TSG-RAN Meeting #14
Kyoto, Japan, 11 - 14, December, 2001

TSGRP#14(01) 0873

Title: **Agreed CRs to TS 25.423**

Source: **TSG-RAN WG3**

Agenda item: **8.3.3/8.3.4/9.4.3**

RP Tdoc	R3 Tdoc	Spec	CR_Num	Rev	Release	CR_Subject	Cat	Cur_Ver	New_Ver	Workitem
RP-010873	R3-013169	25.423	487		Rel-4	Cell Parameter ID IE definition for 1.28Mcps TDD	F	4.2.0	4.3.0	LCRTDD-Iublur
RP-010873	R3-013171	25.423	488		Rel-4	Introduction of Band Indicator in GSM Neighbouring Cell Information	F	4.2.0	4.3.0	TEI
RP-010873	R3-013172	25.423	489		Rel-4	UL SIR Target in RL Setup Request TDD	F	4.2.0	4.3.0	TEI
RP-010873	R3-013678	25.423	502	2	Rel-4	Handling of the DPC Mode IE	F	4.2.0	4.3.0	RRM_Optimisation
RP-010873	R3-013603	25.423	505	1	Rel-4	Rel-4 specific terminology corrections	F	4.2.0	4.3.0	TEI
RP-010873	R3-013670	25.423	521	1	Rel-4	Correction to the RNSAP Congestion Indication	F	4.2.0		TEI
RP-010873	R3-013695	25.423	530	2	Rel-4	SFN-SFN quality indication	F	4.2.0	4.3.0	LCS1-UEpos-
RP-010873	R3-013676	25.423	486	1	Rel-4	Correction of drift rate resolution	F	4.2.0	4.3.0	LCS1-Uepos-Iublur

CR-Form-v4

CHANGE REQUEST

⌘ **25.423** **CR** **486** ⌘ rev **1** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	Correction of drift rate resolution
Source:	⌘	R-WG3
Work item code:	⌘	LCS1-Uepos-Iublur
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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: ⌘

R1:
The range of the following IE were changed:

- SFN-SFN Drift Rate IE is limited to (-100..100)
- SFN-SFN Drift Rate Quality IE is limited to (0..100)
- $T_{UTRAN-GPS}$ Drift Rate IE is limited to (-50..50)
- $T_{UTRAN-GPS}$ Drift Rate IE is limited to (0..50)

R0:
Currently, the drift rate of the SFN-SFN and $T_{UTRAN-GPS}$ drift rate measurements has a resolution of the 1/16 chip, or 16 ns/s. This is very close to the absolute frequency requirement of the Node B [ref. 25.104] which is 0.05 ppm, or 50 ns/s. In addition the RRC SFN-SFN drift measurement has a resolution of the 1.1 ns/s (smallest).
It is therefore proposed to change the resolution to 1/256 chip (appr. 1 ns/s).

The range of the IE has been changed to a range corresponding to drift rate of approximately 100 ns/s for the $T_{UTRAN-GPS}$. The range of the SFN-SFN drift rate measurement is changed to twice the $T_{UTRAN-GPS}$ drift rate measurement. The drift rate quality measurements have been adjusted accordingly.

Summary of change: ⌘

The drift rate resolution has been change to 1/256 chip in the semantic description of the following IEs:

- SFN-SFN Drift Rate IE in the SFN-SFN Measurement Value Information IE.
- $T_{UTRAN-GPS}$ Drift Rate IE in the $T_{UTRAN-GPS}$ Measurement Value Information IE.

Also, The value range for these measurements and the corresponding quality measurements have been changed.

Impact analysis:

Impact assessment towards the previous version of the specification (same

		release): There is an impact. The range and resolution of the measurements have been changed. Compatibility Analysis towards previous release: No impact.
Consequences if not approved:	⌘	The resolution of the drift rate will not be enough as it is very close to the Node B drift rate requirement.

Clauses affected:	⌘	9.2.1.52C, 9.2.1.59D and 9.3.4.			
Other specs affected:	⌘	**X**	Other core specifications	⌘	25.433 4.2.1: CR546
			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. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

9.2.1.52C 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.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*1..<maxnoofMeasNCell>*		
>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~~100..~~16383~~100)	Indicates the SFN-SFN drift rate in ~~1/16~~1/256 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~~100)	Indicates the standard deviation of the SFN-SFN drift rate measurements.
>SFN	M		9.2.1.52A	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.
Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*0..<maxnoofMeasNCell-1>*		
>UTRAN Cell Identifier			9.2.1.71	

Range bound	Explanation
MaxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.2.1.59D $T_{UTRAN-GPS}$ Measurement Value Information

The $T_{UTRAN-GPS}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
$T_{UTRAN-GPS}$	M		INTEGER(0..3715891199 9999)	Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [23] and [24]
$T_{UTRAN-GPS}$ Quality	M		INTEGER(0..2^20-1)	Indicates the standard deviation of the $T_{UTRAN-GPS}$ measurements.
$T_{UTRAN-GPS}$ Drift Rate	M		INTEGER(-~~16383~~50..~~16383~~50)	Indicates the $T_{UTRAN-GPS}$ drift rate in ~~1/16~~1/256 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.
$T_{UTRAN-GPS}$ Drift Rate Quality	M		INTEGER(0..~~16383~~50)	Indicates the standard deviation of the $T_{UTRAN-GPS}$ drift rate measurements.

9.3.4 Information Element Definitions

```
-- /Unaffceted parats are not included/

SFNSFNChangeLimit ::= INTEGER (1..16384)

SFNSFNDriftRate ::= INTEGER (-16383100..16383100)

SFNSFNDriftRateQuality ::= INTEGER (0..16383100)

SFNSFNMeasurementThresholdInformation::= SEQUENCE {
    sFNSFNChangeLimit                   SFNSFNChangeLimit                   OPTIONAL,
    predictedSFNSFNDeviationLimit       PredictedSFNSFNDeviationLimit       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { SFNSFNMeasurementThresholdInformation-ExtIEs} }    OPTIONAL,
    ...
}

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


-- /Unaffceted parats are not included/



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 (-1638350..1638350)

TUTRANGPSDriftRateQuality ::= INTEGER (0..1638350)

TUTRANGPSAccuracyClass ::= ENUMERATED {
    accuracy-class-A,
    accuracy-class-B,
    accuracy-class-C,
    ...
}
```

3GPP TSG-RAN WG3 Meeting #25 ***R3-013169***
Makuhari, Japan, 26th – 30th November 2001

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **487** ⌘ rev **-** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	Cell Parameter ID IE definition for 1.28Mcps TDD
Source:	⌘	R-WG3
Work item code:	⌘	LCRTDD-IublIur
Date:	⌘	November 2001
Category:	⌘	**F**
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:	⌘	In the current definition of the Cell Parameter ID IE the identifiers are only for 3.84Mcps TDD explained. Other identifiers are required for 1.28Mcps TDD as described in TS 25.223
Summary of change:	⌘	The identifiers of the Cell Parameter ID IE for 1.28Mcps TDD are explained. These are: SYNC-DL and SYNC-UL sequences, the scrambling codes and the midamble codes. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because the clarification does not affect the implementation.
Consequences if not approved:	⌘	If these CR is not approved, the explanation of the identifiers of the Cell Parameter ID IE for 1.28Mcps TDD are incorrect.

Clauses affected:	⌘	9.2.1.8		
Other specs affected:	⌘	[X] Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.433 v4.2.1 CR 547, REL-4
Other comments:	⌘	This CR was in principle agreed at R3#24 meeting (R3-012923).		

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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.

9.2.1.8 Cell Parameter ID

The Cell Parameter ID identifies unambiguously the [3.84 Mcps TDD - Code Groups, Scrambling Codes, Midambles and Toffset] [1.28 Mcps TDD - SYNC-DL and SYNC-UL sequences, the scrambling codes and the midamble codes] (see ref. [20]).

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

3GPP TSG-RAN3 Meeting #25 **R3-013171**
Makuhari, Japan, 26th – 30th November, 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.423** **CR** **488** ⌘ ev **-** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	Introduction of Band Indicator and removal of GSM Output power in GSM Neighbouring Cell Information
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November, 01
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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 Band Indicator for GSM Neighbouring Cell Information, introduced by CR 369, is missing from the RNSAP Rel4 specification. More over, the GSM Output Power, removed by the same CR, is still present in RNSAP.
Summary of change:	⌘	The Band Indicator is added to the GSM Neighbouring Cell Information. The GSM Output Power is removed.
Consequences if not approved:	⌘	Erroneous RNSAP specifications for Release 4 from version 4.1.0 onwards. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has isolated impact on the previous version of the specification (same release) because it adds a new IE without making use of extension mechanisms and it removes another IE previously present. This CR has an impact under protocol & functional point of view (the ASN.1 is modified and the GSM neighbouring cell reporting function is corrected to be aligned with Relase 99). The impact can be considered isolated because the change affects one system function.

Clauses affected:	⌘	9.2.1.41C, 9.3.4		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	R3-011397, CR 369 on 25.423
Other comments:	⌘			

How to create CRs using this form:
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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.

9.2.1.41C Neighbouring GSM Cell Information

The *Neighbouring GSM Cell Information* IE provides information for one GSM Cell that is a neighbouring cell to a cell in the DRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Neighbouring GSM Cell Information		*1..<maxnoofGSMneighbours>*			GLOBAL	ignore
>CGI		*1*		Cell Global Identity as defined in ref. [1].	–	
>>LAI		*1*			–	
>>>PLMN Identity	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).	–	
>>>LAC	M		OCTET STRING (2)	0000 and FFFE not allowed	–	
>>CI	M		OCTET STRING (2)		–	
>Cell Individual Offset	O		9.2.1.7	The Cell Individual Offset to be used for UEs using DCHs.	–	
>BSIC		*1*		Base Station Identity Code as defined in ref. [1].	–	
>>NCC	M		BIT STRING(3)	Network Colour Code.	–	
>>BCC	M		BIT STRING(3)	Base Station Colour Code.	–	
>Band Indicator	M		ENUMERATED (DCS 1800 band, PCS 1900 band, …)	Indicates whether or not the BCCH ARFCN belongs to the 1800 band or 1900 band of GSM frequencies.	–	
>BCCH ARFCN	M		INTEGER (0..1023)	BCCH Frequency as defined in ref. [29].	–	
~~>GSM Output Power~~	~~O~~		~~Value range??~~	~~Output Power level of the GSM cell as defined in ref. [29].~~	–	

Range bound	Explanation
MaxnoofGSMneighbours	Maximum number of neighbouring GSM cells for one cell.

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
```

<Editor's note: Parts of the module is skipped.>

```
-- B

Band-Indicator ::= ENUMERATED {
    dcs1800Band,
    pcs1900Band,
    ...
}
```

<Editor's note: Parts of the module is skipped.>

```
Neighbouring-GSM-CellInformation ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationIE }}

Neighbouring-GSM-CellInformationIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore  TYPE    Neighbouring-GSM-CellInformationIEs  PRESENCE mandatory }
}

Neighbouring-GSM-CellInformationIEs ::= SEQUENCE ( SIZE (1..maxNrOfGSMNeighboursPerRNC,...)) OF Neighbouring-GSM-CellInformationItem

Neighbouring-GSM-CellInformationItem ::= SEQUENCE {
    cGI                                 CGI,
    cellIndividualOffset                CellIndividualOffset    OPTIONAL,
    bSIC                                BSIC,
    band-Indicator                      Band-Indicator,
    bCCH-ARFCN                          BCCH-ARFCN,
    iE-Extensions                       ProtocolExtensionContainer { { Neighbouring-GSM-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
```

```
}

Neighbouring-GSM-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

3GPP TSG-RAN3 Meeting #25
Makuhari, Japan, 26th – 30th November 2001

Tdoc R3-013172

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **489** ⌘ rev **-** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	UL SIR Target in RL Setup Request TDD
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	October 2001
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
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Use one of the following releases:

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

Reason for change:	⌘	The *UL SIR Target* IE in the RADIO LINK SETUP REQUEST message (TDD), introduced in RNSAP Rel-4 in CR393r1 (R3-011728) for 1.28 Mcps TDD, is obsolete since in TDD (both 3.84 and 1.28 Mcps), it's always the CRNC which determines the initial UL SIR Target during RL Setup.
Summary of change:	⌘	The *UL SIR Target* IE is removed from the RADIO LINK SETUP REQUEST message (TDD). Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has isolated impact with the previous version of the specification (same release) because it affects the RADIO LINK SETUP procedure only. This CR has an impact under protocol point of view. The impact can be considered isolated because the change affects one function.
Consequences if not approved:	⌘	If this CR is not approved, the UL SIR Target IE remains as an obsolete IE in the message.

Clauses affected:	⌘	8.3.1.2, 9.1.3.2, 9.3.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	This CR was in principle agreed with modification at R3#24 meeting (R3-012945) with the following comment: - header needs to be updated

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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

8.3.1 Radio Link Setup

8.3.1.1 General

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

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

8.3.1.2 Successful Operation

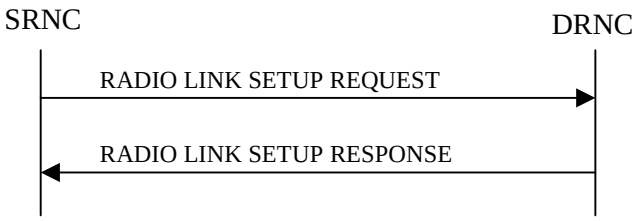

Figure 5: Radio Link Setup procedure: Successful Operation

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

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

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

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

Transport Channels Handling:

DCH(s):

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

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

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

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

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

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

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

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

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

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

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

DSCH(s):

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

[TDD - USCH(s)]:

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

Physical Channels Handling:

[FDD - Compressed Mode]:

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

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

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

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

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the

CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

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

[FDD - DL Code Information]:

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

General:

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

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

Radio Link Handling:

Diversity Combination Control:

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

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

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

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

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

[FDD-Transmit Diversity]:

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

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

DL Power Control:

[FDD - If both the *Initial DL TX Power* IE and *Uplink SIR Target* IE are included in the message, the DRNS shall use the indicated DL TX Power and Uplink SIR Target as initial value. If the value of the *Initial DL TX*

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

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

~~[1.28Mcps TDD - The *UL SIR Target* IE included in the message shall be used by the DRNS as initial UL SIR target for the UL inner loop power control according [12] and [22].]~~

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

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

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

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

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

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

Neighbouring Cell Handling:

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

- The DRNC shall include the *Neighbouring FDD Cell Information* IE and/or *Neighbouring TDD Cell Information* IE in the *Neighbouring UMTS Cell Information* IE for each neighbouring FDD cell and/or TDD cell respectively. In addition, if the information is available, the DRNC shall include the *Frame Offset* IE, *Primary CPICH Power* IE, *Cell Individual Offset* IE, *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE and *Closed Loop Mode2 Support Indicator* IE in the *Neighbouring FDD Cell Information* IE, and the *Frame Offset* IE, *Cell Individual Offset* IE, *DPCH Constant Value* IE and the *PCCPCH Power* IE in the *Neighbouring TDD Cell Information* IE.

- If a UMTS neighbouring cell is not controlled by the same DRNC, the DRNC shall also include the *CN PS Domain Identifier* IE and/or *CN CS Domain Identifier* IE which are the identifiers of the CN nodes connected to the RNC controlling the UMTS neighbouring cell.

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

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

General:

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

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

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

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

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

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

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

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

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

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

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

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

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

[FDD - Radio Link Set Handling]:

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

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

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

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

Response Message:

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

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

8.3.1.3 Unsuccessful Operation

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

…

9.1.3.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
SRNC-Id	M		RNC-Id 9.2.1.50		YES	reject
S-RNTI	M		9.2.1.53		YES	reject
D-RNTI	O		9.2.1.24		YES	reject
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL Physical Channel Information		*1*			YES	reject
>Maximum Number of Timeslots per Frame	M		9.2.3.3A	For the UL	–	
>Minimum Spreading Factor	M		9.2.3.4A	For the UL	–	
>Maximum Number of UL Physical Channels per Timeslot	M		9.2.3.3B		–	
DL Physical Channel Information		*1*			YES	reject
>Maximum Number of Timeslots per Frame	M		9.2.3.3A	For the DL	–	
>Minimum Spreading Factor	M		9.2.3.4A	For the DL	–	
>Maximum Number of DL Physical Channels per Frame	M		9.2.3.3C		–	
UL CCTrCH Information		*0..<maxnoofCCTrCHs>*		For DCH and USCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the UL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
~~>UL SIR Target~~	~~O~~		~~Uplink SIR 9.2.1.69~~	~~Mandatory for 1.28Mcps TDD; not applicable for 3.84Mcps TDD~~	~~YES~~	~~reject~~
DL CCTrCH Information		*0..<maxnoofCCTrCHs>*		For DCH and DSCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the DL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>TDD TPC Downlink Step Size	M		9.2.3.10		–	
>TPC CCTrCH List		0 to <maxnoCCTrCH>		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.2		–	
DCH Information	O		DCH TDD Information 9.2.3.2A		YES	reject
DSCH Information	O		DSCH TDD Information 9.2.3.3a		YES	reject
USCH Information	O		9.2.3.15		YES	reject

RL Information		*1*			YES	reject
>RL ID	M		9.2.1.49		–	
>C-Id	M		9.2.1.6		–	
>Frame Offset	M		9.2.1.30		–	
>Special Burst Scheduling	M		9.2.3.7D		–	
>Primary CCPCH RSCP	O		9.2.3.5		–	
>DL Time Slot ISCP Info	O		9.2.3.2D	For 3.84Mcps TDD only	–	
>DL Time Slot ISCP Info LCR	O		9.2.3.2F	For 1.28Mcps TDD only	YES	reject
>TSTD Support Indicator	O		9.2.3.13F	For 1.28Mcps TDD only	YES	ignore
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore

Range bound	**Explanation**
MaxnoofCCTrCHs	Maximum number of CCTrCH for one UE.

9.3.3 PDU Definitions

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

< Partly omitted >

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

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

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

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

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

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

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

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

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

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

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

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

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

DL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-TFCS                     TFCS,
    tFCI-Coding                 TFCI-Coding,
    dl-PunctureLimit                PunctureLimit,
    tdd-TPC-DownlinkStepSize        TDD-TPC-DownlinkStepSize,
```

```
    cCTrCH-TPCList                  CCTrCH-TPCList-RL-SetupRqstTDD  OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

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

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

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

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

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

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

RadioLinkSetupRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Permanent-NAS-UE-Identity               CRITICALITY ignore          EXTENSION Permanent-NAS-UE-Identity   PRESENCE optional },
    ...
}

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

-- **********

3GPP TSG-RAN3 Meeting #25
Makuhari, Japan, 26th – 30th November 2001

R3-013678

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **502** ⌘ rev **2** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	Handling of the DPC Mode IE
Source:	⌘	R-WG3
Work item code:	⌘	RRM_Optimisation
Date:	⌘	November 2001
Category:	⌘	**F**
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: ⌘ The *DPC Mode* IE was added to Rel.4 specifications in order to complete the task that is called "DPC Rate reduction in Soft Handover". Although the *DPC Mode* IE is necessary only for an enhancement of R99, the criticality information of this IE is set to "reject". This means that if Rel.4 SRNC sends RL Setup Request including the *DPC Mode* IE to R99 DRNC, the RL Setup procedure will be failed because R99 DRNC can not understand the *DPC Mode* IE. This is an unnecessary rejection because R99 DRNC can establish RL(s) even if the *DPC Mode* IE is absent. See R3-012299. Also it was decided, at the R3#23 meeting, that the solution should consider the cell classmark approach.

Summary of change: ⌘

Rev.2

- The proposed text was refined.
- Identifier was assigned to the *DPC Mode* IE in the ASN.1.

Rev.1

- The criticality information of the *DPC Mode* IE was not changed, i.e. "reject".
- *Supported Functionality Information* IEs and corresponding texts are deleted.
- *DPC Mode Change Support Indicator* IE is added to the *Neighbouring FDD Cell Information* IE and the UPLINK SIGNALLING TRANSFER INDICATION FDD message. The corresponding text was also added.
- ASN.1 was changed accordingly.

Rev.0

The following changes are proposed.

- The criticality information of the *DPC Mode* IE is changed to "ignore",
- *Supported Functionality Information* IE is added in the UPLINK SIGNALLING TRANSFER INDICATION message and the *Neighbouring Cell Information* IE.

Consequences if not approved:	⌘	If this CR is not approved, the enhancement of the R99 functionality could prohibit R99 nodes connecting to Rel.4 nodes. Impact Analysis: Impact assessment towards the previous version of the specification (same release): No previous version. Compatibility Analysis towards previous release: No impact.

Clauses affected:	⌘	8.2.1.2, 8.3.1.2, 8.3.2.2, 9.1.24.1, 9.2.1.41B, 9.3.3, 9.3.4 and 9.3.6		
Other specs affected:	⌘	☐ Other core specifications ☐ 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. 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.

8.2.1 Uplink SignallingTransfer

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

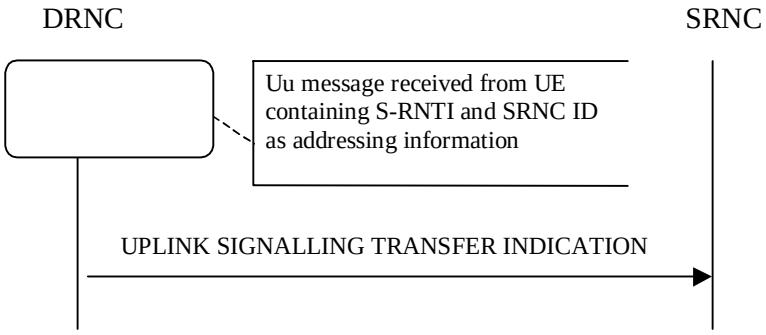

Figure 1: Uplink Signalling Transfer procedure, Successful Operation

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.

If at least one URA Identity is being broadcast in the cell where the Uu message was received (the accessed cell), the DRNC shall include a URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the accessed cell, 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, [FDD - CPCH], and/or FACH resources allocated for the UE identified by the U-RNTI in another cell than 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.

[FDD - The DRNC shall include the *DPC Mode Change Support Indicator* IE in the UPLINK SIGNALLING TRANSFER INDICATION message if the accessed cell supports DPC mode change.]

<Not affected part is omitted>

8.3.1 Radio Link Setup

8.3.1.1 General

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

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

8.3.1.2 Successful Operation

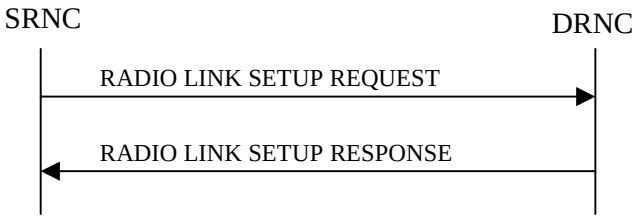

Figure 5: Radio Link Setup procedure: Successful Operation

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

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

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

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

Transport Channels Handling:

DCH(s):

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

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

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

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

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

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

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

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

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

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

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

DSCH(s):

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

[TDD - USCH(s)]:

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

Physical Channels Handling:

[FDD - Compressed Mode]:

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

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

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

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

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

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

[FDD - DL Code Information]:

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

General:

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

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

Radio Link Handling:

Diversity Combination Control:

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

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

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

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

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

[FDD-Transmit Diversity]:

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

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

DL Power Control:

[FDD - If both the *Initial DL TX Power* IE and *Uplink SIR Target* IE are included in the message, the DRNS shall use the indicated DL TX Power and Uplink SIR Target as initial value. If the value of the *Initial DL TX Power* IE is outside the configured DL TX power range, the DRNS shall apply these constrains when setting the initial DL TX power. The DRNS shall also include the configured DL TX power range defined by

Maximum DL TX Power IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power IE* or lower than indicated by the *Minimum DL TX Power IE* on any DL DPCH of the RL except during compressed mode, when the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k.]

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

[1.28Mcps TDD – The *UL SIR Target* IE included in the message shall be used by the DRNS as initial UL SIR target for the UL inner loop power control according [12] and [22].]

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

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

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

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

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

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

Neighbouring Cell Handling:

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

- The DRNC shall include the *Neighbouring FDD Cell Information* IE and/or *Neighbouring TDD Cell Information* IE in the *Neighbouring UMTS Cell Information* IE for each neighbouring FDD cell and/or TDD cell respectively. In addition, if the information is available, the DRNC shall include the *Frame Offset* IE, *Primary CPICH Power* IE, *Cell Individual Offset* IE, *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE and *Closed Loop Mode2 Support Indicator* IE in the *Neighbouring FDD Cell Information* IE, and the *Frame Offset* IE, *Cell Individual Offset* IE, *DPCH Constant Value* IE and the *PCCPCH Power* IE in the *Neighbouring TDD Cell Information* IE.

- If a UMTS neighbouring cell is not controlled by the same DRNC, the DRNC shall also include the *CN PS Domain Identifier* IE and/or *CN CS Domain Identifier* IE which are the identifiers of the CN nodes connected to the RNC controlling the UMTS neighbouring cell.

- [FDD - The DRNC shall include the *DPC Mode Change Support Indicator* IE if the DRNC is aware that the neighbouring cell supports DPC mode change.]

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

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

<Not affected part is omitted>

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

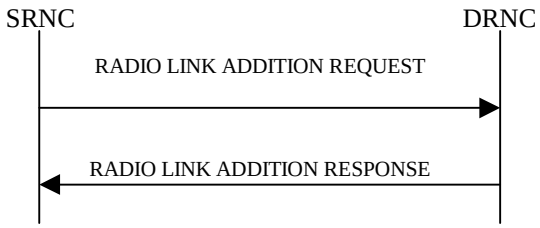

Figure 7: Radio Link Addition procedure: Successful Operation

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.

Transport Channel Handling:

DSCH:

[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.]

Physical Channels Handling:

[FDD-Compressed Mode]:

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Active Pattern Sequence Information* IE, the DRNS shall use the information to activate the indicated (all ongoing) Transmission Gap

Pattern Sequence(s) in the new RL. The received *CM Configuration Change CFN* IE refers to the latest passed CFN with that value. The DRNS shall treat the received *TGCFN* IEs as follows:]

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

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

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

FDD - If the *Active Pattern Sequence Information* IE is not included, the DRNS shall not activate the ongoing compressed mode pattern in the new RLs, but the ongoing pattern in the existing RL shall be maintained.]

[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.]

[FDD-DL Code Information]:

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

General:

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

Radio Link Handling:

Diversity Combination Control:

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. If the *Diversity Control Field* IE is set to "Must not", the DRNS shall not combine the RL with any other existing RL.

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.

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

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 a set of co-ordinated DCHs, the *Binding ID* IE and the *Transport Layer Address* IE shall be included for only one of the DCHs in the set of co-ordinated DCHs.

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

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

[FDD-Transmit Diversity]:

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

[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.]

[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 using the diversity mode of the existing Radio Link(s).]

DL Power Control:

[FDD - If the *Primary CPICH Ec/No* IE measured by the UE is included for an RL in the RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power for this RL. If the *Primary CPICH Ec/No* IE is not present, the DRNS shall set the Initial DL TX Power based on the power relative to the Primary CPICH power used by the existing RLs.]

[TDD - If the *Primary CCPCH RSCP* IE and/or the [3.84Mcps TDD - *DL Time Slot ISCP Info* IE] and/or the [1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] are 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 [3.84Mcps TDD - *DL Time Slot ISCP Info* IE] and [1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] are not present, the DRNS shall set the Initial DL TX Power based on the power relative to the Primary CCPCH power used by the existing RL.]

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

[TDD – The Initial DL TX Power shall be applied until UL synchronisation is achieved on the Uu interface 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 - If the *DPC Mode* IE is present in the RADIO LINK ADDITION REQUEST message, the DRNC shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the life time of the RL. If the *DPC Mode* IE is not present in the RADIO LINK ADDITION REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

The DRNC shall also provide the configured UL 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 DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power IE* or lower than indicated by the *Minimum DL TX Power IE* on any DL DPCH of the RL [FDD – except during compressed mode, when the $P_{SIR}(k)$, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power in slot k].

DL Code Information:

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.

Neighbouring Cell Handling:

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

- The DRNC shall include the *Neighbouring FDD Cell Information* IE and/or *Neighbouring TDD Cell Information* IE in the *Neighbouring UMTS Cell Information* IE for each neighbouring FDD cell and/or TDD cell respectively. In addition, if the information is available, the DRNC shall include the *Frame Offset* IE, *Primary CPICH Power* IE, *Cell Individual Offset* IE, *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE and *Closed Loop Mode2 Support Indicator* IE in the *Neighbouring FDD Cell Information* IE, and the *Frame Offset* IE, *Cell Individual Offset* IE, *DPCH Constant Value* IE and the *PCCPCH Power* IE in the *Neighbouring TDD Cell Information* IE.

- If a UMTS neighbouring cell is not controlled by the same DRNC, the DRNC shall also include the *CN PS Domain Identifier* IE and/or *CN CS Domain Identifier* IE which are the identifiers of the CN nodes connected to the RNC controlling the UMTS neighbouring cell.

- [FDD - The DRNC shall include the *DPC Mode Change Support Indicator* IE if the DRNC is aware that the neighbouring cell supports DPC mode change.]

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

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

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

<Not affected part is omitted>

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		9.2.2.33		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	O		9.2.1.70B		YES	ignore
Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
DPC Mode Change Support Indicator	O		9.2.2.x		YES	ignore

<Not affected part is omitted>

9.2.1.41B Neighbouring FDD Cell Information

The *Neighbouring FDD Cell Information* IE provides information for FDD cells that are a neighbouring cells to a cell in the DRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Neighbouring FDD Cell Information		*1..<maxnoofFDDneighbours>*			–	
>C-Id	M		9.2.1.6		–	
>UL UARFCN	M		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>DL UARFCN	M		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>Frame Offset	O		9.2.1.30		–	
>Primary Scrambling Code	M		9.2.1.45		–	
>Primary CPICH Power	O		9.2.1.44		–	
>Cell Individual Offset	O		9.2.1.7		–	
>Tx Diversity Indicator	M		9.2.2.50			
>STTD Support Indicator	O		9.2.2.45		–	
>Closed Loop Mode1 Support Indicator	O		9.2.2.2		–	
>Closed Loop Mode2 Support Indicator	O		9.2.2.3		–	
>Restriction State Indicator	O		9.2.1.48C		YES	ignore
>DPC Mode Change Support Indicator	O		9.2.2.x		YES	ignore

Range bound	Explanation
MaxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell.

<Not affected part is omitted>

9.2.2.12A DPC Mode

The *DPC Mode* IE indicates the DPC mode to be applied [10].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DPC Mode			ENUMERATTED (Mode0, Mode1, …)	Mode0: The Node B shall estimate the UE transmitted TPC command and update the DL power in every slot Mode1: The Node B shall estimate the UE transmitted TPC command over three slots and shall update the DL power in every three slots

9.2.2.xx DPC Mode Change Support Indicator

The *DPC Mode Change Support Indicator* IE indicates that the particular cell is capable to support DPC mode change.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DPC Mode Change Support Indicator			ENUMERATTED (DPC Mode Change Supported)	

9.2.2.13 DRAC Control

This IE indicates whether the DCH is control by DRAC or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DRAC Control			ENUMERATED (Requested, Not-Requested)	Requested means that DCH is controlled by DRAC

<Not affected part is omitted>

9.3.3 PDU Definitions

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS
    Active-Pattern-Sequence-Information,
    AllocationRetentionPriority,
    AllowedQueuingTime,
    Allowed-Rate-Information,
    AlphaValue,
    BLER,
    Block-STTD-Indicator,
    BindingID,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    ClosedLoopMode1-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-TimeslotLCR-Information,
    DL-TimeSlot-ISCP-Info,
    DL-TimeSlot-ISCP-LCR-Information,
    DPC-Mode,
    DPC-Mode-Change-SupportIndicator,
    DPCH-ID,
    DRACControl,
    DRXCycleLengthCoefficient,
    DedicatedMeasurementType,
    DedicatedMeasurementValue,
    DedicatedMeasurementValueInformation,
    DiversityControlField,
    DiversityMode,
    DSCH-FDD-Information,
    DSCH-FDD-InformationResponse,
    DSCH-FlowControlInformation,
    DSCH-FlowControlItem,
    DSCH-TDD-Information,
    DSCH-ID,
    SchedulingPriorityIndicator,
    EnhancedDSCHPC,
    EnhancedDSCHPCCounter,
    EnhancedDSCHPCIndicator,
    EnhancedDSCHPCWnd,
    EnhancedDSCHPowerOffset,
    FACH-FlowControlInformation,
    FDD-DCHs-to-Modify,
    FDD-DL-ChannelisationCodeNumber,
    FDD-DL-CodeInformation,
    FDD-S-CCPCH-Offset,
    FDD-TPC-DownlinkStepSize,
    FirstRLS-Indicator,
    FNReportingIndicator,
    FrameHandlingPriority,
    FrameOffset,
    GA-AccessPointPosition,
    GA-Cell,
    GA-CellAdditionalShapes,
    IMSI,
    InformationExchangeID,
    InformationReportCharacteristics,
    InformationType,
    InnerLoopDLPCStatus,
```

```
    L3-Information,
    LimitedPowerIncrease,
    MaximumAllowedULTxPower,
    MaxNrDLPhysicalchannels,
    MaxNrOfUL-DPCHs,
    MaxNrTimeslots,
    MaxNrULPhysicalchannels,
    MeasurementFilterCoefficient,
    MeasurementID,
    MidambleAllocationMode,
    MidambleShiftAndBurstType,
    MidambleShiftLCR,
    MinimumSpreadingFactor,
    MinUL-ChannelisationCodeLength,
    MultiplexingPosition,
    NeighbouringFDDCellMeasurementInformation,
    NeighbouringTDDCellMeasurementInformation,
    Neighbouring-GSM-CellInformation,
    Neighbouring-UMTS-CellInformation,
    NrOfDLchannelisationcodes,
    PagingCause,
    PagingRecordType,
    PDSCHCodeMapping,
    PayloadCRC-PresenceIndicator,
    PCCPCH-Power,
    PC-Preamble,
    Permanent-NAS-UE-Identity,
    PowerAdjustmentType,
    PowerOffset,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    QE-Selector,
    RANAP-RelocationInformation,
    RB-Info,
    RL-ID,
    RL-Set-ID,
    RNC-ID,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    Received-total-wide-band-power,
    RequestedDataValue,
    RequestedDataValueInformation,
    RxTimingDeviationForTA,
    S-FieldLength,
    S-RNTI,
    SCH-TimeSlot,
    SAI,
    SFN,
```

```
    Secondary-CCPCH-Info,
    Secondary-CCPCH-Info-TDD,
    Secondary-LCR-CCPCH-Info-TDD,
    SpecialBurstScheduling,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    STTD-Indicator,
    STTD-SupportIndicator,
    AdjustmentPeriod,
    ScaledAdjustmentRatio,
    MaxAdjustmentStep,
    SecondaryCCPCH-SlotFormat,
    SRB-Delay,
    SyncCase,
    SynchronisationConfiguration,
    TDD-ChannelisationCode,
    TDD-DCHs-to-Modify,
    TDD-DL-Code-Information,
    TDD-DPCHOffset,
    TDD-PhysicalChannelOffset,
    TDD-TPC-DownlinkStepSize,
    TDD-ChannelisationCodeLCR,
    TDD-DL-Code-LCR-Information,
    TDD-UL-Code-Information,
    TDD-UL-Code-LCR-Information,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TimeSlot,
    TimeSlotLCR,
    TimingAdvanceApplied,
    ToAWE,
    ToAWS,
    TransmitDiversityIndicator,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TFCS,
    Transmission-Gap-Pattern-Sequence-Information,
    TransportFormatManagement,
    TransportFormatSet,
    TransportLayerAddress,
    TrCH-SrcStatisticsDescr,
    TSTD-Indicator,
    TSTD-Support-Indicator,
    UARFCN,
    UC-ID,
    UL-DPCCH-SlotFormat,
    UL-SIR,
    UL-FP-Mode,
    UL-PhysCH-SF-Variation,
    UL-ScramblingCode,
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    UL-Timeslot-Information,
    UL-TimeslotLCR-Information,
    UL-TimeSlot-ISCP-Info,
    UL-TimeSlot-ISCP-LCR-Info,
    URA-ID,
    URA-Information,
    USCH-ID,
    USCH-Information
FROM RNSAP-IEs

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

    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNrOfCCTrCHs,
    maxNrOfDCHs,
    maxNrOfTS,
    maxNrOfDPCHs,
    maxNrOfRLs,
    maxNrOfRLSets,
    maxNrOfRLs-1,
    maxNrOfRLs-2,
    maxNrOfULTs,
    maxNrOfDLTs,
    maxNoOfDSCHsLCR,
    maxNoOfUSCHsLCR,
    maxNrOfCCTrCHsLCR,
    maxNrOfTsLCR,
    maxNrOfDLTsLCR,
    maxNrOfULTsLCR,
    maxNrOfDPCHsLCR,
    maxNrOfLCRTDDNeighboursPerRNC,
    maxNrOfMeasNCell,

    id-Active-Pattern-Sequence-Information,
    id-AdjustmentRatio,
    id-AllowedQueuingTime,
    id-BindingID,
    id-C-ID,
    id-C-RNTI,
    id-CFN,
    id-CFNReportingIndicator,
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    id-CN-CS-DomainIdentifier,
    id-CN-PS-DomainIdentifier,
    id-Cause,
    id-CauseLevel-RL-AdditionFailureFDD,
    id-CauseLevel-RL-AdditionFailureTDD,
    id-CauseLevel-RL-ReconfFailure,
    id-CauseLevel-RL-SetupFailureFDD,
    id-CauseLevel-RL-SetupFailureTDD,
    id-CCTrCH-InformationItem-RL-FailureInd,
    id-CCTrCH-InformationItem-RL-RestoreInd,
    id-ClosedLoopMode1-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-DCH-Rate-InformationItem-RL-CongestInd,
    id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
    id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,
    id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
    id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
    id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,
    id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
    id-FDD-DL-CodeInformation,
    id-DL-DPCH-Information-RL-ReconfPrepFDD,
    id-DL-DPCH-Information-RL-SetupRqstFDD,
    id-DL-DPCH-Information-RL-ReconfRqstFDD,
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    id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,
    id-DL-DPCH-InformationItem-RL-AdditionRspTDD,
    id-DL-DPCH-InformationItem-RL-SetupRspTDD,
    id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
    id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
    id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
    id-DL-Physical-Channel-Information-RL-SetupRqstTDD,
    id-DLReferencePower,
    id-DLReferencePowerList-DL-PC-Rqst,
    id-DL-ReferencePowerInformation-DL-PC-Rqst,
    id-DRXCycleLengthCoefficient,
    id-DedicatedMeasurementObjectType-DM-Rprt,
    id-DedicatedMeasurementObjectType-DM-Rqst,
    id-DedicatedMeasurementObjectType-DM-Rsp,
    id-DedicatedMeasurementType,
    id-DPC-Mode,
    id-DPC-Mode-Change-SupportIndicator,
    id-DSCHs-to-Add-FDD,
    id-DSCHs-to-Add-TDD,
    id-DSCH-DeleteList-RL-ReconfPrepTDD,
    id-DSCH-Delete-RL-ReconfPrepFDD,
    id-DSCH-FDD-Information,
    id-DSCH-InformationListIE-RL-AdditionRspTDD,
    id-DSCH-InformationListIEs-RL-SetupRspTDD,
    id-DSCH-TDD-Information,
    id-DSCH-FDD-InformationResponse,
    id-DSCH-ModifyList-RL-ReconfPrepTDD,
    id-DSCH-Modify-RL-ReconfPrepFDD,
    id-DSCHsToBeAddedOrModified-FDD,
    id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
    id-EnhancedDSCHPC,
    id-EnhancedDSCHPCIndicator,
    id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,
    id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,
    id-GA-Cell,
    id-GA-CellAdditionalShapes,
    id-IMSI,
    id-InformationExchangeID,
    id-InformationExchangeObjectType-InfEx-Rprt,
    id-InformationExchangeObjectType-InfEx-Rqst,
    id-InformationExchangeObjectType-InfEx-Rsp,
    id-InformationReportCharacteristics,
    id-InformationType,
    id-InnerLoopDLPCStatus,
    id-L3-Information,
    id-AdjustmentPeriod,
    id-MaxAdjustmentStep,
    id-MeasurementFilterCoefficient,
    id-MeasurementID,
    id-PagingArea-PagingRqst,
    id-Permanent-NAS-UE-Identity,
    id-FACH-FlowControlInformation,
    id-PowerAdjustmentType,
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    id-PropagationDelay,
    id-RANAP-RelocationInformation,
    id-RL-Information-PhyChReconfRqstFDD,
    id-RL-Information-PhyChReconfRqstTDD,
    id-RL-Information-RL-AdditionRqstFDD,
    id-RL-Information-RL-AdditionRqstTDD,
    id-RL-Information-RL-DeletionRqst,
    id-RL-Information-RL-FailureInd,
    id-RL-Information-RL-ReconfPrepFDD,
    id-RL-Information-RL-RestoreInd,
    id-RL-Information-RL-SetupRqstFDD,
    id-RL-Information-RL-SetupRqstTDD,
    id-RL-InformationItem-RL-CongestInd,
    id-RL-InformationItem-DM-Rprt,
    id-RL-InformationItem-DM-Rqst,
    id-RL-InformationItem-DM-Rsp,
    id-RL-InformationItem-RL-PreemptRequiredInd,
    id-RL-InformationItem-RL-SetupRqstFDD,
    id-RL-InformationList-RL-CongestInd,
    id-RL-InformationList-RL-AdditionRqstFDD,
    id-RL-InformationList-RL-DeletionRqst,
    id-RL-InformationList-RL-PreemptRequiredInd,
    id-RL-InformationList-RL-ReconfPrepFDD,
    id-RL-InformationResponse-RL-AdditionRspTDD,
    id-RL-InformationResponse-RL-ReconfReadyTDD,
    id-RL-InformationResponse-RL-ReconfRspTDD,
    id-RL-InformationResponse-RL-SetupRspTDD,
    id-RL-InformationResponseItem-RL-AdditionRspFDD,
    id-RL-InformationResponseItem-RL-ReconfReadyFDD,
    id-RL-InformationResponseItem-RL-ReconfRspFDD,
    id-RL-InformationResponseItem-RL-SetupRspFDD,
    id-RL-InformationResponseList-RL-AdditionRspFDD,
    id-RL-InformationResponseList-RL-ReconfReadyFDD,
    id-RL-InformationResponseList-RL-ReconfRspFDD,
    id-RL-InformationResponseList-RL-SetupRspFDD,
    id-RL-ReconfigurationFailure-RL-ReconfFail,
    id-RL-Set-InformationItem-DM-Rprt,
    id-RL-Set-InformationItem-DM-Rqst,
    id-RL-Set-InformationItem-DM-Rsp,
    id-RL-Set-Information-RL-FailureInd,
    id-RL-Set-Information-RL-RestoreInd,
    id-ReportCharacteristics,
    id-Reporting-Object-RL-FailureInd,
    id-Reporing-Object-RL-RestoreInd,
    id-RxTimingDeviationForTA,
    id-S-RNTI,
    id-SAI,
    id-SFN,
    id-SFNReportingIndicator,
    id-SRNC-ID,
    id-SSDT-CellIDforEDSCHPC,
    id-STTD-SupportIndicator,
    id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
```

```
    id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-timeSlot-ISCP,
    id-TransportBearerID,
    id-TransportBearerRequestIndicator,
    id-TransportLayerAddress,
    id-UC-ID,
    id-Transmission-Gap-Pattern-Sequence-Information,
    id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,
    id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,
    id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
    id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
    id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
    id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
    id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
    id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,
    id-UL-DPCH-Information-RL-ReconfPrepFDD,
    id-UL-DPCH-Information-RL-ReconfRqstFDD,
    id-UL-DPCH-Information-RL-SetupRqstFDD,
    id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,
    id-UL-DPCH-InformationItem-RL-AdditionRspTDD,
    id-UL-DPCH-InformationItem-RL-SetupRspTDD,
    id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
    id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
    id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
    id-UL-Physical-Channel-Information-RL-SetupRqstTDD,
    id-UL-SIRTarget,
    id-URA-Information,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
    id-USCHs-to-Add,
    id-USCH-DeleteList-RL-ReconfPrepTDD,
    id-USCH-InformationListIE-RL-AdditionRspTDD,
    id-USCH-InformationListIEs-RL-SetupRspTDD,
    id-USCH-Information,
    id-USCH-ModifyList-RL-ReconfPrepTDD,
    id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
    id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD,
    id-RL-LCR-InformationResponse-RL-SetupRspTDD,
    id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
    id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
    id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
    id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
    id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD,
```

```
    id-USCH-LCR-InformationListIEs-RL-SetupRspTDD,
    id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD,
    id-RL-LCR-InformationResponse-RL-AdditionRspTDD,
    id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
    id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
    id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
    id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
    id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD,
    id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD,
    id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
    id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
    id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
    id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
    id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
    id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
    id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD,
    id-TSTD-Support-Indicator-RL-SetupRqstTDD

FROM RNSAP-Constants;
```

<Not affected part is omitted>

```
-- **************************************************************
--
-- UPLINK SIGNALLING TRANSFER INDICATION FDD
--
-- **************************************************************

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

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-ClosedLoopMode1-SupportIndicator    CRITICALITY ignore  TYPE ClosedLoopMode1-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 optional },
    ...
}
```

```
UplinkSignallingTransferIndicationFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes     PRESENCE optional }|
    { ID id-DPC-Mode-Change-SupportIndicator        CRITICALITY ignore  EXTENSION       DPC-Mode-Change-SupportIndicator     PRESENCE optional },
    ...
}
```

<Not affected part is omitted>

9.3.4 Information Element Definitions

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

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

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

```
    maxNoOfRB,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxNrOfSCCPCHs,
    maxTFCI1Combs,
    maxTFCI2Combs,
    maxTFCI2Combs-1,
    maxTGPS,
    maxTTI-Count,
    maxNoGPSTypes,
    maxNoSat,

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

<Not affected part is omitted>

```
DPC-Mode ::= ENUMERATED {
   mode0,
   mode1,
   ...
}

DPC-Mode-Change-SupportIndicator ::= ENUMERATED {
   dPC-ModeChangeSupported
}
```

```
DPCH-ID                 ::= INTEGER (0..239)
```

<Not affected part is omitted>

```
-- N

NCC ::= BIT STRING (SIZE (3))

Neighbouring-UMTS-CellInformation ::= SEQUENCE (SIZE (1..maxNrOfNeighbouringRNCs)) OF ProtocolIE-Single-Container {{ Neighbouring-UMTS-
CellInformationItemIE }}

Neighbouring-UMTS-CellInformationItemIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-UMTS-CellInformationItem   CRITICALITY ignore  TYPE    Neighbouring-UMTS-CellInformationItem  PRESENCE mandatory }
}

Neighbouring-UMTS-CellInformationItem ::= SEQUENCE {
    rNC-ID                              RNC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    neighbouring-FDD-CellInformation    Neighbouring-FDD-CellInformation    OPTIONAL,
    neighbouring-TDD-CellInformation    Neighbouring-TDD-CellInformation    OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {Neighbouring-UMTS-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-UMTS-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-neighbouring-LCR-TDD-CellInformation            CRITICALITY  ignore     EXTENSION   Neighbouring-LCR-TDD-CellInformation       PRESENCE
optional },
    ...
}

Neighbouring-FDD-CellInformation ::= SEQUENCE ( SIZE (1..maxNrOfFDDNeighboursPerRNC,...)) OF Neighbouring-FDD-CellInformationItem

Neighbouring-FDD-CellInformationItem ::= SEQUENCE {
    c-ID                            C-ID,
    uARFCNforNu                     UARFCN,
    uARFCNforNd                     UARFCN,
    frameOffset                     FrameOffset         OPTIONAL,
    primaryScramblingCode           PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    cellIndividualOffset            CellIndividualOffset    OPTIONAL,
    txDiversityIndicator            TxDiversityIndicator,
    sTTD-SupportIndicator           STTD-SupportIndicator   OPTIONAL,
    closedLoopMode1-SupportIndicator    ClosedLoopMode1-SupportIndicator    OPTIONAL,
    closedLoopMode2-SupportIndicator    ClosedLoopMode2-SupportIndicator    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { Neighbouring-FDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-FDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RestrictionStateIndicator           CRITICALITY ignore          EXTENSION RestrictionStateIndicator   PRESENCE optional }
```

```
    { ID id-DPC-Mode-Change-SupportIndicator    CRITICALITY ignore      EXTENSION   DPC-Mode-Change-SupportIndicator     PRESENCE optional },
    ...
}

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

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

<Not affected part 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-dedicatedMeasurementFailure                             ProcedureCode ::= 7
id-dedicatedMeasurementInitiation                          ProcedureCode ::= 8
id-dedicatedMeasurementReporting                           ProcedureCode ::= 9
id-dedicatedMeasurementTermination                         ProcedureCode ::= 10
id-paging                                                  ProcedureCode ::= 11
id-physicalChannelReconfiguration                          ProcedureCode ::= 12
id-privateMessage                                          ProcedureCode ::= 13
id-radioLinkAddition                                       ProcedureCode ::= 14
id-radioLinkCongestion                                     ProcedureCode ::= 34
id-radioLinkDeletion                                       ProcedureCode ::= 15
id-radioLinkFailure                                        ProcedureCode ::= 16
id-radioLinkPreemption                                     ProcedureCode ::= 17
id-radioLinkRestoration                                    ProcedureCode ::= 18
id-radioLinkSetup                                          ProcedureCode ::= 19
id-relocationCommit                                        ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation        ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit              ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation         ProcedureCode ::= 23
id-unSynchronisedRadioLinkReconfiguration                  ProcedureCode ::= 24
id-uplinkSignallingTransfer                                ProcedureCode ::= 25
id-commonMeasurementFailure                                ProcedureCode ::= 26
id-commonMeasurementInitiation                             ProcedureCode ::= 27
id-commonMeasurementReporting                              ProcedureCode ::= 28
id-commonMeasurementTermination                            ProcedureCode ::= 29
id-informationExchangeFailure                              ProcedureCode ::= 30
id-informationExchangeInitiation                           ProcedureCode ::= 31
id-informationReporting                                    ProcedureCode ::= 32
id-informationExchangeTermination                          ProcedureCode ::= 33

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

maxCodeNumComp-1                        INTEGER ::= 255
maxRateMatching                         INTEGER ::= 256
maxNoCodeGroups                         INTEGER ::= 256
maxNoOfDSCHs                            INTEGER ::= 10
maxNoOfDSCHsLCR                         INTEGER ::= 10
maxNoOfRB                               INTEGER ::= 32
maxNoOfUSCHs                            INTEGER ::= 10
maxNoOfUSCHsLCR                         INTEGER ::= 10
maxNoTFCIGroups                         INTEGER ::= 256
maxNrOfTFCs                             INTEGER ::= 1024
maxNrOfTFs                              INTEGER ::= 32
maxNrOfCCTrCHs                          INTEGER ::= 16
maxNrOfCCTrCHsLCR                       INTEGER ::= 16
maxNrOfDCHs                             INTEGER ::= 128
maxNrOfDL-Codes                         INTEGER ::= 8
maxNrOfDPCHs                            INTEGER ::= 240
```

```
maxNrOfDPCHsLCR                     INTEGER ::= 240
maxNrOfErrors                       INTEGER ::= 256
maxNrOfMACcshSDU-Length             INTEGER ::= 16
maxNrOfPoints                       INTEGER ::= 15
maxNrOfRLs                          INTEGER ::= 16
maxNrOfRLSets                       INTEGER ::= maxNrOfRLs
maxNrOfRLs-1                        INTEGER ::= 15  -- maxNrOfRLs – 1
maxNrOfRLs-2                        INTEGER ::= 14  -- maxNrOfRLs – 2
maxNrOfULTs                         INTEGER ::= 15
maxNrOfULTsLCR                      INTEGER ::= 6
maxNrOfDLTs                         INTEGER ::= 15
maxNrOfDLTsLCR                      INTEGER ::= 6
maxRNCinURA-1                       INTEGER ::= 15
maxTTI-Count                        INTEGER ::= 4
maxCTFC                             INTEGER ::= 16777215
maxNrOfNeighbouringRNCs             INTEGER ::= 10
maxNrOfFDDNeighboursPerRNC          INTEGER ::= 256
maxNrOfGSMNeighboursPerRNC          INTEGER ::= 256
maxNrOfTDDNeighboursPerRNC          INTEGER ::= 256
maxNrOfFACHs                        INTEGER ::= 8
maxNrOfLCRTDDNeighboursPerRNC       INTEGER ::= 256
maxFACHCountPlus1                   INTEGER ::= 10
maxIBSEG                            INTEGER ::= 16
maxNrOfSCCPCHs                      INTEGER ::= 8
maxTFCI1Combs                       INTEGER ::= 512
maxTFCI2Combs                       INTEGER ::= 1024
maxTFCI2Combs-1                     INTEGER ::= 1023
maxTGPS                             INTEGER ::= 6
maxNrOfTS                           INTEGER ::= 15
maxNrOfLevels                       INTEGER ::= 256
maxNrOfTsLCR                        INTEGER ::= 6
maxNoSat                            INTEGER ::= 16
maxNoGPSTypes                       INTEGER ::= 8
maxNrOfMeasNCell                    INTEGER ::= 96
maxNrOfMeasNCell-1                  INTEGER ::= 95  -- maxNrOfMeasNCell – 1

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

id-AllowedQueuingTime                                               ProtocolIE-ID ::= 4
id-Allowed-Rate-Information                                         ProtocolIE-ID ::= 42
id-BindingID                                                        ProtocolIE-ID ::= 5
id-C-ID                                                             ProtocolIE-ID ::= 6
id-C-RNTI                                                           ProtocolIE-ID ::= 7
id-CFN                                                              ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier                                           ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier                                           ProtocolIE-ID ::= 10
id-Cause                                                            ProtocolIE-ID ::= 11
id-CriticalityDiagnostics                                           ProtocolIE-ID ::= 20
id-D-RNTI                                                           ProtocolIE-ID ::= 21
```

```
id-D-RNTI-ReleaseIndication                                    ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD                                             ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD                                             ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD                             ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD                             ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD                             ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD                             ProtocolIE-ID ::= 33
id-DCH-FDD-Information                                         ProtocolIE-ID ::= 34
id-DCH-TDD-Information                                         ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify                                          ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify                                          ProtocolIE-ID ::= 40
id-DCH-InformationResponse                                     ProtocolIE-ID ::= 43
id-DCH-Rate-InformationItem-RL-CongestInd                      ProtocolIE-ID ::= 38
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD               ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD               ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD            ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD                   ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD              ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD               ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD                  ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD               ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD            ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD                   ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation                                      ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD                        ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD                         ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD                        ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD                  ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD                   ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD                      ProtocolIE-ID ::= 64
id-DLReferencePower                                            ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst                             ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst                     ProtocolIE-ID ::= 69
id-DPC-Mode                                                    ProtocolIE-ID ::= 12
id-DRXCycleLengthCoefficient                                   ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Rprt                      ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst                      ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp                       ProtocolIE-ID ::= 73
id-DedicatedMeasurementType                                    ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD           ProtocolIE-ID ::= 82
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD           ProtocolIE-ID ::= 83
id-Guaranteed-Rate-Information                                 ProtocolIE-ID ::= 41
id-IMSI                                                        ProtocolIE-ID ::= 84
id-L3-Information                                              ProtocolIE-ID ::= 85
id-AdjustmentPeriod                                            ProtocolIE-ID ::= 90
id-MaxAdjustmentStep                                           ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient                                ProtocolIE-ID ::= 92
id-MessageStructure                                            ProtocolIE-ID ::= 57
id-MeasurementID                                               ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation                            ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem                       ProtocolIE-ID ::= 95
id-PagingArea-PagingRqst                                       ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation                                 ProtocolIE-ID ::= 103
```

```
id-Permanent-NAS-UE-Identity                                    ProtocolIE-ID ::= 17
id-PowerAdjustmentType                                          ProtocolIE-ID ::= 107
id-RANAP-RelocationInformation                                  ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD                            ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD                            ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD                            ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD                            ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst                               ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd                                 ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD                              ProtocolIE-ID ::= 116
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id-RL-InformationList-RL-CongestInd                             ProtocolIE-ID ::= 56
id-RL-InformationList-RL-AdditionRqstFDD                        ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst                           ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd                     ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD                          ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD                     ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD                     ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD                        ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD                 ProtocolIE-ID ::= 130
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id-RL-InformationResponseItem-RL-ReconfRspFDD                   ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD                    ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD                 ProtocolIE-ID ::= 134
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id-RL-InformationResponseList-RL-ReconfRspFDD                   ProtocolIE-ID ::= 136
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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
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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
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id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD             ProtocolIE-ID ::= 210
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id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD            ProtocolIE-ID ::= 214
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id-DSCH-InformationListIE-RL-AdditionRspTDD                     ProtocolIE-ID ::= 220
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id-DSCH-TDD-Information                                         ProtocolIE-ID ::= 222
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id-GA-CellAdditionalShapes                                  ProtocolIE-ID ::= 3
id-SSDT-CellIDforEDSCHPC                                    ProtocolIE-ID ::= 35
id-Transmission-Gap-Pattern-Sequence-Information            ProtocolIE-ID ::= 255
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id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD         ProtocolIE-ID ::= 258
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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
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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
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id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD         ProtocolIE-ID ::= 65
id-RL-LCR-InformationResponse-RL-SetupRspTDD                ProtocolIE-ID ::= 66
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD           ProtocolIE-ID ::= 75
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id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD                ProtocolIE-ID ::= 77
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD                    ProtocolIE-ID ::= 78
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD                    ProtocolIE-ID ::= 79
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD                    ProtocolIE-ID ::= 80
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD           ProtocolIE-ID ::= 81
id-RL-LCR-InformationResponse-RL-AdditionRspTDD                  ProtocolIE-ID ::= 86
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD             ProtocolIE-ID ::= 87
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD                 ProtocolIE-ID ::= 88
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD             ProtocolIE-ID ::= 89
id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD                 ProtocolIE-ID ::= 94
id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD                 ProtocolIE-ID ::= 96
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD                 ProtocolIE-ID ::= 97
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD            ProtocolIE-ID ::= 98
id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD       ProtocolIE-ID ::= 100
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD            ProtocolIE-ID ::= 101
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id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD            ProtocolIE-ID ::= 105
id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD            ProtocolIE-ID ::= 106
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD                         ProtocolIE-ID ::= 138
id-TSTD-Support-Indicator-RL-SetupRqstTDD                        ProtocolIE-ID ::= 139
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id-Load-Value                                                    ProtocolIE-ID ::= 233
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id-Received-Total-Wideband-Power-Value-IncrDecrThres             ProtocolIE-ID ::= 237
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END
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Makuhari, Japan, 26 – 30 November 2001

Tdoc R3-013603

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **505** ⌘ rev **1** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	Rel-4 specific terminology corrections
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
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:	⌘	In several places, there is still mention of the Node B. Correction of a wrong implementation of CR 414.
Summary of change:	⌘	Node B is replaced by DRNS. Presence of *Initial DL Tx Power* and *Primary CPICH Ec/No* IEs is changed from "C" to "O". This change has no impact.
Consequences if not approved:	⌘	If this CR is not approved, the specification will remain incorrect.

Clauses affected:	⌘	8.5.2.2, 9.1.3.1, 9.2.2.12A
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ 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. 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.

8.5.2 Common Measurement Initiation

8.5.2.1 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_1 and the RNC to which the request is sent is referred to as RNC_2.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.2.2 Successful Operation

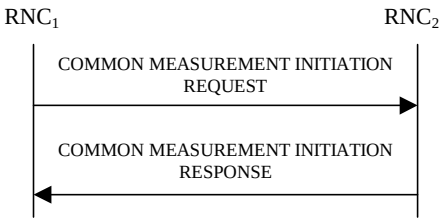

Figure 30A: Common Measurement Initiation procedure, Successful Operation

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the RNC_1 to the RNC_2.

Upon reception, the RNC_2 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_2 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 RNC2 shall initiate measurements of uplink and downlink load on the measured object. If either uplink or downlink load satisfies the requested report characteristics, the RNC2 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. See also Annex B.

If the *Report Characteristics* IE is set to 'On-Demand', the RNC_2 shall report the result of the requested measurement immediately.

If the *Report Characteristics* IE is set to 'Periodic', the RNC_2 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_2 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_2 shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event B', the RNC_2 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_2 shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event C', the RNC_2 shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time. After having reported this type of event, the next C event reporting for the same measurement cannot be initiated before the rising/falling time has elapsed since the previous event reporting.

If the *Report Characteristics* IE is set to 'Event D', the RNC_2 shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time. After having reported this type of event, the next D event reporting for the same measurement cannot be initiated before the rising/falling time has elapsed since the previous event reporting.

If the *Report Characteristics* IE is set to 'Event E', the RNC_2 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_2 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_2 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_2 shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the RNC_2 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_2 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_2 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_2 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_2 shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the RNC_2 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_2 shall report the result of the requested measurement immediately. Then the RNC_2 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 $T_{UTRAN\text{-}GPS}$ *Change Limit* IE is included in the $T_{UTRAN\text{-}GPS}$ *Measurement Threshold Information* IE, the RNC_2 shall each time a new measurement result is received from the physical layer measurement, calculate the change of $T_{UTRAN\text{-}GPS}$ value (F_n). The RNC_2 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 $T_{UTRAN\text{-}GPS}$ *Change Limit* IE. The change of $T_{UTRAN\text{-}GPS}$ value (F_n) is calculated according to the following:

     $F_n=0$ *for* $n=0$

     $F_n = (M_n - M_{n-1}) \bmod 37158912000000 - ((SFN_n - SFN_{n-1}) \bmod 4096) * 10*3.84*10\text{^}3*16 + F_{n-1}$ *for* $n>0$

     F_n is the change of the $T_{UTRAN\text{-}GPS}$ 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_2 shall, each time a new measurement result is received from the physical layer measurement, update the P_n and F_n. The RNC_2 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:

  $P_n=b$ *for n=0*

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

  $F_n = min(abs(M_n – P_n), abs(M_n – P_n – 37158912000000), abs(M_n – P_n + 37158912000000))$ *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.

  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~~ DRNS 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_2 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_2 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 RNC_2 shall each time a new measurement result is received from the physical layer measurement, update the P_n and F_n. The RNC_2 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* $n>0$

$F_n = min(abs(M_n – P_n), abs(M_n – P_n – 40960), abs(M_n – P_n + 40960))$ *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.

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~~ DRNS 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_2 was able to initiate the measurement requested by RNC_1 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.

8.5.2.3 Unsuccessful Operation

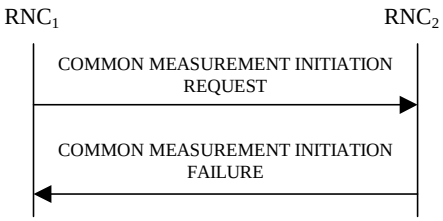

Figure 30B: Common Measurement Initiation procedure, Unsuccessful Operation

If the requested measurement cannot be initiated, the RNC_2 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.

Typical cause values are as follows:

Radio Network Layer Cause

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

8.5.2.4 Abnormal Conditions

If the COMMON MEASUREMENT INITIATION REQUEST message contains the *SFN-SFN Measurement Threshold Information* IE (in the *Measurement Threshold* IE contained in the *Report Characteristics* IE) and it does not contain at least one IE, the RNC_2 shall reject the procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the COMMON MEASUREMENT INITIATION REQUEST message contains the $T_{UTRAN-GPS}$ *Measurement Threshold Information* IE (in the *Measurement Threshold* IE contained in the *Report Characteristics* IE) and it does not contain at least one IE, the RNC_2 shall reject the procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

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_2 shall regard the Common Measurement Initiation procedure as failed.

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_2 shall regard the Common Measurement Initiation procedure as failed.

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_2 shall regard the Common Measurement Initiation procedure as failed.

The allowed combinations of the Common measurement type and Report characteristics type are shown in the table below marked with “X”. For not allowed combinations, the ~~Node B~~ DNRS shall regard the Common Measurement Initiation procedure as failed.

Table 4: Allowed Common measurement type and Report characteristics type combinations

Common measurement type	Report characteristics type								
	On Demand	Periodic	Event A	Event B	Event C	Event D	Event E	Event F	On Modification
Received total wide band power	X	X	X	X	X	X	X	X	
Transmitted Carrier Power	X	X	X	X	X	X	X	X	
UL Timeslot ISCP	X	X	X	X	X	X	X	X	
Load	X	X	X	X	X	X	X	X	
UTRAN GPS Timing of Cell Frames for LCS	X	X							X
SFN-SFN Observed Time Difference	X	X							X

[TDD - If the common measurement type requires the Time Slot Information but the *Time Slot* IE is not provided in the *Common Measurement Object Type* IE in the COMMON MEASUREMENT INITIATION REQUEST message the DRNS shall regard the Common Measurement Initiation procedure as failed.]

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

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

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>RL ID	M		9.2.1.49		–	
>C-Id	M		9.2.1.6		–	
>First RLS Indicator	M		9.2.2.16A		-	
>Frame Offset	M		9.2.1.30		–	
>Chip Offset	M		9.2.2.1		–	
>Propagation Delay	O		9.2.2.33		–	
>Diversity Control Field	C – NotFirstRL		9.2.1.20		–	
>Initial DL TX Power	~~C~~O		DL Power 9.2.1.21A		–	
>Primary CPICH Ec/No	~~C~~O		9.2.2.32		–	
>SSDT Cell Identity	O		9.2.2.40		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.48		–	
>SSDT Cell Identity for EDSCHPC	C-EDSCHPC		9.2.2.40A		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
Active Pattern Sequence Information	O		9.2.2.A		YES	reject
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore

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

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

9.2.2.12A DPC Mode

The *DPC Mode* IE indicates the DPC mode to be applied [10].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DPC Mode			ENUMERATTED (Mode0, Mode1, …)	Mode0: The ~~Node B~~ DRNS shall estimate the UE transmitted TPC command and update the DL power in every slot Mode1: The ~~Node B~~ DRNS shall estimate the UE transmitted TPC command over three slots and shall update the DL power in every three slots

3GPP TSG-RAN3 Meeting #25 ***R3-013670***
Makuhari, Japan, 26nd – 30th November, 2001

CR-Form-v4

CHANGE REQUEST

⌘ **25.423** **CR** **521** ⌘ ev **1** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	Correction to the RNSAP Congestion Indication
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	November 2001
Category:	⌘	**F**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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: ⌘

R1:
The following changes made to the Meaning of the Congestion cause:

- The sentence “Limiting the UL and/or DL rate is expected to be sufficient to overcome the congestion situation” was removed.
- The sentence “Decreasing the UL and/or DL data rate by performing a RL-Reconfiguration, thus no longer reserving resources for the higher data rates, is expected to overcome the congestion situation” was removed.
- The word “typically” changed to “e.g.”.

The Id was assigned to the “id-CongestionCause”.

Some misspellings were corrected.

R0:
Two unclarities are identified w.r.t the Radio Link Congestion Indication procedure introduced in the Release 4 RNSAP:

A) SRNC action:
W.r.t. the action that the SRNC should take when receiving a congestion indication, 2 actions can be considered:

1) Limit UL/DL rate without changing resource allocation in the UTRAN (i.e. remain on same code).

2) Perform a reconfiguration thus limiting the rate and decreasing the resource allocation in the UTRAN.

In the current specification it is not clear from which type of congestion the DRNS is suffering and thus from which SRNC action it would benefit the most.

	B) End of Congestion The current procedure text indicates that “The DRNC shall indicate any change of the congestion situation by sending….”. However it is not clear how the DRNC can really do this. E.g. assume that a RL Reconfiguation was executed as a result of the congestion indication, which reduced the highest rate TF from 384kbps to 128kbps. As a result, the DRNC will no longer be able to indicate end of congestion by indicating the 384 kbps. How to handle end of congestion in such situations should be clarified. This CR attempts to clarify both unclarities.
Summary of change: ⌘	A congestion cause IE has been added in the RADIO LINK CONGESTION INDICATION message.
Consequences if not approved: ⌘	If this CR is not approved, the two identified unclarities will remain, potentially leading to multi-vendor problems. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has isolated impact with the previous version of the specification (same release) because the ASN.1 for the RADIO LINK CONGESTION INDICATION has been updated and additional behaviour is specified. This CR has an impact under protocol & functional] point of view. The impact can be considered isolated because the change affects one function.

Clauses affected:	⌘	8.3.19; 9.1.42; 9.2.1.x (new); 9.3.3, 9.3.4, 9.3.6		
Other specs affected:	⌘	☐ Other core specifications ☐ 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. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.3.19 Radio Link Congestion

8.3.19.1 General

This procedure is started by the DRNS when RL congestion is detected and the rate of one or more DCHs need to be limited in the UL and/or DL. This procedure is also used by the DRNC to indicate to the SRNC any change of the UL/DL DCH congestion situation. This procedure shall use the signalling bearer connection for the relevant UE context.

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

8.3.19.2 Successful Operation

Figure 26C: Radio Link Congestion procedure, Successful Operation

Start of UL/DL DCH Congestion Situation

When the DRNC detects a start of a UL/DL DCH congestion situation and prefers ~~that~~ the rate of one or more DCHs ~~need~~ to be limited below the maximum rate currently configured in the UL/DL TFS, it shall send the RADIO LINK CONGESTION INDICATION message to the SRNC. The DRNC shall indicate the cause of the congestion in the *Congestion Cause* IE and shall indicate all the Radio Links for which ~~where~~ the rate of a DCH needs to be reduced.

When receiving the RADIO LINK CONGESTION INDICATION message the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for a DCH.

Change of UL/DL DCH Congestion Situation

The DRNC shall indicate any change of the UL/DL DCH congestion situation by sending the RADIO LINK CONGESTION INDICATION message in which the new allowed rate of the DCHs are indicated by the *Allowed Rate Information* IE. In the case that the new allowed rate is lower than a previously indicated allowed rate, the *Congestion Cause* IE, indicating the cause of the congestion, shall also be included.

When receiving a RADIO LINK CONGESTION INDICATION message indicating a further rate decrease on any DCH(s) on any RL, the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for a DCH.

End of UL/DL DCH Congestion Situation

End of an UL DCH congestion situation for a specific RL shall be indicated by including the TF corresponding to the highest data rate in the *Allowed UL Rate* IE in the *Allowed Rate Information* IE for the concerning RL. End of a DL DCH congestion situation for a specific RL shall be indicated by including the TF with the highest data rate in the *Allowed DL Rate* IE in the *Allowed Rate Information* IE for the concerning RL.

8.3.19.3 Abnormal Conditions

-

9.1.42 RADIO LINK CONGESTION INDICATION

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		–	
Congestion Cause	O		9.2.1.x		YES	Ignore
RL Information		*1..<maxnoofRLs>*			EACH	Ignore
>RL ID	M		9.2.1.49		–	
>DCH Rate Information		*1..<maxnoofDCHs>*			EACH	ignore
>>DCH ID	M		9.2.1.16		–	
>>Allowed Rate Information	M		9.2.1.2A		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of Radio Links for one UE
MaxnoofDCHs	Maximum number of DCHs for one UE.

9.2.1.x Congestion Cause

The *Congestion Cause* IE indicates the cause of a congestion situation:

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Congestion Cause			ENUMERATED (UTRAN Dynamic Resources, UTRAN Semistatic Resources, …)	

The meaning of the different congestion cause values is described in the following table:

Congestion cause	Meaning
UTRAN Dynamic Resources	UL and/or DL DCH congestion situation mainly caused by the UL and/or DL UTRAN Dynamic Resources. This type of congestion situation is, e.g. related to the DL power situation or the UL Interference situation in the concerning cell(s). ~~Limiting the UL and/or DL rate is expected to be sufficient to overcome the congestion situation.~~
UTRAN Semistatic Resources	UL and/or DL DCH congestion situation mainly related to UTRAN Semistatic Resources (e.g. channelisation codes, Node-B resources, ..). ~~Decreasing the UL and/or DL data rate by performing a RL-Reconfiguration, thus no longer reserving resources for the higher data rates, is expected to overcome the congestion situation.~~

9.3.3 PDU Definitions

```
//partly skipped

    CommonMeasurementType,
    CommonMeasurementValue,
    CommonMeasurementValueInformation,
    CongestionCause,
    CriticalityDiagnostics,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-FDD-Information,
    DCH-ID,


//partly skipped


    id-CommonMeasurementObjectType-CM-Rsp,
    id-CommonMeasurementType,
    id-CongestionCause,
    id-CriticalityDiagnostics,
    id-D-RNTI,
    id-D-RNTI-ReleaseIndication,
    id-DCHs-to-Add-FDD,
    id-DCHs-to-Add-TDD,
    id-DCH-DeleteList-RL-ReconfPrepFDD,
    id-DCH-DeleteList-RL-ReconfPrepTDD,


//partly skipped


-- **************************************************************
--
-- RADIO LINK CONGESTION INDICATION
--
-- **************************************************************

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

RadioLinkCongestionIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CongestionCause                     CRITICALITY ignore  TYPE CongestionCause                     PRESENCE optional },
    { ID id-RL-InformationList-RL-CongestInd    CRITICALITY ignore  TYPE RL-InformationList-RL-CongestInd    PRESENCE mandatory },
    ...
}
```

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

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

RL-InformationItem-RL-CongestInd ::= SEQUENCE {
    rL-ID                               RL-ID,
    dCH-Rate-Information        DCH-Rate-Information-RL-CongestInd,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-RL-CongestInd-ExtIEs} } OPTIONAL,
    ...
}

DCH-Rate-Information-RL-CongestInd ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF ProtocolIE-Single-Container { {DCH-Rate-InformationItemIEs-RL-CongestInd}
}

DCH-Rate-InformationItemIEs-RL-CongestInd RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-Rate-InformationItem-RL-CongestInd      CRITICALITY ignore  TYPE DCH-Rate-InformationItem-RL-CongestInd     PRESENCE mandatory   }
}

DCH-Rate-InformationItem-RL-CongestInd ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    allowed-Rate-Information    Allowed-Rate-Information OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DCH-Rate-InformationItem-RL-CongestInd-ExtIEs} } OPTIONAL,
    ...
}

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

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

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

//partly skipped
```

9.3.4 Information Element Definitions

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

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

CongestionCause ::= ENUMERATED {
    uTRAN-dynamic-resources,
    uTRAN-semistatic-resources,
    ...
}

CRC-Size                ::= ENUMERATED {
    v0,
    v8,
    v12,
    v16,
    v24,
    ...
}
```

9.3.6 Constant Definitions

```
//partly skipped

id-CommonMeasurementAccuracy                                    ProtocolIE-ID ::= 280
id-CommonMeasurementObjectType-CM-Rprt                          ProtocolIE-ID ::= 281
id-CommonMeasurementObjectType-CM-Rqst                          ProtocolIE-ID ::= 282
id-CommonMeasurementObjectType-CM-Rsp                           ProtocolIE-ID ::= 283
id-CommonMeasurementType                                        ProtocolIE-ID ::= 284
id-CongestionCause                                              ProtocolIE-ID ::= 18
id-SFN                                                          ProtocolIE-ID ::= 285
id-SFNReportingIndicator                                        ProtocolIE-ID ::= 286

//partly skipped
```

3GPP TSG-RAN3 #25 Meeting
Makuhari, Japan, 26 – 30 November 2001

Tdoc R3-013695

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **530** ⌘ rev **2** ⌘ Current version: **4.2.0** ⌘

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

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

Title:	⌘	SFN-SFN quality indication
Source:	⌘	R-WG3
Work item code:	⌘	LCS1-UEpos-IubIur
Date:	⌘	November 2001
Category:	⌘	**F**
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:	⌘	As TSG RAN WG4 has defined an accuracy for the SFN-SFN Observed Time Difference UTRAN measurement, there is no need to have a quality indication reported to the RNC: this measurement should be handled as all the other measurements for which an accuracy has been defined by RAN4 are currently handled.
Summary of change:	⌘	R2: The *SFN-SFN Quality* IE is made optional in the *SFN-SFN Measurement Value Information* IE. Impact assessment towards the version 4.2.0 of the RNSAP specification (previous version same release): This CR has isolated impact on the functionality. This CR has an impact under protocol point of view (Presence of an IE changed from Mandatory to Optional) and the functional point of view as it is possible now not to report a quality level for the measurement. The impact can be considered isolated as it concerns only the SFN-SFN Observed Time Difference UTRAN measurement.
Consequences if not approved:	⌘	If this CR is not approved, the specification will remain incorrect.

Clauses affected:	⌘	9.2.1.52C, 9.3.4		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.433 v 4.2.1 CR 580
Other comments:	⌘			

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

9.2.1.52C 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.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*1..<maxnoofMeasNCell>*		
>UTRAN Cell Identifier			9.2.1.71	
>SFN-SFN	M		INTEGER(-20480..20479)	
>SFN-SFN Quality	~~M~~O		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		9.2.1.52A	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.
Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*0..<maxnoofMeasNCell-1>*		
>UTRAN Cell Identifier			9.2.1.71	

Range bound	Explanation
MaxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.3.4 Information Element Definitions

UNCHANGED TEXT IS OMITTED

```
SFNSFNMeasurementValueInformation ::= SEQUENCE {
    successfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation      SEQUENCE (SIZE(1..maxNrOfMeasNCell)) OF
        SEQUENCE {
            uC-ID       UC-ID,
            sFNSFN                      SFNSFN,
            sFNSFNQuality               SFNSFNQuality                       OPTIONAL,
            sFNSFNDriftRate             SFNSFNDriftRate,
            sFNSFNDriftRateQuality      SFNSFNDriftRateQuality,
            sFN                         SFN,
            timeSlot                    TimeSlot,
            iE-Extensions               ProtocolExtensionContainer { {
SuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs} }     OPTIONAL,
            ...
        },
    unsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation     SEQUENCE (SIZE(0..maxNrOfMeasNCell-1)) OF
        SEQUENCE {
            uC-ID       UC-ID,
            iE-Extensions       ProtocolExtensionContainer { { UnsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-
ExtIEs} }       OPTIONAL,
            ...
        },
    iE-Extensions       ProtocolExtensionContainer { { SFNSFNMeasurementValueInformationItem-ExtIEs} }     OPTIONAL,
    ...
}
```

UNCHANGED TEXT IS OMITTED