProtocolIE-ID ::= 31
id-CommonMeasurementObjectType-CM-Rqst ProtocolIE-ID ::= 32
id-CommonMeasurementObjectType-CM-Rsp ProtocolIE-ID ::= 33
id-CommonMeasurementType ProtocolIE-ID ::= 34
id-CommonPhysicalChannelID ProtocolIE-ID ::= 35
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD ProtocolIE-ID ::= 36
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD ProtocolIE-ID ::= 37
id-CommonTransportChannelType-CTCH-ReconfRqstTDD ProtocolIE-ID ::= 38
id-CommunicationControlPortID ProtocolIE-ID ::= 40
id-ConfigurationGenerationID ProtocolIE-ID ::= 43
id-CRNC-CommunicationContextID ProtocolIE-ID ::= 44
id-CriticalityDiagnostics ProtocolIE-ID ::= 45
id-DCHs-to-Add-FDD ProtocolIE-ID ::= 48
id-DCH-AddList-RL-ReconfPrepTDD ProtocolIE-ID ::= 49
id-DCHs-to-Add-TDD ProtocolIE-ID ::= 50
id-DCH-DeleteList-RL-ReconfPrepFDD ProtocolIE-ID ::= 52
id-DCH-DeleteList-RL-ReconfPrepTDD ProtocolIE-ID ::= 53
id-DCH-DeleteList-RL-ReconfRqstFDD ProtocolIE-ID ::= 54
id-DCH-DeleteList-RL-ReconfRqstTDD ProtocolIE-ID ::= 55
id-DCH-FDD-Information ProtocolIE-ID ::= 56
id-DCH-TDD-Information ProtocolIE-ID ::= 57
id-DCH-InformationResponse ProtocolIE-ID ::= 59
id-FDD-DCHs-to-Modify ProtocolIE-ID ::= 62
id-TDD-DCHs-to-Modify ProtocolIE-ID ::= 63
id-DCH-ModifyList-RL-ReconfRqstTDD ProtocolIE-ID ::= 65
id-DedicatedMeasurementObjectType-DM-Rprt ProtocolIE-ID ::= 67
id-DedicatedMeasurementObjectType-DM-Rqst ProtocolIE-ID ::= 68

id-DedicatedMeasurementObjectType-DM-Rsp ProtocolIE-ID ::= 69

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id-DedicatedMeasurementType	ProtocolIE-ID ::= 70
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 72
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 73
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 76
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 79
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 81
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 82
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 83
id-DL-ReferencePowerInformationItem-DL-PC-Rqst	ProtocolIE-ID ::= 84
id-DLReferencePower	ProtocolIE-ID ::= 85
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 86
id-DSCH-AddItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 87
id-DSCH-AddItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 88
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 89
id-DSCH-DeleteItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 91
id-DSCH-DeleteItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 92
id-DSCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 93
id-DSCH-ID	ProtocolIE-ID ::= 95
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 96
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 98
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 100
id-DSCH-InformationResponse	ProtocolIE-ID ::= 105
id-DSCH-FDD-Information	ProtocolIE-ID ::= 106
id-DSCH-TDD-Information	ProtocolIE-ID ::= 107
id-DSCH-ModifyItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 108
id-DSCH-ModifyItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 109
id-DSCH-ModifyList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 112
id-End-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 113
id-FACH-Information	ProtocolIE-ID ::= 116
id-FACH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 117
id-FACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 118
id-FACH-ParametersList-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 120
id-FACH-ParametersListIE-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 121
id-FACH-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 122
id-IndicationType-ResourceStatusInd	ProtocolIE-ID ::= 123
<u>id-InformationExchangeID</u>	<u>ProtocolIE-ID ::= 444</u>
<u>id-InformationExchangeObjectType-InfEx-Rqst</u>	<u>ProtocolIE-ID ::= 445</u>
<u>id-InformationType</u>	<u>ProtocolIE-ID ::= 446</u>
<u>id-InformationReportCharacteristics</u>	<u>ProtocolIE-ID ::= 447</u>
<u>id-InformationExchangeObjectType-InfEx-Rsp</u>	<u>ProtocolIE-ID ::= 448</u>
<u>id-InformationExchangeObjectType-InfEx-Rprt</u>	<u>ProtocolIE-ID ::= 449</u>
id-Local-Cell-ID	ProtocolIE-ID ::= 124
id-Local-Cell-Group-InformationItem-AuditRsp	ProtocolIE-ID ::= 2
id-Local-Cell-Group-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 3

**\*\*\*UNAFFECTED PARTS ARE SKIPPED\*\*\***

END

## CHANGE REQUEST

⌘ **25.433 CR 381** ⌘ re **1** ⌘ Current version: **3.4.1** ⌘

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

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

<b>Title:</b>	⌘ Introduction of the network configurable idle periods for OTDOA UE Positioning function
<b>Source:</b>	⌘ R-WG3
<b>Work item code:</b>	⌘ LCS1-UEPos-lublur / LCS1-UEpos-enh
<b>Date:</b>	⌘ February 2001
<b>Category:</b>	⌘ <b>B</b>
	<b>Release:</b> ⌘ Rel-4
<p>Use <u>one</u> of the following categories:</p> <p><b>F</b> (essential correction)  <b>A</b> (corresponds to a correction in an earlier release)  <b>B</b> (Addition of feature),  <b>C</b> (Functional modification of feature)  <b>D</b> (Editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	
<p>Use <u>one</u> of the following releases:</p> <p><b>2</b> (GSM Phase 2)  <b>R96</b> (Release 1996)  <b>R97</b> (Release 1997)  <b>R98</b> (Release 1998)  <b>R99</b> (Release 1999)  <b>REL-4</b> (Release 4)  <b>REL-5</b> (Release 5)</p>	

<b>Reason for change:</b>	⌘ Introduction of IPDLs for OTDOA UE Positioning function
<b>Summary of change:</b>	⌘ Introduction of idle periods configuration for Cell Setup and Cell Reconfiguration elementary procedures. Rev 1: Rev 1 is a merged version with CR380 that introduces IPDL parameter for FDD and TDD, where: * IE names have been aligned * error cases specified * Ranges of TDD parameters clarified * Common definition of burt mode parameter
<b>Consequences if not approved:</b>	⌘ If this CR is not approved, the UE Positioning function for OTDOA method with network configurable idle periods in the UTRAN will not be able to perform properly.  <u>Backward compatibility:</u> This CR is backward compatible.

<b>Clauses affected:</b>	⌘ 3.3, 8.2.12, 8.2.13, 9.1.24, 9.1.27, 9.2.1.6, 9.2.1.x , 9.2.2.y, 9.2.3.z, 9.3.3, 9.3.4, 9.3.6
<b>Other specs affected:</b>	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
<b>Other comments:</b>	⌘

### **How to create CRs using this form:**

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

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

### 3.3 Abbreviations

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

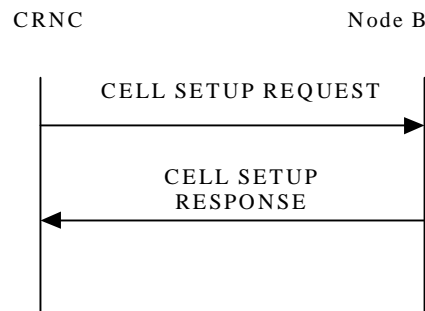
ASN.1	Abstract Syntax Notation One
ATM	Asynchronous Transfer Mode
BCCH	Broadcast Control Channel
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CM	Compressed Mode
CPCH	Common Packet Channel
CRNC	Controlling Radio Network Controller
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DSCH	Downlink Shared Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
<u>IPDL</u>	<u>Idle Periods in the DownLink</u>
L1	Layer 1
MIB	Master Information Block
L2	Layer 2
NBAP	Node B Application Part
O&M	Operation and Management
PCPCH	Physical Common Packet Channel
PDSCH	Physical Downlink Shared Channel
PUSCH	Physical Uplink Shared Channel
RL	Radio Link
RLS	Radio Link Set
RNC	Radio Network Controller
RRC	Radio Resource Control
SB	Scheduling Block
SIB	System Information Block
SRNC	Serving Radio Network Controller
TDD	Time Division Duplex
TFC	Transport Format Combination
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

## 8.2.12 Cell Setup

### 8.2.12.1 General

This procedure is used to set up a cell in Node B. The CRNC takes the cell, identified via the *C-ID* IE, into service and uses the resources in Node B identified via the *Local Cell ID* IE.

### 8.2.12.2 Successful Operation



**Figure 11: Cell Setup procedure: Successful Operation**

The procedure is initiated with a CELL SETUP REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reserve the necessary resources and configure the new cell according to the parameters given in the message.

[FDD - If the CELL SETUP REQUEST message includes one or more *Secondary CPICH Information* IE group the Node B shall configure and activate the Secondary CPICH(s) in the cell according to received configuration data.]

The *Maximum Transmission Power* IE value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

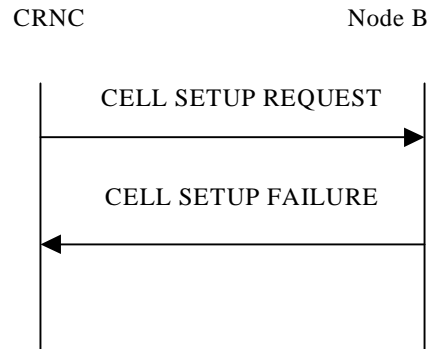
[FDD - If the *Closed Loop Timing Adjustment Mode* IE is included in the CELL SETUP REQUEST message, the value shall be stored in the Node B and applied when closed loop Feed-Back mode diversity is used on DPCH.]

If the *IPDL Parameter Information* IE is included in the CELL SETUP REQUEST message, the parameters defining IPDL shall be stored in the Node B and applied according to the *IPDL Indicator* IE value.

When the cell is successfully configured the Node B shall store the *Configuration Generation ID* IE value and send a CELL SETUP RESPONSE message as a response.

[FDD- When the cell is successfully configured CPICH(s), Primary SCH, Secondary SCH, Primary CCPCH and BCH exist.][TDD- When the cell is successfully configured SCH, Primary CCPCH and BCH exist and the switching-points for the TDD frame structure are defined.] The cell and the channels shall be set to state Enabled [6].

### 8.2.12.3 Unsuccessful Operation



**Figure 12: Cell Setup procedure: Unsuccessful Operation**

If the state of the cell already is Enabled or Disabled [6] when the CELL SETUP REQUEST message is received in Node B, it shall reject the configuration of the cell and all channels in the CELL SETUP REQUEST message with the *Cause* IE set to "Message not compatible with receiver state".

If the Node B cannot set up the cell according to the information given in CELL SETUP REQUEST message the CELL SETUP FAILURE message shall be sent to CRNC.

In this case the cell is Non Existing in Node B. The Configuration Generation ID shall not be changed in Node B.

The *Cause* IE shall be set to an appropriate value.

Typical cause values are as follows:

#### Radio Network Layer Cause

- S-CPICH not supported
- Requested Tx Diversity Mode not supported
- Unknown Local Cell ID
- Power level not supported
- Node B Resources unavailable
- IPDL not supported

#### Protocol Cause

- Semantic error

#### Miscellaneous Cause

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

### 8.2.12.4 Abnormal Conditions

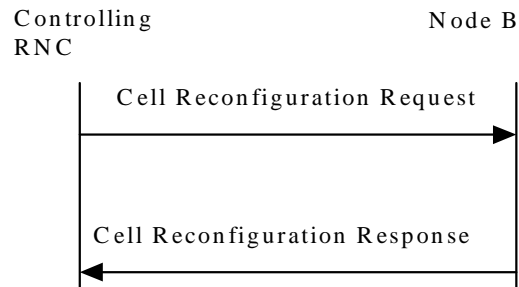
-

## 8.2.13 Cell Reconfiguration

### 8.2.13.1 General

This procedure is used to reconfigure a cell in Node B.

### 8.2.13.2 Successful Operation



**Figure 13: Cell Reconfiguration procedure: Successful Operation**

The procedure is initiated with a CELL RECONFIGURATION REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reconfigure the cell according to the parameters given in the message.

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary SCH Information* IE group the Node B shall reconfigure Primary SCH power in the cell according to *Primary SCH Power* IE value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Secondary SCH Information* IE group the Node B shall reconfigure Secondary SCH power in the cell according to the *Secondary SCH Power* IE value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CPICH Information* IE group the Node B shall reconfigure Primary CPICH power in the cell according to the *Primary CPICH Power* IE value. Node B shall adjust all the transmitted power levels relative to the Primary CPICH power according to the new value]

[FDD - If the CELL RECONFIGURATION REQUEST message includes one or more *Secondary CPICH Information* IE groups the Node B shall reconfigure the power for each Secondary CPICH in the cell according to their *Secondary CPICH Power* IE value.]

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *SCH Information* IE group the Node B shall reconfigure SCH power in the cell according to the *SCH Power* IE value.]

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Timing Advance Applied* IE the Node B shall apply the necessary functions for Timing Advance in that cell including reporting of the Rx Timing Deviation measurement, according to the *Timing Advance Applied* IE value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CCPCH Information* IE group the Node B shall reconfigure BCH power in the cell according to the *BCH Power* IE value.]

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CCPCH Information* IE group the Node B shall reconfigure P-CCPCH power in the cell according to the *P-CCPCH Power* IE value. Node B shall adjust all the transmitted power levels relative to the Primary CPPCH power according to the new value.]

If the CELL RECONFIGURATION REQUEST message includes the *Maximum Transmission Power* IE the value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Timeslot Information* IE group the Node B shall reconfigure switching-point structure in the cell according to the *Timeslot* IE value.]

[TDD - If the CELL RECONFIGURATION REQUEST message includes any of the *Constant Value IE*'s, the Node B shall use these values when generating the appropriate SIB.]

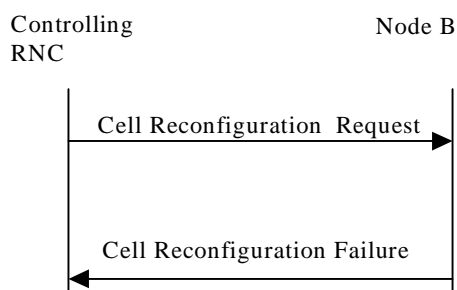
If the CELL RECONFIGURATION REQUEST message includes the *IPDL Parameter Information IE* with the *IPDL Indicator IE* having the value 'active' the Node B shall apply the IPDL in that cell according to the latest downloaded parameters defined by the *IPDL FDD Parameters IE* / *IPDL TDD Parameters IE*.

If the CELL RECONFIGURATION REQUEST message includes *IPDL Parameter Information IE* with the *IPDL Indicator IE* having the value 'inactive' the Node B shall deactivate the ongoing IPDL.

When the cell is successfully reconfigured the Node B shall store the new *Configuration Generation ID IE* value and send a CELL RECONFIGURATION RESPONSE message as a response.

If the CELL RECONFIGURATION REQUEST message includes the *Synchronisation Configuration IE* the Node B shall reconfigure the indicated parameters in the cell according to the IE value. When the parameters in the *Synchronisation Configuration IE* group affect the thresholds applied to a RL set, the Node B shall immediately apply the new thresholds. When applying the new thresholds the Node B shall not change the state or value of any of the timers and counters for which the new thresholds apply.

### 8.2.13.3 Unsuccessful Operation



**Figure 14: Cell Reconfiguration procedure: Unsuccessful Operation**

If the *IPDL Indicator IE* having the value 'active' is included in the CELL RECONFIGURATION REQUEST message and there is active IPDL ongoing in the Node B, the Node B shall response with CELL RECONFIGURATION FAILURE- message with the cause value 'IPDL already activated'.

If the *IPDL Indicator IE* having the value 'active' is included in the CELL RECONFIGURATION REQUEST message and there is no IPDL stored to Node B defining the IPDL, the Node B shall response with CELL RECONFIGURATION FAILURE- message with the cause value 'IPDL parameters not available'.

If the Node B cannot reconfigure the cell according to the information given in CELL RECONFIGURATION REQUEST message the CELL RECONFIGURATION FAILURE message shall be sent to CRNC.

In this case, the Node B shall keep the old configuration of the cell and the Configuration Generation ID shall not be changed in Node B.

The Cause IE shall be set to an appropriate value.

Typical cause values are as follows:

#### Radio Network Layer Cause

- Unknown C-ID
- Power level not supported
- Node B Resources unavailable
- IPDL not supported



- IPDL already activated
- IPDL parameters not available

**Protocol Cause**

- Semantic error

**Miscellaneous Cause**

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

**8.2.13.4 Abnormal Conditions**

-

## 9.1.24 CELL SETUP REQUEST

## 9.1.24.1 FDD Message

IE/Group Name	Presence	Range	IE type and Reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Local Cell ID	M		9.2.1.38		YES	reject
C-ID	M		9.2.1.9		YES	reject
Configuration Generation ID	M		9.2.1.16		YES	reject
T Cell	M		9.2.2.49		YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nu [14]	YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nd [14]	YES	reject
Maximum transmission power	M		9.2.1.40		YES	reject
Closed Loop Timing Adjustment Mode	O				YES	reject
Primary scrambling code	M		9.2.2.34		YES	reject
<b>Synchronisation Configuration</b>		1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
DL TPC pattern 01 count	M		9.2.2.13A		YES	reject
<b>Primary SCH Information</b>		1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Primary SCH Power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
<b>Secondary SCH Information</b>		1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Secondary SCH power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
<b>Primary CPICH Information</b>		1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Primary CPICH power	M		9.2.2.33		–	
>Transmit Diversity Indicator	M		9.2.2.53		–	
<b>Secondary CPICH Information</b>		0..<maxSC PICHCell>			EACH	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>DL Scrambling code	M		9.2.2.13		–	
>FDD DL Channelisation Code Number	M		9.2.2.14		–	
>Secondary CPICH Power	M		DL Power 9.2.1.21		–	
>Transmit Diversity Indicator	M		9.2.2.53		–	
<b>Primary CCPCH Information</b>		1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
> <b>BCH Information</b>		1			–	

>>Common Transport Channel ID	M		9.2.1.14		–	
>>BCH Power	M		DL Power 9.2.1.21		–	
>STTD Indicator	M		9.2.2.48		–	
<b>Limited power increase information</b>		1			YES	reject
>Power_Raise_Limit	M		9.2.2.29A		–	
>DL_power_averaging_window_size	M		9.2.2.12A		–	
<b>IPDL Parameter Information</b>		<u>0..1</u>			<u>YES</u>	<u>reject</u>
>IPDL FDD Parameters	M		9.2.2.y		–	
>IPDL Indicator	M		9.2.1.x		–	

### 9.1.24.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Local Cell ID	M		9.2.1.38		YES	reject
C-ID	M		9.2.1.9		YES	reject
Configuration Generation Id	M		9.2.1.16		YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nt [15]	YES	reject
Cell Parameter ID	M		9.2.3.4		YES	reject
Maximum Transmission Power	M		9.2.1.40		YES	reject
Transmission Diversity Applied	M		9.2.3.26	On DCHs	YES	reject
Sync Case	M		9.2.3.18		YES	reject
<b>Synchronisation Configuration</b>		1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
DPCH Constant Value	M		Constant Value		YES	reject
PUSCH Constant Value	M		Constant Value		YES	reject
PRACH Constant Value	M		Constant Value		YES	reject
Timing Advance Applied	M		9.2.3.22A		YES	reject
<b>SCH Information</b>		1			YES	reject
>Common physical channel ID	M		9.2.1.13		–	
>CHOICE Sync Case	M				YES	reject
>>Case 1					–	
>>>Time Slot	M		9.2.3.23		–	
>>Case 2					–	
>>>SCH Time Slot	M		9.2.3.17		–	
>SCH Power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
<b>PCCPCH Information</b>		1			YES	reject
>Common physical channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	

>PCCPCH Power	M		9.2.3.9		–	
>Block STTD Indicator	M		9.2.3.1		–	
<b>Time Slot Configuration</b>		1 .. 15			GLOBAL	reject
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
<b>IPDL Parameter Information</b>		0..1			YES	reject
>IPDL TDD Parameters	M		9.2.3.z		–	
>IPDL Indicator	M		9.2.1.x		–	

## 9.1.27 CELL RECONFIGURATION REQUEST

## 9.1.27.1 FDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
C-ID	M		9.2.1.9		YES	reject
Configuration Generation ID	M		9.2.1.16		YES	reject
Maximum Transmission Power	O		9.2.1.40		YES	reject
<b>Synchronisation Configuration</b>		0,1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
<b>Primary SCH Information</b>		0,1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Primary SCH power	M		DL Power 9.2.1.21		–	
<b>Secondary SCH Information</b>		0,1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Secondary SCH power	M		DL Power 9.2.1.21		–	
<b>Primary CPICH Information</b>		0,1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Primary CPICH power	M		9.2.2.33		–	
<b>Secondary CPICH Information</b>		0..<maxSC PICHCell>			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>Secondary CPICH Power	M		DL Power 9.2.1.21		–	
<b>Primary CCPCH Information</b>		0,1			YES	reject
> <b>BCH Information</b>		1			–	
>>Common Transport Channel ID	M		9.2.1.14		–	
>>BCH Power	M		DL Power 9.2.1.21		–	
<b>IPDL Parameter Information</b>		0..1			YES	reject
>IPDL FDD Parameters	O		9.2.2.y		–	
>IPDL Indicator	M		9.2.1.x		–	

## 9.1.27.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
C-ID	M		9.2.1.9		YES	reject
Configuration Generation ID	M		9.2.1.16		YES	reject
<b>Synchronisation Configuration</b>		0,1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
Timing Advance Applied	O		9.2.3.22A		YES	reject
<b>SCH Information</b>		0,1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>SCH Power	M		DL Power 9.2.1.21		–	
<b>PCCPCH Information</b>		0,1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>PCCPCH Power	M		9.2.3.9		–	
Maximum Transmission Power	O		9.2.1.40		YES	reject
DPCH Constant Value	O		Constant Value		YES	reject
PUSCH Constant Value	O		Constant Value		YES	reject
PRACH Constant Value	O		Constant Value		YES	reject
<b>Time Slot Configuration</b>		1..15			GLOBAL	reject
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
<b>IPDL Parameter Information</b>		0..1			YES	reject
>IPDL TDD Parameters	O		9.2.3.z		–	
>IPDL Indicator	M		9.2.1.x		–	

9.2.1.6 Cause

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE Cause group				
>Radio Network Layer				
>Radio Network Layer Cause	M		Enumerated (unknown C-ID, Cell not available, Power level not supported, DL radio resources not available, UL radio resources not available, RL Already Activated/allocated, Node B Resources Unavailable, Measurement not supported for the object, Combining Resources not available, Requested configuration not supported, Synchronization failure, Priority transport channel established, SIB Origination in Node B not Supported, Requested Tx Diversity Mode not supported, Unspecified, BCCH scheduling error, Measurement Temporarily not Available, Invalid CM Setting, Reconfiguration CFN not elapsed, Number of DL codes not supported, S-CPICH not supported, Combining not supported, UL SF not supported, DL SF not supported, Common Transport Channel Type not supported, Dedicated Transport Channel Type not supported, Downlink Shared Channel Type not supported, Uplink Shared Channel Type not supported, CM not supported, Tx diversity no longer supported, Unknown Local Cell ID, .... <u>IPDL already activated,</u> <u>IPDL not supported,</u> <u>IPDL parameters not available</u> )	
>Transport Layer				
>Transport Layer Cause	M		Enumerated (Transport resource unavailable, Unspecified, ...)	
>Protocol				

>Protocol Cause			Enumerated (Transfer syntax error, Abstract syntax error (reject), Abstract syntax error (ignore and notify), Message not compatible with receiver state, Semantic error, Unspecified, Abstract syntax error (falsely constructed message), ...)	
>Misc				
>Miscellaneous Cause	M		Enumerated (Control processing overload Hardware failure, O&M intervention, Not enough user plane processing resources, Unspecified, ...)	

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.

<b>Radio Network Layer cause</b>	<b>Meaning</b>
BCCH scheduling error	The Node B has detected an illegal BCCH schedule update (see 8.2.16.3)
Cell not Available,	The concerning cell or local cell is not available
Combining not supported	The Node B does not support RL combining for the concerning cells
Combining Resources Not Available	The value of the received <i>Diversity Control Field</i> IE was set to 'Must', but the Node B cannot perform the requested combining
CM not supported	The concerning cell(s) do not support Compressed Mode
Common Transport Channel Type not supported	The concerning cell(s) do not support the RACH and/or FACH and/or CPCH Common Transport Channel Type
Dedicated Transport Channel Type not supported	The concerning cell(s) do not support the Dedicated Transport Channel Type
DL Radio Resources not Available	The Node B does not have sufficient DL radio resources available
DL SF not supported	The concerning cell(s) do not support the requested DL SF
DL Shared Channel Type not supported	The concerning cell(s) do not support the Downlink Shared Channel Type
Invalid CM Settings	The concerning cell(s) consider the requested Compressed Mode settings invalid
<u>IPDL already activated</u>	<u>The concerning cell(s) have already active IPDL ongoing</u>
<u>IPDL not supported</u>	<u>The concerning cell(s) do not support the IPDL</u>
<u>IPDL parameters not available</u>	<u>The concerning cell(s) do not have IPDL parameters defining IPDL to be applied</u>
Measurement not Supported For The Object	At least one of the concerning cell(s) does not support the requested measurement on the concerning object type
Measurement Temporarily not Available	The Node B can temporarily not provide the requested measurement value
Node B resources unavailable	The Node B does not have sufficient resources available
Number of DL codes not supported	The concerning cell(s) do not support the requested number of DL codes
Power Level not Supported	A DL power level was requested which the concerning cell(s) do not support
Priority transport channel established	The CRNC cannot perform the requested blocking since a transport channel with a high priority is present
Reconfiguration CFN not elapsed	The requested action cannot be performed due to that a COMMIT message was received previously, but the concerning CFN has not yet elapsed
Requested Configuration not Supported	The concerning cell(s) do not support the requested configuration i.e. power levels, Transport Formats, physical channel parameters,.....



Requested Tx Diversity mode not supported	The concerning cell(s) do not support the requested transmit diversity mode
RL already Activated/ allocated	The Node B has already allocated an RL with the requested RL-id for this UE context
S-CPICH not supported	The concerning cell(s) do not support S-CPICH
SIB origination in Node B not supported	The Node B does not support the origination of the requested SIB for the concerning cell
Synchronisation Failure	Loss of UL Uu synchronisation
Tx diversity no longer supported	Tx diversity can no longer be supported in the concerning cell.
UL Radio Resources not Available	The Node B does not have sufficient UL radio resources available
UL SF not supported	The concerning cell(s) do not support the requested UL SF
UL Shared Channel Type not supported	The concerning cell(s) do not support the Uplink Shared Channel Type
Unknown C-ID	The Node B is not aware of a cell with the provided C-ID
Unknown Local Cell ID	The Node B is not aware of a local cell with the provided Local Cell ID
Unspecified	Sent when none of the above cause values applies but still the cause is Radio Network layer related

<b>Transport Network Layer cause</b>	<b>Meaning</b>
Transport resource unavailable	The required transport resources are not available
Unspecified	Sent when none of the above cause values applies but still the cause is Transport Network layer related

<b>Protocol cause</b>	<b>Meaning</b>
Abstract Syntax Error (Reject)	The received message included an abstract syntax error and the concerning criticality indicated "reject" (see subclause 10.3)
Abstract Syntax Error (Ignore and Notify)	The received message included an abstract syntax error and the concerning criticality indicated "ignore and notify" (see subclause 10.3)
Abstract syntax error (falsely constructed message)	The received message contained IEs or IE groups in wrong order or with too many occurrences (see subclause 10.3)
Message not Compatible with Receiver State	The received message was not compatible with the receiver state (see subclause 10.4)
Semantic Error	The received message included a semantic error (see subclause 10.4)
Transfer Syntax Error	The received message included a transfer syntax error (see section 10.2)
Unspecified	Sent when none of the above cause values applies but still the cause is protocol related

<b>Miscellaneous cause</b>	<b>Meaning</b>
Control Processing Overload	Node B control processing overload
Hardware Failure	Node B hardware failure
Not enough User Plane Processing Resources	Node B has insufficient user plane processing resources available
O&M Intervention	Operation and Maintenance intervention related to Node B equipment
Unspecified	Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer or Protocol.

**9.2.1.xA IPDL Indicator**

Indicates if IPDL periods shall be active or not

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
IPDL Indicator			ENUMERATED(active, inactive)	

**9.2.1.xB Burst mode parameters**

The *Burst mode parameters* IE provides information to be applied for IPDL burst mode.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics descriptions</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
Burst Start	M		INTEGER (0..15)	See [10] and [21]	=	
Burst Length	M		INTEGER (10..25)	See [10] and [21]	=	
Burst freq	M		INTEGER (1..16)	See [10] and [21]	=	

**9.2.2.Y IPDL FDD Parameters**

The *IPDL FDD Parameters* IE provides information about IPDL to be applied for FDD when activated.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics descriptions</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
IP spacingFDD	M		ENUMERATED (5,7,10,15, 20,30,40,50)	See [10]	=	
IP length	M		ENUMERATED (5,10)	See [10]	=	
Seed	M		INTEGER (0..63)	See [10]	=	
Burst mode parameters	O		9.2.1.xB			

**9.2.3.X IPDL TDD Parameter**

The *IPDL TDD Parameter* IE provides information about IPDL to be applied for TDD when activated.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics descriptions</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
IP spacingTDD	M		ENUMERATED(30, 40, 50, 70, 100, ...)	See [21]	=	
IP Start	M		Integer(0..4095)	See [21]	=	
IP Slot	M		Integer(0..14)	See [21]	=	
IP PCCPCH	M		ENUMERATED(Switch off 1 frame, Switch off	See [21]	=	

			<u>2 frames)</u>			
<u>Burst mode parameters</u>	<u>Q</u>		<u>9.2.1.xB</u>			

### 9.3.3 PDU Definitions

```

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

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
  Active-Pattern-Sequence-Information,
  AddorDeleteIndicator,
  AICH-Power,
  AICH-TransmissionTiming,
  AllocationRetentionPriority,
  APPreambleSignature,
  APSubChannelNumber,
  AvailabilityStatus,
  BCCH-ModificationTime,
  BindingID,
  BlockingPriorityIndicator,
  BlockSTTD-Indicator,
  Cause,
  CTrCH-ID,
  CDSubChannelNumbers,
  CellParameterID,
  CFN,
  Channel-Assignment-Indication,
  ChipOffset,
  C-ID,
  Closedlooptimingadjustmentmode,
  CommonChannelsCapacityConsumptionLaw,
  Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,
  CommonMeasurementType,
  CommonMeasurementValue,
  CommonMeasurementValueInformation,
  CommonPhysicalChannelID,
  Common-PhysicalChannel-Status-Information,

```

Common-TransportChannel-Status-Information,  
CommonTransportChannelID,  
CommonTransportChannel-InformationResponse,  
CommunicationControlPortID,  
ConfigurationGenerationID,  
ConstantValue,  
CriticalityDiagnostics,  
CPCH-Allowed-Total-Rate,  
CPCHScramblingCodeNumber,  
CPCH-UL-DPCCH-SlotFormat,  
CRNC-CommunicationContextID,  
DCH-FDD-Information,  
DCH-InformationResponse,  
DCH-ID,  
FDD-DCHs-to-Modify,  
TDD-DCHs-to-Modify,  
DCH-TDD-Information,  
DedicatedChannelsCapacityConsumptionLaw,  
DedicatedMeasurementType,  
DedicatedMeasurementValue,  
DedicatedMeasurementValueInformation,  
DiversityControlField,  
DiversityMode,  
DL-DPCH-SlotFormat,  
DL-or-Global-CapacityCredit,  
DL-Power,  
DLPowerAveragingWindowSize,  
DL-ScramblingCode,  
DL-TimeslotISCP,  
DL-Timeslot-Information,  
DL-TimeslotISCPInfo,  
DL-TPC-Pattern01Count,  
DPCH-ID,  
DSCH-ID,  
DSCH-FDD-Information,  
DSCH-InformationResponse,  
DSCH-TDD-Information,  
End-Of-Audit-Sequence-Indicator,  
FDD-DL-ChannelisationCodeNumber,  
FDD-DL-CodeInformation,  
FDD-S-CCPCH-Offset,  
FDD-TPC-DownlinkStepSize,  
FirstRLS-Indicator,  
FNReportingIndicator,  
FrameHandlingPriority,  
FrameOffset,  
IB-OC-ID,  
IB-SG-DATA,  
IB-SG-POS,  
IB-SG-REP,  
IB-Type,  
IndicationType,  
InnerLoopDLPCStatus,

IPDL-FDD-Parameters,  
IPDL-TDD-Parameters,  
IPDL-Indicator,  
LimitedPowerIncrease,  
Local-Cell-ID,  
MaximumDL-PowerCapability,  
MaximumTransmissionPower,  
Max-Number-of-PCPCHes,  
MaxNrOfUL-DPDCHs,  
MaxPRACH-MidambleShifts,  
MeasurementFilterCoefficient,  
MeasurementID,  
MidambleShiftAndBurstType,  
MinimumDL-PowerCapability,  
MinSpreadingFactor,  
MinUL-ChannelisationCodeLength,  
MultiplexingPosition,  
NEOT,  
NFmax,  
N-INSYNC-IND,  
N-OUTSYNC-IND,  
NodeB-CommunicationContextID,  
NStartMessage,  
PagingIndicatorLength,  
PayloadCRC-PresenceIndicator,  
PCCPCH-Power,  
PCP-Length,  
PDSCH-CodeMapping,  
PDSCHSet-ID,  
PDSCH-ID,  
PICH-Mode,  
PICH-Power,  
PowerAdjustmentType,  
PowerOffset,  
PowerRaiseLimit,  
PRACH-Midamble,  
PreambleSignatures,  
PreambleThreshold,  
PrimaryCPICH-Power,  
PrimaryScramblingCode,  
PropagationDelay,  
SCH-TimeSlot,  
PunctureLimit,  
PUSCHSet-ID,  
PUSCH-ID,  
QE-Selector,  
RACH-SlotFormat,  
RACH-SubChannelNumbers,  
RepetitionLength,  
RepetitionPeriod,  
ReportCharacteristics,  
ResourceOperationalState,  
RL-Set-ID,

RL-ID,  
Received-total-wide-band-power-Value,  
AdjustmentPeriod,  
ScaledAdjustmentRatio,  
MaxAdjustmentStep,  
ScramblingCodeNumber,  
SecondaryCCPCH-SlotFormat,  
Segment-Type,  
S-FieldLength,  
SFN,  
ShutdownTimer,  
SIB-Originator,  
SSDT-Cell-Identity,  
SSDT-CellID-Length,  
SSDT-Indication,  
Start-Of-Audit-Sequence-Indicator,  
STTD-Indicator,  
SSDT-SupportIndicator,  
SyncCase,  
T-Cell,  
T-RLFAILURE,  
TDD-ChannelisationCode,  
TDD-DPCHOffset,  
TDD-TPC-DownlinkStepSize,  
TDD-PhysicalChannelOffset,  
TFCI2-BearerInformationResponse,  
TFCI-Coding,  
TFCI-Presence,  
TFCI-SignallingMode,  
TFCS,  
TimeSlot,  
TimeSlotDirection,  
TimeSlotStatus,  
TimingAdvanceApplied,  
ToAWE,  
ToAWS,  
TransmissionDiversityApplied,  
TransmitDiversityIndicator,  
TransmissionGapPatternSequenceCodeInformation,  
Transmission-Gap-Pattern-Sequence-Information,  
TransportBearerRequestIndicator,  
TransportFormatSet,  
TransportLayerAddress,  
TSTD-Indicator,  
UARFCN,  
USCH-Information,  
USCH-InformationResponse,  
UL-CapacityCredit,  
UL-DPCCH-SlotFormat,  
UL-SIR,  
UL-FP-Mode,  
UL-PhysCH-SF-Variation,

```
    UL-ScramblingCode,
    UL-Timeslot-Information,
    UL-TimeSlot-ISCP-Info,
    UL-TimeslotISCP-Value,
    UL-TimeslotISCP-Value-IncrDecrThres,
    USCH-ID
FROM NBAP-IEs

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

    id-Active-Pattern-Sequence-Information,
    id-AdjustmentRatio,
    id-AICH-Information,
    id-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
    id-AP-AICH-Information,
    id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD,
    id-BCH-Information,
    id-BCCH-ModificationTime,
    id-BlockingPriorityIndicator,
    id-Cause,
    id-CauseLevel-PSCH-ReconfFailureTDD,
    id-CauseLevel-RL-AdditionFailureFDD,
    id-CauseLevel-RL-AdditionFailureTDD,
    id-CauseLevel-RL-ReconfFailure,
    id-CauseLevel-RL-SetupFailureFDD,
    id-CauseLevel-RL-SetupFailureTDD,
    id-CCP-InformationItem-AuditRsp,
    id-CCP-InformationList-AuditRsp,
    id-CCP-InformationItem-ResourceStatusInd,
    id-CDCA-ICH-Information,
    id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD,
    id-Cell-InformationItem-AuditRsp,
    id-Cell-InformationItem-ResourceStatusInd,
    id-Cell-InformationList-AuditRsp,
    id-CellParameterID,
    id-CFN,
    id-CFNReportingIndicator,
    id-C-ID,
    id-Closed-Loop-Timing-Adjustment-Mode,
    id-CommonMeasurementObjectType-CM-Rprt,
    id-CommonMeasurementObjectType-CM-Rqst,
    id-CommonMeasurementObjectType-CM-Rsp,
    id-CommonMeasurementType,
    id-CommonPhysicalChannelID,
    id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD,
```



id-CommonPhysicalChannelType-CTCH-SetupRqstFDD,  
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD,  
id-CommonTransportChannelType-CTCH-ReconfRqstTDD,  
id-CommunicationContextInfoItem-Reset,  
id-CommunicationControlPortID,  
id-CommunicationControlPortInfoItem-Reset,  
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD,  
id-ConfigurationGenerationID,  
id-CPCH-Information,  
id-CPCH-Parameters-CTCH-SetupRsp,  
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD,  
id-CRNC-CommunicationContextID,  
id-CriticalityDiagnostics,  
id-DCHs-to-Add-FDD,  
id-DCHs-to-Add-TDD,  
id-DCH-AddList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfPrepFDD,  
id-DCH-DeleteList-RL-ReconfPrepTDD,  
id-DCH-DeleteList-RL-ReconfRqstFDD,  
id-DCH-DeleteList-RL-ReconfRqstTDD,  
id-DCH-FDD-Information,  
id-DCH-TDD-Information,  
id-DCH-InformationResponse,  
id-FDD-DCHs-to-Modify,  
id-TDD-DCHs-to-Modify,  
id-DedicatedMeasurementObjectType-DM-Rprt,  
id-DedicatedMeasurementObjectType-DM-Rqst,  
id-DedicatedMeasurementObjectType-DM-Rsp,  
id-DedicatedMeasurementType,  
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD,  
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD,  
id-DL-DPCH-InformationList-RL-SetupRqstTDD,  
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,  
id-DL-DPCH-Information-RL-ReconfPrepFDD,  
id-DL-DPCH-Information-RL-ReconfRqstFDD,  
id-DL-DPCH-Information-RL-SetupRqstFDD,  
id-DL-ReferencePowerInformationItem-DL-PC-Rqst,  
id-DLReferencePower,  
id-DLReferencePowerList-DL-PC-Rqst,  
id-DL-TPC-Pattern01Count,

id-DPCHConstant,  
id-DSCH-AddItem-RL-ReconfPrepFDD,  
id-DSCH-AddItem-RL-ReconfRqstFDD,  
id-DSCHs-to-Add-FDD,  
id-DSCH-DeleteItem-RL-ReconfPrepFDD,  
id-DSCH-DeleteItem-RL-ReconfRqstFDD,  
id-DSCH-DeleteList-RL-ReconfPrepFDD,  
id-DSCH-ID,  
id-DSCHs-to-Add-TDD,  
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD,  
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD,  
id-DSCH-InformationResponse,  
id-DSCH-FDD-Information,  
id-DSCH-TDD-Information,  
id-DSCH-ModifyItem-RL-ReconfPrepFDD,  
id-DSCH-ModifyItem-RL-ReconfRqstFDD,  
id-DSCH-ModifyList-RL-ReconfPrepFDD,  
id-End-Of-Audit-Sequence-Indicator,  
id-FACH-Information,  
id-FACHItem-CTCH-SetupRsp,  
id-FACH-ParametersList-CTCH-ReconfRqstTDD,  
id-FACH-ParametersList-CTCH-SetupRsp,  
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD,  
id-FACH-ParametersListIE-CTCH-SetupRqstFDD,  
id-FACH-ParametersListIE-CTCH-SetupRqstTDD,  
id-IndicationType-ResourceStatusInd,  
id-InnerLoopDLPCStatus,  
id-IPDLParameter-Information-Cell-ReconfRqstFDD,  
id-IPDLParameter-Information-Cell-SetupRqstFDD,  
id-IPDLParameter-Information-Cell-ReconfRqstTDD,  
id-IPDLParameter-Information-Cell-SetupRqstTDD,  
id-limited-power-increase-information-Cell-SetupRqstFDD,  
id-Local-Cell-ID,  
id-Local-Cell-Group-InformationItem-AuditRsp,  
id-Local-Cell-Group-InformationItem-ResourceStatusInd,  
id-Local-Cell-Group-InformationItem2-ResourceStatusInd,  
id-Local-Cell-Group-InformationList-AuditRsp,  
id-Local-Cell-InformationItem-AuditRsp,  
id-Local-Cell-InformationItem-ResourceStatusInd,  
id-Local-Cell-InformationItem2-ResourceStatusInd,  
id-Local-Cell-InformationList-AuditRsp,  
id-AdjustmentPeriod,  
id-MaxAdjustmentStep,  
id-MaximumTransmissionPower,  
id-MeasurementFilterCoefficient,  
id-MeasurementID,  
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst,  
id-NodeB-CommunicationContextID,  
id-P-CCPCH-Information,  
id-P-CPICH-Information,  
id-P-SCH-Information,  
id-PCCPCH-Information-Cell-ReconfRqstTDD,  
id-PCCPCH-Information-Cell-SetupRqstTDD,

id-PCH-Parameters-CTCH-ReconfRqstTDD,  
id-PCH-Parameters-CTCH-SetupRsp,  
id-PCH-ParametersItem-CTCH-ReconfRqstFDD,  
id-PCH-ParametersItem-CTCH-SetupRqstFDD,  
id-PCH-ParametersItem-CTCH-SetupRqstTDD,  
id-PCH-Information,  
id-PCPCH-Information,  
id-PCPCH-ParametersList-CTCH-ReconfRqstFDD,  
id-PICH-ParametersItem-CTCH-ReconfRqstFDD,  
id-PD,  
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst,  
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst,  
id-PDSCHSets-AddList-PSCH-ReconfRqst,  
id-PDSCHSets-DeleteList-PSCH-ReconfRqst,  
id-PDSCHSets-ModifyList-PSCH-ReconfRqst,  
id-PICH-Information,  
id-PICH-Parameters-CTCH-ReconfRqstTDD,  
id-PICH-ParametersItem-CTCH-SetupRqstTDD,  
id-PowerAdjustmentType,  
id-PRACH-Information,  
id-PRACHConstant,  
id-PRACH-ParametersItem-CTCH-SetupRqstTDD,  
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD,  
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD,  
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD,  
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD,  
id-PrimaryCPICH-Information-Cell-SetupRqstFDD,  
id-PrimarySCH-Information-Cell-ReconfRqstFDD,  
id-PrimarySCH-Information-Cell-SetupRqstFDD,  
id-PrimaryScramblingCode,  
id-ProcedureScopeType-DL-PC-Rqst,  
id-SCH-Information-Cell-ReconfRqstTDD,  
id-SCH-Information-Cell-SetupRqstTDD,  
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst,  
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst,  
id-PUSCHConstant,  
id-PUSCHSets-AddList-PSCH-ReconfRqst,  
id-PUSCHSets-DeleteList-PSCH-ReconfRqst,  
id-PUSCHSets-ModifyList-PSCH-ReconfRqst,  
id-RACH-Information,  
id-RACHItem-CTCH-SetupRsp,  
id-RACH-Parameters-CTCH-SetupRsp,  
id-RACH-ParametersItem-CTCH-SetupRqstFDD,  
id-RACH-ParameterItem-CTCH-SetupRqstTDD,  
id-ReportCharacteristics,  
id-Reporting-Object-RL-FailureInd,  
id-Reporting-Object-RL-RestoreInd,  
id-ResetIndicator,  
id-RL-ID,  
id-RL-InformationItem-DM-Rprt,  
id-RL-InformationItem-DM-Rqst,  
id-RL-InformationItem-DM-Rsp,  
id-RL-InformationItem-RL-AdditionRqstFDD,

id-RL-informationItem-RL-DeletionRqst,  
id-RL-InformationItem-RL-FailureInd,  
id-RL-InformationItem-RL-PreemptRequiredInd,  
id-RL-InformationItem-RL-ReconfPrepFDD,  
id-RL-InformationItem-RL-ReconfRqstFDD,  
id-RL-InformationItem-RL-RestoreInd,  
id-RL-InformationItem-RL-SetupRqstFDD,  
id-RL-InformationList-RL-AdditionRqstFDD,  
id-RL-informationList-RL-DeletionRqst,  
id-RL-InformationList-RL-PreemptRequiredInd,  
id-RL-InformationList-RL-ReconfPrepFDD,  
id-RL-InformationList-RL-ReconfRqstFDD,  
id-RL-InformationList-RL-SetupRqstFDD,  
id-RL-InformationResponseItem-RL-AdditionRspFDD,  
id-RL-InformationResponseItem-RL-ReconfReady,  
id-RL-InformationResponseItem-RL-ReconfRsp,  
id-RL-InformationResponseItem-RL-SetupRspFDD,  
id-RL-InformationResponseList-RL-AdditionRspFDD,  
id-RL-InformationResponseList-RL-ReconfReady,  
id-RL-InformationResponseList-RL-ReconfRsp,  
id-RL-InformationResponseList-RL-SetupRspFDD,  
id-RL-InformationResponse-RL-AdditionRspTDD,  
id-RL-InformationResponse-RL-SetupRspTDD,  
id-RL-Information-RL-AdditionRqstTDD,  
id-RL-Information-RL-ReconfRqstTDD,  
id-RL-Information-RL-ReconfPrepTDD,  
id-RL-Information-RL-SetupRqstTDD,  
id-RL-ReconfigurationFailureItem-RL-ReconfFailure,  
id-RL-Set-InformationItem-DM-Rprt,  
id-RL-Set-InformationItem-DM-Rsp,  
id-RL-Set-InformationItem-RL-FailureInd,  
id-RL-Set-InformationItem-RL-RestoreInd,  
id-S-CCPCH-Information,  
id-S-CPICH-Information,  
id-SCH-Information,  
id-S-SCH-Information,  
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD,  
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD,  
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD,  
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD,  
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD,  
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD,  
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD,  
id-SecondarySCH-Information-Cell-ReconfRqstFDD,  
id-SecondarySCH-Information-Cell-SetupRqstFDD,  
id-SegmentInformationListIE-SystemInfoUpdate,  
id-SFN,  
id-SFNReportingIndicator,  
id-ShutdownTimer,  
id-Start-Of-Audit-Sequence-Indicator,  
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD,  
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD,  
id-Successful-RL-InformationRespList-RL-AdditionFailureFDD,

id-Successful-RL-InformationRespList-RL-SetupFailureFDD,  
id-Synchronisation-Configuration-Cell-ReconfRqst,  
id-Synchronisation-Configuration-Cell-SetupRqst,  
id-SyncCase,  
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH,  
id-T-Cell,  
id-TFCI2-Bearer-Information-RL-SetupRqstFDD,  
id-TFCI2-BearerInformationResponse,  
id-TFCI2-BearerSpecificInformation-RL-ReconfPrepFDD,  
id-Transmission-Gap-Pattern-Sequence-Information,  
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD,  
id-TimeSlotConfigurationList-Cell-SetupRqstTDD,  
id-TimeSlotISCPInfoList-DL-PC-RqstTDD,  
id-TimingAdvanceApplied,  
id-TransmissionDiversityApplied,  
id-UARFCNforNt,  
id-UARFCNforNd,  
id-UARFCNforNu,  
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,  
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,  
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,  
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,  
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,  
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD,  
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD,  
id-UL-DPCH-InformationList-RL-SetupRqstTDD,  
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD,  
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD,  
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD,  
id-UL-DPCH-Information-RL-ReconfPrepFDD,  
id-UL-DPCH-Information-RL-ReconfRqstFDD,  
id-UL-DPCH-Information-RL-SetupRqstFDD,  
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD,  
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD,  
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD,  
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD,  
id-Unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD,  
id-Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD,  
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD,  
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD,  
id-USCH-Information-Add,  
id-USCH-Information-AddList-RL-ReconfRqstTDD,  
id-USCH-Information-DeleteList-RL-ReconfPrepTDD,  
id-USCH-Information-DeleteList-RL-ReconfRqstTDD,  
id-USCH-Information-ModifyList-RL-ReconfPrepTDD,  
id-USCH-Information-ModifyList-RL-ReconfRqstTDD,  
id-USCH-InformationResponse,  
id-USCH-Information,

```

maxNrOfCCTrCHs,
maxNrOfCodes,
maxNrOfCPCHs,
maxNrOfDCHs,
maxNrOfDLCodes,
maxNrOfDLTss,
maxNrOfDPCHs,
maxNrOfDSCHs,
maxNrOfFACHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfPCPCHs,
maxNrOfPDSCHs,
maxNrOfPUSCHs,
maxNrOfPDSCHSets,
maxNrOfPUSCHSets,
maxNrOfSCCPCHs,
maxNrOfULTss,
maxNrOfUSCHs,
maxAPSigNum,
maxCPCHCell,
maxFACHCell,
maxNoofLen,
maxRACHCell,
maxPCPCHCell,
maxPRACHCell,
maxSCCPCHCell,
maxSCPICHCell,
maxCellinNodeB,
maxCCPinNodeB,
maxCommunicationContext,
maxLocalCellinNodeB,
maxNrOfSlotFormatsPRACH,
maxIB,
maxIBSEG
FROM NBAP-Constants;

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

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

```

```

CellSetupRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-Local-Cell-ID          CRITICALITY reject TYPE Local-Cell-ID
  PRESENCE mandatory }|
  { ID id-C-ID                  CRITICALITY reject TYPE C-ID          PRESENCE
  mandatory }|
  { ID id-ConfigurationGenerationID CRITICALITY reject TYPE ConfigurationGenerationID
  PRESENCE mandatory }|
  { ID id-T-Cell                CRITICALITY reject TYPE T-Cell
  PRESENCE mandatory }|
  { ID id-UARFCNforNu           CRITICALITY reject TYPE UARFCN
  PRESENCE mandatory }|
  { ID id-UARFCNforNd           CRITICALITY reject TYPE UARFCN
  PRESENCE mandatory }|
  { ID id-MaximumTransmissionPower CRITICALITY reject TYPE MaximumTransmissionPower
  PRESENCE mandatory }|
  { ID id-Closed-Loop-Timing-Adjustment-Mode CRITICALITY reject TYPE Closedlooptimingadjustmentmode
  PRESENCE optional }|
  { ID id-PrimaryScramblingCode CRITICALITY reject TYPE PrimaryScramblingCode
  PRESENCE mandatory }|
  { ID id-Synchronisation-Configuration-Cell-SetupRqst CRITICALITY reject TYPE Synchronisation-Configuration-Cell-SetupRqst
  PRESENCE mandatory }|
  { ID id-DL-TPC-Pattern01Count CRITICALITY reject TYPE DL-TPC-Pattern01Count
  PRESENCE mandatory }|
  { ID id-PrimarySCH-Information-Cell-SetupRqstFDD CRITICALITY reject TYPE PrimarySCH-Information-Cell-SetupRqstFDD
  PRESENCE mandatory }|
  { ID id-SecondarySCH-Information-Cell-SetupRqstFDD CRITICALITY reject TYPE SecondarySCH-Information-Cell-SetupRqstFDD
  PRESENCE mandatory }|
  { ID id-PrimaryCPICH-Information-Cell-SetupRqstFDD CRITICALITY reject TYPE PrimaryCPICH-Information-Cell-SetupRqstFDD
  PRESENCE mandatory }|
  { ID id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD CRITICALITY reject TYPE SecondaryCPICH-InformationList-Cell-
  PRESENCE optional }|
  { ID id-PrimaryCCPCH-Information-Cell-SetupRqstFDD CRITICALITY reject TYPE PrimaryCCPCH-Information-Cell-SetupRqstFDD
  PRESENCE mandatory }|
  { ID id-Limited-power-increase-information-Cell-SetupRqstFDD CRITICALITY reject TYPE Limited-power-increase-information-Cell-
  PRESENCE mandatory },
  ...
}

CellSetupRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  {ID id-IPDLParameter-Information-Cell-SetupRqstFDD CRITICALITY reject EXTENSION IPDLParameter-Information-Cell-
  SetupRqstFDD PRESENCE optional },
  ...
}

Synchronisation-Configuration-Cell-SetupRqst ::= SEQUENCE {
  n-INSYNC-IND N-INSYNC-IND,
  n-OUTSYNC-IND N-OUTSYNC-IND,
  t-RLFFAILURE T-RLFFAILURE,
  iE-Extensions ProtocolExtensionContainer { { Synchronisation-Configuration-Cell-SetupRqst-ExtIEs } } OPTIONAL,
  ...
}

Synchronisation-Configuration-Cell-SetupRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {

```

```

}
...
}
PrimarySCH-Information-Cell-SetupRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    primarySCH-Power                  DL-Power,
    tSTD-Indicator                    TSTD-Indicator,
    iE-Extensions                     ProtocolExtensionContainer { { PrimarySCH-Information-Cell-SetupRqstFDD-ExtIEs} }    OPTIONAL,
    ...
}
PrimarySCH-Information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
SecondarySCH-Information-Cell-SetupRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    secondarySCH-Power                DL-Power,
    tSTD-Indicator                    TSTD-Indicator,
    iE-Extensions                     ProtocolExtensionContainer { { SecondarySCH-Information-Cell-SetupRqstFDD-ExtIEs} }    OPTIONAL,
    ...
}
SecondarySCH-Information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
PrimaryCPICH-Information-Cell-SetupRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    primaryCPICH-Power                PrimaryCPICH-Power,
    transmitDiversityIndicator        TransmitDiversityIndicator,
    iE-Extensions                     ProtocolExtensionContainer { { PrimaryCPICH-Information-Cell-SetupRqstFDD-ExtIEs} }    OPTIONAL,
    ...
}
PrimaryCPICH-Information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
SecondaryCPICH-InformationList-Cell-SetupRqstFDD ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF ProtocolIE-Single-Container{{ SecondaryCPICH-
InformationItemIE-Cell-SetupRqstFDD }}
SecondaryCPICH-InformationItemIE-Cell-SetupRqstFDD NBAP-PROTOCOL-IES ::= {
    { ID id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD    CRITICALITY    reject    TYPE SecondaryCPICH-InformationItem-Cell-
SetupRqstFDD    PRESENCE    mandatory}
}
SecondaryCPICH-InformationItem-Cell-SetupRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID          CommonPhysicalChannelID,
    dl-ScramblingCode                DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber  FDD-DL-ChannelisationCodeNumber,
    secondaryCPICH-Power              DL-Power,
    transmitDiversityIndicator        TransmitDiversityIndicator,

```



```

    iE-Extensions          ProtocolExtensionContainer { { SecondaryCPICH-InformationItem-Cell-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}

SecondaryCPICH-InformationItem-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PrimaryCCPCH-Information-Cell-SetupRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    bCH-information              BCH-Information-Cell-SetupRqstFDD,
    sTTD-Indicator              STTD-Indicator,
    iE-Extensions              ProtocolExtensionContainer { { PrimaryCCPCH-Information-Cell-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}

PrimaryCCPCH-Information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

BCH-Information-Cell-SetupRqstFDD ::= SEQUENCE {
    commonTransportChannelID      CommonTransportChannelID,
    bCH-Power                    DL-Power,
    iE-Extensions              ProtocolExtensionContainer { { BCH-Information-Cell-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}

BCH-Information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Limited-power-increase-information-Cell-SetupRqstFDD ::= SEQUENCE {
    powerRaiseLimit              PowerRaiseLimit,
    dlPowerAveragingWindowSize    DLPowerAveragingWindowSize,
    iE-Extensions              ProtocolExtensionContainer { { Limited-power-increase-information-Cell-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}

Limited-power-increase-information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDLParameter-Information-Cell-SetupRqstFDD ::= SEQUENCE {
    iPDL-FDD-Parameters          IPDL-FDD-Parameters,
    iPDL-Indicator              IPDL-Indicator,
    iE-Extensions              ProtocolExtensionContainer { { IPDLParameter-Information-Cell-SetupRqstFDD-ExtIEs } } OPTIONAL,
    ...
}

IPDLParameter-Information-Cell-SetupRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

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

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

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID      id-Local-Cell-ID          CRITICALITY  reject      TYPE  Local-Cell-ID          PRESENCE
    mandatory }|
    { ID      id-C-ID                   CRITICALITY  reject      TYPE  C-ID                   PRESENCE
    mandatory }|
    { ID      id-ConfigurationGenerationID  CRITICALITY  reject      TYPE  ConfigurationGenerationID  PRESENCE
    mandatory }|
    { ID      id-UARFCNforNt             CRITICALITY  reject      TYPE  UARFCN                   PRESENCE
    mandatory }|
    { ID      id-CellParameterID         CRITICALITY  reject      TYPE  CellParameterID          PRESENCE
    mandatory }|
    { ID      id-MaximumTransmissionPower  CRITICALITY  reject      TYPE  MaximumTransmissionPower  PRESENCE
    mandatory }|
    { ID      id-TransmissionDiversityApplied  CRITICALITY  reject      TYPE  TransmissionDiversityApplied  PRESENCE
    mandatory }|
    { ID      id-SyncCase                CRITICALITY  reject      TYPE  SyncCase                  PRESENCE
    mandatory }|
    { ID      id-Synchronisation-Configuration-Cell-SetupRqst  CRITICALITY  reject      TYPE  Synchronisation-Configuration-Cell-SetupRqst
    PRESENCE mandatory }|
    { ID      id-DPCHConstant            CRITICALITY  reject      TYPE  ConstantValue            PRESENCE
    mandatory }|
    { ID      id-PUSCHConstant          CRITICALITY  reject      TYPE  ConstantValue            PRESENCE
    mandatory }|
    { ID      id-PRACHConstant          CRITICALITY  reject      TYPE  ConstantValue            PRESENCE
    mandatory }|
    { ID      id-TimingAdvanceApplied    CRITICALITY  reject      TYPE  TimingAdvanceApplied      PRESENCE
    mandatory }|
    { ID      id-SCH-Information-Cell-SetupRqstTDD  CRITICALITY  reject      TYPE  SCH-Information-Cell-SetupRqstTDD
    PRESENCE mandatory }|
    { ID      id-PCCPCH-Information-Cell-SetupRqstTDD  CRITICALITY  reject      TYPE  PCCPCH-Information-Cell-SetupRqstTDD
    PRESENCE mandatory }|
    { ID      id-TimeSlotConfigurationList-Cell-SetupRqstTDD  CRITICALITY  reject      TYPE  TimeSlotConfigurationList-Cell-SetupRqstTDD
    PRESENCE mandatory },
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID      id-IPDLParameter-Information-Cell-SetupRqstTDD  CRITICALITY  reject      EXTENSION  IPDLParameter-Information-Cell-
    SetupRqstTDD  PRESENCE  optional },

```

```
| } ...
```

```
SCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    syncCaseIndicator            SyncCaseIndicator-Cell-SetupRqstTDD-PSCH,
    sCH-Power                    DL-Power,
    tSTD-Indicator               TSTD-Indicator,
    iE-Extensions                ProtocolExtensionContainer { { SCH-Information-Cell-SetupRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

SCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SyncCaseIndicator-Cell-SetupRqstTDD-PSCH ::= ProtocolIE-Single-Container { { SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH } }

SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH NBAP-PROTOCOL-IES ::= {
    { ID id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH CRITICALITY reject TYPE SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH PRESENCE
    mandatory }
}

SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH ::= CHOICE {
    case1                        Case1-Cell-SetupRqstTDD,
    case2                        Case2-Cell-SetupRqstTDD,
    ...
}

Case1-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                    TimeSlot,
    iE-Extensions                ProtocolExtensionContainer { { Case1Item-Cell-SetupRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

Case1Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Case2-Cell-SetupRqstTDD ::= SEQUENCE {
    sCH-TimeSlot                 SCH-TimeSlot,
    iE-Extensions                ProtocolExtensionContainer { { Case2Item-Cell-SetupRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

Case2Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PCCPCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
```

```

    tdd-PhysicalChannelOffset      TDD-PhysicalChannelOffset,
    repetitionPeriod              RepetitionPeriod,
    repetitionLength              RepetitionLength,
    pCCPCH-Power                 PCCPCH-Power,
    blockSTTD-Indicator          BlockSTTD-Indicator,
    iE-Extensions                 ProtocolExtensionContainer { { PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..15)) OF TimeSlotConfigurationItem-Cell-SetupRqstTDD

TimeSlotConfigurationItem-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                      TimeSlot,
    timeSlotStatus                TimeSlotStatus,
    timeSlotDirection            TimeSlotDirection,
    iE-Extensions                 ProtocolExtensionContainer { { TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDLParameter-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    iPDL-TDD-Parameters           IPDL-TDD-Parameters,
    iPDL-Indicator                IPDL-Indicator,
    iE-Extensions                 ProtocolExtensionContainer { { IPDLParameter-Information-Cell-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

IPDLParameter-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

```

```

CellReconfigurationRequestFDD-IEs NBAP-PROTOCOL-IES ::= {
  { ID id-C-ID
    mandatory }|
  { ID id-ConfigurationGenerationID
    PRESENCE mandatory }|
  { ID id-MaximumTransmissionPower
    PRESENCE optional }|
  { ID id-Synchronisation-Configuration-Cell-ReconfRqst
    PRESENCE optional }|
  { ID id-PrimarySCH-Information-Cell-ReconfRqstFDD
    PRESENCE optional }|
  { ID id-SecondarySCH-Information-Cell-ReconfRqstFDD
    PRESENCE optional }|
  { ID id-PrimaryCPICH-Information-Cell-ReconfRqstFDD
    PRESENCE optional }|
  { ID id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD
    PRESENCE optional }|
  ReconfRqstFDD PRESENCE optional }|
  { ID id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD
    PRESENCE optional },
  ...
}

CellReconfigurationRequestFDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  {ID id-IPDLParameter-Information-Cell-ReconfRqstFDD
  ReconfRqstFDD PRESENCE optional },
  ...
}

Synchronisation-Configuration-Cell-ReconfRqst ::= SEQUENCE {
  n-INSYNC-IND N-INSYNC-IND,
  n-OUTSYNC-IND N-OUTSYNC-IND,
  t-RLFFAILURE T-RLFFAILURE,
  iE-Extensions ProtocolExtensionContainer { { Synchronisation-Configuration-Cell-ReconfRqst-ExtIEs} } OPTIONAL,
  ...
}

Synchronisation-Configuration-Cell-ReconfRqst-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

PrimarySCH-Information-Cell-ReconfRqstFDD ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  primarySCH-Power DL-Power,
  iE-Extensions ProtocolExtensionContainer { { PrimarySCH-Information-Cell-ReconfRqstFDD-ExtIEs} } OPTIONAL,
  ...
}

PrimarySCH-Information-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```

SecondarySCH-Information-Cell-ReconfRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    secondarySCH-Power           DL-Power,
    iE-Extensions                ProtocolExtensionContainer { { SecondarySCH-Information-Cell-ReconfRqstFDD-ExtIEs } }    OPTIONAL,
    ...
}

SecondarySCH-Information-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PrimaryCPICH-Information-Cell-ReconfRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    primaryCPICH-Power           PrimaryCPICH-Power,
    iE-Extensions                ProtocolExtensionContainer { { PrimaryCPICH-Information-Cell-ReconfRqstFDD-ExtIEs } }    OPTIONAL,
    ...
}

PrimaryCPICH-Information-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

SecondaryCPICH-InformationList-Cell-ReconfRqstFDD ::= SEQUENCE (SIZE (1..maxSCPICHCell)) OF ProtocolIE-Single-Container{{ SecondaryCPICH-
InformationItemIE-Cell-ReconfRqstFDD }}

SecondaryCPICH-InformationItemIE-Cell-ReconfRqstFDD NBAP-PROTOCOL-IES ::= {
    { ID      id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD      CRITICALITY    reject      TYPE      SecondaryCPICH-InformationItem-Cell-
ReconfRqstFDD      PRESENCE      mandatory}
}

SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD ::= SEQUENCE {
    commonPhysicalChannelID      CommonPhysicalChannelID,
    secondaryCPICH-Power         DL-Power,
    iE-Extensions                ProtocolExtensionContainer { { SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD-ExtIEs } }
    OPTIONAL,
    ...
}

SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PrimaryCCPCH-Information-Cell-ReconfRqstFDD ::= SEQUENCE {
    bCH-information              BCH-information-Cell-ReconfRqstFDD,
    iE-Extensions                ProtocolExtensionContainer { { PrimaryCCPCH-Information-Cell-ReconfRqstFDD-ExtIEs } }    OPTIONAL,
    ...
}

PrimaryCCPCH-Information-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

BCH-information-Cell-ReconfRqstFDD ::= SEQUENCE {

```

```

    commonTransportChannelID      CommonTransportChannelID,
    bCH-Power                     DL-Power,
    iE-Extensions                 ProtocolExtensionContainer { { BCH-information-Cell-ReconfRqstFDD-ExtIEs} }    OPTIONAL,
    ...
}

```

```

BCH-information-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

IPDLParameter-Information-Cell-ReconfRqstFDD ::= SEQUENCE {
    iPDL-FDD-Parameters           IPDL-FDD-Parameters    OPTIONAL,
    iPDL-Indicator                IPDL-Indicator,
    iE-Extensions                 ProtocolExtensionContainer { { IPDLParameter-Information-Cell-ReconfRqstFDD-ExtIEs} }    OPTIONAL,
    ...
}

```

```

IPDLParameter-Information-Cell-ReconfRqstFDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

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

```

```

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

```

```

CellReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID id-C-ID                CRITICALITY reject TYPE C-ID                PRESENCE
      mandatory }|
    { ID id-ConfigurationGenerationID CRITICALITY reject TYPE ConfigurationGenerationID PRESENCE
      mandatory }|
    { ID id-Synchronisation-Configuration-Cell-ReconfRqst CRITICALITY reject TYPE Synchronisation-Configuration-Cell-ReconfRqst
      PRESENCE optional }|
    { ID id-TimingAdvanceApplied CRITICALITY reject TYPE TimingAdvanceApplied PRESENCE
      optional }|
    { ID id-SCH-Information-Cell-ReconfRqstTDD CRITICALITY reject TYPE SCH-Information-Cell-ReconfRqstTDD
      PRESENCE optional }|
    { ID id-PCCPCH-Information-Cell-ReconfRqstTDD CRITICALITY reject TYPE PCCPCH-Information-Cell-ReconfRqstTDD
      PRESENCE optional }|
    { ID id-MaximumTransmissionPower CRITICALITY reject TYPE MaximumTransmissionPower PRESENCE
      optional }|
    { ID id-DPCHConstant        CRITICALITY reject TYPE ConstantValue PRESENCE
      optional }|
    { ID id-PUSCHConstant        CRITICALITY reject TYPE ConstantValue PRESENCE
      optional }|
}

```

```

    { ID id-PRACHConstant CRITICALITY reject TYPE ConstantValue PRESENCE
      optional }|
    { ID id-TimeSlotConfigurationList-Cell-ReconfRqstTDD CRITICALITY reject TYPE TimeSlotConfigurationList-Cell-ReconfRqstTDD
      PRESENCE mandatory },
    ...
  }

CellReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
  { ID id-IPDLParameter-Information-Cell-ReconfRqstTDD CRITICALITY reject EXTENSION IPDLParameter-Information-Cell-
    ReconfRqstTDD PRESENCE optional },
  ...
}

SCH-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  sCH-Power DL-Power,
  iE-Extensions ProtocolExtensionContainer { { PSCH-Information-Cell-ReconfRqstTDD-ExtIEs } } OPTIONAL,
  ...
}

PSCH-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

PCCPCH-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
  commonPhysicalChannelID CommonPhysicalChannelID,
  pCCPCH-Power DL-Power,
  iE-Extensions ProtocolExtensionContainer { { PCCPCH-Information-Cell-ReconfRqstTDD-ExtIEs } } OPTIONAL,
  ...
}

PCCPCH-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

TimeSlotConfigurationList-Cell-ReconfRqstTDD ::= SEQUENCE (SIZE (1..15)) OF TimeSlotConfigurationItem-Cell-ReconfRqstTDD

TimeSlotConfigurationItem-Cell-ReconfRqstTDD ::= SEQUENCE {
  timeSlot TimeSlot,
  timeSlotStatus TimeSlotStatus,
  timeSlotDirection TimeSlotDirection,
  iE-Extensions ProtocolExtensionContainer { { TimeSlotConfigurationItem-Cell-ReconfRqstTDD-ExtIEs } } OPTIONAL,
  ...
}

TimeSlotConfigurationItem-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
  ...
}

IPDLParameter-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
  iPDL-TDD-Parameters IPDL-TDD-Parameters OPTIONAL,
  iPDL-Indicator IPDL-Indicator,
  iE-Extensions ProtocolExtensionContainer { { IPDLParameter-Information-Cell-ReconfRqstTDD-ExtIEs } } OPTIONAL,
}

```



```

    ...
  }
  IPDLParameter-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
  }

```

### 9.3.4 Information Elements Definitions

```

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

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

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

-- =====
-- C
-- =====

Cause ::= CHOICE {
    radioNetwork          CauseRadioNetwork,
    transport             CauseTransport,
    protocol              CauseProtocol,
    misc                  CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    oam-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    message-not-compatible-with-receiver-state,
    semantic-error,
    unspecified,
    abstract-syntax-error-falsely-constructed-message,

```

```

    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    rl-already-ActivatedOrAllocated,
    nodeB-Resources-unavailable,
    measurement-not-supported-for-the-object,
    combining-resources-not-available,
    requested-configuration-not-supported,
    synchronisation-failure,
    priority-transport-channel-established,
    sIB-Origination-in-Node-B-not-Supported,
    requested-tx-diversity-mode-not-supported,
    unspecified,
    bCCH-scheduling-error,
    measurement-temporarily-not-available,
    invalid-CM-settings,
    reconfiguration-CFN-not-elapsed,
    number-of-DL-codes-not-supported,
    s-cipch-not-supported,
    combining-not-supported,
    ul-sf-not-supported,
    dl-SF-not-supported,
    common-transport-channel-type-not-supported,
    dedicated-transport-channel-type-not-supported,
    downlink-shared-channel-type-not-supported,
    uplink-shared-channel-type-not-supported,
    cm-not-supported,
    tx-diversity-no-longer-supported,
    unknown-Local-Cell-ID,
    ...
    iPDL-already-activated,
    iPDL-not-supported,
    iPDL-parameters-not-available
}

CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}

-- =====
-- I
-- =====

IB-OC-ID ::= INTEGER (1..16)

```

```
IB-SG-DATA ::= BIT STRING
-- Contains SIB data fixed" or "SIB data variable" in segment as encoded in ref.[18].

IB-SG-POS ::= INTEGER (0..4094)
-- Only even positions allowed

IB-SG-REP ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

IB-Type ::= ENUMERATED {
    mib,
    sb1,
    sb2,
    sib1,
    sib2,
    sIB3,
    sIB4,
    sIB5,
    sIB6,
    sIB7,
    sIB8,
    sIB9,
    sIB10,
    sIB11,
    sib12,
    sIB13,
    sIB13dot1,
    sIB13dot2,
    sIB13dot3,
    sIB13dot4,
    sIB14,
    sIB15,
    sIB15dot1,
    sIB15dot2,
    sIB15dot3,
    sIB16,
    ...
}

IndicationType ::= ENUMERATED {
    noFailure,
    serviceImpacting,
    ...
}

InnerLoopDLPCStatus ::= ENUMERATED {
    active,
    inactive
}

IPDL-Indicator ::= ENUMERATED {
    active,
```

```

    inactive,
}

IPDL-FDD-Parameters ::= SEQUENCE {
    iP-SpacingFDD          ENUMERATED(sp5,sp7,sp10,sp15,sp20,sp30,sp40,sp50,...),
    iP-Length              ENUMERATED(len5, len10),
    seed                   INTEGER(1..63),
    burstModeParams        BurstModeParams      OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { { IPDLFDDParameter-ExtIEs} } OPTIONAL,
    ...
}

IPDLFDDParameter -ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDL-TDD-Parameters ::= SEQUENCE {
    iP-SpacingTDD          ENUMERATED(sp30,sp40,sp50,sp70,sp100,...),
    iP-Start               INTEGER(0..4095),
    iP-Slot                INTEGER(0..14),
    iP-PCCPCH              ENUMERATED(SwitchOff-1-Frame,SwitchOff-2-Frames),
    burstModeParams        BurstModeParams      OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { { IPDLTDDParameter-ExtIEs} } OPTIONAL,
    ...
}

BurstModeParams ::= SEQUENCE {
    burstStart              INTEGER(0..15),
    burstLenth              INTEGER(10..25),
    burstFreq               INTEGER(1..16),
    ...
}

IPDLTDDParameter -ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

### 9.3.6 Constant Definitions

```

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

NBAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

```

```
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-Constants (4)}
```

```
DEFINITIONS AUTOMATIC TAGS ::=
```

```
BEGIN
```

```
IMPORTS
```

```
    ProcedureCode,  
    ProtocolIE-ID
```

```
FROM NBAP-CommonDataTypes;
```

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

```
--
```

```
-- Elementary Procedures
```

```
--
```

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

id-audit	ProcedureCode ::= 0
id-auditRequired	ProcedureCode ::= 1
id-blockResource	ProcedureCode ::= 2
id-cellDeletion	ProcedureCode ::= 3
id-cellReconfiguration	ProcedureCode ::= 4
id-cellSetup	ProcedureCode ::= 5
id-commonMeasurementFailure	ProcedureCode ::= 6
id-commonMeasurementInitiation	ProcedureCode ::= 7
id-commonMeasurementReport	ProcedureCode ::= 8
id-commonMeasurementTermination	ProcedureCode ::= 9
id-commonTransportChannelDelete	ProcedureCode ::= 10
id-commonTransportChannelReconfigure	ProcedureCode ::= 11
id-commonTransportChannelSetup	ProcedureCode ::= 12
id-compressedModeCommand	ProcedureCode ::= 14
id-dedicatedMeasurementFailure	ProcedureCode ::= 16
id-dedicatedMeasurementInitiation	ProcedureCode ::= 17
id-dedicatedMeasurementReport	ProcedureCode ::= 18
id-dedicatedMeasurementTermination	ProcedureCode ::= 19
id-downlinkPowerControl	ProcedureCode ::= 20
id-downlinkPowerTimeslotControl	ProcedureCode ::= 38
id-errorIndicationForCommon	ProcedureCode ::= 35
id-errorIndicationForDedicated	ProcedureCode ::= 21
id-physicalSharedChannelReconfiguration	ProcedureCode ::= 37
id-privateMessageForCommon	ProcedureCode ::= 36
id-privateMessageForDedicated	ProcedureCode ::= 22
id-radioLinkAddition	ProcedureCode ::= 23
id-radioLinkDeletion	ProcedureCode ::= 24
id-radioLinkFailure	ProcedureCode ::= 25
id-radioLinkPreemption	ProcedureCode ::= 39
id-radioLinkRestoration	ProcedureCode ::= 26
id-radioLinkSetup	ProcedureCode ::= 27
id-reset	ProcedureCode ::= 13
id-resourceStatusIndication	ProcedureCode ::= 28
id-synchronisedRadioLinkReconfigurationCancellation	ProcedureCode ::= 29
id-synchronisedRadioLinkReconfigurationCommit	ProcedureCode ::= 30
id-synchronisedRadioLinkReconfigurationPreparation	ProcedureCode ::= 31

```

id-systemInformationUpdate      ProcedureCode ::= 32
id-unblockResource              ProcedureCode ::= 33
id-unSynchronisedRadioLinkReconfiguration ProcedureCode ::= 34

```

```

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

```

```

maxNrOfCodes                INTEGER ::= 10
maxNrOfDLTSS                INTEGER ::= 15
maxNrOfDLCodes              INTEGER ::= 8
maxNrOfErrors                INTEGER ::= 256
maxNrOfTFs                   INTEGER ::= 32
maxNrOfTFCs                  INTEGER ::= 1024
maxNrOfRLs                   INTEGER ::= 16
maxNrOfRLSets                INTEGER ::= maxNrOfRLs
maxNrOfDPCHs                 INTEGER ::= 240
maxNrOfSCCPCHs               INTEGER ::= 8
maxNrOfCPCHs                 INTEGER ::= 4
maxNrOfPCPCHs                INTEGER ::= 64
maxNrOfDCHs                  INTEGER ::= 128
maxNrOfDSCHs                 INTEGER ::= 32
maxNrOfFACHs                 INTEGER ::= 8
maxNrOfCCTrCHs              INTEGER ::= 16
maxNrOfPDSCHs                INTEGER ::= 256
maxNrOfPUSCHs                INTEGER ::= 256
maxNrOfPDSCHSets            INTEGER ::= 256
maxNrOfPUSCHSets            INTEGER ::= 256
maxNrOfULTSs                 INTEGER ::= 15
maxNrOfUSCHs                 INTEGER ::= 32
maxAPSigNum                  INTEGER ::= 16
maxNrOfSlotFormatsPRACH      INTEGER ::= 8
maxCellInNodeB               INTEGER ::= 256
maxCCPinNodeB                INTEGER ::= 256
maxCPCHCell                  INTEGER ::= maxNrOfCPCHs
maxCTFC                       INTEGER ::= 16777215
maxLocalCellInNodeB          INTEGER ::= maxCellInNodeB
maxNoofLen                    INTEGER ::= 7
maxRACHCell                   INTEGER ::= maxPRACHCell
maxPRACHCell                  INTEGER ::= 16
maxPCPCHCell                  INTEGER ::= 64
maxSCCPCHCell                 INTEGER ::= 32
maxSCPICHCell                 INTEGER ::= 32
maxTTI-count                  INTEGER ::= 4
maxIBSEG                       INTEGER ::= 16
maxIB                          INTEGER ::= 64
maxFACHCell                   INTEGER ::= 256 -- maxNrOfFACHs * maxSCCPCHCell
maxRateMatching               INTEGER ::= 256
maxCodeNrComp-1               INTEGER ::= 256
maxNrOfCodeGroups             INTEGER ::= 256
maxNrOfTFCIGroups            INTEGER ::= 256

```

```

maxNrOfTFCCICombs          INTEGER ::= 512
maxNrOfTFCCI2Combs         INTEGER ::= 1024
maxNrOfTFCCI2Combs-1       INTEGER ::= 1023
maxNrOfSF                   INTEGER ::= 8
maxTGPS                     INTEGER ::= 6
maxCommunicationContext     INTEGER ::= 1048575

```

```

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

```

```

id-AICH-Information          ProtocolIE-ID ::= 0
id-AICH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 1
id-BCH-Information          ProtocolIE-ID ::= 7
id-BCH-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 8
id-BCCH-ModificationTime   ProtocolIE-ID ::= 9
id-BlockingPriorityIndicator ProtocolIE-ID ::= 10
id-Cause                    ProtocolIE-ID ::= 13
id-CCP-InformationItem-AuditRsp ProtocolIE-ID ::= 14
id-CCP-InformationList-AuditRsp ProtocolIE-ID ::= 15
id-CCP-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 16
id-Cell-InformationItem-AuditRsp ProtocolIE-ID ::= 17
id-Cell-InformationItem-ResourceStatusInd ProtocolIE-ID ::= 18
id-Cell-InformationList-AuditRsp ProtocolIE-ID ::= 19
id-CellParameterID         ProtocolIE-ID ::= 23
id-CFN                     ProtocolIE-ID ::= 24
id-C-ID                    ProtocolIE-ID ::= 25
id-CommonMeasurementObjectType-CM-Rprt ProtocolIE-ID ::= 31
id-CommonMeasurementObjectType-CM-Rqst ProtocolIE-ID ::= 32
id-CommonMeasurementObjectType-CM-Rsp ProtocolIE-ID ::= 33
id-CommonMeasurementType   ProtocolIE-ID ::= 34
id-CommonPhysicalChannelID ProtocolIE-ID ::= 35
id-CommonPhysicalChannelType-CTCH-SetupRqstFDD ProtocolIE-ID ::= 36
id-CommonPhysicalChannelType-CTCH-SetupRqstTDD ProtocolIE-ID ::= 37
id-CommonTransportChannelType-CTCH-ReconfRqstTDD ProtocolIE-ID ::= 38
id-CommunicationControlPortID ProtocolIE-ID ::= 40
id-ConfigurationGenerationID ProtocolIE-ID ::= 43
id-CRNC-CommunicationContextID ProtocolIE-ID ::= 44
id-CriticalityDiagnostics  ProtocolIE-ID ::= 45
id-DCHs-to-Add-FDD         ProtocolIE-ID ::= 48
id-DCH-AddList-RL-ReconfPrepTDD ProtocolIE-ID ::= 49
id-DCHs-to-Add-TDD        ProtocolIE-ID ::= 50
id-DCH-DeleteList-RL-ReconfPrepFDD ProtocolIE-ID ::= 52
id-DCH-DeleteList-RL-ReconfPrepTDD ProtocolIE-ID ::= 53
id-DCH-DeleteList-RL-ReconfRqstFDD ProtocolIE-ID ::= 54
id-DCH-DeleteList-RL-ReconfRqstTDD ProtocolIE-ID ::= 55
id-DCH-FDD-Information     ProtocolIE-ID ::= 56
id-DCH-TDD-Information     ProtocolIE-ID ::= 57
id-DCH-InformationResponse ProtocolIE-ID ::= 59
id-FDD-DCHs-to-Modify     ProtocolIE-ID ::= 62
id-TDD-DCHs-to-Modify     ProtocolIE-ID ::= 63

```

id-DCH-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 65
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 67
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 68
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 69
id-DedicatedMeasurementType	ProtocolIE-ID ::= 70
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 72
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 73
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 76
id-DL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 79
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 81
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 82
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 83
id-DL-ReferencePowerInformationItem-DL-PC-Rqst	ProtocolIE-ID ::= 84
id-DLReferencePower	ProtocolIE-ID ::= 85
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 86
id-DSCH-AddItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 87
id-DSCH-AddItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 88
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 89
id-DSCH-DeleteItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 91
id-DSCH-DeleteItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 92
id-DSCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 93
id-DSCH-ID	ProtocolIE-ID ::= 95
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 96
id-DSCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 98
id-DSCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 100
id-DSCH-InformationResponse	ProtocolIE-ID ::= 105
id-DSCH-FDD-Information	ProtocolIE-ID ::= 106
id-DSCH-TDD-Information	ProtocolIE-ID ::= 107
id-DSCH-ModifyItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 108
id-DSCH-ModifyItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 109
id-DSCH-ModifyList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 112
id-End-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 113
id-FACH-Information	ProtocolIE-ID ::= 116
id-FACH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 117
id-FACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 118
id-FACH-ParametersList-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 120
id-FACH-ParametersListIE-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 121
id-FACH-ParametersListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 122
id-IndicationType-ResourceStatusInd	ProtocolIE-ID ::= 123
id-Local-Cell-ID	ProtocolIE-ID ::= 124
id-Local-Cell-Group-InformationItem-AuditRsp	ProtocolIE-ID ::= 2
id-Local-Cell-Group-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 3
id-Local-Cell-Group-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 4
id-Local-Cell-Group-InformationList-AuditRsp	ProtocolIE-ID ::= 5
id-Local-Cell-InformationItem-AuditRsp	ProtocolIE-ID ::= 125
id-Local-Cell-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 126
id-Local-Cell-InformationItem2-ResourceStatusInd	ProtocolIE-ID ::= 127
id-Local-Cell-InformationList-AuditRsp	ProtocolIE-ID ::= 128
id-AdjustmentPeriod	ProtocolIE-ID ::= 129
id-MaxAdjustmentStep	ProtocolIE-ID ::= 130
id-MaximumTransmissionPower	ProtocolIE-ID ::= 131
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 132



id-MeasurementID	ProtocolIE-ID ::= 133
id-MIB-SB-SIB-InformationList-SystemInfoUpdateRqst	ProtocolIE-ID ::= 134
id-NodeB-CommunicationContextID	ProtocolIE-ID ::= 143
id-P-CCPCH-Information	ProtocolIE-ID ::= 144
id-P-CCPCH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 145
id-P-CPICH-Information	ProtocolIE-ID ::= 146
id-P-CPICH-InformationItem-ResourceStatusInd	ProtocolIE-ID ::= 147
id-P-SCH-Information	ProtocolIE-ID ::= 148
id-PCCPCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 150
id-PCCPCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 151
id-PCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 155
id-PCH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 156
id-PCH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 157
id-PCH-Information	ProtocolIE-ID ::= 158
id-PD	ProtocolIE-ID ::= 160
id-PDSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 161
id-PDSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 162
id-PDSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 163
id-PDSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 164
id-PDSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 165
id-PICH-Information	ProtocolIE-ID ::= 166
id-PICH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-PowerAdjustmentType	ProtocolIE-ID ::= 169
id-PRACH-Information	ProtocolIE-ID ::= 170
id-PrimaryCCPCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 175
id-PrimaryCCPCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 176
id-PrimaryCPICH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 177
id-PrimaryCPICH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 178
id-PrimarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 179
id-PrimarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 180
id-PrimaryScramblingCode	ProtocolIE-ID ::= 181
id-ProcedureScopeType-DL-PC-Rqst	ProtocolIE-ID ::= 182
id-SCH-Information-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 183
id-SCH-Information-Cell-SetupRqstTDD	ProtocolIE-ID ::= 184
id-PUSCH-Information-AddListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 185
id-PUSCH-Information-ModifyListIE-PSCH-ReconfRqst	ProtocolIE-ID ::= 186
id-PUSCHSets-AddList-PSCH-ReconfRqst	ProtocolIE-ID ::= 187
id-PUSCHSets-DeleteList-PSCH-ReconfRqst	ProtocolIE-ID ::= 188
id-PUSCHSets-ModifyList-PSCH-ReconfRqst	ProtocolIE-ID ::= 189
id-RACH-Information	ProtocolIE-ID ::= 190
id-RACHItem-CTCH-SetupRsp	ProtocolIE-ID ::= 192
id-RACH-ParametersItem-CTCH-SetupRqstFDD	ProtocolIE-ID ::= 196
id-RACH-ParameterItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 197
id-ReportCharacteristics	ProtocolIE-ID ::= 198
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 199
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 200
id-RL-ID	ProtocolIE-ID ::= 201
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 202
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 203
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 204
id-RL-InformationItem-RL-AdditionRqstFDD	ProtocolIE-ID ::= 205
id-RL-informationItem-RL-DeletionRqst	ProtocolIE-ID ::= 206
id-RL-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 207

id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 286
id-RL-InformationItem-RL-ReconfPrepFDD	ProtocolIE-ID ::= 208
id-RL-InformationItem-RL-ReconfRqstFDD	ProtocolIE-ID ::= 209
id-RL-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 210
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 211
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 212
id-RL-informationList-RL-DeletionRqst	ProtocolIE-ID ::= 213
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 237
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 214
id-RL-InformationList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 215
id-RL-InformationList-RL-SetupRqstFDD	ProtocolIE-ID ::= 216
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 217
id-RL-InformationResponseItem-RL-ReconfReady	ProtocolIE-ID ::= 218
id-RL-InformationResponseItem-RL-ReconfRsp	ProtocolIE-ID ::= 219
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 220
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 221
id-RL-InformationResponseList-RL-ReconfReady	ProtocolIE-ID ::= 222
id-RL-InformationResponseList-RL-ReconfRsp	ProtocolIE-ID ::= 223
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 224
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 225
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 226
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 227
id-RL-Information-RL-ReconfRqstTDD	ProtocolIE-ID ::= 228
id-RL-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 229
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 230
id-RL-ReconfigurationFailureItem-RL-ReconfFailure	ProtocolIE-ID ::= 236
id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 238
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 240
id-RL-Set-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 241
id-RL-Set-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 242
id-S-CCPCH-Information	ProtocolIE-ID ::= 247
id-S-CPICH-Information	ProtocolIE-ID ::= 249
id-SCH-Information	ProtocolIE-ID ::= 251
id-S-SCH-Information	ProtocolIE-ID ::= 253
id-Secondary-CCPCHListIE-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 257
id-Secondary-CCPCH-parameterListIE-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 258
id-Secondary-CCPCH-Parameters-CTCH-ReconfRqstTDD	ProtocolIE-ID ::= 259
id-SecondaryCPICH-InformationItem-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 260
id-SecondaryCPICH-InformationItem-Cell-SetupRqstFDD	ProtocolIE-ID ::= 261
id-SecondaryCPICH-InformationList-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 262
id-SecondaryCPICH-InformationList-Cell-SetupRqstFDD	ProtocolIE-ID ::= 263
id-SecondarySCH-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 264
id-SecondarySCH-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 265
id-SegmentInformationListIE-SystemInfoUpdate	ProtocolIE-ID ::= 266
id-SFN	ProtocolIE-ID ::= 268
id-ShutdownTimer	ProtocolIE-ID ::= 269
id-Start-Of-Audit-Sequence-Indicator	ProtocolIE-ID ::= 114
id-Successful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 270
id-Successful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 271
id-Successful-RL-InformationRespList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 272
id-Successful-RL-InformationRespList-RL-SetupFailureFDD	ProtocolIE-ID ::= 273
id-SyncCase	ProtocolIE-ID ::= 274
id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH	ProtocolIE-ID ::= 275

id-T-Cell	ProtocolIE-ID ::= 276
id-TimeSlotConfigurationList-Cell-ReconfRqstTDD	ProtocolIE-ID ::= 277
id-TimeSlotConfigurationList-Cell-SetupRqstTDD	ProtocolIE-ID ::= 278
id-TransmissionDiversityApplied	ProtocolIE-ID ::= 279
id-UARFCNforNt	ProtocolIE-ID ::= 280
id-UARFCNforNd	ProtocolIE-ID ::= 281
id-UARFCNforNu	ProtocolIE-ID ::= 282
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 284
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 285
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 288
id-UL-DPCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 289
id-UL-DPCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 291
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 293
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 294
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 295
id-Unsuccessful-RL-InformationRespItem-RL-AdditionFailureFDD	ProtocolIE-ID ::= 296
id-Unsuccessful-RL-InformationRespItem-RL-SetupFailureFDD	ProtocolIE-ID ::= 297
id-Unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 298
id-Unsuccessful-RL-InformationRespList-RL-SetupFailureFDD	ProtocolIE-ID ::= 299
id-Unsuccessful-RL-InformationResp-RL-AdditionFailureTDD	ProtocolIE-ID ::= 300
id-Unsuccessful-RL-InformationResp-RL-SetupFailureTDD	ProtocolIE-ID ::= 301
id-USCH-Information-Add	ProtocolIE-ID ::= 302
id-USCH-Information-AddList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 303
id-USCH-Information-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 304
id-USCH-Information-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 305
id-USCH-Information-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 306
id-USCH-Information-ModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 307
id-USCH-InformationResponse	ProtocolIE-ID ::= 309
id-USCH-Information	ProtocolIE-ID ::= 310
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 315
id-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 316
id-AdjustmentRatio	ProtocolIE-ID ::= 317
id-AP-AICH-Information	ProtocolIE-ID ::= 320
id-AP-AICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 322
id-FACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 323
id-CauseLevel-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 324
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 325
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 326
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 327
id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 328
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 329
id-CDCA-ICH-Information	ProtocolIE-ID ::= 330
id-CDCA-ICH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 332
id-Closed-Loop-Timing-Adjustment-Mode	ProtocolIE-ID ::= 333
id-CommonPhysicalChannelType-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 334
id-Compressed-Mode-Deactivation-Flag-RL-AdditionRqstFDD	ProtocolIE-ID ::= 335
id-CPCH-Information	ProtocolIE-ID ::= 336
id-CPCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 342
id-CPCH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 343
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 346
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 347
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 348
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 349

id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 350
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 351
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 352
id-DL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 353
id-DL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 354
id-DL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 355
id-DL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 356
id-DL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 357
id-DL-TPC-Pattern01Count	ProtocolIE-ID ::= 358
id-DPCHConstant	ProtocolIE-ID ::= 359
id-FACH-ParametersList-CTCH-SetupRsp	ProtocolIE-ID ::= 362
id-Limited-power-increase-information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 369
id-PCH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 374
id-PCH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 375
id-PCPCH-Information	ProtocolIE-ID ::= 376
id-PCPCH-ParametersList-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 379
id-PICH-ParametersItem-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 380
id-PRACHConstant	ProtocolIE-ID ::= 381
id-PRACH-ParametersListIE-CTCH-ReconfRqstFDD	ProtocolIE-ID ::= 383
id-PUSCHConstant	ProtocolIE-ID ::= 384
id-RACH-Parameters-CTCH-SetupRsp	ProtocolIE-ID ::= 385
id-Synchronisation-Configuration-Cell-ReconfRqst	ProtocolIE-ID ::= 393
id-Synchronisation-Configuration-Cell-SetupRqst	ProtocolIE-ID ::= 394
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 395
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 396
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 397
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 398
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 399
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 400
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 401
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 402
id-UL-DPCH-InformationAddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 403
id-UL-DPCH-InformationDeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 404
id-UL-DPCH-InformationModify-AddListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 405
id-UL-DPCH-InformationModify-DeleteListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 406
id-UL-DPCH-InformationModify-ModifyListIE-RL-ReconfPrepTDD	ProtocolIE-ID ::= 407
id-Unsuccessful-PDSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 408
id-Unsuccessful-PUSCHSetItem-PSCH-ReconfFailureTDD	ProtocolIE-ID ::= 409
id-CommunicationContextInfoItem-Reset	ProtocolIE-ID ::= 412
id-CommunicationControlPortInfoItem-Reset	ProtocolIE-ID ::= 414
id-ResetIndicator	ProtocolIE-ID ::= 416
id-TFCl2-Bearer-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 417
id-TFCl2-BearerSpecificInformation-RL-ReconfPrepFDD	ProtocolIE-ID ::= 418
id-TFCl2-BearerInformationResponse	ProtocolIE-ID ::= 419
id-TimingAdvanceApplied	ProtocolIE-ID ::= 287
id-CFNReportingIndicator	ProtocolIE-ID ::= 6
id-SFNReportingIndicator	ProtocolIE-ID ::= 11
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 12
id-TimeslotISCPInfoList-DL-PC-RqstTDD	ProtocolIE-ID ::= 283
id-PICH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 167
id-PRACH-ParametersItem-CTCH-SetupRqstTDD	ProtocolIE-ID ::= 20
id-IPDLParameter-Information-Cell-ReconfRqstFDD	ProtocolIE-ID ::= 451
id-IPDLParameter-Information-Cell-SetupRqstFDD	ProtocolIE-ID ::= 452

<u>id-IPDLParameter-Information-Cell-ReconfRqstTDD</u>	<u>ProtocolIE-ID ::= 453</u>
<u>id-IPDLParameter-Information-Cell-SetupRqstTDD</u>	<u>ProtocolIE-ID ::= 454</u>

END