TSG-RAN Meeting #15
Cheju, Korea, 5 - 8 March 2002

TSGRP#15(02) 0193

Title: **Change requests for WI "UE positioning enhancements for 1.28Mcps TDD"**

Source: **TSG-RAN WG3**

RP_Num	Tdoc_Num	Specification	CR_Num	Revision_Num	3G_Release	CR_Subject	CR_Category	Cur_Ver_Num	Workitem
RP-020193	R3-020761	25.423	544	2	Rel-5	Add IPDL TDD parameters for LCR in RNSAP information element functional definition and contents	B	4.3.0	LCS-128Pos
RP-020193	R3-020764	25.423	568	1	Rel-5	Introduction of the Neighbouring TDD Cell Measurement Information LCR	B	4.3.0	LCS-128Pos
RP-020193	R3-020766	25.423	571	1	Rel-5	Introduction of Angle of Arrival enhanced positioning for 1.28Mcps TDD in RNSAP	B	4.3.0	LCS-128Pos
RP-020193	R3-020857	25.433	584	3	Rel-5	Add IPDL parameters for LCR TDD in CELL SETUP REQUEST and CELL RECONFIGURATION REQUEST in NBAP message.	B	4.3.0	LCS-128Pos
RP-020193	R3-020765	25.433	607	1	Rel-5	Introduction of the Neighbouring TDD Cell Measurement Information LCR	B	4.3.0	LCS-128Pos
RP-020193	R3-020767	25.433	613	1	Rel-5	Introduction of Angle of Arrival enhanced positioning for 1.28Mcps TDD in NBAP	B	4.3.0	LCS-128Pos

3GPP TSG-RAN3 Meeting #27 ***R3-020761***
Orlando, USA, 18 – 22 February 2002

CR-Form-v5

CHANGE REQUEST

⌘ **25.423** **CR** **544** ⌘ **rev** **2** ⌘ Current version: **4.3.0** ⌘

*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:	⌘	Add IPDL TDD parameters for LCR in RNSAP information element functional definition and contents
Source:	⌘	~~CWTS/CATT~~R-WG3
Work item code:	⌘	LCS-128Pos
Date:	⌘	Feb. 2002
Category:	⌘	**B**
Release:	⌘	*REL-5*

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:	⌘	According to Tdoc R3-012281, there should be one new IE group to be added in RNSAP message in order to support IPDL in 1.28Mcps TDD mode.
Summary of change:	⌘	Rev-2: Updated the ASN.1 of IPDL paramenters IE group. Rev-1: The rev-1 is based on v4.3.0 of RNSAP. And the changes are almost the same as the rev-0 except that the semantics description for corresponding IE groups are added. Rev-0: In section 9.2.1.31F one new IE group named 'IPDL TDD parameters LCR' is added in 'IPDL parameters' IE group. The new IE group 'IPDL TDD parameters LCR' is defined in a new section 9.2.3.4X. In section 9.2.3.4B 'IPDL TDD parameters' IE group is clarified to be used in 3.84Mcps TDD mode only. The corresponding text is added in ASN.1 in section 9.3. Impact assessment towards the previous version of the specification (same release): no previous version exists.
Consequences if not approved:	⌘	If this CR is not approved, IPDL is not correctly supported for 1.28Mcps TDD.

Clauses affected:	⌘	9.2.1.31F, 9.2.3.4B, 9.3		
Other specs	⌘	**X** Other core specifications	⌘	25.433 v4.3.0 CR548r2 (Rel.5) 25.423 v4.3.0 CR596 (Rel.4)

affected:	☐ Test specifications ☐ O&M Specifications	
Other comments: ⌘		

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

/*Unchanged parts are omitted*/

9.2.1.31F IPDL parameters

Information Element/Group name	Presence	Range	IE Type and Reference	Semantics description
CHOICE *IPDL Parameters*				
>*IPDL FDD Parameters*				
>>IPDL FDD parameters	M		9.2.2.21B	
>*IPDL TDD Parameters*				For 3.84Mcps TDD only
>>IPDL TDD parameters	M		9.2.3.4B	
>*IPDL TDD Parameters LCR*				For 1.28Mcps TDD only
>>IPDL TDD parameters LCR	M		9.2.3.4X	

/*Unchanged parts are omitted*/

9.2.3.4B IPDL TDD parameters

The *IPDL TDD Parameters* IE provides the information for the IPDL Configuration applied in 3.84Mcps TDD mode.

Information Element/Group name	Presence	Range	IE Type and Reference	Semantics description
IP Spacing TDD	M		ENUMERATED(30,40,50, 70, 100,…)	See [22]
IP Start	M		INTEGER(0..4095)	See [22]
IP Slot	M		INTEGER(0..14)	See [22]
IP P-CCPCH	M		ENUMERATED(Switch off 1 frame, Switch off 2 frames)	See [22]
Burst mode parameters	O		9.2.1.4B	

9.2.3.4X IPDL TDD parameters LCR

The *IPDL TDD Parameters LCR* IE provides the information for the IPDL Configuration applied in 1.28Mcps TDD mode.

Information Element/Group name	Presence	Range	IE Type and Reference	Semantics description
IP Spacing TDD	M		ENUMERATED(30,40,50, 70, 100,…)	See [22]
IP Start	M		INTEGER(0..4095)	See [22]
IP_Sub	M		ENUMERATED(First,Second,Both)	See [22]
Burst mode parameters	O		9.2.1.4B	

/*Unchanged parts are omitted*/

9.3.3 PDU Definitions

```
/*Unchanged parts are omitted*/

    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,
    id-IPDL-TDD-ParametersLCR

FROM RNSAP-Constants;
```

9.3.4 Information Element Definitions

/*Unchanged parts are omitted*/

```
-- I

IB-SchedulingInformation::= SEQUENCE {
    iB-SG-Rep                       IB-SG-REP,
    iB-segmentInformationList       IB-SegmentInformationList,
    iE-Extensions                   ProtocolExtensionContainer { { IB-SchedulingInformation-ExtIEs } } OPTIONAL,
        ...
```

```
}

IB-SchedulingInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IB-SegmentInformationList ::= SEQUENCE (SIZE(1..maxIBSEG)) OF IB-SegmentInformationItem

IB-SegmentInformationItem ::= SEQUENCE {
    iB-SG-POS                       IB-SG-POS,
    iE-Extensions                   ProtocolExtensionContainer { {  IB-SegmentInformationItem-ExtIEs } } OPTIONAL,
    ...
}

IB-SegmentInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IB-SG-POS   ::= INTEGER (0..4094)
-- Only even positions allowed

IB-SG-REP   ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

IMSI        ::= OCTET STRING (SIZE(3..8))

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

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

InformationExchangeID ::= INTEGER (0..1048575)

InformationNotAvailable ::= NULL

InformationReportCharacteristics ::= CHOICE {
    onDemand                NULL,
    periodic                PeriodicInformation,
    onModification          OnModificationInformation,
    ...
}

InformationReportPeriodicity ::= CHOICE {
    min             INTEGER (1..60,...),
-- Unit min, Step 1min
    hour            INTEGER (1..24,...),
-- Unit hour, Step 1hour
    ...
}
```

```
InformationThreshold ::= CHOICE {
    dGPSThreshold       DGPSThreshold,
    ...
}

InformationType ::= SEQUENCE {
    informationTypeItem     ENUMERATED {
        gA-AccessPointPositionwithAltitude,
        gA-AccessPointPosition,
        iPDLParameters,
        gPSInformation,
        dGPSCorrections,
        gPS-RX-POS,
        sFNSFN-GA-AccessPointPosition,
        ...
    },
    gPSInformation              GPSInformation          OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { InformationType-ExtIEs} }        OPTIONAL,
    ...
}

-- The GPS Information IE shall be present if the Information Exchange Type IE indicates 'GPS Information'

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

InnerLoopDLPCStatus     ::= ENUMERATED {active, inactive}

IPDLParameters ::= CHOICE {
    iPDL-FDD-Parameters         IPDL-FDD-Parameters,
    iPDL-TDD-Parameters         IPDL-TDD-Parameters,     --3.84Mcps TDD only
    ...,
    extension- IPDLParameters   Extension- IPDLParameters
}

Extension- IPDLParameters   ::= ProtocolIE-Single-Container {{ Extension- IPDLParametersIE }}

Extension- IPDLParametersIE RNSAP-PROTOCOL-IES ::= {
    { ID id-IPDL-TDD-ParametersLCR  CRITICALITY reject  EXTENSION IPDL-TDD-ParametersLCR    PRESENCE mandatory },
    ...
}

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

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

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

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

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

IPDL-TDD-ParametersLCR ::= SEQUENCE {
    iPSpacingTDD                IPSpacingTDD,
    iPStart                     IPStart,
    iPSub                       IPSub,
    burstModeParameters         BurstModeParameters     OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { IPDL-TDD-ParametersLCR-ExtIEs} }   OPTIONAL,
    ...
}

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

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

IPLength ::= ENUMERATED {
    ipl5,
    ipl10,
    ...
}

IPOffset ::= INTEGER (0..9)

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

IPSlot ::= INTEGER (0..14)

IPSpacingFDD ::= ENUMERATED {
    ipsF5,
```

```
    ipsF7,
    ipsF10,
    ipsF15,
    ipsF20,
    ipsF30,
    ipsF40,
    ipsF50,
    ...
}

IPSpacingTDD ::= ENUMERATED {
    ipsT30,
    ipsT40,
    ipsT50,
    ipsT70,
    ipsT100,
    ...
}

IPStart ::= INTEGER (0..4095)


IPSub := ENUMERATED {
    first,
    second,
    both
}
```

/*Unchanged parts are omitted*/

9.3.6 Constant Definitions

/*Unchanged parts are omitted*/

```
id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD          ProtocolIE-ID ::= 104
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
id-RestrictionStateIndicator                                        ProtocolIE-ID ::= 142
id-Load-Value                                                       ProtocolIE-ID ::= 233
id-Load-Value-IncrDecrThres                                         ProtocolIE-ID ::= 234
id-OnModification                                                   ProtocolIE-ID ::= 235
id-Received-Total-Wideband-Power-Value                              ProtocolIE-ID ::= 236
id-Received-Total-Wideband-Power-Value-IncrDecrThres                ProtocolIE-ID ::= 237
id-SFNSFNMeasurementThresholdInformation                            ProtocolIE-ID ::= 238
id-Transmitted-Carrier-Power-Value                                  ProtocolIE-ID ::= 239
id-Transmitted-Carrier-Power-Value-IncrDecrThres                    ProtocolIE-ID ::= 240
id-TUTRANGPSMeasurementThresholdInformation                         ProtocolIE-ID ::= 241
id-UL-Timeslot-ISCP-Value                                           ProtocolIE-ID ::= 242
```

```
id-UL-Timeslot-ISCP-Value-IncrDecrThres                    ProtocolIE-ID ::= 243
id-Rx-Timing-Deviation-Value-LCR                           ProtocolIE-ID ::= 293
id-IPDL-TDD-ParametersLCR                                  ProtocolIE-ID ::= 252
```

/*Unchanged parts are omitted*/

3GPP TSG-RAN WG3 Meeting #27
Orlando, FL, USA, 18th – 22nd February 2002

R3-020764

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **568** ⌘ rev **1** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Introduction of the Neighbouring TDD Cell Measurement Information LCR
Source:	⌘	~~Siemens~~R-WG3
Work item code:	⌘	LCS-128Pos
Date:	⌘	February 2002
Category:	⌘	**B**
Release:	⌘	REL-5

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 "Neighbouring Cell Measurement Information" IE in the COMMON MEASUREMENT INITIATION REQUEST message does not support 1.28Mcps TDD, therefore introduction of "Neighbouring TDD Cell Measurement Information LCR" IE is required to support Neighbouring Cell Measurement Information for 1.28Mcps TDD.
Summary of change:	⌘	Modification of message "COMMON MEASUREMENT INITIATION REQUEST" in the tabular format and introduction of "Neighbouring TDD Cell Measurement Information LCR" in both IE definition and ASN.1. Rev.1: Tagging of the IE instead of the CHOICE in Tabular Add " Corresponds to Nt [15]" in the semantic description in the tabular format of the UARFCN IE in the Neighbouring TDD Cell Measurement Information LCR ProtocolIE-ID in ASN.1 is added Procedure text is added to clarify when the Time Slot LCR and Midamble shift LCR IEs should be added Impact Analysis: No previous version.
Consequences if not approved:	⌘	If this CR is not approved, Neighbouring Cell Measurement Information is not supported for LCR TDD.

Clauses affected:	⌘	9.1.43, 9.3.3, 9.3.4, 9.3.6 new: 9.2.1.x

Other specs affected:	⌘	X	Other core specifications	⌘	25.433 v4.3.0 CR607
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

How to create CRs using this form:

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

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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.

9.1.43 COMMON MEASUREMENT INITIATION REQUEST

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		–	
Measurement ID	M		9.2.1.37		YES	reject
Common Measurement Object Type	M		9.2.1.12B		YES	reject
CHOICE *Common Measurement Object Type*	M				YES	reject
>Cell					–	
>>UTRAN Cell Identifier	M		9.2.1.71		–	
>>Neighbouring Cell Measurement Information		*0..<maxnoof MeasNCells >*			–	
>>>CHOICE *Neighbouring Cell Measurement Information*						
>>>> *Neighbouring FDD Cell Measurement Information*						
>>>>> Neighbouring FDD Cell Measurement Information	M		9.2.1.41G		–	
>>>> *Neighbouring TDD Cell Measurement Information*						
>>>>> Neighbouring TDD Cell Measurement Information	M		9.2.1.41H		–	
>>>> Neighbouring TDD Cell Measurement InformationLCR				1.28Mcps TDD only		
>>>>> Neighbouring TDD Cell Measurement InformationLCR	M		9.2.1.x		–	
>>Time Slot	O		9.2.1.56	TDD Only		
Common Measurement Type	M		9.2.1.12C		YES	reject
Measurement Filter Coefficient	O		9.2.1.41		YES	reject
Report Characteristics	M		9.2.1.48		YES	reject
SFN reporting indicator	M		FN reporting indicator 9.2.1.28A		YES	reject
SFN	O		9.2.1.52A		YES	reject
Common Measurement Accuracy	O		9.2.1.12A		YES	reject

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

/* partly omitted */

9.2.1.x Neighbouring TDD Cell Measurement Information LCR

This IE provides information on the 1.28Mcps TDD neighbouring cells used for the purpose of Measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot LCR* IE and *Midamble shift LCR* IE shall be included if available.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UTRAN Cell Identifier	M		9.2.1.71	
UARFCN	M		9.2.1.66	Corresponds to Nt [15]
Cell Parameter ID	M		9.2.1.8	
Time Slot LCR	O		9.2.3.12a	
Midamble shift LCR	O		9.2.3.4C	

/* partly omitted */

9.3.3 PDU Definitions

/* partly omitted */

```
    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,
    id-neighbouringTDDCellMeasurementInformationLCR
```

/* partly omitted */

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

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

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

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

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

Cell-CM-Rqst ::= SEQUENCE {
    uC-ID                           UC-ID,
    neighbouringCellMeasurementInformation          SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF
        CHOICE {
                neighbouringFDDCellMeasurementInformation       NeighbouringFDDCellMeasurementInformation,
                neighbouringTDDCellMeasurementInformation       NeighbouringTDDCellMeasurementInformation,

                ...,
                extension-neighbouringCellMeasurementInformation    Extension-neighbouringCellMeasurementInformation
            },


    iE-Extensions                   ProtocolExtensionContainer  { { CellItem-CM-Rqst-ExtIEs} }    OPTIONAL,
    ...
}

Extension-neighbouringCellMeasurementInformation    ::= ProtocolIE-Single-Container {{ Extension-neighbouringCellMeasurementInformationIE }}

Extension-neighbouringCellMeasurementInformationIE NBAP-PROTOCOL-IES ::= {
    { ID id-neighbouringTDDCellMeasurementInformationLCR    CRITICALITY reject  EXTENSION NeighbouringTDDCellMeasurementInformationLCR  PRESENCE
mandatory },
    ...
```

```
}

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

/* partly omitted */

9.3.4 Information Elements Definitions

/* partly 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 },
    ...
}

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

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

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 ::= {
    ...
}

Neighbouring-TDD-CellInformation ::= SEQUENCE ( SIZE (1..maxNrOfTDDNeighboursPerRNC,...)) OF Neighbouring-TDD-CellInformationItem

Neighbouring-TDD-CellInformationItem ::= SEQUENCE {
    c-ID                            C-ID,
```

```
    uARFCNforNt                     UARFCN,
    frameOffset                     FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                        SyncCase,
    timeSlot                        TimeSlot            OPTIONAL
    -- This IE shall be present if Sync Case = Case1 -- ,
    sCH-TimeSlot                    SCH-TimeSlot            OPTIONAL
    -- This IE shall be present if Sync Case = Case2 -- ,
    block-STTD-Indicator            Block-STTD-Indicator,
    cellIndividualOffset            CellIndividualOffset    OPTIONAL,
    dPCHConstantValue               DPCHConstantValue   OPTIONAL,
    pCCPCH-Power                    PCCPCH-Power            OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { Neighbouring-TDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {
    uC-ID                               UC-ID,
    uARFCN                              UARFCN,
    cellParameterID                     CellParameterID,
    timeSlot                            TimeSlot                    OPTIONAL,
    midambleShiftAndBurstType           MidambleShiftAndBurstType   OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
    ...
}

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

NeighbouringTDDCellMeasurementInformationLCR ::= SEQUENCE {
    uC-ID                               UC-ID,
    uARFCN                              UARFCN,
    cellParameterID                     CellParameterID,
    timeSlotLCR                         TimeSlotLCR                 OPTIONAL,
    midambleShiftLCR                    MidambleShiftLCR            OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationLCRItem-ExtIEs} } OPTIONAL,
    ...
}

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

Neighbouring-LCR-TDD-CellInformation ::= SEQUENCE (SIZE (1.. maxNrOfLCRTDDNeighboursPerRNC,...)) OF Neighbouring-LCR-TDD-CellInformationItem
```

```
Neighbouring-LCR-TDD-CellInformationItem ::= SEQUENCE {
    c-ID                            C-ID,
    uARFCNforNt                     UARFCN,
    frameOffset                     FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    block-STTD-Indicator            Block-STTD-Indicator,
    cellIndividualOffset            CellIndividualOffset    OPTIONAL,
    dPCHConstantValue               DPCHConstantValue   OPTIONAL,
    pCCPCH-Power                    PCCPCH-Power            OPTIONAL,
    restrictionStateIndicator       RestrictionStateIndicator       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { Neighbouring-LCR-TDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-LCR-TDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NrOfDLchannelisationcodes   ::= INTEGER (1..8)

NrOfTransportBlocks         ::= INTEGER (0..512)
```

/* partly omitted */

9.3.6 Constant Definitions

/* partly omitted */

```
id-Received-Total-Wideband-Power-Value                          ProtocolIE-ID ::= 236
id-Received-Total-Wideband-Power-Value-IncrDecrThres            ProtocolIE-ID ::= 237
id-SFNSFNMeasurementThresholdInformation                        ProtocolIE-ID ::= 238
id-Transmitted-Carrier-Power-Value                              ProtocolIE-ID ::= 239
id-Transmitted-Carrier-Power-Value-IncrDecrThres                ProtocolIE-ID ::= 240
id-TUTRANGPSMeasurementThresholdInformation                     ProtocolIE-ID ::= 241
id-UL-Timeslot-ISCP-Value                                       ProtocolIE-ID ::= 242
id-UL-Timeslot-ISCP-Value-IncrDecrThres                         ProtocolIE-ID ::= 243
id-Rx-Timing-Deviation-Value-LCR                                ProtocolIE-ID ::= 293
id-DPC-Mode–Change-SupportIndicator                             ProtocolIE-ID ::= 19
id-neighbouringTDDCellMeasurementInformationLCR                 ProtocolIE-ID ::= 251
```

/* partly omitted */

3GPP TSG-RAN WG3 Meeting #27
Orlando, USA, February 18-22, 2002

R3-020766

CR-Form-v5

CHANGE REQUEST

⌘ **25.423** **CR** **571** ⌘ **rev** **1** ⌘ Current version: **4.3.0** ⌘

*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:	⌘	Introduction of Angle of Arrival enhanced UE positioning for 1.28Mcps TDD in RNSAP
Source:	⌘	~~Siemens AG~~R-WG3
Work item code:	⌘	LCS-128Pos
Date:	⌘	20.02.2002
Category:	⌘	**B**
Release:	⌘	REL-5

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: ⌘ Introduction of Angle of Arrival enhanced UE positioning for 1.28Mcps TDD for the Rel.5 work item LCS-128Pos.

Summary of change: ⌘

- In 9.2.1.18 a new Dedicated Measurement Type 'Angle of Arrival LCR' is introduced.
- In 9.2.1.19 a new Dedicated Measurement Value 'Angle of Arrival Value LCR' is introduced as an IE group including the actual 'Angle of Arrival LCR' and a corresponding confidence level 'Angle of Arrival LCR accuracy class'.
- In 9.3 corresponding ASN.1 changes are included.

Impact Analysis:

Impact assessment towards the previous version of the specification (same release): no previous version exist.

Rev.1:
ProtocolIE-ID added, CR number for affected specs added, minor ASN.1 corrections.

Consequences if not approved: ⌘ WI UE positioning enhancements for 1.28Mcps TDD is not complete.

Clauses affected: ⌘ 9.2.1.18, 9.2.1.19, 9.3.3, 9.3.4, 9.3.6

Other specs affected: ⌘

X	Other core specifications	⌘ 25.433 v4.3.0 CR613r1
☐	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.

TEXT OMITTED

9.2.1.18 Dedicated Measurement Type

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Type			ENUMERATED (SIR, SIR Error, Transmitted Code Power, RSCP, Rx Timing Deviation, Round Trip Time, …, Rx Timing Deviation LCR, Angle Of Arrival LCR)	RSCP is used by TDD only, Rx Timing Deviation is used by 3.84 TDD only, Rx Timing Deviation LCR is used by 1.28 TDD only, Round Trip Time, SIR Error are used by FDD only. Angle Of Arrival LCR is used by 1.28Mcps TDD only.

NOTE: For definitions of the measurement types refer to ref. [11] and [14].

9.2.1.19 Dedicated Measurement Value

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Dedicated Measurement Value*				
>SIR Value				
>>SIR Value	M		INTEGER(0. .63)	According to mapping in ref. [23] and [24]
>SIR Error Value				FDD Only
>>SIR Error Value	M		INTEGER(0. .125)	According to mapping in [23]
>Transmitted Code Power Value				
>>Transmitted Code Power Value	M		INTEGER(0. .127)	According to mapping in ref. [23] and [24] Values 0 to 9 and 123 to 127 shall not be used.
>RSCP				TDD Only
>>RSCP	M		INTEGER(0. .127)	According to mapping in ref. [24]
>Rx Timing Deviation Value				3.84Mcps TDD Only
>>Rx Timing Deviation	M		INTEGER(0. .8191)	According to mapping in [24]
>Round Trip Time				FDD Only
>>Round Trip Time	M		INTEGER(0. .32767)	According to mapping in [23]
>Rx Timing Deviation Value LCR				1.28Mcps TDD Only
>>Rx Timing Deviation LCR	M		INTEGER(0. .255)	According to mapping in [24]
> Angle of Arrival Value LCR				1.28Mcps TDD only
>> AOA LCR	M		INTEGER(0. .719)	According to mapping in [24]
>> AOA LCR Accuracy Class	M		ENUMERATED(A, B, C, D, E, F, G, H,...)	According to mapping in [24]

TEXT 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.
--
-- **************************************************************
                                                    TEXT OMITTED

FROM RNSAP-Containers

    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNrOfCCTrCHs,
                                                    TEXT OMITTED

    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,
    id-Angle-Of-Arrival-Value-LCR

FROM RNSAP-Constants;

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

TEXT OMITTED

9.3.4 Information Element Definitions

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

TEXT OMITTED

```
-- A
```

TEXT OMITTED

```
Allowed-Rate            ::= INTEGER (1..maxNrOfTFs)

AllowedQueuingTime          ::= INTEGER (1..60)
-- seconds

AlphaValue                  ::= INTEGER (0..8)
-- Actual value = Alpha / 8

Angle-Of-Arrival-Value-LCR ::= SEQUENCE OF {
    aOA-LCR                 AOA-LCR,
    aOA-LCR-Accuracy-Class  AOA-LCR-Accuracy-Class,
    iE-Extensions           ProtocolExtensionContainer { {Angle-Of-Arrival-Value-LCR-ExtIEs} } OPTIONAL,
...
}

Angle-Of-Arrival-Value-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

AOA-LCR ::= INTEGER (0..719)
-- Angle Of Arrival for 1.28Mcps TDD

AOA-LCR-Accuracy-Class  ::= ENUMERATED {a,b,c,d,e,f,g,h,...}


-- B
```

TEXT OMITTED

```
-- D
```

TEXT OMITTED

```
DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    rx-timing-deviation,
    round-trip-time,
    ...,
    rx-timing-deviation-LCR,
    angle-Of-Arrival-LCR
}

DedicatedMeasurementValue ::= CHOICE {
    sIR-Value           SIR-Value,
    sIR-ErrorValue          SIR-Error-Value,
    transmittedCodePowerValue   Transmitted-Code-Power-Value,
    rSCP                RSCP-Value, -- TDD only
    rxTimingDeviationValue  Rx-Timing-Deviation-Value,  -- 3.84Mcps TDD only
    roundTripTime       Round-Trip-Time-Value,  -- FDD only
    ...,
    extension-DedicatedMeasurementValue     Extension-DedicatedMeasurementValue
}

Extension-DedicatedMeasurementValue ::= ProtocolIE-Single-Container {{ Extension-DedicatedMeasurementValueIE }}

Extension-DedicatedMeasurementValueIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Rx-Timing-Deviation-Value-LCR   CRITICALITY reject  TYPE Rx-Timing-Deviation-Value-LCR   PRESENCE mandatory }|
{ ID id-Angle-Of-Arrival-Value-LCR  CRITICALITY reject  EXTENSION Angle-Of-Arrival-Value-LCR    PRESENCE mandatory },
    ...
}

DedicatedMeasurementValueInformation ::= CHOICE {
    measurementAvailable        DedicatedMeasurementAvailable,
```

```
    measurementnotAvailable     DedicatedMeasurementnotAvailable
}

DedicatedMeasurementAvailable::= SEQUENCE {
    dedicatedmeasurementValue       DedicatedMeasurementValue,
    cFN                             CFN                     OPTIONAL,
    ie-Extensions                   ProtocolExtensionContainer { { DedicatedMeasurementAvailableItem-ExtIEs} }     OPTIONAL,
    ...
}

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

DedicatedMeasurementnotAvailable ::= NULL

DeltaSIR                ::= INTEGER (0..30)
-- Step 0.1 dB, Range 0..3 dB.
```

TEXT OMITTED

9.3.6 Constant Definitions

TEXT OMITTED

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

TEXT OMITTED

```
id-Received-Total-Wideband-Power-Value                          ProtocolIE-ID ::= 236
id-Received-Total-Wideband-Power-Value-IncrDecrThres            ProtocolIE-ID ::= 237
id-SFNSFNMeasurementThresholdInformation                        ProtocolIE-ID ::= 238
id-Transmitted-Carrier-Power-Value                              ProtocolIE-ID ::= 239
id-Transmitted-Carrier-Power-Value-IncrDecrThres                ProtocolIE-ID ::= 240
id-TUTRANGPSMeasurementThresholdInformation                     ProtocolIE-ID ::= 241
id-UL-Timeslot-ISCP-Value                                       ProtocolIE-ID ::= 242
id-UL-Timeslot-ISCP-Value-IncrDecrThres                         ProtocolIE-ID ::= 243
id-Rx-Timing-Deviation-Value-LCR                                ProtocolIE-ID ::= 293
id-DPC-Mode—Change-SupportIndicator                             ProtocolIE-ID ::= 19
id-Angle-Of-Arrival-Value-LCR                                   ProtocolIE-ID ::= 148

END
```

TEXT OMITTED

3GPP TSG-RAN3 Meeting #27 ***R3-020857***
Orlando, USA, 18 – 22 February 2002

CR-Form-v5

CHANGE REQUEST

⌘ **25.433** **CR** **584** ⌘ **rev** **3** ⌘ Current version: **4.3.0** ⌘

*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: ⌘	Add IPDL parameters for LCR TDD in CELL SETUP REQUEST and CELL RECONFIGURATION REQUEST in NBAP message.	
Source: ⌘	R-WG3	
Work item code: ⌘	LCS-128Pos	***Date:*** ⌘ Feb. 2002
Category: ⌘	**B**	***Release:*** ⌘ *REL-5*

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: ⌘ According to Tdoc R3-012281, there should be one new IE group to be added into 2 NBAP messages in order to support IPDL in 1.28Mcps TDD mode.

Summary of change: ⌘

Rev-3:
CR number is corrected to 584.

Rev-2:
Removal of the 'mandatory' in the semantics description column and ASN.1 for 'IPDL parameter information' and 'IPDL parameter information LCR' IE group in cell setup/reconfiguration request TDD message.

Rev-1:
The rev-1 is based on v4.3.0 of NBAP. And the changes are almost the same as the rev-0 except that the semantics description for corresponding IE groups are added.

Rev-0:
In section 8.2.12.2 and 8.2.13.2 it is clarified how to configure IPDL parameters in FDD/3.84Mcps TDD/1.28Mcps TDD mode respectively.

In section 9.1.24.2 and 9.1.27.2 one new IE group named 'IPDL parameter information LCR' is added in CELL SETUP REQUEST and CELL RECONFIGURATION REQUEST message.

The new IE group 'IPDL TDD parameters LCR' is defined in a new section 9.2.3.5X.

In section 9.2.3.5D 'IPDL TDD parameters' IE group is clarified to be used in 3.84Mcps TDD mode only.

The corresponding text is added in ASN.1 in section 9.3.

Impact assessment towards the previous version of the specification (same release): no previous version exists.

Consequences if not approved:	⌘	If this CR is not approved, IPDL is not correctly supported for 1.28Mcps TDD. Isolated impact analysis related to previous releases: This CR has isolated impact on the usage of IPDLs for 1.28Mcps TDD.

Clauses affected:	⌘	9.1.12,9.1.13,9.1.24.2,9.2.27.2,9.2.3.5D, 9.3			
Other specs affected:	⌘	**X**	Other core specifications	⌘	25.423 v4.3.0 CR544r2
			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.

/*Unchanged parts are omitted*/

8.2.12 Cell Setup

8.2.12.1 General

This procedure is used to set up a cell in Node B. The CRNC takes the cell, identified via the *C-ID* IE, into service and uses the resources in Node B identified via the *Local Cell ID* IE.

8.2.12.2 Successful Operation

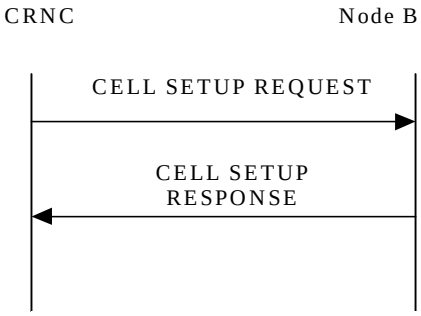

Figure 11: Cell Setup procedure, Successful Operation

The procedure is initiated with a CELL SETUP REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reserve the necessary resources and configure the new cell according to the parameters given in the message.

[FDD - If the CELL SETUP REQUEST message includes one or more *Secondary CPICH Information* IE the Node B shall configure and activate the Secondary CPICH(s) in the cell according to received configuration data.]

The *Maximum Transmission Power* IE value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

[FDD - If the *Closed Loop Timing Adjustment Mode* IE is included in the CELL SETUP REQUEST message, the value shall be stored in the Node B and applied when closed loop Feed-Back mode diversity is used on DPCH.]

[TDD - If the *Reference SFN offset* IE is included in the CELL SETUP REQUEST message, Node B where a reference clock is connected shall consider the SFN derived from the synchronisation port and the reference offset for reference time setting. All other Node B shall ignore the *Reference SFN offset* IE if included.]

[FDD - If the *IPDL Parameter Information* IE is included in the CELL SETUP REQUEST message, the parameters defining IPDL shall be stored in the Node B and applied according to the *IPDL Indicator* IE value.

[3.84Mcps TDD - If the *IPDL Parameter Information* IE containing *IPDL TDD parameters* IE is included in the CELL SETUP REQUEST message, the parameters defining IPDL in 3.84Mcps TDD mode shall be stored in the Node B and applied according to the *IPDL Indicator* IE value.]

[1.28Mcps TDD - If the *IPDL Parameter Information LCR* IE containing *IPDL TDD parameters LCR* IE is included in the CELL SETUP REQUEST message, the parameters defining IPDL in 1.28Mcps TDD mode shall be stored in the Node B and applied according to the *IPDL Indicator* IE value.]

When the cell is successfully configured the Node B shall store the *Configuration Generation ID* IE value and send a CELL SETUP RESPONSE message as a response.

[FDD - When the cell is successfully configured CPICH(s), Primary SCH, Secondary SCH, Primary CCPCH and BCH exist.][3.84Mcps TDD - When the cell is successfully configured SCH, Primary CCPCH and BCH exist and the switching-points for the 3.84Mcps TDD frame structure are defined.] [1.28Mcps TDD - When the cell is successfully configured, DwPCH, Primary CCPCH and BCH exist and the switching-points for the 1.28Mcps TDD frame structure are defined.] The cell and the channels shall be set to state Enabled [6].

8.2.12.3 Unsuccessful Operation

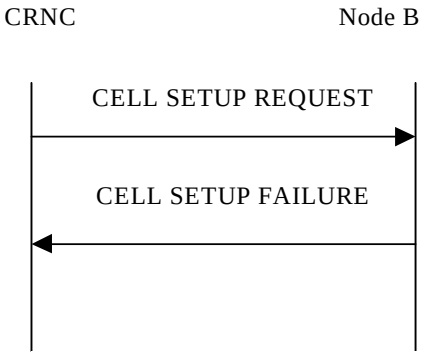

Figure 12: Cell Setup procedure: Unsuccessful Operation

If the Node B cannot set up the cell according to the information given in CELL SETUP REQUEST message the CELL SETUP FAILURE message shall be sent to CRNC.

In this case the cell is Not Existing in Node B. The Configuration Generation ID shall not be changed in Node B.

The *Cause* IE shall be set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause

- S-CPICH not supported
- Requested Tx Diversity Mode not supported
- Power level not supported
- Node B Resources unavailable
- IPDL not supported

Miscellaneous Cause

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

8.2.12.4 Abnormal Conditions

If the state of the cell already is Enabled or Disabled [6] when the CELL SETUP REQUEST message is received in Node B, it shall reject the configuration of the cell and all channels in the CELL SETUP REQUEST message with the *Cause* IE set to "Message not compatible with receiver state".

8.2.13 Cell Reconfiguration

8.2.13.1 General

This procedure is used to reconfigure a cell in Node B.

8.2.13.2 Successful Operation

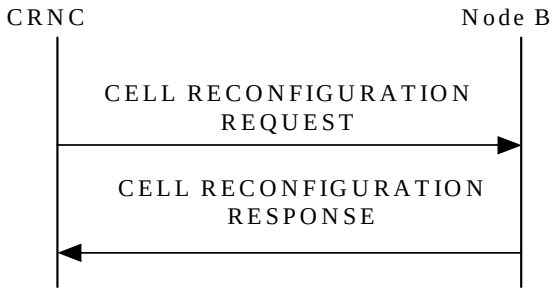

Figure 13: Cell Reconfiguration procedure, Successful Operation

The procedure is initiated with a CELL RECONFIGURATION REQUEST message sent from CRNC to Node B. Upon Reception, the Node B shall reconfigure the cell according to the parameters given in the message.

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary SCH Information* IE the Node B shall reconfigure Primary SCH power in the cell according to *Primary SCH Power* IE value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Secondary SCH Information* IE the Node B shall reconfigure Secondary SCH power in the cell according to the *Secondary SCH Power* IE value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CPICH Information* IE the Node B shall reconfigure Primary CPICH power in the cell according to the *Primary CPICH Power* IE value. Node B shall adjust all the transmitted power levels relative to the Primary CPICH power according to the new value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes one or more *Secondary CPICH Information* IE the Node B shall reconfigure the power for each Secondary CPICH in the cell according to their *Secondary CPICH Power* IE value.]

[3.84Mcps TDD - If the CELL RECONFIGURATION REQUEST message includes the *SCH Information* IE the Node B shall reconfigure SCH power in the cell according to the *SCH Power* IE value.]

[3.84Mcps TDD - If the CELL RECONFIGURATION REQUEST message includes the *Timing Advance Applied* IE the Node B shall apply the necessary functions for Timing Advance in that cell including reporting of the Rx Timing Deviation measurement, according to the *Timing Advance Applied* IE value.]

[FDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CCPCH Information* IE the Node B shall reconfigure BCH power in the cell according to the *BCH Power* IE value.]

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Primary CCPCH Information* IE the Node B shall reconfigure P-CCPCH power in the cell according to the *P-CCPCH Power* IE value. Node B shall adjust all the transmitted power levels relative to the Primary CPPCH power according to the new value.]

If the CELL RECONFIGURATION REQUEST message includes the *Maximum Transmission Power* IE the value shall be stored in the Node B and at any instance of time the total maximum output power in the cell shall not be above this value.

[TDD - If the CELL RECONFIGURATION REQUEST message includes the *Timeslot Information* IE the Node B shall reconfigure switching-point structure in the cell according to the *Timeslot* IE value.]

[TDD - If the CELL RECONFIGURATION REQUEST message includes any of the *Constant Value* IEs, the Node B shall use these values when generating the appropriate SIB.]

[FDD -If the CELL RECONFIGURATION REQUEST message includes the *IPDL Parameter Information* IE with the *IPDL Indicator* IE having the value 'active' the Node B shall apply the IPDL in that cell according the latest downloaded parameters defined by the *IPDL FDD Parameters* IE~~/ *IPDL TDD Parameters* IE~~]

[3.84Mcps TDD - If the CELL RECONFIGURATION REQUEST message includes the *IPDL Parameter Information* IE with the *IPDL Indicator* IE having the value 'active' the Node B shall apply the IPDL in that cell according the latest downloaded parameters defined by the *IPDL TDD Parameters* IE.]

[1.28Mcps TDD - If the CELL RECONFIGURATION REQUEST message includes the *IPDL Parameter Information LCR* IE with the *IPDL Indicator* IE having the value 'active' the Node B shall apply the IPDL in that cell according the latest downloaded parameters defined by the *IPDL TDD Parameters LCR* IE.].

If the CELL RECONFIGURATION REQUEST message includes *IPDL Parameter Information* IE with *the IPDL Indicator* IE having the value 'inactive' the Node B shall deactivate the ongoing IPDL.

When the cell is successfully reconfigured the Node B shall store the new *Configuration Generation ID* IE value and send a CELL RECONFIGURATION RESPONSE message as a response.

If the CELL RECONFIGURATION REQUEST message includes the *Synchronisation Configuration* IE the Node B shall reconfigure the indicated parameters in the cell according to the IE value. When the parameters in the *Synchronisation Configuration* IE affect the thresholds applied to a RL set, the Node B shall immediately apply the new thresholds. When applying the new thresholds the Node B shall not change the state or value of any of the timers and counters for which the new thresholds apply.

8.2.13.3 Unsuccessful Operation

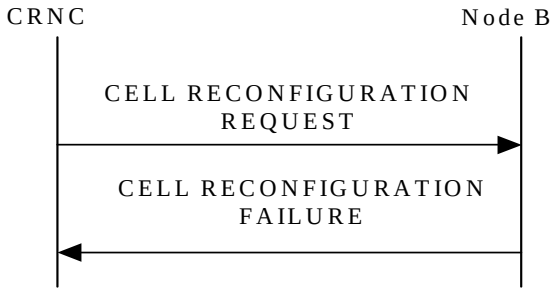

Figure 14: Cell Reconfiguration procedure: Unsuccessful Operation

If the Node B cannot reconfigure the cell according to the information given in CELL RECONFIGURATION REQUEST message the CELL RECONFIGURATION FAILURE message shall be sent to CRNC.

In this case, the Node B shall keep the old configuration of the cell and the Configuration Generation ID shall not be changed in Node B.

The Cause IE shall be set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause

- Power level not supported
- Node B Resources unavailable
- IPDL not supported

Miscellaneous Cause

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

8.2.13.4 Abnormal Conditions

If the *IPDL Indicator* IE having the value 'active' is included in the CELL RECONFIGURATION REQUEST message and there is active IPDL ongoing in the Node B, the Node B shall response with CELL RECONFIGURATION FAILURE- message with the cause value 'IPDL already activated'.]

If the *IPDL Indicator* IE having the value 'active' is included in the CELL RECONFIGURATION REQUEST message and there is no IPDL stored to Node B defining the IPDL, the Node B shall response with CELL RECONFIGURATION FAILURE- message with the cause value 'IPDL parameters not available'.]

/*Unchanged parts are omitted*/

9.1.24 CELL SETUP REQUEST

9.1.24.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Local Cell ID	M		9.2.1.38		YES	reject
C-ID	M		9.2.1.9		YES	reject
Configuration Generation Id	M		9.2.1.16		YES	reject
UARFCN	M		9.2.1.65	Corresponds to Nt [15]	YES	reject
Cell Parameter ID	M		9.2.3.4		YES	reject
Maximum Transmission Power	M		9.2.1.40		YES	reject
Transmission Diversity Applied	M		9.2.3.26	On DCHs	YES	reject
Sync Case	M		9.2.3.18		YES	reject
Synchronisation Configuration		1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
DPCH Constant Value	M		Constant Value		YES	reject
PUSCH Constant Value	M		Constant Value		YES	reject
PRACH Constant Value	M		Constant Value		YES	reject
Timing Advance Applied	M		9.2.3.22A		YES	reject
SCH Information		0..1		Mandatory For 3.84Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>CHOICE *Sync Case*	M				YES	reject
>>*Case 1*					–	
>>>Time Slot	M		9.2.3.23		–	
>>*Case 2*					–	
>>>SCH Time Slot	M		9.2.3.17		–	
>SCH Power	M		DL Power 9.2.1.21		–	
>TSTD Indicator	M		9.2.1.64		–	
PCCPCH Information		0..1		Mandatory For 3.84Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	
>PCCPCH Power	M		9.2.3.9		–	
>SCTD Indicator	M		9.2.3.30		–	
Time Slot Configuration		0 .. 15		Mandatory For 3.84Mcps TDD only	GLOBAL	reject
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	

>Time Slot Direction	M		9.2.3.24		–	
Time Slot Configuration LCR		0 .. 7		Mandatory For 1.28Mcps TDD only	GLOBAL	reject
>Time Slot LCR	M		9.2.3.24A		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
PCCPCH Information LCR		0..1		Mandatory For 1.28Mcps TDD only	YES	reject
>Common physical channel ID	M		9.2.1.13		–	
>TDD Physical Channel Offset	M		9.2.3.20		–	
>Repetition Period	M		9.2.3.16		–	
>Repetition Length	M		9.2.3.15		–	
>PCCPCH Power	M		9.2.3.9		–	
>SCTD Indicator	M		9.2.3.30		–	
>TSTD Indicator	M		9.2.1.64		–	
DwPCH Information		0..1		Mandatory For 1.28Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>TSTD Indicator	M		9.2.1.64		–	
>SYNC_DL Code ID	M		9.2.3.18B		–	
>DwPCH Power	M		9.2.3.5B		–	
Reference SFN offset	O		9.2.3.14B		YES	ignore
IPDL Parameter Information		0..1		For 3.84 Mcps TDD only	YES	reject
>IPDL TDD Parameters	M		9.2.3.5D		–	
>IPDL Indicator	M		9.2.1.36F		–	
IPDL Parameter Information LCR		0..1		For 1.28Mcps TDD only	YES	reject
>IPDL TDD Parameters LCR	M		9.2.3.5X		–	
>IPDL Indicator	M		9.2.1.36F		–	

9.1.27 CELL RECONFIGURATION REQUEST

9.1.27.2 TDD Message

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
C-ID	M		9.2.1.9		YES	reject
Configuration Generation ID	M		9.2.1.16		YES	reject
Synchronisation Configuration		0,1			YES	reject
>N_INSYNC_IND	M		9.2.1.47A		–	
>N_OUTSYNC_IND	M		9.2.1.47B		–	
>T_RLFAILURE	M		9.2.1.56A		–	
Timing Advance Applied	O		9.2.3.22A	For 3.84Mcps TDD only	YES	reject
SCH Information		0,1		For 3.84Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>SCH Power	M		DL Power 9.2.1.21		–	
PCCPCH Information		0,1			YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>PCCPCH Power	M		9.2.3.9		–	
Maximum Transmission Power	O		9.2.1.40		YES	reject
DPCH Constant Value	O		Constant Value		YES	reject
PUSCH Constant Value	O		Constant Value		YES	reject
PRACH Constant Value	O		Constant Value		YES	reject
Time Slot Configuration		0..15		Mandatory For 3.84Mcps TDD only	GLOBAL	reject
>Time Slot	M		9.2.3.23		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
Time Slot Configuration LCR		0 .. 7		Mandatory For 1.28Mcps TDD only	GLOBAL	reject
>Time Slot LCR	M		9.2.3.24A		–	
>Time Slot Status	M		9.2.3.25		–	
>Time Slot Direction	M		9.2.3.24		–	
DwPCH Information		0 .. 1		Mandatory For 1.28Mcps TDD only	YES	reject
>Common Physical Channel ID	M		9.2.1.13		–	
>DwPCH Power	M		9.2.3.5B		–	
IPDL Parameter Information		0..1		For 3.84Mcps TDD only	YES	reject
>IPDL TDD Parameters	O		9.2.3.5D		–	
>IPDL Indicator	M		9.2.1.36F		–	
IPDL Parameter		0..1		For	YES	reject

Information LCR				1.28Mcps TDD only		
>IPDL TDD Parameters LCR	O		9.2.3.5X		–	
>IPDL Indicator	M		9.2.1.36F		–	

/*Unchanged parts are omitted*/

9.2.3.5D IPDL TDD Parameter

The *IPDL TDD Parameter* IE provides information about IPDL to be applied for 3.84Mcps TDD when activated.

IE/Group Name	Presence	Range	IE type and reference	Semantics descriptions	Criticality	Assigned Criticality
IP spacingTDD	M		ENUMERATED(30, 40, 50, 70, 100, ...)	See [21]	–	
IP Start	M		Integer(0..4095)	See [21]	–	
IP Slot	M		Integer(0..14)	See [21]	–	
IP PCCPCH	M		ENUMERATED(Switch off 1 frame, Switch off 2 frames)	See [21]	–	
Burst mode parameters	O		9.2.1.5A			

9.2.3.5X IPDL TDD Parameters LCR

The *IPDL TDD Parameters LCR* IE provides information about IPDL to be applied for 1.28Mcps TDD when activated.

IE/Group Name	Presence	Range	IE type and reference	Semantics descriptions	Criticality	Assigned Criticality
IP spacingTDD	M		ENUMERATED(30, 40, 50, 70, 100, ...)	See [21]	–	
IP Start	M		Integer(0..4095)	See [21]	–	
IP_Sub	M		ENUMERATED(First,second,Both)	See [21]	–	
Burst mode parameters	O		9.2.1.5A			

/*Unchanged parts are omitted*/

9.3.3 PDU Definitions

```
/*Unchanged parts are omitted*/
    id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
    id-UL-DPCH-LCR-InformationModify-AddList,
    id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
    id-UL-TimeslotLCR-Information-RL-ReconfPrepTDD,
    id-UL-SIRTarget,
    id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst,
    id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
    id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
    id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
    id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst,
    id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
    id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
    id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
    id-PUSCH-Info-DM-Rqst,
    id-PUSCH-Info-DM-Rsp,
    id-PUSCH-Info-DM-Rprt,
    id-IPDLParameter-Information-LCR-Cell-SetupRqstTDD,
    id-IPDLParameter-Information-LCR-Cell-ReconfRqstTDD,

    maxNrOfCCTrCHs,
    maxNrOfCellSyncBursts,
    maxNrOfCodes,


/*Unchanged parts are omitted*/

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

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

CellSetupRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID    id-Local-Cell-ID                                    CRITICALITY     reject      TYPE                    Local-Cell-ID
        PRESENCE    mandatory   }|
        { ID    id-C-ID                                             CRITICALITY     reject      TYPE                C-ID
    PRESENCE    mandatory   }|
    { ID    id-ConfigurationGenerationID                        CRITICALITY     reject      TYPE                    ConfigurationGenerationID
            PRESENCE    mandatory   }|
    { ID    id-UARFCNforNt                                          CRITICALITY     reject      TYPE                UARFCN
        PRESENCE    mandatory   }|
```

```
    { ID    id-CellParameterID                                  CRITICALITY     reject      TYPE                    CellParameterID
            PRESENCE    mandatory   }|
    { ID    id-MaximumTransmissionPower                         CRITICALITY     reject      TYPE                    MaximumTransmissionPower
            PRESENCE    mandatory   }|
    { ID    id-TransmissionDiversityApplied                     CRITICALITY     reject      TYPE                    TransmissionDiversityApplied
            PRESENCE    mandatory   }|
    { ID    id-SyncCase                                         CRITICALITY     reject      TYPE                    SyncCase
    PRESENCE    mandatory   }|
    { ID    id-Synchronisation-Configuration-Cell-SetupRqst     CRITICALITY     reject      TYPE                    Synchronisation-Configuration-
Cell-SetupRqst      PRESENCE    mandatory   }|
    { ID    id-DPCHConstant                                     CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    mandatory   }|
    { ID    id-PUSCHConstant                                    CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    mandatory   }|
    { ID    id-PRACHConstant                                    CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    mandatory   }|
    { ID    id-TimingAdvanceApplied                             CRITICALITY     reject      TYPE                    TimingAdvanceApplied
            PRESENCE    mandatory   }|
    { ID    id-SCH-Information-Cell-SetupRqstTDD                CRITICALITY     reject      TYPE                    SCH-Information-Cell-SetupRqstTDD
                PRESENCE    optional    }|  -- Mandatory for 3.84Mcps TDD only
    { ID    id-PCCPCH-Information-Cell-SetupRqstTDD             CRITICALITY     reject      TYPE                    PCCPCH-Information-Cell-
SetupRqstTDD                PRESENCE    optional    }|  -- Mandatory for 3.84Mcps TDD only
    { ID    id-TimeSlotConfigurationList-Cell-SetupRqstTDD      CRITICALITY     reject      TYPE                    TimeSlotConfigurationList-Cell-
SetupRqstTDD        PRESENCE    optional    },  -- Mandatory for 3.84Mcps TDD only
    ...
}

CellSetupRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID    id-TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD      CRITICALITY     reject      EXTENSION           TimeSlotConfigurationList-LCR-
Cell-SetupRqstTDD       PRESENCE    optional    }|  -- Mandatory for 1.28Mcps TDD only
    { ID    id-PCCPCH-LCR-Information-Cell-SetupRqstTDD             CRITICALITY     reject      EXTENSION           PCCPCH-LCR-Information-Cell-
SetupRqstTDD                PRESENCE    optional    }|  -- Mandatory for 1.28Mcps TDD only
    { ID    id-DwPCH-LCR-Information-Cell-SetupRqstTDD              CRITICALITY     reject      EXTENSION           DwPCH-LCR-Information-Cell-
SetupRqstTDD                PRESENCE    optional    }|  -- Mandatory for 1.28Mcps TDD only
    { ID    id-ReferenceSFNoffset       CRITICALITY     ignore          EXTENSION ReferenceSFNoffset                PRESENCE optional }|
    { ID    id-IPDLParameter-Information-Cell-SetupRqstTDD          CRITICALITY     reject      EXTENSION           IPDLParameter-Information-
Cell-SetupRqstTDD   PRESENCE    optional }|     -- For 3.84Mcps TDD only
    { ID    id-IPDLParameter-Information-LCR-Cell-SetupRqstTDD          CRITICALITY     reject                      EXTENSION     IPDLParameter-
Information-LCR-Cell-SetupRqstTDD   PRESENCE    optional }, -- For 1.28Mcps TDD only
    ...
}


SCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    syncCaseIndicator                       SyncCaseIndicator-Cell-SetupRqstTDD-PSCH,
    sCH-Power                               DL-Power,
    tSTD-Indicator                          TSTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { SCH-Information-Cell-SetupRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

SCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

SyncCaseIndicator-Cell-SetupRqstTDD-PSCH ::= ProtocolIE-Single-Container {{ SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH }}

SyncCaseIndicatorIE-Cell-SetupRqstTDD-PSCH NBAP-PROTOCOL-IES ::= {
    { ID id-SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH   CRITICALITY reject   TYPE SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH    PRESENCE
mandatory }
}

SyncCaseIndicatorItem-Cell-SetupRqstTDD-PSCH ::= CHOICE {
    case1                           Case1-Cell-SetupRqstTDD,
    case2                           Case2-Cell-SetupRqstTDD,
    ...
}

Case1-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                        TimeSlot,
    iE-Extensions                   ProtocolExtensionContainer { { Case1Item-Cell-SetupRqstTDD-ExtIEs} }          OPTIONAL,
    ...
}

Case1Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Case2-Cell-SetupRqstTDD ::= SEQUENCE {
    sCH-TimeSlot                    SCH-TimeSlot,
    iE-Extensions                   ProtocolExtensionContainer { { Case2Item-Cell-SetupRqstTDD-ExtIEs} }          OPTIONAL,
    ...
}

Case2Item-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


PCCPCH-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID             CommonPhysicalChannelID,
    tdd-PhysicalChannelOffset           TDD-PhysicalChannelOffset,
    repetitionPeriod                    RepetitionPeriod,
    repetitionLength                    RepetitionLength,
    pCCPCH-Power                        PCCPCH-Power,
    sCTD-Indicator                  SCTD-Indicator,
    iE-Extensions                       ProtocolExtensionContainer { { PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

PCCPCH-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..15)) OF TimeSlotConfigurationItem-Cell-SetupRqstTDD
```

```
TimeSlotConfigurationItem-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlot                                TimeSlot,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

TimeSlotConfigurationItem-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-LCR-Cell-SetupRqstTDD ::= SEQUENCE (SIZE (1..7)) OF TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD
TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD ::= SEQUENCE {
    timeSlotLCR                             TimeSlotLCR,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD-ExtIEs} }    OPTIONAL,
    ...
}

TimeSlotConfigurationItem-LCR-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PCCPCH-LCR-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    tdd-PhysicalChannelOffset               TDD-PhysicalChannelOffset,
    repetitionPeriod                        RepetitionPeriod,
    repetitionLength                        RepetitionLength,
    pCCPCH-Power                            PCCPCH-Power,
    sCTD-Indicator                      SCTD-Indicator,
    tSTD-Indicator                          TSTD-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { PCCPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

PCCPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DwPCH-LCR-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    commonPhysicalChannelId         CommonPhysicalChannelID,
    tSTD-Indicator                  TSTD-Indicator,
    sYNCDlCodeId                    SYNCDlCodeId,
    dwPCH-Power                     DwPCH-Power,
    iE-Extensions                   ProtocolExtensionContainer { { DwPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

DwPCH-LCR-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

IPDLParameter-Information-Cell-SetupRqstTDD ::= SEQUENCE {
    iPDL-TDD-Parameters                         IPDL-TDD-Parameters,
    iPDL-Indicator                              IPDL-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { IPDLParameter-Information-Cell-SetupRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

IPDLParameter-Information-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
IPDLParameter-Information-LCR-Cell-SetupRqstTDD ::= SEQUENCE {
    iPDL-TDD-Parameters-LCR                 IPDL-TDD-Parameters-LCR,
    iPDL-Indicator                          IPDL-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { IPDLParameter-Information-LCR-Cell-SetupRqstTDD-ExtIEs} }    OPTIONAL,
    ...
}

IPDLParameter-Information-LCR-Cell-SetupRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

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

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

CellReconfigurationRequestTDD-IEs NBAP-PROTOCOL-IES ::= {
    { ID    id-C-ID                                         CRITICALITY     reject      TYPE                    C-ID
    PRESENCE    mandatory   }|
    { ID    id-ConfigurationGenerationID                    CRITICALITY     reject      TYPE                    ConfigurationGenerationID
            PRESENCE    mandatory   }|
    { ID    id-Synchronisation-Configuration-Cell-ReconfRqst    CRITICALITY     reject      TYPE                Synchronisation-Configuration-
Cell-ReconfRqst PRESENCE    optional    }|
    { ID    id-TimingAdvanceApplied                         CRITICALITY     reject      TYPE                    TimingAdvanceApplied
        PRESENCE    optional    }|  -- For 3.84Mcps TDD only
    { ID    id-SCH-Information-Cell-ReconfRqstTDD           CRITICALITY     reject      TYPE                    SCH-Information-Cell-
ReconfRqstTDD               PRESENCE    optional    }|  -- For 3.84Mcps TDD only
    { ID    id-PCCPCH-Information-Cell-ReconfRqstTDD        CRITICALITY     reject      TYPE                    PCCPCH-Information-Cell-
ReconfRqstTDD           PRESENCE    optional    }|
    { ID    id-MaximumTransmissionPower                     CRITICALITY     reject      TYPE                    MaximumTransmissionPower
            PRESENCE    optional    }|
    { ID    id-DPCHConstant                                 CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    optional    }|
```

```
    { ID    id-PUSCHConstant                                    CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE        optional    }|
    { ID    id-PRACHConstant                                    CRITICALITY     reject      TYPE                    ConstantValue
            PRESENCE    optional    }|
    { ID    id-TimeSlotConfigurationList-Cell-ReconfRqstTDD     CRITICALITY     reject      TYPE                    TimeSlotConfigurationList-Cell-
ReconfRqstTDD       PRESENCE    optional    },  -- For 3.84Mcps TDD only
    ...
}

CellReconfigurationRequestTDD-Extensions NBAP-PROTOCOL-EXTENSION ::= {
    { ID    id-TimeSlotConfigurationList-LCR-Cell-ReconfRqstTDD     CRITICALITY     reject      EXTENSION           TimeSlotConfigurationList-LCR-
Cell-ReconfRqstTDD  PRESENCE optional}| -- Mandatory for 1.28Mcps TDD only
    { ID    id-DwPCH-LCR-Information-Cell-ReconfRqstTDD     CRITICALITY     reject      EXTENSION               DwPCH-LCR-Information-Cell-
ReconfRqstTDD       PRESENCE optional}| -- Mandatory for 1.28Mcps TDD only
    { ID    id-IPDLParameter-Information-Cell-ReconfRqstTDD         CRITICALITY     reject      EXTENSION           IPDLParameter-Information-
Cell-ReconfRqstTDD  PRESENCE    optional },|    -- For 3.84Mcps TDD only
    { ID    id-IPDLParameter-Information-LCR-Cell-ReconfRqstTDD         CRITICALITY     reject                      EXTENSION     IPDLParameter-
Information-LCR-Cell-ReconfRqstTDD  PRESENCE    optional },     -- For 1.28Mcps TDD only
    ...
}

SCH-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    sCH-Power                               DL-Power,
    iE-Extensions                           ProtocolExtensionContainer { { PSCH-Information-Cell-ReconfRqstTDD-ExtIEs} }    OPTIONAL,
    ...
}

PSCH-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PCCPCH-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
    commonPhysicalChannelID                 CommonPhysicalChannelID,
    pCCPCH-Power                            DL-Power,
    iE-Extensions                           ProtocolExtensionContainer { { PCCPCH-Information-Cell-ReconfRqstTDD-ExtIEs} }     OPTIONAL,
    ...
}

PCCPCH-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-Cell-ReconfRqstTDD ::= SEQUENCE (SIZE (1..15)) OF TimeSlotConfigurationItem-Cell-ReconfRqstTDD

TimeSlotConfigurationItem-Cell-ReconfRqstTDD ::= SEQUENCE {
    timeSlot                                TimeSlot,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-Cell-ReconfRqstTDD-ExtIEs} }    OPTIONAL,
    ...
 }
```

```
TimeSlotConfigurationItem-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

TimeSlotConfigurationList-LCR-Cell-ReconfRqstTDD ::= SEQUENCE (SIZE (1..7)) OF TimeSlotConfigurationItem-LCR-Cell-ReconfRqstTDD

TimeSlotConfigurationItem-LCR-Cell-ReconfRqstTDD ::= SEQUENCE {
    timeSlotLCR                             TimeSlotLCR,
    timeSlotStatus                          TimeSlotStatus,
    timeSlotDirection                       TimeSlotDirection,
    iE-Extensions                           ProtocolExtensionContainer { { TimeSlotConfigurationItem-LCR-Cell-ReconfRqstTDD-ExtIEs} }   OPTIONAL,
    ...
 }

TimeSlotConfigurationItem-LCR-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DwPCH-LCR-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
    commonPhysicalChannelId                 CommonPhysicalChannelID,
    dwPCH-Power                             DwPCH-Power,
    iE-Extensions                           ProtocolExtensionContainer { { DwPCH-LCR-Information-Cell-ReconfRqstTDD-ExtIEs} }     OPTIONAL,
    ...
 }

DwPCH-LCR-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDLParameter-Information-Cell-ReconfRqstTDD ::= SEQUENCE {
    iPDL-TDD-Parameters                         IPDL-TDD-Parameters     OPTIONAL,
    iPDL-Indicator                              IPDL-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { IPDLParameter-Information-Cell-ReconfRqstTDD-ExtIEs} }    OPTIONAL,
    ...
}

IPDLParameter-Information-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDLParameter-Information-LCR-Cell-ReconfRqstTDD ::= SEQUENCE {
    iPDL-TDD-Parameters-LCR                 IPDL-TDD-Parameters-LCR     OPTIONAL,
    iPDL-Indicator                          IPDL-Indicator,
    iE-Extensions                           ProtocolExtensionContainer { { IPDLParameter-Information-LCR-Cell-ReconfRqstTDD-ExtIEs} }   OPTIONAL,
    ...
}

IPDLParameter-Information-LCR-Cell-ReconfRqstTDD-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

/*Unchanged parts are omitted*/
```

9.3.4 Information Elements Definitions

```
/*Unchanged parts are omitted*/
-- ========================================
--  I
-- ========================================

IB-OC-ID ::= INTEGER (1..16)

IB-SG-DATA ::= BIT STRING
-- Contains SIB data fixed" or "SIB data variable" in segment as encoded in ref.[18].

IB-SG-POS ::= INTEGER (0..4094)
-- Only even positions allowed

IB-SG-REP ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

IB-Type ::= ENUMERATED {
    mIB,
    sB1,
    sB2,
    sIB1,
    sIB2,
    sIB3,
    sIB4,
    sIB5,
    sIB6,
    sIB7,
    sIB8,
    sIB9,
    sIB10,
    sIB11,
    sIB12,
    sIB13,
    sIB13dot1,
    sIB13dot2,
    sIB13dot3,
    sIB13dot4,
    sIB14,
    sIB15,
    sIB15dot1,
    sIB15dot2,
    sIB15dot3,
    sIB16,
    ...,
    sIB17,
    sIB15dot4,
    sIB18
}

IndicationType ::= ENUMERATED {
```

```
    noFailure,
    serviceImpacting,
    ...
}

InformationReportCharacteristics ::= CHOICE {
    onDemand                NULL,
    periodic                InformationReportCharacteristicsType-ReportPeriodicity,
    onModification          InformationReportCharacteristicsType-OnModification,
    ...
}

InformationReportCharacteristicsType-ReportPeriodicity ::= CHOICE {
    min                 ReportPeriodicity-Scaledmin,
    hours               ReportPeriodicity-Scaledhour,
    ...
}

InformationReportCharacteristicsType-OnModification ::= SEQUENCE {
    information-thresholds        InformationThresholds,
    ie-Extensions                 ProtocolExtensionContainer { { InformationReportCharacteristicsType-OnModification-ExtIEs} } OPTIONAL,
   ...
}

InformationReportCharacteristicsType-OnModification-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationThresholds ::= CHOICE {
    dgps                DGPSThresholds,
    ...
}

InformationExchangeID ::= INTEGER (0..1048575)

InformationType ::= SEQUENCE {
    information-Type-Item       Information-Type-Item,
    gPSInformation              GPS-Information  OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { Information-Type-ExtIEs} }       OPTIONAL,
...
}

Information-Type-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Information-Type-Item ::= ENUMERATED {
    gpsinformation,
```

```
    dgpscorrections,
    gpsrxpos,
    ...
}

InnerLoopDLPCStatus ::= ENUMERATED {
    active,
    inactive
}

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


IPDL-FDD-Parameters ::= SEQUENCE {
    iP-SpacingFDD                   ENUMERATED{sp5,sp7,sp10,sp15,sp20,sp30,sp40,sp50,...},
    iP-Length                       ENUMERATED{len5, len10},
    seed                            INTEGER(1..63),
    burstModeParams                 BurstModeParams     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { { IPDLFDDParameter-ExtIEs} }   OPTIONAL,
    ...
}

IPDLFDDParameter-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDL-TDD-Parameters ::= SEQUENCE {
    iP-SpacingTDD                   ENUMERATED{sp30,sp40,sp50,sp70,sp100,...},
    iP-Start                        INTEGER(0..4095),
    iP-Slot                         INTEGER(0..14),
    iP-PCCPCH                       ENUMERATED{switchOff-1-Frame,switchOff-2-Frames},
    burstModeParams                 BurstModeParams     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { { IPDLTDDParameter-ExtIEs} }   OPTIONAL,
    ...
}

IPDL-TDD-Parameters-LCR ::= SEQUENCE {
    iP-SpacingTDD                   ENUMERATED{sp30,sp40,sp50,sp70,sp100,...},
    iP-Start                        INTEGER(0..4095),
    iP-Sub                          ENUMERATED{first,second,both},
    burstModeParams                 BurstModeParams     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { { IPDLTDDParameterLCR-ExtIEs} }    OPTIONAL,
    ...
}

BurstModeParams ::= SEQUENCE {
    burstStart                          INTEGER(0..15),
    burstLenth                          INTEGER(10..25),
```

```
    burstFreq                           INTEGER(1..16),
    ...
}

IPDLTDDParameter-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDLTDDParameterLCR-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...

}
```

/*Unchanges parts are omitted*/

9.3.6 Constant Definitions

/*Unchanges parts are omitted*/

```
id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst      ProtocolIE-ID ::= 493
id-timeslotInfo-CellSyncInitiationRqstTDD                        ProtocolIE-ID ::= 496
id-SyncReportType-CellSyncReprtTDD                               ProtocolIE-ID ::= 497
id-PUSCH-Info-DM-Rqst                                            ProtocolIE-ID ::= 505
id-PUSCH-Info-DM-Rsp                                             ProtocolIE-ID ::= 506
id-PUSCH-Info-DM-Rprt                                            ProtocolIE-ID ::= 507
id-InitDL-Power                                                  ProtocolIE-ID ::= 509
id-cellSyncBurstRepetitionPeriod                                 ProtocolIE-ID ::= 511
id-ReportCharacteristicsType-OnModification                      ProtocolIE-ID ::= 512
id-SFNSFNMeasurementValueInformation                             ProtocolIE-ID ::= 513
id-SFNSFNMeasurementThresholdInformation                         ProtocolIE-ID ::= 514
id-TUTRANGPSMeasurementValueInformation                          ProtocolIE-ID ::= 515
id-TUTRANGPSMeasurementThresholdInformation                      ProtocolIE-ID ::= 516
id-Rx-Timing-Deviation-Value-LCR                                 ProtocolIE-ID ::= 520
id-IPDLParameter-Information-LCR-Cell-SetupRqstTDD               ProtocolIE-ID ::= 41
id-IPDLParameter-Information-LCR-Cell-ReconfRqstTDD              ProtocolIE-ID ::= 42

END
```

3GPP TSG-RAN WG3 Meeting #27
Orlando, FL, USA, 18th – 22nd February 2002

R3-020765

CR-Form-v3

CHANGE REQUEST

⌘ **25.433** **CR** **607** ⌘ rev **1** ⌘ Current version: **4.3.0** ⌘

*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:	⌘	Introduction of the Neighbouring TDD Cell Measurement Information LCR
Source:	⌘	~~Siemens~~R-WG3
Work item code:	⌘	LCS-128Pos
Date:	⌘	February 2002
Category:	⌘	**B**
Release:	⌘	REL-5

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 "Neighbouring Cell Measurement Information" IE in the COMMON MEASUREMENT INITIATION REQUEST message does not support 1.28Mcps TDD, therefore introduction of "Neighbouring TDD Cell Measurement Information LCR" IE are required to support Neighbouring Cell Measurement Information for 1.28Mcps TDD.
Summary of change:	⌘	Modification of message "COMMON MEASUREMENT INITIATION REQUEST" in the tabular format and introduction of "Neighbouring TDD Cell Measurement Information LCR" in both IE definition and ASN.1. Rev.1: Tagging of the IE instead of the CHOICE in Tabular ProtocolIE-ID in ASN.1 is added Procedure text is added to clarify when the Time Slot LCR and Midamble shift LCR IEs should be added Impact Analysis: No previous version
Consequences if not approved:	⌘	If this CR is not approved, Neighbouring Cell Measurement Information is not supported for LCR TDD.

Clauses affected:	⌘	9.1.18, 9.3.3, 9.3.4, 9.3.6 new: 9.2.1.x		
Other specs affected:	⌘	**X** Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.423 v4.3.0 CR568
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.

9.1.18 COMMON MEASUREMENT INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Discriminator	M		9.2.1.45		–	
Message Type	M		9.2.1.46		YES	reject
Transaction ID	M		9.2.1.62		–	
Measurement ID	M		9.2.1.42		YES	reject
Common Measurement Object Type	M		9.2.1.10		YES	reject
CHOICE Common *Measurement Object Type*	M				YES	reject
>Cell					–	
>>C-ID	M		9.2.1.9		–	
>>Time Slot	O		9.2.3.23	For 3.84Mcps TDD only	–	
>>Time Slot LCR	O		9.2.3.24A	For 1.28Mcps TDD only	YES	reject
>>Neighbouring Cell Measurement Information		0..<maxnoMeasNCells>			GLOBAL	ignore
>>>Neighbouring FDD Cell Measurement Information	O		9.2.1.47C		–	–
>>>Neighbouring TDD Cell Measurement Information	O		9.2.1.47D		–	–
>>>>Neighbouring TDD Cell Measurement InformationLCR				1.28Mcps TDD only	–	–
>>>>>Neighbouring TDD Cell Measurement Information LCR	M		9.2.1.x		–	–
>RACH				FDD only	–	
>>C-ID	M		9.2.1.9		–	
>>Common Transport Channel ID	M		9.2.1.14		–	
>CPCH				FDD only	–	
>>C-ID	M		9.2.1.9		–	
>>Common Transport Channel ID	M		9.2.1.14		–	
>>Spreading Factor	O		Minimum UL Channelisation Code Length 9.2.2.22		–	
Common Measurement Type	M		9.2.1.11		YES	reject
Measurement Filter Coefficient	O		9.2.1.41		YES	reject
Report Characteristics	M		9.2.1.51		YES	reject
SFN reporting indicator	M		FN reporting indicator 9.2.1.29B		YES	reject
SFN	O		9.2.1.53A		YES	reject
Common Measurement	O		9.2.1.9B		YES	reject

Accuracy						

Range bound	Explanation
maxnoMeasNCells	Maximum number of neighbouring cells that can be measured on.

/* partly omitted */

9.2.1.x Neighbouring TDD Cell Measurement Information LCR

This IE provides information on the neighbouring 1.28Mcps TDD cells used for the purpose of measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot LCR* IE and *Midamble shift LCR* IE shall be included if available.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UC-Id	M		9.2.1.65B	
UARFCN	M		9.2.1.65	Corresponds to Nt [15]
Cell Parameter ID	M		9.2.3.4	
Time Slot LCR	O		9.2.3.24A	
Midamble shift LCR	O		9.2.3.7A	

/* partly omitted */

9.3.3 PDU Definitions

```
    id-UL-DPCH-LCR-InformationList-RL-SetupRqstTDD,
    id-DL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD,
    id-UL-DPCH-InformationItem-LCR-RL-AdditionRqstTDD,
    id-TimeslotISCP-InformationList-LCR-RL-AdditionRqstTDD,
    id-DL-DPCH-LCR-InformationAddList-RL-ReconfPrepTDD,
    id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
    id-DL-DPCH-LCR-InformationModify-AddList-RL-ReconfPrepTDD,
    id-DL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
    id-DL-Timeslot-LCR-InformationModify-ModifyList-RL-ReconfPrepTDD,
    id-TimeslotISCPInfoList-LCR-DL-PC-RqstTDD,
    id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfPrepTDD,
    id-UL-DPCH-LCR-InformationModify-AddList,
    id-UL-DPCH-LCR-InformationModify-AddListIE-RL-ReconfPrepTDD,
    id-UL-TimeslotLCR-Information-RL-ReconfPrepTDD,
    id-UL-SIRTarget,
    id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst,
    id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
    id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
    id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
    id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst,
    id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
    id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
    id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
    id-PUSCH-Info-DM-Rqst,
    id-PUSCH-Info-DM-Rsp,
    id-PUSCH-Info-DM-Rprt,
    id-RL-InformationResponse-LCR-RL-AdditionRspTDD,
    id-neighbouringTDDCellMeasurementInformationLCR,
```

/* partly omitted */

9.3.4 Information Elements Definitions

/* partly omitted */

```
-- ========================================
--  N
-- ========================================

NCyclesPerSFNperiod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    ...
```

```
}

NEOT ::= INTEGER (0..8)

NFmax ::= INTEGER (1..64,...)

NRepetitionsPerCyclePeriod ::= INTEGER (2..10)

N-INSYNC-IND ::= INTEGER (1..256)

N-OUTSYNC-IND ::= INTEGER (1..256)

NeighbouringCellMeasurementInformation ::= SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF
        CHOICE {
                neighbouringFDDCellMeasurementInformation       NeighbouringFDDCellMeasurementInformation,
                neighbouringTDDCellMeasurementInformation       NeighbouringTDDCellMeasurementInformation,
                ...,
                extension-neighbouringCellMeasurementInformation    Extension-neighbouringCellMeasurementInformation
            }

Extension-neighbouringCellMeasurementInformation    ::= ProtocolIE-Single-Container {{ Extension-neighbouringCellMeasurementInformationIE }}

Extension-neighbouringCellMeasurementInformationIE NBAP-PROTOCOL-IES ::= {
    { ID id-neighbouringTDDCellMeasurementInformationLCR    CRITICALITY reject  EXTENSION NeighbouringTDDCellMeasurementInformationLCR  PRESENCE
mandatory },
    ...
}

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

NeighbouringFDDCellMeasurementInformationItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {
    uC-Id                               UC-Id,
    uARFCN                              UARFCN,
    cellParameterID                     CellParameterID,
    timeSlot                            TimeSlot,
    midambleShiftAndBurstType           MidambleShiftAndBurstType,
    iE-Extensions                       ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
    ...
}

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

```
    ...
}

NeighbouringTDDCellMeasurementInformationLCR ::= SEQUENCE {
    uC-Id                                   UC-Id,
    uARFCN                                  UARFCN,
    cellParameterID                         CellParameterID,
    timeSlotLCR                             TimeSlotLCR             OPTIONAL,
    midambleShiftLCR                        MidambleShiftLCR        OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationLCRItem-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDDCellMeasurementInformationLCRItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


NodeB-CommunicationContextID ::= INTEGER (0..1048575)

NStartMessage ::= INTEGER (1..8)
```

/* partly omitted */

9.3.6 Constant Definitions

/* partly omitted */

```
id-PUSCH-Info-DM-Rsp                                    ProtocolIE-ID ::= 506
id-PUSCH-Info-DM-Rprt                                   ProtocolIE-ID ::= 507
id-InitDL-Power                                         ProtocolIE-ID ::= 509
id-cellSyncBurstRepetitionPeriod                        ProtocolIE-ID ::= 511
id-ReportCharacteristicsType-OnModification             ProtocolIE-ID ::= 512
id-SFNSFNMeasurementValueInformation                    ProtocolIE-ID ::= 513
id-SFNSFNMeasurementThresholdInformation                ProtocolIE-ID ::= 514
id-TUTRANGPSMeasurementValueInformation                 ProtocolIE-ID ::= 515
id-TUTRANGPSMeasurementThresholdInformation             ProtocolIE-ID ::= 516
id-Rx-Timing-Deviation-Value-LCR                        ProtocolIE-ID ::= 520
id-RL-InformationResponse-LCR-RL-AdditionRspTDD         ProtocolIE-ID ::= 51
id-neighbouringTDDCellMeasurementInformationLCR         ProtocolIE-ID ::= 58
```

/* partly omitted */

3GPP TSG-RAN WG3 Meeting #27
Orlando, USA, February 18-22, 2002

R3-020767

CR-Form-v5

CHANGE REQUEST

⌘ **25.433** **CR** **613** ⌘ **rev** **1** ⌘ Current version: **4.3.0** ⌘

*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:	⌘	Introduction of Angle of Arrival enhanced UE positioning for 1.28Mcps TDD in NBAP
Source:	⌘	R-WG3
Work item code:	⌘	LCS-128Pos
Date:	⌘	20.02.2002
Category:	⌘	**B**
Release:	⌘	REL-5

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: ⌘ Introduction of Angle of Arrival enhanced UE positioning for 1.28Mcps TDD for the Rel.5 work item LCS-128Pos.

Summary of change: ⌘

- In 9.2.1.23 a new Dedicated Measurement Type 'Angle of Arrival LCR' is introduced.
- In 9.2.1.24 a new Dedicated Measurement Value 'Angle of Arrival Value LCR' is introduced as an IE group including the actual 'Angle of Arrival LCR' and a corresponding confidence level 'Angle of Arrival LCR accuracy class'.
- In 9.3 corresponding ASN.1 changes are included.

Impact Analysis:

Impact assessment towards the previous version of the specification (same release): no previous version exist.

Rev.1:
ProtocolIE-ID added, CR number for affected specs added, minor ASN.1 corrections.

Consequences if not approved: ⌘ WI UE positioning enhancements for 1.28Mcps TDD is not complete.

Clauses affected: ⌘ 9.2.1.23, 9.2.1.24, 9.3.3, 9.3.4, 9.3.6

Other specs affected: ⌘

X	Other core specifications	⌘ 25.423 v4.3.0 CR571r1
☐	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.

TEXT OMITTED

9.2.1.23 Dedicated Measurement Type

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Type			ENUMERATED (SIR, SIR Error, Transmitted Code Power, RSCP, Rx Timing Deviation, Round Trip Time,…, Rx Timing Deviation LCR, Angle Of Arrival LCR)	RSCP is used by TDD only, Rx Timing Deviation is used by 3.84Mcps TDD only, Rx Timing Deviation LCR is used by 1.28 Mcps TDD only, Round Trip Time, SIR Error are used by FDD only, Angle Of Arrival LCR is used by 1.28Mcps TDD only.

Note: For definitions of the measurement types refer to [4] and [5].

9.2.1.24 Dedicated Measurement Value

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Dedicated Measurement Value*				
>SIR Value				
>>SIR value	M		INTEGER(0..63)	According to mapping in [22] and [23]
>SIR Error Value				FDD only
>>SIR error Value	M		INTEGER(0..125)	According to mapping in [22]
>Transmitted Code Power Value				
>>Transmitted Code Power Value	M		INTEGER(0..127)	According to mapping in [22] and [23] Values 0 to 9 and 123 to 127 shall not be used.
>RSCP				TDD only
>>RSCP	M		INTEGER(0..127)	According to mapping in [23]
>Rx Timing Deviation Value				3.84Mcps TDD only
>>Rx Timing Deviation	M		INTEGER(0..8191)	According to mapping in [23]
>Round Trip Time				FDD only
>>Round Trip Time	M		INTEGER(0..32767)	According to mapping in [22]
>Rx Timing Deviation Value LCR				1.28Mcps TDD only
>>Rx Timing Deviation LCR	M		INTEGER(0..255)	According to mapping in [23]
> Angle Of Arrival Value LCR				1.28Mcps TDD only
>> AOA LCR	M		INTEGER(0..719)	According to mapping in [23]
>> AOA LCR Accuracy Class	M		ENUMERATED(A, B, C, D, E, F, G, H,...)	According to mapping in [23]

TEXT OMITTED

9.3.3 PDU Definitions

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

NBAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

TEXT OMITTED

```
FROM NBAP-Containers

    id-Active-Pattern-Sequence-Information,
    id-AdjustmentRatio,
    id-AICH-Information,
```

TEXT OMITTED

```
    id-PDSCH-AddInformation-LCR-PSCH-ReconfRqst,
    id-PDSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
    id-PDSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
    id-PDSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
    id-PUSCH-AddInformation-LCR-PSCH-ReconfRqst,
    id-PUSCH-AddInformation-LCR-AddListIE-PSCH-ReconfRqst,
    id-PUSCH-ModifyInformation-LCR-PSCH-ReconfRqst,
    id-PUSCH-ModifyInformation-LCR-ModifyListIE-PSCH-ReconfRqst,
    id-PUSCH-Info-DM-Rqst,
    id-PUSCH-Info-DM-Rsp,
    id-PUSCH-Info-DM-Rprt,
    id-RL-InformationResponse-LCR-RL-AdditionRspTDD,
    id-Angle-Of-Arrival-Value-LCR,

    maxNrOfCCTrCHs,
    maxNrOfCellSyncBursts,
```

```
    maxNrOfCodes,
    maxNrOfCPCHs,
    maxNrOfDCHs,
    maxNrOfDLTSs,
    maxNrOfDLTSLCRs,
    maxNrOfDPCHs,
    maxNrOfDSCHs,
    maxNrOfFACHs,
    maxNrOfRLs,
    maxNrOfRLs-1,
    maxNrOfRLs-2,
    maxNrOfRLSets,
    maxNrOfPCPCHs,
    maxNrOfPDSCHs,
    maxNrOfPUSCHs,
    maxNrOfPRACHLCRs,
    maxNrOfPDSCHSets,
    maxNrOfPUSCHSets,
    maxNrOfReceptsPerSyncFrame,
    maxNrOfSCCPCHs,
    maxNrOfSCCPCHLCRs,
    maxNrOfULTSs,
    maxNrOfULTSLCRs,
    maxNrOfUSCHs,
    maxAPSigNum,
    maxCPCHCell,
    maxFACHCell,
    maxFPACHCell,
    maxNoofLen,
    maxRACHCell,
    maxPCPCHCell,
    maxPRACHCell,
    maxSCCPCHCell,
    maxSCPICHCell,
    maxCellinNodeB,
    maxCCPinNodeB,
    maxCommunicationContext,
    maxLocalCellinNodeB,
    maxNrOfSlotFormatsPRACH,
    maxNrOfCellSyncBursts,
    maxNrOfReceptsPerSyncFrame,
    maxIB,
    maxIBSEG
FROM NBAP-Constants;

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

TEXT OMITTED

9.3.4 Information Elements Definitions

TEXT OMITTED

```
-- ========================================
--  A
-- ========================================
```

TEXT OMITTED

```
AllocationRetentionPriority ::= SEQUENCE {
    priorityLevel               PriorityLevel,
    pre-emptionCapability       Pre-emptionCapability,
    pre-emptionVulnerability    Pre-emptionVulnerability,
    iE-Extensions               ProtocolExtensionContainer { {AllocationRetentionPriority-ExtIEs} } OPTIONAL,
    ...
}

AllocationRetentionPriority-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

Angle-Of-Arrival-Value-LCR ::= SEQUENCE OF {
    aOA-LCR                     AOA-LCR,
    aOA-LCR-Accuracy-Class      AOA-LCR-Accuracy-Class,
    iE-Extensions               ProtocolExtensionContainer { {Angle-Of-Arrival-Value-LCR-ExtIEs} } OPTIONAL,
...
}

Angle-Of-Arrival-Value-LCR-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

AOA-LCR ::= INTEGER (0..719)
-- Angle Of Arrival for 1.28Mcps TDD

AOA-LCR-Accuracy-Class  ::= ENUMERATED {a,b,c,d,e,f,g,h,...}


APPreambleSignature ::= INTEGER (0..15)

APSubChannelNumber ::= INTEGER (0..11)
```

TEXT OMITTED

```
-- ========================================
--  D
-- ========================================
```

TEXT OMITTED

```
DedicatedChannelsCapacityConsumptionLaw-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rscp,
    rx-timing-deviation,
    round-trip-time,
    ...,
    rx-timing-deviation-LCR,
    angle-Of-Arrival-LCR,
}

DedicatedMeasurementValue ::= CHOICE {
    sIR-Value                       SIR-Value,
    sIR-ErrorValue                  SIR-Error-Value,
    transmittedCodePowerValue           Transmitted-Code-Power-Value,
    rSCP                            RSCP-Value,
    rxTimingDeviationValue              Rx-Timing-Deviation-Value,
    roundTripTime                       Round-Trip-Time-Value,
    ...,
    extension-DedicatedMeasurementValue     Extension-DedicatedMeasurementValue
}

Extension-DedicatedMeasurementValue ::= ProtocolIE-Single-Container {{ Extension-DedicatedMeasurementValueIE }}

Extension-DedicatedMeasurementValueIE NBAP-PROTOCOL-IES ::= {
    { ID id-Rx-Timing-Deviation-Value-LCR   CRITICALITY reject  TYPE Rx-Timing-Deviation-Value-LCR   PRESENCE mandatory } |
    { ID id-Angle-Of-Arrival-Value-LCR  CRITICALITY reject  EXTENSION Angle-Of-Arrival-Value-LCR  PRESENCE mandatory },
...
}

DedicatedMeasurementValueInformation ::= CHOICE {
    measurementAvailable        DedicatedMeasurementAvailable,
    measurementnotAvailable     DedicatedMeasurementnotAvailable
}

DedicatedMeasurementAvailable::= SEQUENCE {
    dedicatedmeasurementValue       DedicatedMeasurementValue,
    cFN                             CFN                         OPTIONAL,
    ie-Extensions                   ProtocolExtensionContainer { { DedicatedMeasurementAvailableItem-ExtIEs} }        OPTIONAL,
    ...
}
```

```
DedicatedMeasurementAvailableItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementnotAvailable ::= NULL

Detected-PCPCH-access-preambles ::= INTEGER (0..240,...)
```

TEXT OMITTED

9.3.6 Constant Definitions

TEXT OMITTED

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

TEXT OMITTED

```
id-PUSCH-Info-DM-Rqst                                  ProtocolIE-ID ::= 505
id-PUSCH-Info-DM-Rsp                                   ProtocolIE-ID ::= 506
id-PUSCH-Info-DM-Rprt                                  ProtocolIE-ID ::= 507
id-InitDL-Power                                        ProtocolIE-ID ::= 509
id-cellSyncBurstRepetitionPeriod                       ProtocolIE-ID ::= 511
id-ReportCharacteristicsType-OnModification            ProtocolIE-ID ::= 512
id-SFNSFNMeasurementValueInformation                   ProtocolIE-ID ::= 513
id-SFNSFNMeasurementThresholdInformation               ProtocolIE-ID ::= 514
id-TUTRANGPSMeasurementValueInformation                ProtocolIE-ID ::= 515
id-TUTRANGPSMeasurementThresholdInformation            ProtocolIE-ID ::= 516
id-Rx-Timing-Deviation-Value-LCR                       ProtocolIE-ID ::= 520
id-RL-InformationResponse-LCR-RL-AdditionRspTDD        ProtocolIE-ID ::= 51
id-Angle-Of-Arrival-Value-LCR                          ProtocolIE-ID ::= 521

END
```

TEXT OMITTED