TSG-RAN Meeting #23 **RP-040088**
Phoenix, Arizona, USA, 10 - 13 March 2004

Title: **Linked Release 6 CRs to TS 25.225(RAN1), TS25.302 (RAN2), TS 25.423 (RAN3), TS 25.443 (RAN3) on Interference measurement in UpPTS for 1.28Mcps TDD**

Source: **TSG-RAN WG1**

Agenda item: **8.9**

1. Linked Release 6 CRs to **TS 25.225**(RAN1), **TS25.302** (RAN2), **TS 25.423** (RAN3), **TS 25.443** (RAN3) on Interference measurement in UpPTS for 1.28Mcps TDD **(RP-040088)**

RP tdoc#	WG tdoc#	Spec	CR	R	Subject	Ph	C	Curr	New	WI	Remarks
RP-040088	R1-040173	25.225	069	1	Interference measurement in UpPTS for 1.28Mcps TDD	Rel-6	B	6.0.0	6.1.0	TEI6	linked to 25302CR145(R2), 25423CR902(R3),25443CR952(R3),
RP-040088	R2-040714	25.302	145	-	Interference measurement in UpPTS for 1.28Mcps TDD	Rel-6	B	6.0.0	6.1.0	TEI6	linked to 25225CR069r1
RP-040088	R3-040190	25.423	902	-	Interference measurement in UpPTS for 1.28Mcps TDD	Rel-6	B	6.0.0	6.1.0	TEI6	linked to 25225CR069r1
RP-040088	R3-040191	25.433	952	-	Interference measurement in UpPTS for 1.28Mcps TDD	Rel-6	B	6.0.0	6.1.0	TEI6	linked to 25225CR069r1

Note: These CRs are also linked to CR329 to TS 25.123 (RAN4), which was already approved at TSG RAN #22 in Maui. (RP-030607)

3GPP TSG-RAN1 Meeting #36
Malaga, Spain, 16 – 22 Feb 2004

Tdoc ⌘R1-040173

CR-Form-v7

CHANGE REQUEST

⌘ **25.225** **CR** **069** ⌘ **rev** **1** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps⌘ [-] ME [-] Radio Access Network [X] Core Network [-]

Title:	⌘	Interference measurement in UpPTS for 1.28Mcps TDD
Source:	⌘	TSG RAN WG1
Work item code:	⌘	TEI6
Date:	⌘	06/02/2004
Category:	⌘	**B**
Release:	⌘	Rel-6

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)
Rel-6 (Release 6)

Reason for change:	⌘	The currently defined timeslot ISCP measurement does not include the UpPTS (since the UpPTS does not contain data bursts with midambles), hence there exists no means for the RNC to relate the broadcast target UpPCH receive power to the interference level in the UpPTS. This addition of a UpPTS interference measurement corrects the situation.
Summary of change:	⌘	An additional UpPTS interference measurement, applicable in 1.28Mcps TDD only, has been added.
Consequences if not approved:	⌘	There will be no means for the RNC to relate the broadcast target UpPCH receive power level to the amount of interference in the UpPTS.

Clauses affected:	⌘	5.2.17

Other specs affected:	⌘	Y	N		⌘	
		X		Other core specifications		25.433, 25.302, 25.123, 25.423
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	This CR is changed together with the CRs of other groups, that is: 25.302 CR145 (RAN2), 25.423 CR902 (RAN3), 25.433 CR952(RAN3), 25.123 CR329 (RAN4 already approved at RP#22 in RP-030607

5.2.17 UpPTS interference (1.28Mcps TDD)

Definition	The level of interference in the UpPTS, defined as the difference between the mean received power in the UpPTS and the sum of the estimated mean power levels of all detected UpPCH transmissions. In the case of antenna diversity, the linear average of the UpPTS interference levels calculated for each antenna branch shall be calculated. The reference point for the UpPTS interference measurement shall be the Rx antenna connector.

3GPP TSG-RAN2 Meeting #41
Malaga, Espain, 16 – 20 Feb 2004

Tdoc ⌘R2-040714

CR-Form-v7

CHANGE REQUEST

⌘ **25.302** **CR** **145** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps⌘ [-] ME [-] Radio Access Network [X] Core Network [-]

Title:	⌘	Interference measurement in UpPTS for 1.28Mcps TDD
Source:	⌘	RAN WG2
Work item code:	⌘	TEI-6
Date:	⌘	16-20/02/2004
Category:	⌘	**B**
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The currently defined timeslot ISCP measurement does not include the UpPTS (since the UpPTS does not contain data bursts with midambles), hence there exists no means for the RNC to relate the broadcast target UpPCH receive power to the interference level in the UpPTS. This addition of a UpPTS interference measurement corrects the situation.
Summary of change:	⌘	An additional UpPTS interference measurement, applicable in 1.28Mcps TDD only, has been added.
Consequences if not approved:	⌘	There will be no means for the RNC to relate the broadcast target UpPCH receive power level to the amount of interference in the UpPTS.

Clauses affected:	⌘	9.3.26			
Other specs affected:	⌘	**Y** / **N**		⌘	
		X /	Other core specifications		25.123, 25.225, 25.423, 25.433
		/ X	Test specifications		
		/ X	O&M Specifications		
Other comments:	⌘				

9.3.26 UpPTS interference (1.28Mcps TDD)

Measurement	UpPTS interference (1.28Mcps TDD)
Source	L1 (Node B)
Destination	RRC (RNC)
Reporting Trigger	On-demand, periodic, Event-triggered
Description	The level of interference in the UpPTS is the difference between the mean received power in the UpPTS and the sum of the estimated mean power levels of all detected UpPCH transmissions. In the case of antenna diversity, the linear average of the UpPTS interference levels for each antenna branch shall be calculated. The reference point for the UpPTS interference measurement shall be the Rx antenna connector.

3GPP TSG-RAN3 Meeting #41
Malaga, Spain, 16th – 20th February 2004

Tdoc ⌘R3-040190

CR-Form-v7

CHANGE REQUEST

⌘ **25.423** **CR** **902** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Interference measurement in UpPTS for 1.28Mcps TDD
Source:	⌘	RAN3
Work item code:	⌘	TEI6
Date:	⌘	03/02/2004
Category:	⌘	**B**
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The currently defined timeslot ISCP measurement does not include the UpPTS (since the UpPTS does not contain data bursts with midambles), hence there exists no means for the RNC to relate the broadcast target UpPCH receive power to the interference level in the UpPTS. This addition of a UpPTS interference measurement corrects the situation.
Summary of change:	⌘	An additional UpPTS interference measurement, applicable in 1.28Mcps TDD only, has been added in the Common Measurement Type IE, Common Measurement Value IE, Measurement Increase/Decrease Threshold IE, and Measurement Threshold IE.
Consequences if not approved:	⌘	There will be no means for the RNC to relate the broadcast target UpPCH receive power level to the amount of interference in the UpPTS.

Clauses affected:	⌘	8.5.2.4, 9.2.1.12C, 9.2.1.12D, 9.2.1.38, 9.2.1.39, 9.3.4, 9.3.6			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 25.225 CR 069 25.302 CR 145 25.433 CR 952
affected:			**X**	Test specifications	
			X	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/specs/CR.htm.
Below is a brief summary:

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

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

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

8.5.2 Common Measurement Initiation

/* partly omitted */

8.5.2.4 Abnormal Conditions

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

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

If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frame for UE positioning ", but the $T_{UTRAN-GPS}$ *Measurement Minimum Accuracy Class* IE in the *Common Measurement Accuracy* IE is not included in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the *Common Measurement Type* IE is not set to "UTRAN GPS Timing of Cell Frames for UE Positioning" and the *Common Measurement Accuracy* IE is included in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the Common Measurement Type received in the *Common Measurement Type* IE is not "load", "RT load" or "NRT load Information", and if the Common Measurement Type received in the *Common Measurement Type* IE is not defined in ref. [11] or [15] to be measured on the Common Measurement Object Type indicated in the COMMON MEASUREMENT INITIATION REQUEST message the RNC_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", but the *Neighbouring Cell Measurement Information* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

The allowed combinations of the Common Measurement Type and Report Characteristics Type are shown in the table below marked with "X". For not allowed combinations, the RNC_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

Table 5: Allowed Common Measurement Type and Report Characteristics Type Combinations

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

[TDD - If the Common Measurement Type requires the Time Slot Information but the [3.84Mcps TDD - *Time Slot* IE] [1.28Mcps TDD – *Time Slot LCR* IE] is not provided in the COMMON MEASUREMENT INITIATION REQUEST message the RNS_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.]

If the *SFN* IE is included in the COMMON MEASUREMENT INITIATION REQUEST message and the *Report Characteristics* IE is other than "Periodic", "On Demand" or "On Modification", the RNS_2 shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

8.5.2.4.1 Abnormal Conditions for Iur-g

/* partly omitted */

9.2.1.12C Common Measurement Type

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Common Measurement Type			ENUMERATED (UTRAN GPS Timing of Cell Frames for UE Positioning , SFN-SFN Observed Time Difference, load, transmitted carrier power, received total wide band power, UL timeslot ISCP, …, RT Load, NRT Load Information, UpPTS interference)	UL timeslot ISCP shall only be used by TDD. For measurements, which are requested on the Iur-g interface, only load, RT Load and NRT Load information are used. "UpPTS interference" is used by 1.28Mcps TDD only

9.2.1.12D Common Measurement Value

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Common Measurement Value*	M				–	
> $T_{UTRAN-GPS}$ Measurement Value Information				UTRAN only	–	
>>$T_{UTRAN-GPS}$ Measurement Value Information	M		9.2.1.59D		–	
> SFN-SFN Measurement Value Information				UTRAN only	–	
>>SFN-SFN Measurement Value Information	M		9.2.1.52C		–	
>Load Value					–	
>>Load Value	M		9.2.1.33A		–	
>Transmitted Carrier Power Value				UTRAN only	–	
>>Transmitted Carrier Power Value	M		Transmitted Carrier Power 9.2.1.59A		–	
>Received Total Wide Band Power Value				UTRAN only	–	
>>Received Total Wide Band Power Value	M		Received Total Wide Band Power 9.2.2.35A		–	
>UL Timeslot ISCP Value				TDD Only	–	
>>UL Timeslot ISCP Value	M		UL Timeslot ISCP 9.2.3.13A		–	
>Additional Common Measurement Values					–	
>>RT Load Value					–	
>>>RT Load Value	M		9.2.1.50B		YES	ignore
>>NRT Load Information Value					–	
>>>NRT Load Information Value	M		9.2.1.41I		YES	Ignore
>UpPTS interference				1.28Mcps TDD Only		
>>UpPTS interference Value	M		INTEGER (0..127,…)	According to mapping in [24]		

/* partly omitted */

9.2.1.38 Measurement Increase/Decrease Threshold

The Measurement Increase/Decrease Threshold defines the threshold that shall trigger Event C or D.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Increase/Decrease Threshold*	M				-	
>SIR					-	
>>SIR	M		INTEGER(0..62)	0: 0 dB 1: 0.5 dB 2: 1 dB … 62: 31dB	-	
>SIR Error				FDD Only	-	
>>SIR Error	M		INTEGER(0..124)	0: 0 dB 1: 0.5 dB 2: 1 dB … 124: 62 dB	-	
>Transmitted Code Power					-	
>>Transmitted Code Power	M		INTEGER(0..112,...)	0: 0 dB 1: 0.5 dB 2: 1 dB … 112: 56 dB	-	
>RSCP				TDD Only	-	
>>RSCP	M		INTEGER(0..126)	0: 0 dB 1: 0.5 dB 2: 1 dB … 126: 63 dB	-	
>Round Trip Time				FDD Only	-	
>>Round Trip Time	M		INTEGER(0..32766)	0: 0 chips 1: 0.0625 chips 2: 0.1250 chips … 32766: 2047.875 chips	-	
>Additional Measurement Thresholds					-	
>>Load					-	
>>>Load	M		INTEGER(0..100)	Units are the same as for the Uplink *Load Value* IE and *Dowlink Load Value* IE.	-	
>>Transmitted Carrier Power					-	
>>>Transmitted Carrier Power	M		INTEGER(0..100)	According to mapping in [23] and [24].	YES	reject
>>Received Total Wide Band Power					-	
>>>Received Total Wide Band Power	M		INTEGER(0..620)	0: 0dB 1: 0.1dB 2: 0.2dB ... 620: 62dB	YES	reject
>>UL Timeslot ISCP				TDD Only	-	
>>>UL Timeslot ISCP			INTEGER(0..126)	0: 0dB 1: 0.5dB 2: 1dB ... 126: 63dB	YES	reject
>>RT Load					-	
>>>RT Load	M		INTEGER(0..100	Units are the same as	YES	reject

			)	for the *Uplink RT Load Value* IE and *Downlink RT Load Value* IE.		
>>NRT Load Information					-	
>>>NRT Load Information	M		INTEGER(0..3)		YES	Reject
>>UpPTS interference				1.28Mcps TDD Only	–	
>>>UpPTS interference Value	M		INTEGER (0..127,…)	According to mapping in [24]	YES	reject

9.2.1.39 Measurement Threshold

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Threshold*					-	
>SIR					-	
>>SIR	M		INTEGER(0..63)	According to mapping in ref. [23] and [24].	-	
>SIR Error				FDD Only	-	
>>SIR Error	M		INTEGER(0..125)	According to mapping in [23]	-	
>Transmitted Carrier Power					-	
>>Transmitted Code Power	M		INTEGER(0..127)	According to mapping in ref. [23] and [24].	-	
>RSCP				TDD Only	-	
>>RSCP	M		INTEGER(0..127)	According to mapping in ref. [24]	-	
>Rx Timing Deviation				Applicable to 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]	-	
>Additional Measurement Thresholds					-	
>->*$T_{UTRAN-GPS}$ Measurement Threshold Information*					-	
>>>$T_{UTRAN-GPS}$ Measurement Threshold Information	M		9.2.1.59C		YES	reject
>->*SFN-SFN Measurement Threshold Information*					-	
>>>SFN-SFN Measurement Threshold Information	M		9.2.1.52B		YES	reject
>>*Load*					-	
>>>Load	M		INTEGER(0..100)	0 is the minimum indicated load, and 100 is the maximum indicated load.	YES	reject
>->*Transmitted Carrier Power*					-	
>>>Transmitted Carrier Power	M		INTEGER(0..100)	According to mapping in [23] and [24].	YES	reject
>>*Received Total Wide Band Power*					-	
>>>Received Total Wide Band Power	M		INTEGER(0..621)	According to mapping in [23] and [24].	YES	reject
>->*UL Timeslot ISCP*				TDD Only	-	
>>>UL Timeslot ISCP	M		INTEGER(0..127)	According to mapping in [24]	YES	reject
>>*RT Load*					-	
>>>RT Load	M		INTEGER(0..100)		YES	reject
>>*NRT Load*					-	

Information						
>>>NRT Load Information	M		INTEGER(0..3)		YES	reject
~~>Rx Timing Deviation LCR~~ *>>Rx Timing Deviation LCR*				Applicable to 1.28Mcps TDD Only		
>>>Rx Timing Deviation LCR	M		INTEGER(0..255)	According to mapping in [24]	YES	reject
>>HS-SICH reception quality				Applicable to TDD Only	–	
>>>HS-SICH reception quality	M		INTEGER (0..20)	According to mapping in [24]	YES	reject
>>UpPTS interference				1.28Mcps TDD Only	–	
>>>UpPTS interference Value	M		INTEGER (0..127,…)	According to mapping in [24]	YES	reject

/* partly omitted */

9.3.4 Information Element Definitions

```
/* partly omitted */

    id-Maximum-DL-Power-TimeslotLCR-InformationItem,
    id-Minimum-DL-Power-TimeslotLCR-InformationItem,
    id-HS-SICH-Reception-Quality,
    id-HS-SICH-Reception-Quality-Measurement-Value,
    id-ExtendedGSMCellIndividualOffset,
    id-Unidirectional-DCH-Indicator,
    id-RTLoadValue,
    id-NRTLoadInformationValue,
    id-Satellite-Almanac-Information-ExtItem,
    id-UpPTSInterferenceValue

FROM RNSAP-Constants

/* partly omitted */

-- C

/* partly omitted */

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

CommonMeasurementType ::= ENUMERATED {
    uTRAN-GPS-timing-of-cell-frames-for-UE-Positioning,
    sFN-SFN-observerd-time-difference,
    load,
    transmitted-carrier-power,
    received-total-wide-band-power,
    uplink-timeslot-iscp,
    ...,
    rT-load,
    nRT-load-Information,
    upPTSInterference
}
-- For measurements on the Iur-g interface, only load, RT Load and NRT Load information are requested.

CommonMeasurementValue ::= CHOICE {
    tUTRANGPSMeasurementValueInformation    TUTRANGPSMeasurementValueInformation,
    sFNSFNMeasurementValueInformation       SFNSFNMeasurementValueInformation,
    loadValue                           LoadValue,
    transmittedCarrierPowerValue        INTEGER(0..100),
    receivedTotalWideBandPowerValue     INTEGER(0..621),
    uplinkTimeslotISCPValue             UL-TimeslotISCP,
    ...,
```

```
    extension-CommonMeasurementValue    Extension-CommonMeasurementValue
}

Extension-CommonMeasurementValue    ::= ProtocolIE-Single-Container {{ Extension-CommonMeasurementValueIE }}

Extension-CommonMeasurementValueIE RNSAP-PROTOCOL-IES ::= {
    { ID id-RTLoadValue CRITICALITY ignore  TYPE RTLoadValue    PRESENCE mandatory }|
    { ID id-NRTLoadInformationValue CRITICALITY ignore  TYPE NRTLoadInformationValue    PRESENCE mandatory }|
    { ID id-UpPTSInterferenceValue      CRITICALITY reject  TYPE    UpPTSInterferenceValue      PRESENCE mandatory }
}

-- For measurements on the Iur-g interface, only load, RT Load and NRT Load values are reported.

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

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

/* partly omitted */

```
-- M
```

/* partly omitted */

```
MeasurementIncreaseDecreaseThreshold        ::= CHOICE {
    sir                             SIR-Value-IncrDecrThres,
    sir-error                       SIR-Error-Value-IncrDecrThres,
    transmitted-code-power          Transmitted-Code-Power-Value-IncrDecrThres,
    rscp                            RSCP-Value-IncrDecrThres,
    round-trip-time                 Round-Trip-Time-IncrDecrThres,
    ...,
    extension-MeasurementIncreaseDecreaseThreshold      Extension-MeasurementIncreaseDecreaseThreshold
}

Extension-MeasurementIncreaseDecreaseThreshold  ::= ProtocolIE-Single-Container {{ Extension-MeasurementIncreaseDecreaseThresholdIE }}

Extension-MeasurementIncreaseDecreaseThresholdIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Load-Value-IncrDecrThres    CRITICALITY reject  TYPE Load-Value-IncrDecrThres   PRESENCE mandatory }|
    { ID id-Transmitted-Carrier-Power-Value-IncrDecrThres   CRITICALITY reject  TYPE Transmitted-Carrier-Power-Value-IncrDecrThres   PRESENCE
mandatory }|
    { ID id-Received-Total-Wideband-Power-Value-IncrDecrThres   CRITICALITY reject  TYPE Received-Total-Wideband-Power-Value-IncrDecrThres
    PRESENCE mandatory }|
    { ID id-UL-Timeslot-ISCP-Value-IncrDecrThres    CRITICALITY reject  TYPE UL-Timeslot-ISCP-Value-IncrDecrThres  PRESENCE mandatory }|
```

```
    { ID id-RT-Load-Value-IncrDecrThres CRITICALITY reject  TYPE RT-Load-Value-IncrDecrThres    PRESENCE mandatory }|
    { ID id-NRT-Load-Information-Value-IncrDecrThres    CRITICALITY reject  TYPE NRT-Load-Information-Value-IncrDecrThres PRESENCE mandatory
}|
    { ID id-UpPTSInterferenceValue      CRITICALITY reject  TYPE    UpPTSInterferenceValue      PRESENCE mandatory }
}

MeasurementThreshold            ::= CHOICE {
    sir                             SIR-Value,
    sir-error                       SIR-Error-Value,
    transmitted-code-power          Transmitted-Code-Power-Value,
    rscp                            RSCP-Value,
    rx-timing-deviation             Rx-Timing-Deviation-Value,
    round-trip-time                 Round-Trip-Time-Value,
    ...,
    extension-MeasurementThreshold  Extension-MeasurementThreshold
}

Extension-MeasurementThreshold  ::= ProtocolIE-Single-Container {{ Extension-MeasurementThresholdIE }}

Extension-MeasurementThresholdIE RNSAP-PROTOCOL-IES ::= {
    { ID id-TUTRANGPSMeasurementThresholdInformation    CRITICALITY reject  TYPE TUTRANGPSMeasurementThresholdInformation   PRESENCE
mandatory }|
    { ID id-SFNSFNMeasurementThresholdInformation       CRITICALITY reject  TYPE SFNSFNMeasurementThresholdInformation      PRESENCE
mandatory }|
    { ID id-Load-Value                                  CRITICALITY reject  TYPE Load-Value                                 PRESENCE
mandatory }|
    { ID id-Transmitted-Carrier-Power-Value             CRITICALITY reject  TYPE Transmitted-Carrier-Power-Value            PRESENCE
mandatory }|
    { ID id-Received-Total-Wideband-Power-Value         CRITICALITY reject  TYPE Received-Total-Wideband-Power-Value        PRESENCE
mandatory }|
    { ID id-UL-Timeslot-ISCP-Value                      CRITICALITY reject  TYPE UL-Timeslot-ISCP-Value                     PRESENCE
mandatory }|
    { ID id-RT-Load-Value                               CRITICALITY reject  TYPE RT-Load-Value                              PRESENCE
mandatory }|
    { ID id-NRT-Load-Information-Value                  CRITICALITY reject  TYPE NRT-Load-Information-Value                 PRESENCE
mandatory }|
    { ID id-Rx-Timing-Deviation-Value-LCR               CRITICALITY reject  TYPE Rx-Timing-Deviation-Value-LCR              PRESENCE
mandatory}|
    { ID id-HS-SICH-Reception-Quality-Measurement-Value CRITICALITY reject  TYPE HS-SICH-Reception-Quality-Measurement-Value PRESENCE
mandatory}|
    { ID id-UpPTSInterferenceValue                      CRITICALITY reject  TYPE UpPTSInterferenceValue                     PRESENCE
mandatory }
}

MidambleConfigurationBurstType1And3 ::=     ENUMERATED {v4, v8, v16}

MidambleConfigurationBurstType2 ::=     ENUMERATED {v3, v6}


}
```

/* partly omitted */

```
-- U
```

/* partly omitted */

```
UL-Synchronisation-Frequency ::= INTEGER (1..8)

UL-TimeslotISCP         ::= INTEGER (0..127)
-- According to mapping in [14]

UpPTSInterferenceValue  ::= INTEGER (0..127,...)

Unidirectional-DCH-Indicator    ::= ENUMERATED {
    downlink-DCH-only,
    uplink-DCH-only
}

URA-ID                  ::= INTEGER (0..65535)
```

/* partly omitted */

9.3.6 Constant Definitions

/* partly omitted */

```
id-Multiple-RL-InformationResponse-RL-ReconfReadyTDD                    ProtocolIE-ID ::= 528
id-RL-ReconfigurationResponseTDD-RL-Information                         ProtocolIE-ID ::= 529
id-Satellite-Almanac-Information-ExtItem                                ProtocolIE-ID ::= 530
id-HSDSCH-Information-to-Modify-Unsynchronised                          ProtocolIE-ID ::= 533
id-TnlQos                                                               ProtocolIE-ID ::= 534
id-RTLoadValue                                                          ProtocolIE-ID ::= 535
id-NRTLoadInformationValue                                              ProtocolIE-ID ::= 536
id-CellPortionID                                                        ProtocolIE-ID ::= 537
id-UpPTSInterferenceValue                                               ProtocolIE-ID ::= 538

END
```

3GPP TSG-RAN3 Meeting #41
Malaga, Spain, 16th – 20th February 2004

Tdoc ⌘R3-040191

CR-Form-v7

CHANGE REQUEST

⌘ **25.433** **CR** **952** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Interference measurement in UpPTS for 1.28Mcps TDD
Source:	⌘	RAN3
Work item code:	⌘	TEI6
Date:	⌘	03/02/2004
Category:	⌘	**B**
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The currently defined timeslot ISCP measurement does not include the UpPTS (since the UpPTS does not contain data bursts with midambles), hence there exists no means for the RNC to relate the broadcast target UpPCH receive power to the interference level in the UpPTS. This addition of a UpPTS interference measurement corrects the situation.
Summary of change:	⌘	An additional UpPTS interference measurement, applicable in 1.28Mcps TDD only, has been added in the Common Measurement Type IE, Common Measurement Value IE, Measurement Increase/Decrease Threshold IE, and Measurement Threshold IE.
Consequences if not approved:	⌘	There will be no means for the RNC to relate the broadcast target UpPCH receive power level to the amount of interference in the UpPTS.

Clauses affected:	⌘	8.2.8.4, 9.2.1.11, 9.2.1.12, 9.2.1.43, 9.2.1.44, 9.3.4, 9.3.6			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 25.225 CR 069 25.302 CR 145 25.423 CR 902
affected:			**X**	Test specifications	
			X	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/specs/CR.htm.
Below is a brief summary:

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

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

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

8.2.8 Common Measurement Initiation

/* partly omitted */

8.2.8.4 Abnormal Conditions

If the Common Measurement Type received in the *Common Measurement Type* IE, except for the “HS-DSCH Required Power” and the “HS-DSCH Provided Bit Rate”, is not defined in ref. [4] or [5] to be measured on the Common Measurement Object Type received in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.

[TDD - If the Common Measurement Type requires the Time Slot Information but the [3.84Mcps TDD - *Time Slot* IE] [1.28Mcps TDD - *Time Slot LCR* IE] is not present in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.]

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

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

If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", but the *Neighbouring Cell Measurement Information* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.

If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE Positioning", but the $T_{UTRAN-GPS}$ *Measurement Accuracy Class* IE in the *Common Measurement Accuracy* IE is not included in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.

If the *Common Measurement Type* IE is not set to "UTRAN GPS Timing of Cell Frames for UE Positioning" and the *Common Measurement Accuracy* IE is included in the COMMON MEASUREMENT INITIATION REQUEST message, the Node B shall regard the Common Measurement Initiation procedure as failed.

The allowed combinations of the Common Measurement Type and Report Characteristics Type are shown in the table below marked with "X". For not allowed combinations, the Node B shall regard the Common Measurement Initiation procedure as failed.

Table 4: Allowed Common Measurement Type and Report Characteristics Type combinations

Common Measurement Type	Report Characteristics Type								
	On Demand	Periodic	Event A	Event B	Event C	Event D	Event E	Event F	On Modification
Received Total Wide Band Power	X	X	X	X	X	X	X	X	
Transmitted Carrier Power	X	X	X	X	X	X	X	X	
Acknowledged PRACH Preambles	X	X	X	X	X	X	X	X	
UL Timeslot ISCP	X	X	X	X	X	X	X	X	
Acknowledged PCPCH Access Preambles	X	X	X	X	X	X	X	X	
Detected PCPCH Access Preambles	X	X	X	X	X	X	X	X	
UTRAN GPS Timing of Cell Frames for UE Positioning	X	X							X
SFN-SFN Observed Time Difference	X	X							X
Transmitted carrier power of all codes not used for HS-PDSCH or HS-SCCH transmission	X	X	X	X	X	X	X	X	
HS-DSCH Required Power	X	X	X	X			X	X	
HS-DSCH Provided Bit Rate	X	X							
UpPTS interference	X	X	X	X	X	X	X	X	

If the *SFN* IE is included in the COMMON MEASUREMENT INITIATION REQUEST message and the *Report Characteristics* IE is other than "Periodic", "On Demand" or "On Modification", the Node B shall regard the Common Measurement Initiation procedure as failed.

/* partly omitted */

9.2.1.11 Common Measurement Type

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Common Measurement Type			ENUMERATED (Received Total Wide Band Power, Transmitted Carrier Power, Acknowledged PRACH Preambles, UL Timeslot ISCP, Acknowledged PCPCH Access Preambles, Detected PCPCH Access Preambles, …, UTRAN GPS Timing of Cell Frames for UE Positioning, SFN-SFN Observed Time Difference, Transmitted carrier power of all codes not used for HS-PDSCH or HS-SCCH transmission, HS-DSCH Required Power, HS-DSCH Provided Bit Rate, Received Total Wide Band Power for Cell Portion, Transmitted Carrier Power for Cell Portion, Transmitted carrier power of all codes not used for HS-PDSCH or HS-SCCH transmission for Cell Portion), UpPTS Interference)	"UL Timeslot ISCP" is used by TDD only, "Acknowledged PRACH Preambles", 'Acknowledged PCPCH Access Preambles', 'Detected PCPCH Access Preambles' are used by FDD only. "UpPTS interference" is used by 1.28Mcps TDD only

9.2.1.12 Common Measurement Value

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Common Measurement Value*	M				–	
>Transmitted Carrier Power					–	
>>Transmitted Carrier Power Value	M		INTEGER (0..100)	According to mapping in [22] and [23]	–	
>Received Total Wide Band Power					–	
>>Received Total Wide Band Power Value	M		INTEGER (0..621)	According to mapping in [22] and [23]	–	
>Acknowledged PRACH Preambles				FDD Only	–	
>>Acknowledged PRACH Preamble Value	M		INTEGER (0..240,…)	According to mapping in [22]	–	
>UL Timeslot ISCP				TDD Only	–	
>>UL Timeslot ISCP	M		INTEGER (0..127)	According to mapping in [23]	–	
>Acknowledged PCPCH Access Preambles				FDD Only	–	
>>Acknowledged PCPCH Access Preambles	M		INTEGER (0..15,…)	According to mapping in [22]	–	
>Detected PCPCH Access Preambles				FDD Only	–	
>>Detected PCPCH Access Preambles	M		INTEGER (0..240,…)	According to mapping in [22]	–	
>Additional Common Measurement Values					–	
>>UTRAN GPS Timing Of Cell Frames for UE Positioning					–	
>>>$T_{UTRAN-GPS}$ Measurement Value Information	M		9.2.1.64A		YES	ignore
>>SFN-SFN Observed Time Difference					–	
>>>SFN-SFN Measurement Value Information	M		9.2.1.53E		YES	ignore
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission					–	
>>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission Value	M		INTEGER (0..100)	According to mapping in [22] and [23]	YES	ignore
>>HS-DSCH Required Power					–	
>>>HS-DSCH Required Power Value Information	M		9.2.1.31Ic		YES	ignore

>>HS-DSCH Provided Bit Rate					–	
>>>HS-DSCH Provided Bit Rate	M		9.2.1.31Ib		YES	ignore
>>Transmitted Carrier Power For Cell Portion					–	
>>>**Transmitted Carrier Power For Cell Portion Value**		*1..< maxNrOfCellPortions>*		FDD Only	GLOBAL	ignore
>>>>Cell Portion ID	M		9.2.2.1Ca		–	
>>>>Transmitted Carrier Power Value	M		INTEGER (0..100)	According to mapping in [22]	–	
>>Received Total Wide Band Power For Cell Portion					–	
>>>**Received Total Wide Band Power For Cell Portion Value**		*1..< maxNrOfCellPortions>*		FDD Only	GLOBAL	ignore
>>>>Cell Portion ID	M		9.2.2.1Ca		–	
>>>>Received Total Wide Band Power Value	M		INTEGER (0..621)	According to mapping in [22]	–	
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission For Cell Portion					–	
>>>**Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission For Cell Portion Value**		*1..< maxNrOfCellPortions>*		FDD Only	GLOBAL	ignore
>>>>Cell Portion ID	M		9.2.2.1Ca		–	
>>>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission Value	M		INTEGER (0..100)	According to mapping in [22]	–	
>>UpPTS interference				1.28Mcps TDD Only	–	
>>>UpPTS interference Value	M		INTEGER (0..127,…)	According to mapping in [23]	YES	reject

/* partly omitted */

9.2.1.43 Measurement Increase/Decrease Threshold

The Measurement Increase/Decrease Threshold defines the threshold that shall trigger Event C or D.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Increase/Decrease Threshold*	M				–	
>Received Total Wide Band Power					–	
>>Received Total Wide Band Power	M		INTEGER (0..620)	Unit: dB Range: 0..62 dB Step: 0.1 dB	–	
>Transmitted Carrier Power					–	
>>Transmitted Carrier Power	M		INTEGER (0..100)	According to mapping in [22] and [23]	–	
>Acknowledged PRACH Preambles				FDD only	–	
>>Acknowledged PRACH Preambles	M		INTEGER (0..240,…)	According to mapping in [22]	–	
>UL Timeslot ISCP				TDD only	–	
>>UL Timeslot ISCP	M		INTEGER (0..126)	Unit: dB Range: 0..63 dB Step: 0.5 dB	–	
>SIR					–	
>>SIR	M		INTEGER (0..62)	Unit: dB Range: 0..31 dB Step: 0.5 dB	–	
>SIR Error				FDD only	–	
>>SIR Error	M		INTEGER (0..124)	Unit: dB Range: 0..62 dB Step: 0.5 dB	–	
>Transmitted Code Power					–	
>>Transmitted Code Power	M		INTEGER (0..112,…)	Unit: dB Range: 0..56 dB Step: 0.5 dB	–	
>RSCP				TDD only	–	
>>RSCP	M		INTEGER (0..126)	Unit: dB Range: 0..63 dB Step: 0.5 dB	–	
>Round Trip Time				FDD only	–	
>>Round Trip Time	M		INTEGER (0..32766)	Unit: chips Range: 0 .. 2047.875 chips Step: 0.625 chips	–	
>Acknowledged PCPCH Access Preambles				FDD only	–	
>>Acknowledged PCPCH Access Preambles	M		INTEGER (0..15,…)	According to mapping in [22]	–	
>Detected PCPCH Access Preambles				FDD only	–	
>>Detected PCPCH Access Preambles	M		INTEGER (0..240,…)	According to mapping in [22]	–	
>Additional Measurement Thresholds					–	
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission					–	
>>>Transmitted Carrier Power Of	M		INTEGER (0..100)	According to mapping in [22] and [23]	YES	reject

All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission						
>>*Transmitted Carrier Power For Cell Portion*				FDD only	–	
>>>Transmitted Carrier Power For Cell Portion	M		INTEGER (0..100)	Mapping identical to the one for Transmitted Carrier Power measurement in [22]	YES	reject
>>*Received Total Wide Band Power For Cell Portion*				FDD only	–	
>>>Received Total Wide Band Power For Cell Portion	M		INTEGER (0..620)	Unit: dB Range: 0..62 dB Step: 0.1 dB	YES	reject
>>*Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission For Cell Portion*				FDD only	–	
>>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission For Cell Portion	M		INTEGER (0..100)	Mapping identical to the one for Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission measurement in [22]	YES	reject
>>UpPTS interference				1.28Mcps TDD Only	–	
>>>UpPTS interference Value	M		INTEGER (0..127,…)	According to mapping in [23]	YES	reject

9.2.1.44 Measurement Threshold

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

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Threshold*	M				–	
>Received Total Wide Band Power					–	
>>Received Total Wide Band Power	M		INTEGER (0..621)	According to mapping in [22] and [23]	–	
>Transmitted Carrier Power					–	
>>Transmitted Carrier Power	M		INTEGER (0..100)	According to mapping in [22] and [23]	–	
>Acknowledged PRACH Preambles				FDD only	–	
>>Acknowledged PRACH Preambles	M		INTEGER (0..240,…)	According to mapping in [22]	–	
>UL Timeslot ISCP				TDD only	–	
>>UL Timeslot ISCP	M		INTEGER (0..127)	According to mapping in [23]	–	
>SIR					–	
>>SIR	M		INTEGER (0..63)	According to mapping in [22] and [23]	–	
>SIR Error				FDD only	–	
>>SIR Error	M		INTEGER (0..125)	According to mapping in [22]	–	
>Transmitted Code Power					–	
>>Transmitted Code Power	M		INTEGER (0..127)	According to mapping in [22] and [23]	–	
>RSCP				TDD only	–	
>>RSCP	M		INTEGER (0..127)	According to mapping in [23]	–	
>Rx Timing Deviation				Applicable to 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]	–	
>Acknowledged PCPCH Access Preambles				FDD only	–	
>>Acknowledged PCPCH Access Preambles	M		INTEGER (0..15,…)	According to mapping in [22]	–	
>Detected PCPCH Access Preambles				FDD only	–	
>>Detected PCPCH Access Preambles	M		INTEGER (0..240,…)	According to mapping in [22]	–	
>Additional Measurement Thresholds					–	
>>UTRAN GPS Timing Of Cell Frames For UE Positioning					–	
>>>$T_{UTRAN-GPS}$ Measurement Threshold Information	M		9.2.1.64B		YES	reject
>>SFN-SFN Observed Time Difference					–	
>>>SFN-SFN Measurement Threshold	M		9.2.1.53C		YES	reject

Information						
>>Rx Timing Deviation LCR				Applicable to 1.28Mcps TDD Only	–	
>>>Rx Timing Deviation LCR	M		INTEGER (0..511)	According to mapping in [23]	YES	reject
>>HS-SICH Reception Quality				Applicable to TDD Only	–	
>>>HS-SICH Reception Quality	M		INTEGER (0..20)	According to mapping in [23]	YES	reject
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission					–	
>>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission	M		INTEGER (0..100)	According to mapping in [22] and [23]	YES	reject
>>HS-DSCH Required Power					–	
>>>HS-DSCH Required Power Value	M		9.2.1.31Iba		YES	reject
>>Transmitted Carrier Power For Cell Portion				FDD only	–	
>>>Transmitted Carrier Power For Cell Portion	M		INTEGER (0..100)	Mapping identical to the one for Transmitted Carrier Power measurement in [22]	YES	reject
>>Received Total Wide Band Power For Cell Portion				FDD only	–	
>>>Received Total Wide Band Power For Cell Portion	M		INTEGER (0..621)	Mapping identical to the one for Received Total Wide Band Power measurement in [22]	YES	reject
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission For Cell Portion				FDD only	–	
>>> Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission Value For Cell Portion	M		INTEGER (0..100)	Mapping identical to the one for Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission measurement in [22]	YES	reject
>Additional Measurement Thresholds					–	
>>UTRAN GPS Timing Of Cell Frames For UE Positioning					–	
>>>$T_{UTRAN-GPS}$ Measurement	M		9.2.1.64B		YES	reject

Threshold Information						
>>SFN-SFN Observed Time Difference					–	
>>>SFN-SFN Measurement Threshold Information	M		9.2.1.53C		YES	reject
>>Rx Timing Deviation LCR				Applicable to 1.28Mcps TDD Only	–	
>>>Rx Timing Deviation LCR	M		INTEGER (0..511)	According to mapping in [23]	YES	reject
>>HS-SICH Reception Quality				Applicable to TDD Only	–	
>>>HS-SICH Reception Quality	M		INTEGER (0..20)	According to mapping in [23]	YES	reject
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission					–	
>>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission	M		INTEGER (0..100)	According to mapping in [22] and [23]	YES	reject
>>HS-DSCH Required Power					–	
>>>HS-DSCH Required Power Value	M		9.2.1.31Iba		YES	reject
>>Transmitted Carrier Power For Cell Portion				FDD only	–	
>>>Transmitted Carrier Power For Cell Portion	M		INTEGER (0..100)	Mapping identical to the one for Transmitted Carrier Power measurement in [22]	YES	reject
>>Received Total Wide Band Power For Cell Portion				FDD only	–	
>>>Received Total Wide Band Power For Cell Portion	M		INTEGER (0..621)	Mapping identical to the one for Received Total Wide Band Power measurement in [22]	YES	reject
>>Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission For Cell Portion				FDD only	–	
>>> Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission Value For Cell Portion	M		INTEGER (0..100)	Mapping identical to the one for Transmitted Carrier Power Of All Codes Not Used For HS-PDSCH Or HS-SCCH Transmission measurement in [22]	YES	reject
>>UpPTS				1.28Mcps TDD Only	–	

interference						
>>>UpPTS interference Value	M		INTEGER (0..127,…)	According to mapping in [23]	YES	reject

/* partly omitted */

9.3.4 Information Elements Definitions

/* partly omitted */

```
    id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmission,
    id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortion,
    id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortionValue,
    id-HS-DSCHRequiredPower,
    id-HS-DSCHProvidedBitRate,
    id-HS-DSCHRequiredPowerValue,
    id-Best-Cell-Portions-Value,
    id-Unidirectional-DCH-Indicator,
    id-SAT-Info-Almanac-ExtItem,
    id-TnlQos,
    id-UpPTSInterferenceValue
FROM NBAP-Constants
```

/* partly omitted */

```
-- ==========================================
--  C
-- ==========================================
```

/* partly omitted */

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

CommonMeasurementType ::= ENUMERATED  {
    received-total-wide-band-power,
    transmitted-carrier-power,
    acknowledged-prach-preambles,
    ul-timeslot-iscp,
    acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles,
    ...,
    uTRAN-GPS-Timing-of-Cell-Frames-for-UE-Positioning,
    sFN-SFN-Observed-Time-Difference,
    transmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmission,
    hS-DSCH-Required-Power,
    hS-DSCH-Provided-Bit-Rate,
    received-total-wide-band-power-for-cellPortion,
    transmitted-carrier-power-for-cellPortion,
    transmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmission-for-cellPortion,
    upPTS-Interference
}

CommonMeasurementValue ::= CHOICE {
```

```
    transmitted-carrier-power               Transmitted-Carrier-Power-Value,
    received-total-wide-band-power          Received-total-wide-band-power-Value,
    acknowledged-prach-preambles            Acknowledged-PRACH-preambles-Value,
    uL-TimeslotISCP                         UL-TimeslotISCP-Value,
    acknowledged-PCPCH-access-preambles     Acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles         Detected-PCPCH-access-preambles,
    ...,
    extension-CommonMeasurementValue        Extension-CommonMeasurementValue
}

Extension-CommonMeasurementValue    ::= ProtocolIE-Single-Container {{ Extension-CommonMeasurementValueIE }}

Extension-CommonMeasurementValueIE NBAP-PROTOCOL-IES ::= {
{ ID id-TUTRANGPSMeasurementValueInformation            CRITICALITY ignore  TYPE TUTRANGPSMeasurementValueInformation    PRESENCE mandatory
}|
    { ID id-SFNSFNMeasurementValueInformation               CRITICALITY ignore  TYPE SFNSFNMeasurementValueInformation      PRESENCE
mandatory }|
    { ID id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmission    CRITICALITY ignore TYPE
TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionValue       PRESENCE mandatory }|
    { ID id-HS-DSCHRequiredPower                            CRITICALITY ignore  TYPE HS-DSCHRequiredPower                   PRESENCE
mandatory }|
    { ID id-HS-DSCHProvidedBitRate                          CRITICALITY ignore  TYPE HS-DSCHProvidedBitRate                 PRESENCE
mandatory }|
    { ID id-Transmitted-Carrier-Power-For-CellPortion-Value CRITICALITY ignore  TYPE Transmitted-Carrier-Power-For-CellPortion-Value PRESENCE
mandatory }|
    { ID id-Received-total-wide-band-power-For-CellPortion-Value    CRITICALITY ignore  TYPE Received-total-wide-band-power-For-CellPortion-
Value   PRESENCE mandatory }|
    { ID id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortionValue CRITICALITY ignore   TYPE
TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortionValue        PRESENCE mandatory }|
    { ID id-UpPTSInterferenceValue      CRITICALITY ignore  TYPE    UpPTSInterferenceValue      PRESENCE mandatory }
}

CommonMeasurementValueInformation ::= CHOICE {
    measurementAvailable        CommonMeasurementAvailable,
    measurementnotAvailable     CommonMeasurementnotAvailable
}
```

/* partly omitted */

```
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--  R
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```

/* partly omitted */

```
ReportCharacteristicsType-OnModification-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold ::= CHOICE {
```

```
    received-total-wide-band-power                          Received-total-wide-band-power-Value-IncrDecrThres,
    transmitted-carrier-power       Transmitted-Carrier-Power-Value,
    acknowledged-prach-preambles            Acknowledged-PRACH-preambles-Value,
    uL-TimeslotISCP                 UL-TimeslotISCP-Value-IncrDecrThres,
    sir                         SIR-Value-IncrDecrThres,
    sir-error                   SIR-Error-Value-IncrDecrThres,
    transmitted-code-power          Transmitted-Code-Power-Value-IncrDecrThres,
    rscp                            RSCP-Value-IncrDecrThres,
    round-trip-time                 Round-Trip-Time-IncrDecrThres,
    acknowledged-PCPCH-access-preambles     Acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles         Detected-PCPCH-access-preambles,
    ...,
    extension-ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold        Extension-ReportCharacteristicsType-
MeasurementIncreaseDecreaseThreshold
}

Extension-ReportCharacteristicsType-MeasurementIncreaseDecreaseThreshold    ::= ProtocolIE-Single-Container {{ Extension-
ReportCharacteristicsType-MeasurementIncreaseDecreaseThresholdIE }}

Extension-ReportCharacteristicsType-MeasurementIncreaseDecreaseThresholdIE NBAP-PROTOCOL-IES ::= {
{ ID id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmission            CRITICALITY reject      TYPE
TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionValue PRESENCE mandatory}|
{ ID id-Transmitted-Carrier-Power-For-CellPortion       CRITICALITY reject  TYPE Transmitted-Carrier-Power-Value    PRESENCE mandatory }|
{ ID id-Received-total-wide-band-power-For-CellPortion  CRITICALITY reject  TYPE Received-total-wide-band-power-Value-IncrDecrThres
    PRESENCE mandatory }|
{ ID id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortion CRITICALITY reject      TYPE
TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionValue       PRESENCE mandatory }|
{ ID id-UpPTSInterferenceValue      CRITICALITY reject  TYPE    UpPTSInterferenceValue      PRESENCE mandatory }
}

ReportCharacteristicsType-MeasurementThreshold ::= CHOICE {
    received-total-wide-band-power                          Received-total-wide-band-power-Value,
    transmitted-carrier-power       Transmitted-Carrier-Power-Value,
    acknowledged-prach-preambles            Acknowledged-PRACH-preambles-Value,
    uL-TimeslotISCP                 UL-TimeslotISCP-Value,
    sir                         SIR-Value,
    sir-error                   SIR-Error-Value,
    transmitted-code-power          Transmitted-Code-Power-Value,
    rscp                            RSCP-Value,
    rx-timing-deviation             Rx-Timing-Deviation-Value,
    round-trip-time                 Round-Trip-Time-Value,
    acknowledged-PCPCH-access-preambles     Acknowledged-PCPCH-access-preambles,
    detected-PCPCH-access-preambles         Detected-PCPCH-access-preambles,
    ...,
    extension-ReportCharacteristicsType-MeasurementThreshold        Extension-ReportCharacteristicsType-MeasurementThreshold
}

Extension-ReportCharacteristicsType-MeasurementThreshold    ::= ProtocolIE-Single-Container {{ Extension-ReportCharacteristicsType-
MeasurementThresholdIE }}

Extension-ReportCharacteristicsType-MeasurementThresholdIE NBAP-PROTOCOL-IES ::= {
    { ID id-TUTRANGPSMeasurementThresholdInformation    CRITICALITY reject  TYPE TUTRANGPSMeasurementThresholdInformation   PRESENCE
mandatory }|
```

```
    { ID id-SFNSFNMeasurementThresholdInformation       CRITICALITY reject  TYPE SFNSFNMeasurementThresholdInformation    PRESENCE mandatory
}|
    { ID id-Rx-Timing-Deviation-Value-LCR               CRITICALITY reject  TYPE Rx-Timing-Deviation-Value-LCR      PRESENCE mandatory}|
    { ID id-HS-SICH-Reception-Quality-Measurement-Value CRITICALITY reject  TYPE HS-SICH-Reception-Quality-Measurement-Value PRESENCE
mandatory}|
    { ID id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmission CRITICALITY reject            TYPE
TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionValue PRESENCE mandatory}|
    { ID id-HS-DSCHRequiredPowerValue                   CRITICALITY reject  TYPE HS-DSCHRequiredPowerValue PRESENCE mandatory}|
    { ID id-Transmitted-Carrier-Power-For-CellPortion   CRITICALITY reject  TYPE Transmitted-Carrier-Power-Value    PRESENCE mandatory }|
    { ID id-Received-total-wide-band-power-For-CellPortion  CRITICALITY reject  TYPE Received-total-wide-band-power-Value   PRESENCE
mandatory }|
    { ID id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortion CRITICALITY reject  TYPE
TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionValue       PRESENCE mandatory }|
    { ID id-UpPTSInterferenceValue      CRITICALITY reject  TYPE    UpPTSInterferenceValue      PRESENCE mandatory }|
}

ReportCharacteristicsType-ScaledMeasurementChangeTime ::= CHOICE {
    msec                MeasurementChangeTime-Scaledmsec,
    ...
}

MeasurementChangeTime-Scaledmsec ::= INTEGER (1..6000,...)
-- MeasurementChangeTime-Scaledmsec = Time * 10
-- Unit ms, Range 10ms .. 60000ms(1min), Step 10ms

ReportCharacteristicsType-ScaledMeasurementHysteresisTime ::= CHOICE {
    msec                MeasurementHysteresisTime-Scaledmsec,
    ...
}
```

/* partly omitted */

```
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```

/* partly omitted */

```
UL-TimeSlot-ISCP-LCR-Info ::= SEQUENCE (SIZE (1..maxNrOfULTSLCRs)) OF   UL-TimeSlot-ISCP-LCR-InfoItem

UL-TimeSlot-ISCP-LCR-InfoItem ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
    iSCP                            UL-TimeslotISCP-Value,
    iE-Extensions                   ProtocolExtensionContainer { { UL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs} }            OPTIONAL,
    ...
 }

UL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
UpPTSInterferenceValue ::= INTEGER (0..127,...)

Unidirectional-DCH-Indicator    ::= ENUMERATED {
    downlink-DCH-only,
    uplink-DCH-only
}

USCH-Information ::= SEQUENCE (SIZE (1..maxNrOfUSCHs)) OF USCH-InformationItem
```

/* partly omitted */

9.3.6 Constant Definitions

/* partly omitted */

```
id-HSDSCH-Resources-Information-ResourceStatusInd                  ProtocolIE-ID ::= 612
id-HSDSCH-MACdFlows-to-Add                                         ProtocolIE-ID ::= 613
id-HSDSCH-MACdFlows-to-Delete                                      ProtocolIE-ID ::= 614
id-HSDSCH-Information-to-Modify-Unsynchronised                     ProtocolIE-ID ::= 615
id-TnlQos                                                          ProtocolIE-ID ::= 616
id-Received-total-wide-band-power-For-CellPortion-Value            ProtocolIE-ID ::= 617
id-Transmitted-Carrier-Power-For-CellPortion                       ProtocolIE-ID ::= 618
id-Transmitted-Carrier-Power-For-CellPortion-Value                 ProtocolIE-ID ::= 619
id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortion      ProtocolIE-ID ::= 620
id-TransmittedCarrierPowerOfAllCodesNotUsedForHS-PDSCHOrHS-SCCHTransmissionCellPortionValue ProtocolIE-ID ::= 621
id-UpPTSInterferenceValue                                          ProtocolIE-ID ::= 622
```