TSG-RAN Meeting #24 Seoul, Korea, 02-04 June 2004

Title: CRs to 25.331 (1) (Rel-4 and associated Rel-5/Rel-6)

Source: TSG-RAN WG2

Agenda item: 7.3.4

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Workitem	Doc-2nd-Level
25.331	2306	-		Correction on SFN-SFN time difference misalignment in 1.28 Mcps TDD	F	4.13.0	4.14.0	LCRTDD_L23	R2-041113
25.331	2307	-		Correction on SFN-SFN time difference misalignment in 1.28 Mcps TDD	A	5.8.0	5.9.0	LCRTDD_L23	R2-041114
25.331	2308	-		Correction on SFN-SFN time difference misalignment in 1.28 Mcps TDD	A	6.1.0	6.2.0	LCRTDD_L23	R2-041115
25.331	2343	-	Rel-4	Clarification about open loop power control in 1.28Mcps TDD	F	4.13.0	4.14.0	LCRTDD_L23	R2-041185
25.331	2344	-	Rel-5	Clarification about open loop power control in 1.28Mcps TDD	A	5.8.0	5.9.0	LCRTDD_L23	R2-041186
25.331	2345	-	Rel-6	Clarification about open loop power control in 1.28Mcps TDD	A	6.1.0	6.2.0	LCRTDD_L23	R2-041187
25.331	2346	-	Rel-4	Clarification about measurement control system information in TDD mode	F	4.13.0	4.14.0	TEI4	R2-041188
25.331	2347	-	Rel-5	Clarification about measurement control system information in TDD mode	A	5.8.0	5.9.0	TEI4	R2-041189
25.331	2348	-	Rel-6	Clarification about measurement control system information in TDD mode	A	6.1.0	6.2.0	TEI4	R2-041190

		(CHANGE	REQ	UE	ST			CR-Form-v7
x	25.33	1 CR	2306	ж rev	-	ж	Current vers	^{ion:} 4.13.	0 [#]
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Proposed chang	e affects:	UICC a	npps#	MEX	Radi	io Ac	ccess Networ	k 🗙 Core N	Vetwork
Title:	ж Correc	tion on S	FN-SFN time	difference	misal	lignn	nent in 1.28 N	Acps TDD	
Source:	ដ <mark>RAN W</mark>	/G2							
Work item code:	ដ <mark>្រក</mark> ារ	D_L23					<i>Date:</i> ೫	10/05/2004	
Category:	F (0 A (B (C (D (Detailed	correction) correspon addition of functional editorial m explanatic	ds to a correctio	on in an ear feature)		lease	2	Rel-4 the following re (GSM Phase 2 (Release 1996 (Release 1998 (Release 1998 (Release 4) (Release 4) (Release 5) (Release 6)	2) 5) 7) 3)

Reason for change: ೫	SFN-SFN time difference type 2 for 1.28 Mcps TDD was not particularly stated as type 1, hence was not inline with the range defined in 25.123.				
Summary of change: ℜ	Correction on SFN-SFN time difference type 2 for 1.28 Mcps TDD was made to keep aligned with 25.123. Comments was introduced into range of SFN-SFN time difference type 2 for 1.28 Mcps TDD on ASN.1.				
Consequences if # not approved:	The range of SFN-SFN time difference type 2 for 1.28 Mcps TDD is still incomplete.				
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Clauses affected: #	10.3.7.64, 11.3				
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affected:	Test specifications				
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Other comments: ೫					

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u>. 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.
- 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 http://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.

10.3.7.63 SFN-SFN observed time difference

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE type	MP				
>Type 1			Integer(0 9830399)	According to T1_SFN-SFN_TIME in [19] and [20]. For FDD and 3.84 Mcps TDD: 6946816 spare values are needed.	
			Integer(0 3276799)	For 1.28 Mcps TDD: 13500416 spare values are needed.	Rel-4
>Type 2			Integer(0 40961)	According to T2_SFN-SFN_TIME in [19] and [20]. 24574 spare values are needed.	
			<u>Integer(0</u> 27649)	For 1.28 Mcps TDD: 37886 spare values are needed.	Rel-4

11.3 Information element definitions

CHOICE { SFN-SFN-ObsTimeDifference ::= type1 SFN-SFN-ObsTimeDifference1, type2 SFN-SFN-ObsTimeDifference2 } -- SPARE: SFN-SFN-ObsTimeDifference1, Max = 9830399 -- For 1.28Mcps TDD, Max value of SFN-SFN-ObsTimeDifference1 is 3276799. -- Values above Max are spare SFN-SFN-ObsTimeDifference1 ::= INTEGER (0..16777215) -- SPARE: SFN-SFN-ObsTimeDifference2, Max = 40961

-- For 1.28Mcps TDD, Max value of SFN-SFN-ObsTimeDifference2 is 27649.
-- Values above Max are spare

SFN-SFN-ObsTimeDifference2 ::=

INTEGER (0..65535)

	CHANGE REQUEST	CR-Form-v7
ж	25.331 CR 2307	t version: 5.8.0 [#]
For <u>HELP</u> or	n using this form, see bottom of this page or look at the pop-u	p text over the % symbols.
Proposed chang	<i>e affects:</i> UICC apps⋇ ME <mark>Ⅹ</mark> Radio Access N	letwork X Core Network
Title:	Correction on SFN-SFN time difference misalignment in	1.28 Mcps TDD
Source:	육 RAN WG2	
Work item code:	ដ <mark>LCRTDD_L23 Da</mark>	te:
Category:	Use one of the following categories: Use of F (correction) 2 A (corresponds to a correction in an earlier release) RS B (addition of feature), RS C (functional modification of feature) RS D (editorial modification) RS D tetailed explanations of the above categories can RS	97 (Release 1997) 98 (Release 1998)

Reason for change: ೫	SFN-SFN time difference type 2 for 1.28 Mcps TDD was not particularly stated as type 1, hence was not inline with the range defined in 25.123.				
Summary of change: ℜ	Correction on SFN-SFN time difference type 2 for 1.28 Mcps TDD was made to keep aligned with 25.123. Comments was introduced into range of SFN-SFN time difference type 2 for 1.28 Mcps TDD on ASN.1.				
Consequences if # not approved:	The range of SFN-SFN time difference type 2 for 1.28 Mcps TDD is still incomplete.				
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Clauses affected: %	10.3.7.64, 11.3				
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Other specs ೫	Other core specifications %				
affected:	Test specifications O&M Specifications				
Other comments: ೫					

Rel-6

(Release 6)

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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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.

10.3.7.63 SFN-SFN observed time difference

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE type	MP				
>Type 1			Integer(0 9830399)	According to T1_SFN-SFN_TIME in [19] and [20]. For FDD and 3.84 Mcps TDD: 6946816 spare values are needed.	
			Integer(0 3276799)	For 1.28 Mcps TDD: 13500416 spare values are needed.	Rel-4
>Type 2			Integer(0 40961)	According to T2_SFN-SFN_TIME in [19] and [20]. 24574 spare values are needed.	
			<u>Integer(0</u> 27649)	For 1.28 Mcps TDD: 37886 spare values are needed.	Rel-4

11.3 Information element definitions

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SFN-SFN-ObsTimeDifference2 ::=

INTEGER (0..65535)

	CHANGE REQUEST	CR-F	-Form-v7
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Proposed chang	affects: UICC apps೫ ME X Radio Ac	cess Network X Core Netwo	ork
Title:	Correction on SFN-SFN time difference misalignm	ent in 1.28 Mcps TDD	
Source:	RAN WG2		
Work item code:	LCRTDD_L23	Date:	
Category:	 A Use <u>one</u> 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 <u>TR 21.900</u>. 	Release: # Rel-6 Use <u>one</u> of the following release 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)	es:

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Clauses affected: #	10.3.7.64, 11.3				
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affected:	Test specifications				
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Other comments: ೫					

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10.3.7.63 SFN-SFN observed time difference

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE type	MP				
>Type 1			Integer(0 9830399)	According to T1_SFN-SFN_TIME in [19] and [20]. For FDD and 3.84 Mcps TDD: 6946816 spare values are needed.	
			Integer(0 3276799)	For 1.28 Mcps TDD: 13500416 spare values are needed.	Rel-4
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-- Values above Max are spare

SFN-SFN-ObsTimeDifference2 ::=

INTEGER (0..65535)

3GPP TSG RAN WG2 meeting #42 Montreal , Canada , 10th – 14th May 2004

R2-041185

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For 1.28 Mcps TDD the UE shall:

[...]

1> calculate the UL transmit power according to the following formula for each UpPCH code transmission:

 $P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + (i-1)* Pwr_{ramp}$

NOTE: When i equals 1, the initial signature power "Signature_Initial_Power" defined in [33] corresponds to P_{UpPCH} with i set to 1.

1> calculate the UL transmit power according to the following formula for each PRACH transmission:

 $P_{PRACH} = L_{PCCPCH} + PRX_{PRACHdes} + (i_{UpPCH}-1) * Pwr_{ramp}$

1> calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transitions to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{\text{USCH}} = PRX_{\text{PUSCHdes}} + L_{\text{PCCPCH}}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement;

$$P_{HS-SICH} = PRX_{HS-SICH} + L_{PCCPCH}$$

2> when transmitting an Acknowledgement

 $P_{HS-SICH} = PRX_{HS-SICH} + L_{PCCPCH} + Ack-Nack Power Offset$

- 2> Once the UE receives TPC bits relating to the HS-SICH, it transitions to closed loop power control. If no TPC command for the HS-SICH is detected between successive HS-SICH transmissions, the UE should revert to open loop power control until the next TPC command is detected.
- 1> calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transitions to closed loop power control.

$$P_{DPCH} = PRX_{PDPCHdes} + L_{PCCPCH}$$

Where:

- P_{UpPCH}, P_{PRACH}, P_{DPCH}, P_{HS-SICH} & P_{USCH}: Transmitter power level in dBm.
- L_{PCCPCH}: Measurement representing path loss in dB (reference transmit power "Primary CCPCH Tx Power" is broadcast on BCH in System Information Block type 5 and System Information Block type 6, or individually signalled to each UE in the IE" Uplink DPCH Power Control info").
- i is the number of transmission attempts on UpPCH, i=1...Max SYNC_UL Transmissions.
- i_{UpPCH} is the final value of i.
- PRX_{PRACHdes}: Desired PRACH RX power at the cell's receiver in dBm signalled to the UE by the network in the FPACH response to the UE's successful SYNC_UL transmission.
- PRX_{UpPCHdes}: Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX_{UpPCHdes}" in IE "SYNC_UL info" on BCH and shall be read on System Information Block type 5 and System Information Block type 6. It can also be signalled directly to the UE in a protocol message triggering a hard handover.

- PRX_{PUSCHdes}: Desired PUSCH RX power at the cell's receiver in dBm signalled to the UE in IE "PUSCH Power Control Info".
- PRX_{PDPCHdes}: Desired PDPCH RX power at the cell's receiver in dBm signalled to the UE in IE "Uplink DPCH Power Control Info".
- Pwr_{ramp}: The UE shall increase its transmission power by the value of the IE "Power Ramp step" by every UpPCH transmission.
- PRX_{HS-SICH}: Desired HS-SICH RX power at the cell's receiver in dBm signalled to the UE in IE "Downlink HS-PDSCH Information".
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info

[...]

8.6.6.6 Uplink DPCH info

If the IE "Uplink DPCH info" is included, the UE shall:

For FDD:

- 1> release any active uplink physical channels and activate the given physical channels;
- 1> if the IE "Number of FBI bits" is not included:
 - 2> use 0 FBI bits in the Uplink DPCH.
- 1> use an SF equal to or greater than the minimum SF indicated in the IE "Spreading Factor" during uncompressed frames or compressed frames by HL scheduling;
- 1> use an SF equal to or greater than the minimum SF divided by 2 during compressed frames by SF reduction.

For TDD:

- 1> release the uplink physical channels associated with any CCTrCH that is removed or reconfigured and activate the physical channels assigned to any CCTrCH that is added or reconfigured;
- 1> for 3.84 Mcps TDD use the IE "UL target SIR" specified for each added or reconfigured CCTrCH as described in subclause 8.5.7. For 1.28 Mcps TDD use the value of IE "UL target SIR" specified for each added or reconfigured CCTrCH for parameter PRX_{PDPCHdes} as described in subclause 8.5.7;
- 1> use the parameters of the IE "Time info" for each added or reconfigured CCTrCH;
- 1> if present, use the IE "Uplink Timing Advance Control" as specified in subclause 8.6.6.26.

8.6.6.11 Uplink DPCH power control info

The UE shall:

- 1> in FDD:
 - 2> if the IE "Uplink DPCH power control info" is included:

- 3> if a synchronisation procedure A is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.
- 3> else:
 - 4> act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.
- 1> in 3.84 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included:
 - 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.

2> else:

- 3> use the current uplink transmission power.
- 1> in 1.28 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included in the UPLINK PHYSICAL CHANNEL CONTROL message:
 - 3> use the TPC step size for the closed loop power control of the CCTrCH identified in the message, replacing the existing value used for the CCTrCH.
 - 3> if the IE " UL target SIR " is included:
 - 4> use this value for parameter PRX_{PDPCHdes} for open loop power control of the CCTrCH identified in the message in the case of a transition from closed loop to open loop power control as specified in [33].
 - 2> if the IE "Uplink DPCH power control info" is included in the IE "Uplink DPCH info":
 - 3> use the TPC step size for the closed loop power control of all CCTrCH added or reconfigured by the IE replacing any existing values used for the CCTrCHs;
 - 3> if the IE " UL target SIR " is included ignore the parameter.

1> both in FDD and TDD;

2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:

3> set the variable INVALID_CONFIGURATION to true.

10.3.6.88 Uplink DPCH info

Information	Need	Multi	Type and	Semantics description	Version
Element/Group name Uplink DPCH power	OP		reference Uplink		
control info	OF		DPCH		
			power		
			control		
			info		
			10.3.6.91		
CHOICE mode	MP		10.0.0.01		
>FDD					
>>Scrambling code type	MP		Enumerat		
			ed(short,		
			long)		
>>Scrambling code	MP		Integer(0		
number			16777215		
>>Number of DPDCH	MD)	Default value is 1	
>>Number of DPDCH	MD		Integer(1 maxDPD	Default value is 1. Number of DPDCH is 1	
			CH)	IN HANDOVER TO	
				UTRAN COMMAND	
>>Spreading factor	MP		Integer(4,	Minimum allowed SF of	
			8, 16, 32,	the channelisation code	
			64, 128,	for data part	
>>TFCI existence	MD		256) Boolean	TRUE means	
	IVID		Doolean	existence. Default value	
				is "TRUE"	
>>Number of FBI bits	OP		Integer (1,	In bits.	
	•		2)		
>>Puncturing Limit	MP		Real(0.40		
5			1 by		
			step of		
			0.04)		
>TDD					
>>Uplink Timing	OP		Uplink		
Advance Control			Timing		
			Advance		
			Control		
			10.3.6.96		
>>UL CCTrCH List	OP	1 to		UL physical channels to	
		<maxcc< td=""><td></td><td>establish or reconfigure</td><td></td></maxcc<>		establish or reconfigure	
TEOOID		TrCH>	late we w/4	list. Default value is 1.	
>>>TFCS ID	MD		Integer(1 8)	Default value is 1.	
>>>UL target SIR	MP		Real (-11	In dB	
			20 by	For 1.28 Mcps TDD this	REL-4
			step of	parameter represents	
			0.5dB)	PRX _{PDPCHdes} with	
			0.002)	range Integer(-12058	
				by step of 1) dBm	
>>>Time info	MP		Time info		
			10.3.6.83		
>>>Common timeslot	MP MD		10.3.6.83 Common	Default is the current	
			10.3.6.83 Common timeslot	Default is the current Common timeslot info	
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>>>Common timeslot info >>>Uplink DPCH			10.3.6.83 Common timeslot info 10.3.6.10 Uplink	Common timeslot info Default is to use the old	
>>>Common timeslot info	MD		10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots	Common timeslot info	
>>>Common timeslot info >>>Uplink DPCH	MD		10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots and	Common timeslot info Default is to use the old	
>>>Common timeslot info >>>Uplink DPCH	MD		10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots and Codes	Common timeslot info Default is to use the old	
<pre>>>>Common timeslot info >>>Uplink DPCH timeslots and codes</pre>	MD	1 <====	10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots and	Common timeslot info Default is to use the old timeslots and codes.	
<pre>>>>Common timeslot info >>>Uplink DPCH timeslots and codes >>UL CCTrCH List to</pre>	MD	1 <max< td=""><td>10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots and Codes</td><td>Common timeslot info Default is to use the old timeslots and codes. UL physical channels to</td><td></td></max<>	10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots and Codes	Common timeslot info Default is to use the old timeslots and codes. UL physical channels to	
<pre>>>>Common timeslot info >>>Uplink DPCH timeslots and codes</pre>	MD	1 <max CCTrCH</max 	10.3.6.83 Common timeslot info 10.3.6.10 Uplink Timeslots and Codes	Common timeslot info Default is to use the old timeslots and codes.	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			8)		

[...]

10.3.6.91 Uplink DPCH power control info

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control in FDD and 1.28 Mcps TDD and parameters for uplink open loop power control in 3.84 Mcps TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP			•	
>FDD					
>>DPCCH Power offset	MP		Integer(- 164,6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (07)	In number of frames	
>>SRB delay	MP		Integer(07)	In number of frames	
>>Power Control Algorithm	MP		Enumerated (algorithm 1, algorithm 2)	Specifies algorithm to be used by UE to interpret TPC commands	
>>TPC step size	CV-algo		Integer (1, 2)	In dB	
>>∆ _{ACK}	OP		Integer (08)	Refer to quantization of the power offset in [28]	REL-5
>>Δ _{NACK}	OP		Integer (08)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(14)		REL-5
>TDD					
>>>>UL target SIR	OP		Real (-11 20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents PRXPDPCHdes with range Integer(-12058 by step of 1) dBm	REL-4
>>CHOICE UL OL PC info	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE TDD option	MP				REL-4
>>>>3.84 Mcps TDD					REL-4
>>>>>Individual timeslot interference info	MP	1 to <maxts></maxts>			
>>>>>>Individual timeslot interference	MP		Individual timeslot interference 10.3.6.38		
>>>>>DPCH Constant Value	OP		Constant Value TDD 10.3.6.11a	Quality Margin	
>>>>1.28 Mcps TDD					REL-4
>>>>>TPC step size	MP		Integer(1,2,3		REL-4

1

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
)		
>>>>Primary CCPCH Tx Power	OP		Primary CCPCH Tx Power 10.3.6.59	For Pathloss Calculation	

Condition	Explanation
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed

10.3.6.92 Uplink DPCH power control info Post

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP			•	
>FDD					
>>DPCCH Power offset	MP		Integer(- 11050 by step of 4)	In dB	
>>PC Preamble	MP		Integer (07)	in number of frames	
>>SRB delay	MP		Integer (07)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11	In dB	
			20 by step of 0.5dB)	For 1.28 Mcps TDD this parameter represents PRXpDPCHdes with range Integer(-12058 by step of 1) dBm	REL-4
>>CHOICE TDD option	MP				REL-4
>>>3.84 Mcps TDD					REL-4
>>>>UL Timeslot Interference	MP		UL Interference TDD 10.3.6.87a		
>>>1.28 Mcps TDD		1		(no data)	REL-4

Condition	Explanation
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed

11.3 Information element definitions

[...]

```
UL-CCTrCH-r4 ::=
                                    SEQUENCE {
   tfcs-ID
                                        TFCS-IdentityPlain
                                                                             DEFAULT 1,
    -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
    -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
    ul-TargetSIR
                                        UL-TargetSIR,
    timeInfo
                                        TimeInfo,
    commonTimeslotInfo
                                        CommonTimeslotInfo
                                                                             OPTIONAL
    tddOption
                                        CHOICE {
                                            SEQUENCE {
        t.dd384
            ul-CCTrCH-TimeslotsCodes
                                                UplinkTimeslotsCodes
                                                                             OPTIONAL
        },
        tdd128
                                            SEQUENCE {
            ul-CCTrCH-TimeslotsCodes
                                                UplinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    }
}
UL-DPCH-PowerControlInfo-r4 ::=
                                    CHOICE {
                                        SEQUENCE {
    fdd
        dpcch-PowerOffset
                                            DPCCH-PowerOffset,
        pc-Preamble
                                            PC-Preamble,
        sRB-delay
                                            SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm
                                            PowerControlAlgorithm
    },
    tdd
                                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
        -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR
                                            UL-TargetSIR
                                                                         OPTIONAL,
        ul-OL-PC-Signalling
                                            CHOICE {
            broadcast-UL-OL-PC-info
                                                NULL,
            individuallySignalled
                                                 SEOUENCE {
                tddOption
                                                    CHOICE {
                    tdd384
                                                        SEQUENCE {
                        individualTS-InterferenceList
                                                            IndividualTS-InterferenceList,
                        dpch-ConstantValue
                                                             ConstantValue
                    },
                    tdd128
                                                         SEQUENCE {
                                                             TPC-StepSizeTDD
                        tpc-StepSize
                }.
                primaryCCPCH-TX-Power
                                                   PrimaryCCPCH-TX-Power
           }
        }
    }
}
UL-DPCH-PowerControlInfo-r5 ::=
                                    CHOICE {
                                        SEQUENCE {
    fdd
        dpcch-PowerOffset
                                            DPCCH-PowerOffset,
        pc-Preamble
                                            PC-Preamble,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm
                                            PowerControlAlgorithm,
        deltaACK
                                            DeltaACK
                                                        OPTIONAL,
                                                       OPTIONAL,
        deltaNACK
                                            DeltaNACK
        ack-NACK-repetition-factor
                                            ACK-NACK-repetitionFactor
                                                                       OPTIONAL
    },
    tdd
                                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
        -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR
                                            UL-TargetSIR
                                                                         OPTIONAL.
        ul-OL-PC-Signalling
                                            CHOICE {
            broadcast-UL-OL-PC-info
                                                NULL,
            individuallySignalled
                                                SEQUENCE {
                tddOption
                                                     CHOICE {
```

[...]

```
SEQUENCE {
                    tdd384
                        individualTS-InterferenceList
                                                           IndividualTS-InterferenceList,
                       dpch-ConstantValue
                                                           ConstantValue
                    },
                    tdd128
                                                       SEQUENCE {
                       tpc-StepSize
                                                           TPC-StepSizeTDD
                    }
                },
               primaryCCPCH-TX-Power
                                                  PrimaryCCPCH-TX-Power
           }
       }
    }
}
UL-DPCH-PowerControlInfoPostFDD ::= SEQUENCE {
    -- DPCCH-PowerOffset2 has a smaller range to save bits
                                       DPCCH-PowerOffset2,
   dpcch-PowerOffset
   pc-Preamble
                                        PC-Preamble,
    sRB-delay
                                        SRB-delay
}
UL-DPCH-PowerControlInfoPostTDD ::= SEQUENCE {
    ul-TargetSIR
                                     UL-TargetSIR,
    ul-TimeslotInterference
                                       TDD-UL-Interference
}
UL-DPCH-PowerControlInfoPostTDD-LCR-r4 ::= SEQUENCE {
   -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
    -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
   ul-TargetSIR
                                       UL-TargetSIR
}
```

3GPP TSG RAN WG2 meeting #42 Montreal , Canada , 10th – 14th May 2004

R2-041186

			С	HANGE	EREQ	UES	т			CR-Form-v7
ж	25.	331	CR	2344	жrev	- H	Current	t version:	5.8.0	ж
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Title:	ж	Clarifica	ation about	open loop	power con	<mark>trol in 1</mark>	.28Mcps T	ſDD		
Source:	ж	RAN W	G2							
Work iter	n code: ₩	LCRTD	D_L23				Dat	te:	/04/2004	
	or change	F (co A (c B (a C (fu D (e Detailed e be found i e: # In cu 1.28 accu is so ge: # This corr Imp Imp. relea The	orrection) orresponds ddition of fe unctional mod explanations n 3GPP TF MCps TDI urrent spece MCps TDI urate that ome ambig cCR just c esponding act Analy act assess ase): impact ca	cification of lification) s of the above 21.900. Cifications, c D mode, dec "PRXPDPCH guity. hanged the section in t sis: ment toward n be consid	on in an ear feature) e categories desired DF dicated phy ldes" shoul term "PR) ext, tabula	CH RX ysical c d be ter PDPCH ar and A	2 ase) R9 R9 R9 R9 R9 R9 R9 R9 R9 R9 R9 R9 R9 R	ne of the f (GS) (Rel (Rel 9 (Rel 1-4 (Rel 1-5 (Rel 1-6 (Rel 0PCH. So 0PCH. So 0PCHdes"	Plowing rele M Phase 2) ease 1996) ease 1997) ease 1998) ease 1999) ease 4) ease 5) ease 6) PRXPDPCHO , it is more Otherwise	des". In e, there
Consequ not appro			RX _{PDPCHa} his CR is r	les. Iot approved	d, the nam	e of PR	XPDPCHde	s would b	e some am	nbiguity.
Clauses a	affected:	ж <mark>8.5</mark>	. <mark>7, 8.6.6.6</mark>	<mark>, 8.6.6.11, 1</mark>	0.3.6.88,	10.3.6.9	91, 10.3.6.9	92, 11.3		
Other spe affected:		ж 	X Test sp	ore specific ecifications pecification		ж				
Other cor	mments:	H								

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

For 1.28 Mcps TDD the UE shall:

[...]

1> calculate the UL transmit power according to the following formula for each UpPCH code transmission:

 $P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + (i-1)* Pwr_{ramp}$

NOTE: When i equals 1, the initial signature power "Signature_Initial_Power" defined in [33] corresponds to P_{UpPCH} with i set to 1.

1> calculate the UL transmit power according to the following formula for each PRACH transmission:

 $P_{PRACH} = L_{PCCPCH} + PRX_{PRACHdes} + (i_{UpPCH}-1) * Pwr_{ramp}$

1> calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transitions to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{\text{USCH}} = PRX_{\text{PUSCHdes}} + L_{\text{PCCPCH}}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement;

$$P_{HS-SICH} = PRX_{HS-SICH} + L_{PCCPCH}$$

2> when transmitting an Acknowledgement

 $P_{HS-SICH} = PRX_{HS-SICH} + L_{PCCPCH} + Ack-Nack Power Offset$

- 2> Once the UE receives TPC bits relating to the HS-SICH, it transitions to closed loop power control. If no TPC command for the HS-SICH is detected between successive HS-SICH transmissions, the UE should revert to open loop power control until the next TPC command is detected.
- 1> calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transitions to closed loop power control.

$$P_{DPCH} = PRX_{PDPCHdes} + L_{PCCPCH}$$

Where:

- P_{UpPCH}, P_{PRACH}, P_{DPCH}, P_{HS-SICH} & P_{USCH}: Transmitter power level in dBm.
- L_{PCCPCH}: Measurement representing path loss in dB (reference transmit power "Primary CCPCH Tx Power" is broadcast on BCH in System Information Block type 5 and System Information Block type 6, or individually signalled to each UE in the IE" Uplink DPCH Power Control info").
- i is the number of transmission attempts on UpPCH, i=1...Max SYNC_UL Transmissions.
- i_{UpPCH} is the final value of i.
- PRX_{PRACHdes}: Desired PRACH RX power at the cell's receiver in dBm signalled to the UE by the network in the FPACH response to the UE's successful SYNC_UL transmission.
- PRX_{UpPCHdes}: Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX_{UpPCHdes}" in IE "SYNC_UL info" on BCH and shall be read on System Information Block type 5 and System Information Block type 6. It can also be signalled directly to the UE in a protocol message triggering a hard handover.

- PRX_{PUSCHdes}: Desired PUSCH RX power at the cell's receiver in dBm signalled to the UE in IE "PUSCH Power Control Info".
- PRX_{PDPCHdes}: Desired PDPCH RX power at the cell's receiver in dBm signalled to the UE in IE "Uplink DPCH Power Control Info".
- Pwr_{ramp}: The UE shall increase its transmission power by the value of the IE "Power Ramp step" by every UpPCH transmission.
- PRX_{HS-SICH}: Desired HS-SICH RX power at the cell's receiver in dBm signalled to the UE in IE "Downlink HS-PDSCH Information".
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info

[...]

8.6.6.6 Uplink DPCH info

If the IE "Uplink DPCH info" is included, the UE shall:

For FDD:

- 1> release any active uplink physical channels and activate the given physical channels;
- 1> if the IE "Number of FBI bits" is not included:
 - 2> use 0 FBI bits in the Uplink DPCH.
- 1> use an SF equal to or greater than the minimum SF indicated in the IE "Spreading Factor" during uncompressed frames or compressed frames by HL scheduling;
- 1> use an SF equal to or greater than the minimum SF divided by 2 during compressed frames by SF reduction.

For TDD:

- 1> release the uplink physical channels associated with any CCTrCH that is removed or reconfigured and activate the physical channels assigned to any CCTrCH that is added or reconfigured;
- 1> for 3.84 Mcps TDD use the IE "UL target SIR" specified for each added or reconfigured CCTrCH as described in subclause 8.5.7. For 1.28 Mcps TDD use the value of IE "UL target SIR" specified for each added or reconfigured CCTrCH for parameter PRX_{PDPCHdes} as described in subclause 8.5.7;
- 1> use the parameters of the IE "Time info" for each added or reconfigured CCTrCH;
- 1> if present, use the IE "Uplink Timing Advance Control" as specified in subclause 8.6.6.26.

8.6.6.11 Uplink DPCH power control info

The UE shall:

- 1> in FDD:
 - 2> if the IE "Uplink DPCH power control info" is included:

- 3> if a synchronisation procedure A is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.
- 3> else:
 - 4> act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.
- 1> in 3.84 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included:
 - 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.

2> else:

- 3> use the current uplink transmission power.
- 1> in 1.28 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included in the UPLINK PHYSICAL CHANNEL CONTROL message:
 - 3> use the TPC step size for the closed loop power control of the CCTrCH identified in the message, replacing the existing value used for the CCTrCH.
 - 3> if the IE " UL target SIR " is included:
 - 4> use this value for parameter PRX_{PDPCHdes} for open loop power control of the CCTrCH identified in the message in the case of a transition from closed loop to open loop power control as specified in [33].
 - 2> if the IE "Uplink DPCH power control info" is included in the IE "Uplink DPCH info":
 - 3> use the TPC step size for the closed loop power control of all CCTrCH added or reconfigured by the IE replacing any existing values used for the CCTrCHs;
 - 3> if the IE " UL target SIR " is included ignore the parameter.

1> both in FDD and TDD;

2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:

3> set the variable INVALID_CONFIGURATION to true.

10.3.6.88 Uplink DPCH info

Information	Need	Multi	Type and	Semantics description	Version
Element/Group name Uplink DPCH power	OP		reference Uplink		
control info	0r		DPCH		
			power		
			control		
			info		
			10.3.6.91		
CHOICE mode	MP				
>FDD			_		
>>Scrambling code type	MP		Enumerat		
			ed(short,		
O and and line and a			long)		
>>Scrambling code	MP		Integer(0		
number			16777215)		
>>Number of DPDCH	MD) Integer(1	Default value is 1.	
	in D		maxDPD	Number of DPDCH is 1	
			CH)	in HANDOVER TO	
			011)	UTRAN COMMAND	
>>Spreading factor	MP		Integer(4,	Minimum allowed SF of	
			8, 16, 32,	the channelisation code	
			64, 128,	for data part	
			256)	-	
>>TFCI existence	MD		Boolean	TRUE means	
				existence. Default value	
				is "TRUE"	
>>Number of FBI bits	OP		Integer (1,	In bits.	
. Due sturie e Liesit	MP		2)		
>>Puncturing Limit	MP		Real(0.40 1 by		
			step of		
			0.04)		
>TDD			0.0.1		
>>Uplink Timing	OP		Uplink		
Advance Control	-		Timing		
			Advance		
			Control		
			10.3.6.96		
>>UL CCTrCH List	OP	1 to		UL physical channels to	
		<maxcc< td=""><td></td><td>establish or reconfigure</td><td></td></maxcc<>		establish or reconfigure	
TEOOID	MD	TrCH>	late we w/4	list.	
>>>TFCS ID	MD		Integer(1 8)	Default value is 1.	
>>>UL target SIR	MP		Real (-11	In dB	
ger en i			20 by	For 1.28 Mcps TDD this	REL-4
			step of	parameter represents	
			0.5dB)	PRX _{PDPCHdes} with	
			,	range Integer(-12058	
				by step of 1) dBm	
>>>Time info	MP		Time info		
<u> </u>			10.3.6.83		
>>>Common timeslot	MD		Common	Default is the current	
info			timeslot	Common timeslot info	
			info 10.3.6.10		
>>>Uplink DPCH	MD		Uplink	Default is to use the old	
timeslots and codes			Timeslots	timeslots and codes.	
			and		
			Codes		
			10.3.6.94		
>>UL CCTrCH List to	OP	1 <max< td=""><td></td><td>UL physical channels to</td><td></td></max<>		UL physical channels to	
Remove		CCTrCH		remove list	
		>			
>>>TFCS ID	MP		Integer(1		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			8)		

[...]

10.3.6.91 Uplink DPCH power control info

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control in FDD and 1.28 Mcps TDD and parameters for uplink open loop power control in 3.84 Mcps TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP			•	
>FDD					
>>DPCCH Power offset	MP		Integer(- 164,6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (07)	In number of frames	
>>SRB delay	MP		Integer(07)	In number of frames	
>>Power Control Algorithm	MP		Enumerated (algorithm 1, algorithm 2)	Specifies algorithm to be used by UE to interpret TPC commands	
>>TPC step size	CV-algo		Integer (1, 2)	In dB	
>>∆ _{ACK}	OP		Integer (08)	Refer to quantization of the power offset in [28]	REL-5
>>Δ _{NACK}	OP		Integer (08)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(14)		REL-5
>TDD					
>>>>UL target SIR	OP		Real (-11 20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents PRXPDPCHdes with range Integer(-12058 by step of 1) dBm	REL-4
>>CHOICE UL OL PC info	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE TDD option	MP				REL-4
>>>>3.84 Mcps TDD					REL-4
>>>>>Individual timeslot interference info	MP	1 to <maxts></maxts>			
>>>>>>Individual timeslot interference	MP		Individual timeslot interference 10.3.6.38		
>>>>>DPCH Constant Value	OP		Constant Value TDD 10.3.6.11a	Quality Margin	
>>>>1.28 Mcps TDD		1	-		REL-4
>>>>>TPC step size	MP		Integer(1,2,3		REL-4

1

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
)		
>>>Primary CCPCH Tx Power	OP		Primary CCPCH Tx Power 10.3.6.59	For Pathloss Calculation	

Condition	Explanation
•	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed

10.3.6.92 Uplink DPCH power control info Post

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP			•	
>FDD					
>>DPCCH Power offset	MP		Integer(- 11050 by step of 4)	In dB	
>>PC Preamble	MP		Integer (07)	in number of frames	
>>SRB delay	MP		Integer (07)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11	In dB	
			20 by step of 0.5dB)	For 1.28 Mcps TDD this parameter represents PRXpDPCHdes with range Integer(-12058 by step of 1) dBm	REL-4
>>CHOICE TDD option	MP				REL-4
>>>3.84 Mcps TDD					REL-4
>>>>UL Timeslot Interference	MP		UL Interference TDD 10.3.6.87a		
>>>1.28 Mcps TDD				(no data)	REL-4

Condition	Explanation			
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed			

11.3 Information element definitions

[...]

```
UL-CCTrCH-r4 ::=
                                    SEQUENCE {
   tfcs-ID
                                        TFCS-IdentityPlain
                                                                             DEFAULT 1,
    -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
    -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
    ul-TargetSIR
                                        UL-TargetSIR,
    timeInfo
                                        TimeInfo,
    commonTimeslotInfo
                                        CommonTimeslotInfo
                                                                             OPTIONAL
    tddOption
                                        CHOICE {
                                            SEQUENCE {
        t.dd384
            ul-CCTrCH-TimeslotsCodes
                                                UplinkTimeslotsCodes
                                                                             OPTIONAL
        },
        tdd128
                                            SEQUENCE {
            ul-CCTrCH-TimeslotsCodes
                                                UplinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    }
}
UL-DPCH-PowerControlInfo-r4 ::=
                                    CHOICE {
                                        SEQUENCE {
    fdd
        dpcch-PowerOffset
                                            DPCCH-PowerOffset,
        pc-Preamble
                                            PC-Preamble,
        sRB-delay
                                            SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm
                                            PowerControlAlgorithm
    },
    tdd
                                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
        -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR
                                            UL-TargetSIR
                                                                         OPTIONAL,
        ul-OL-PC-Signalling
                                            CHOICE {
            broadcast-UL-OL-PC-info
                                                NULL,
            individuallySignalled
                                                 SEOUENCE {
                tddOption
                                                    CHOICE {
                    tdd384
                                                        SEQUENCE {
                        individualTS-InterferenceList
                                                            IndividualTS-InterferenceList,
                        dpch-ConstantValue
                                                             ConstantValue
                    },
                    tdd128
                                                         SEQUENCE {
                                                             TPC-StepSizeTDD
                        tpc-StepSize
                }.
                primaryCCPCH-TX-Power
                                                   PrimaryCCPCH-TX-Power
           }
        }
    }
}
UL-DPCH-PowerControlInfo-r5 ::=
                                    CHOICE {
                                        SEQUENCE {
    fdd
        dpcch-PowerOffset
                                            DPCCH-PowerOffset,
        pc-Preamble
                                            PC-Preamble,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm
                                            PowerControlAlgorithm,
        deltaACK
                                            DeltaACK
                                                        OPTIONAL,
                                                       OPTIONAL,
        deltaNACK
                                            DeltaNACK
        ack-NACK-repetition-factor
                                            ACK-NACK-repetitionFactor
                                                                       OPTIONAL
    },
    tdd
                                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
        -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR
                                            UL-TargetSIR
                                                                         OPTIONAL.
        ul-OL-PC-Signalling
                                            CHOICE {
            broadcast-UL-OL-PC-info
                                                NULL,
            individuallySignalled
                                                SEQUENCE {
                tddOption
                                                     CHOICE {
```

[...]

```
SEQUENCE {
                    tdd384
                        individualTS-InterferenceList
                                                           IndividualTS-InterferenceList,
                       dpch-ConstantValue
                                                           ConstantValue
                    },
                    tdd128
                                                       SEQUENCE {
                       tpc-StepSize
                                                           TPC-StepSizeTDD
                    }
                },
               primaryCCPCH-TX-Power
                                                  PrimaryCCPCH-TX-Power
           }
       }
    }
}
UL-DPCH-PowerControlInfoPostFDD ::= SEQUENCE {
    -- DPCCH-PowerOffset2 has a smaller range to save bits
                                       DPCCH-PowerOffset2,
   dpcch-PowerOffset
   pc-Preamble
                                        PC-Preamble,
    sRB-delay
                                        SRB-delay
}
UL-DPCH-PowerControlInfoPostTDD ::= SEQUENCE {
    ul-TargetSIR
                                     UL-TargetSIR,
    ul-TimeslotInterference
                                       TDD-UL-Interference
}
UL-DPCH-PowerControlInfoPostTDD-LCR-r4 ::= SEQUENCE {
   -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
    -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
   ul-TargetSIR
                                       UL-TargetSIR
}
```

3GPP TSG RAN WG2 meeting #42 Montreal , Canada , 10th – 14th May 2004

R2-041187

CHANGE REQUEST										
ж	25.	331	CR	2345	ж rev	- #	Current vers	sion: 6	.1.0	ж
For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.										
Proposed o	change a	affects:	UICC ap	ops#	ME <mark>X</mark>	Radio	Access Netwo	vrk 🗶 (Core Ne	twork
Title:	ж	Clarifi	cation abou	ut open loop	power cor	ntrol in 1.	28Mcps TDD			
Source:	ж	RAN	WG2							
Work item o	code: ଞ	LCRT	DD_L23				<i>Date:</i>	3 <mark>15/04</mark>	/2004	
Category: Reason for		F A B C D Detailed be foun	(correction) (correspond (addition of a (functional model) (editorial model) dexplanation d in 3GPP T	nodification of odification) ns of the abov <u>R 21.900</u> . ecifications, o	fon in an ea i feature) e categories desired DF	s can PCH RX	R97 R98 R99 Rel-4 Rel-5 Rel-6	f the folloo (GSM P (Releas (Releas (Releas (Releas (Releas (Releas	wing rele Phase 2) e 1996) e 1997) e 1998) e 1999) e 4) e 5) e 6) CPDPCHC	_{Jes} ". In
Summary o	of chanc	ac is	curate that some amb	"PRX _{PDPCF} iguity.	_{Hdes} " shoul	d be ter	nannel is DPCI med "PRX _{DPC} les" into "PRX _C	_{Hdes} ". Ot	therwise	
Gammary G	, chang	cc Im Im re Th	prrespondin pact Anal pact asses lease):	g section in t ysis: sment towar an be consid	text, tabula ds the pre	ar and A	es into PRAE SN.1. ersion of the sp ause the chang	oecificatio	on (sam	
Consequen not approv		X I	f this CR is	not approve	d, the nam	e of PR	X _{PDPCHdes} wo	uld be so	ome am	biguity.
Clauses aff	fected:	<mark>ж</mark> 8	8 <mark>.5.7, 8.6.6.</mark>	6, 8.6.6.11,	10.3.6.88,	10.3.6.9	1, 10.3.6.92, 1	1.3		
Other spec affected:	s	¥ Ж	X Test s	core specific pecifications Specification	5	ж				
Other com	ments:	Ħ								

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

For 1.28 Mcps TDD the UE shall:

[...]

1> calculate the UL transmit power according to the following formula for each UpPCH code transmission:

 $P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + (i-1)* Pwr_{ramp}$

NOTE: When i equals 1, the initial signature power "Signature_Initial_Power" defined in [33] corresponds to P_{UpPCH} with i set to 1.

1> calculate the UL transmit power according to the following formula for each PRACH transmission:

 $P_{PRACH} = L_{PCCPCH} + PRX_{PRACHdes} + (i_{UpPCH}-1) * Pwr_{ramp}$

1> calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transitions to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{\text{USCH}} = PRX_{\text{PUSCHdes}} + L_{\text{PCCPCH}}$$

1> calculate the initial UL transmit power for HS-SICH according to the following formulae:

2> when transmitting a Negative Acknowledgement;

$$P_{HS-SICH} = PRX_{HS-SICH} + L_{PCCPCH}$$

2> when transmitting an Acknowledgement

 $P_{HS-SICH} = PRX_{HS-SICH} + L_{PCCPCH} + Ack-Nack Power Offset$

- 2> Once the UE receives TPC bits relating to the HS-SICH, it transitions to closed loop power control. If no TPC command for the HS-SICH is detected between successive HS-SICH transmissions, the UE should revert to open loop power control until the next TPC command is detected.
- 1> calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transitions to closed loop power control.

$$P_{DPCH} = PRX_{PDPCHdes} + L_{PCCPCH}$$

Where:

- P_{UpPCH}, P_{PRACH}, P_{DPCH}, P_{HS-SICH} & P_{USCH}: Transmitter power level in dBm.
- L_{PCCPCH}: Measurement representing path loss in dB (reference transmit power "Primary CCPCH Tx Power" is broadcast on BCH in System Information Block type 5 and System Information Block type 6, or individually signalled to each UE in the IE" Uplink DPCH Power Control info").
- i is the number of transmission attempts on UpPCH, i=1...Max SYNC_UL Transmissions.
- i_{UpPCH} is the final value of i.
- PRX_{PRACHdes}: Desired PRACH RX power at the cell's receiver in dBm signalled to the UE by the network in the FPACH response to the UE's successful SYNC_UL transmission.
- PRX_{UpPCHdes}: Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX_{UpPCHdes}" in IE "SYNC_UL info" on BCH and shall be read on System Information Block type 5 and System Information Block type 6. It can also be signalled directly to the UE in a protocol message triggering a hard handover.

- PRX_{PUSCHdes}: Desired PUSCH RX power at the cell's receiver in dBm signalled to the UE in IE "PUSCH Power Control Info".
- PRX_{PDPCHdes}: Desired PDPCH RX power at the cell's receiver in dBm signalled to the UE in IE "Uplink DPCH Power Control Info".
- Pwr_{ramp}: The UE shall increase its transmission power by the value of the IE "Power Ramp step" by every UpPCH transmission.
- PRX_{HS-SICH}: Desired HS-SICH RX power at the cell's receiver in dBm signalled to the UE in IE "Downlink HS-PDSCH Information".
- Ack-Nack Power Offset: Difference in the desired RX power between HS-SICH transmissions conveying an acknowledgement and transmissions conveying a negative acknowledgement signalled to the UE in IE "HS-SCCH Info

[...]

8.6.6.6 Uplink DPCH info

If the IE "Uplink DPCH info" is included, the UE shall:

For FDD:

- 1> release any active uplink physical channels and activate the given physical channels;
- 1> if the IE "Number of FBI bits" is not included:
 - 2> use 0 FBI bits in the Uplink DPCH.
- 1> use an SF equal to or greater than the minimum SF indicated in the IE "Spreading Factor" during uncompressed frames or compressed frames by HL scheduling;
- 1> use an SF equal to or greater than the minimum SF divided by 2 during compressed frames by SF reduction.

For TDD:

- 1> release the uplink physical channels associated with any CCTrCH that is removed or reconfigured and activate the physical channels assigned to any CCTrCH that is added or reconfigured;
- 1> for 3.84 Mcps TDD use the IE "UL target SIR" specified for each added or reconfigured CCTrCH as described in subclause 8.5.7. For 1.28 Mcps TDD use the value of IE "UL target SIR" specified for each added or reconfigured CCTrCH for parameter PRX_{PDPCHdes} as described in subclause 8.5.7;
- 1> use the parameters of the IE "Time info" for each added or reconfigured CCTrCH;
- 1> if present, use the IE "Uplink Timing Advance Control" as specified in subclause 8.6.6.26.

8.6.6.11 Uplink DPCH power control info

The UE shall:

- 1> in FDD:
 - 2> if the IE "Uplink DPCH power control info" is included:

- 3> if a synchronisation procedure A is performed according to [29]:
 - 4> calculate and set an initial uplink transmission power;
 - 4> start inner loop power control as specified in subclause 8.5.3;
 - 4> for the UL inner loop power control:
 - 5> use the parameters specified in the IE.
- 3> else:
 - 4> act on the IE "Power control algorithm" and the IE "TPC step size" if included and ignore any other IEs that are included.
- 1> in 3.84 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included:
 - 3> use the parameters specified in the IE for open loop power control as defined in subclause 8.5.7.

2> else:

- 3> use the current uplink transmission power.
- 1> in 1.28 Mcps TDD:
 - 2> if the IE "Uplink DPCH power control info" is included in the UPLINK PHYSICAL CHANNEL CONTROL message:
 - 3> use the TPC step size for the closed loop power control of the CCTrCH identified in the message, replacing the existing value used for the CCTrCH.
 - 3> if the IE " UL target SIR " is included:
 - 4> use this value for parameter PRX_{PDPCHdes} for open loop power control of the CCTrCH identified in the message in the case of a transition from closed loop to open loop power control as specified in [33].
 - 2> if the IE "Uplink DPCH power control info" is included in the IE "Uplink DPCH info":
 - 3> use the TPC step size for the closed loop power control of all CCTrCH added or reconfigured by the IE replacing any existing values used for the CCTrCHs;
 - 3> if the IE " UL target SIR " is included ignore the parameter.

1> both in FDD and TDD;

2> if the IE "Uplink DPCH power control info" is not included in a message used to enter CELL_DCH:

3> set the variable INVALID_CONFIGURATION to true.

10.3.6.88 Uplink DPCH info

Information	Need	Multi	Type and	Semantics description	Version
Element/Group name Uplink DPCH power	OP		reference Uplink		
control info	01		DPCH		
			power		
			control		
			info		
			10.3.6.91		
CHOICE mode	MP				
>FDD					
>>Scrambling code type	MP		Enumerat		
			ed(short,		
O and and line and a	MD		long)		
>>Scrambling code	MP		Integer(0		
number			16777215)		
>>Number of DPDCH	MD) Integer(1	Default value is 1.	
	WIE -		maxDPD	Number of DPDCH is 1	
			CH)	in HANDOVER TO	
			011)	UTRAN COMMAND	
>>Spreading factor	MP		Integer(4,	Minimum allowed SF of	
			8, 16, 32,	the channelisation code	
			64, 128,	for data part	
			256)	-	
>>TFCI existence	MD		Boolean	TRUE means	
				existence. Default value	
				is "TRUE"	
>>Number of FBI bits	OP		Integer (1,	In bits.	
>>Puncturing Limit	MP		2) Real(0.40		
	1011		1 by		
			step of		
			0.04)		
>TDD			,		
>>Uplink Timing	OP		Uplink		
Advance Control			Timing		
			Advance		
			Control		
			10.3.6.96		
>>UL CCTrCH List	OP	1 to		UL physical channels to	
		<maxcc< td=""><td></td><td>establish or reconfigure</td><td></td></maxcc<>		establish or reconfigure	
TEOOID	MD	TrCH>	lata wa w(4	list.	
>>>TFCS ID	MD		Integer(1 8)	Default value is 1.	
>>>UL target SIR	MP		Real (-11	In dB	
			20 by	For 1.28 Mcps TDD this	REL-4
			step of	parameter represents	
			0.5dB)	PRX _{PDPCHdes} with	
			,	range Integer(-12058	
				by step of 1) dBm	
>>>Time info	MP		Time info		
<u> </u>			10.3.6.83		
>>>Common timeslot	MD		Common	Default is the current	
info			timeslot	Common timeslot info	
			info 10.3.6.10		
>>>Uplink DPCH	MD		Uplink	Default is to use the old	
timeslots and codes			Timeslots	timeslots and codes.	
			and		
			Codes		
			10.3.6.94		
>>UL CCTrCH List to	OP	1 <max< td=""><td></td><td>UL physical channels to</td><td></td></max<>		UL physical channels to	
Remove		CCTrCH		remove list	
		>			
>>>TFCS ID	MP		Integer(1		1

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			8)		

[...]

10.3.6.91 Uplink DPCH power control info

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control in FDD and 1.28 Mcps TDD and parameters for uplink open loop power control in 3.84 Mcps TDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP			•	
>FDD					
>>DPCCH Power offset	MP		Integer(- 164,6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (07)	In number of frames	
>>SRB delay	MP		Integer(07)	In number of frames	
>>Power Control Algorithm	MP		Enumerated (algorithm 1, algorithm 2)	Specifies algorithm to be used by UE to interpret TPC commands	
>>TPC step size	CV-algo		Integer (1, 2)	In dB	
>>∆ _{ACK}	OP		Integer (08)	Refer to quantization of the power offset in [28]	REL-5
>>Δ _{NACK}	OP		Integer (08)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(14)		REL-5
>TDD					
>>>>UL target SIR	OP		Real (-11 20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents PRXPDPCHdes with range Integer(-12058 by step of 1) dBm	REL-4
>>CHOICE UL OL PC info	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE TDD option	MP				REL-4
>>>>3.84 Mcps TDD					REL-4
>>>>>Individual timeslot interference info	MP	1 to <maxts></maxts>			
>>>>>>Individual timeslot interference	MP		Individual timeslot interference 10.3.6.38		
>>>>>DPCH Constant Value	OP		Constant Value TDD 10.3.6.11a	Quality Margin	
>>>>1.28 Mcps TDD		1	-		REL-4
>>>>>TPC step size	MP		Integer(1,2,3		REL-4

1

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
)		
>>>Primary CCPCH Tx Power	OP		Primary CCPCH Tx Power 10.3.6.59	For Pathloss Calculation	

Condition	Explanation				
•	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed				

10.3.6.92 Uplink DPCH power control info Post

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE mode	MP			•	
>FDD					
>>DPCCH Power offset	MP		Integer(- 11050 by step of 4)	In dB	
>>PC Preamble	MP		Integer (07)	in number of frames	
>>SRB delay	MP		Integer (07)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11	In dB	
			20 by step of 0.5dB)	For 1.28 Mcps TDD this parameter represents PRXpDPCHdes with range Integer(-12058 by step of 1) dBm	REL-4
>>CHOICE TDD option	MP				REL-4
>>>3.84 Mcps TDD					REL-4
>>>>UL Timeslot Interference	MP		UL Interference TDD 10.3.6.87a		
>>>1.28 Mcps TDD				(no data)	REL-4

Condition	Explanation				
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed				

```
UL-CCTrCH-r4 ::=
                                    SEQUENCE {
   tfcs-ID
                                        TFCS-IdentityPlain
                                                                             DEFAULT 1,
    -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
    -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
    ul-TargetSIR
                                        UL-TargetSIR,
    timeInfo
                                        TimeInfo,
    commonTimeslotInfo
                                        CommonTimeslotInfo
                                                                             OPTIONAL
    tddOption
                                        CHOICE {
                                            SEQUENCE {
        t.dd384
            ul-CCTrCH-TimeslotsCodes
                                                UplinkTimeslotsCodes
                                                                             OPTIONAL
        },
        tdd128
                                            SEQUENCE {
            ul-CCTrCH-TimeslotsCodes
                                                UplinkTimeslotsCodes-LCR-r4 OPTIONAL
        }
    }
}
UL-DPCH-PowerControlInfo-r4 ::=
                                    CHOICE {
                                        SEQUENCE {
    fdd
        dpcch-PowerOffset
                                            DPCCH-PowerOffset,
        pc-Preamble
                                            PC-Preamble,
        sRB-delay
                                            SRB-delay,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm
                                            PowerControlAlgorithm
    },
    tdd
                                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
        -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR
                                            UL-TargetSIR
                                                                         OPTIONAL,
        ul-OL-PC-Signalling
                                            CHOICE {
            broadcast-UL-OL-PC-info
                                                NULL,
            individuallySignalled
                                                 SEOUENCE {
                tddOption
                                                    CHOICE {
                    tdd384
                                                        SEQUENCE {
                        individualTS-InterferenceList
                                                            IndividualTS-InterferenceList,
                        dpch-ConstantValue
                                                             ConstantValue
                    },
                    tdd128
                                                         SEQUENCE {
                                                             TPC-StepSizeTDD
                        tpc-StepSize
                }.
                primaryCCPCH-TX-Power
                                                   PrimaryCCPCH-TX-Power
           }
        }
    }
}
UL-DPCH-PowerControlInfo-r5 ::=
                                    CHOICE {
                                        SEQUENCE {
    fdd
        dpcch-PowerOffset
                                            DPCCH-PowerOffset,
        pc-Preamble
                                            PC-Preamble,
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm
                                            PowerControlAlgorithm,
        deltaACK
                                            DeltaACK
                                                        OPTIONAL,
                                                       OPTIONAL,
        deltaNACK
                                            DeltaNACK
        ack-NACK-repetition-factor
                                            ACK-NACK-repetitionFactor
                                                                       OPTIONAL
    },
    tdd
                                        SEQUENCE {
        -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
        -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
        ul-TargetSIR
                                            UL-TargetSIR
                                                                         OPTIONAL.
        ul-OL-PC-Signalling
                                            CHOICE {
            broadcast-UL-OL-PC-info
                                                NULL,
            individuallySignalled
                                                SEQUENCE {
                tddOption
                                                     CHOICE {
```

```
SEQUENCE {
                    tdd384
                        individualTS-InterferenceList
                                                           IndividualTS-InterferenceList,
                       dpch-ConstantValue
                                                           ConstantValue
                    },
                    tdd128
                                                       SEQUENCE {
                       tpc-StepSize
                                                           TPC-StepSizeTDD
                    }
                },
               primaryCCPCH-TX-Power
                                                  PrimaryCCPCH-TX-Power
           }
       }
    }
}
UL-DPCH-PowerControlInfoPostFDD ::= SEQUENCE {
    -- DPCCH-PowerOffset2 has a smaller range to save bits
                                       DPCCH-PowerOffset2,
   dpcch-PowerOffset
   pc-Preamble
                                        PC-Preamble,
    sRB-delay
                                        SRB-delay
}
UL-DPCH-PowerControlInfoPostTDD ::= SEQUENCE {
    ul-TargetSIR
                                     UL-TargetSIR,
    ul-TimeslotInterference
                                       TDD-UL-Interference
}
UL-DPCH-PowerControlInfoPostTDD-LCR-r4 ::= SEQUENCE {
   -- The IE ul-TargetSIR corresponds to PRX-PDPCHdes for 1.28Mcps TDD
    -- Actual value PRX-PDPCHdes = (value of IE "ul-TargetSIR" - 120)
   ul-TargetSIR
                                       UL-TargetSIR
}
```

			,						CR-Form-v7
	CHANGE REQUEST								
^೫ 25.	331	CR	2346	ж rev	-	ж	Current vers	sion: 4.1	<mark>3.0</mark> ^ಱ
For <u>HELP</u> on u	ising thi	is form, see	bottom of th	is page or	look	at th	e pop-up text	over the #	symbols.
	5	,		1.10					
Proposed change	affects	: UICC a	ops#	ME X	Rac	lio A	ccess Netwo	rk X Cor	e Network
					_				
Title: ೫	Clarif	ication abou	ut measurem	nent contro	l syst	em i	nformation ir	TDD mo	de
Source: ೫	RAN	NG2							
Work item code: भ्र	TEI4						<i>Date:</i> ೫	15/04/20	04
	_						-		
Category: Ж	F	ne of the follo	wing categori	<u>00</u> .			Release: #	Rel-4	a releases:
	F	(correction)					2	(GSM Phas	
			ls to a correct	ion in an ear	lier re	elease		(Release 1	996)
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		(editorial mo		iealuie)			R99	(Release 1	
	Detaile	d explanation	ns of the abov	e categories	s can		Rel-4	(Release 4)
	be four	nd in 3GPP <u>T</u>	<u>R 21.900</u> .				Rel-5	(Release 5	
							Rel-6	(Release 6)
Reason for change	e: ೫ In	current spe	ecification . t	he defination	on of	IE "(Cell selection	and resele	ction quality
0							umerated (Cl		
							will be used for		
			uality measu	ire". So, it r	need	s to a	add a NOTE 1	to clarify m	eaning of this
	IE								
Summary of chang	де: Ж Т	his CR just	add a NOTE	in tabular	and	ASN	.1 to clarify th	ne meaning	of IE "Cell
, ,			l reselection					Ŭ	
		npact Analy		rde the prov	vious	vor	sion of the sp	ocification	(samo
		elease):		ius ine pre	vious	Vera	sion of the sp	ecilication	(Same
	Т	he impact c					ise the chang		
	m	leaning of I	E "Cell selec	tion and re	selec	tion	quality meas	ure" in TDE) mode.
Consequences if	ب	If this CB is	not opprovo	d the mee	ning		"Cell selection	on and rock	laction
Consequences if not approved:							ne ambiguity		SIECTION
		1 daily mode							
Clauses affected:	ж	10.3.7.47, 1	1.3						
Other cross	¥ ¥	X Other		ontiona	ക				
Other specs affected:	ቆ		core specifie		ж				
		X Test s	pecifications	\$					

How to create CRs using this form:

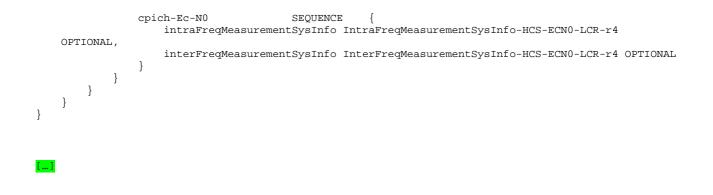
Other comments: ೫

Comprehensive information and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q. <u>NOTE: For TDD,each choice</u> of this parameter represents <u>PCCPCH RSCP.</u>
Intra-frequency measurement system information	OP		Intra- frequency measuremen t system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter- frequency measuremen t system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measuremen t system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measuremen t system information 10.3.7.73	

```
MeasurementControlSysInfo ::=
                                                                      SEQUENCE {
        -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
                                                                              CHOICE {
         use-of-HCS
               hcs-not-used
                                                                               SEQUENCE
                                                                                                       {
                       cellSelectQualityMeasure
                                                                               CHOICE {
                                                                              SEOUENCE
                               cpich-RSCP
                                                                                                      {
                                      intraFreqMeasurementSysInfo
                                                                                                             IntraFreqMeasurementSysInfo-RSCP
       OPTIONAL.
                                       interFreqMeasurementSysInfo
                                                                                                              InterFreqMeasurementSysInfo-RSCP
                                                                                                                                                                                     OPTIONAL
                               },
                               cpich-Ec-N0
                                                                              SEQUENCE
                                                                                                      {
                                                                                                              IntraFreqMeasurementSysInfo-ECN0
                                       intraFreqMeasurementSysInfo
       OPTIONAL,
                                       interFreqMeasurementSysInfo
                                                                                                             InterFreqMeasurementSysInfo-ECN0
                                                                                                                                                                                     OPTIONAL
                               }
                       }.
                       interRATMeasurementSysInfo
                                                                                   InterRATMeasurementSysInfo-B
                                                                                                                                                             OPTIONAL
               },
               hcs-used
                                                                              SEOUENCE
                                                                                                      {
                                                                              CHOICE {
                       cellSelectQualityMeasure
                               cpich-RSCP
                                                                              SEOUENCE
                                                                                                      {
                                       intraFreqMeasurementSysInfo
                                                                                                              IntraFreqMeasurementSysInfo-HCS-RSCP
       OPTIONAL,
                                       interFreqMeasurementSysInfo
                                                                                                             InterFreqMeasurementSysInfo-HCS-RSCP
       OPTIONAL
                               },
                               cpich-Ec-N0
                                                                              SEQUENCE
                                                                                                      {
                                       intraFreqMeasurementSysInfo
                                                                                                              IntraFreqMeasurementSysInfo-HCS-ECN0
       OPTIONAL.
                                       interFreqMeasurementSysInfo
                                                                                                              InterFreqMeasurementSysInfo-HCS-ECN0
       OPTIONAL
                                                       }
                       },
                       interRATMeasurementSvsInfo
                                                                                      InterRATMeasurementSysInfo
                                                                                                                                                    OPTIONAL
               }
       },
                                                                             TrafficVolumeMeasSysInfo
       trafficVolumeMeasSysInfo
                                                                                                                                                     OPTIONAL,
        -- dummy is not used in this version of specification and it shall be ignored by the UE.
       dummy
                              UE-InternalMeasurementSysInfo
                                                                                                     OPTIONAL
}
MeasurementControlSysInfo-LCR-r4-ext ::=
                                                                                  SEQUENCE {
        -- CHOICE use-of-HCS shall have the same value as the use-of-HCS
        -- in MeasurementControlSysInfo
            CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
       use-of-HCS
                                                                              CHOICE
                                                                              SEQUENCE
                                                                                                      {
               hcs-not-used
                       -- CHOICE cellSelectQualityMeasure shall have the same value as the
                       -- cellSelectQualityMeasure in MeasurementControlSysInfo
                       cellSelectQualityMeasure CHOICE {
                               cpich-RSCP
                                                                              SEQUENCE
                                       intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
                                       inter {\tt FreqMeasurementSysInfo} \ {\tt InterFreqMeasurementSysInfo-RSCP-LCR-r4} \ {\tt OPTIONAL} 
                               },
                               cpich-Ec-N0
                                                                              SEOUENCE
                                                                                                      {
                                       intra \texttt{FreqMeasurementSysInfo} \ \texttt{IntraFreqMeasurementSysInfo-ECN0-LCR-r4} \ \texttt{OPTIONAL},
                                       interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
                               }
                       }
               },
               hcs-used
                                                                              SEQUENCE
                                                                                                      {
                        -- CHOICE cellSelectQualityMeasure shall have the same value as the
                        -- cellSelectQualityMeasure in MeasurementControlSysInfo
                                                                             CHOICE
                       cellSelectOualityMeasure
                                                                                              {
                               cpich-RSCP
                                                                              SEQUENCE
                                                                                                       {
                                       intra {\tt FreqMeasurementSysInfo Intra {\tt FreqMeasurementSysInfo-HCS-RSCP-LCR-r4}
       OPTIONAL,
                                       interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
                               },
```



3GPP TSG RAN WG2 meeting #42 Montreal , Canada , 10th – 14th May 2004

R2-041189

		CHANG	E REQ	UEST	Г		CR-Form-v7
[#] 25	5.331	CR 2347	ж геv	- #	Current vers	sion: 5.8.0	ж
For <u>HELP</u> on	using this fo	rm, see bottom of t	his page or	look at th	ne pop-up text	tover the ૠ syr	nbols.
Proposed change	e affects:	UICC apps೫	ME <mark>X</mark>	Radio A	Access Netwo	rk 🗙 Core Ne	etwork
Title:		ion about measure	ment contro	l system	information in	n TDD mode	
Source:	策 <mark>RAN WG</mark>	62					
Work item code:	쁐 <mark>TEl4</mark>				Date: ೫	15/04/2004	
Category:	F (con A (con B (ad C (fur D (ed Detailed ex	the following categor rrection) rresponds to a correct dition of feature), nctional modification of itorial modification) splanations of the abo 3GPP <u>TR 21.900</u> .	tion in an ear of feature)		2	Rel-5 the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	eases:
Reason for chang	meas RSCI	rrent specification, sure" included in se P)". But in TDD mod ection quality meas	ction 10.3.7 de, PCCPC	.47 is "Er H RSCP	numerated (C will be used f	PICH Ec/N0, Cl or "Cell selectio	PICH n and
Summary of chai	selec Impa Impa releas The in	CR just add a NOT tion and reselection of Analysis: ct assessment towa se): mpact can be cons hing of IE "Cell sele	n quality me ards the pre idered isola	asure" in vious ver ted beca	TDD mode. sion of the sp use the chang	ecification (sam	ne e
Consequences if not approved:		is CR is not approv lity measure" in TD					ion
Clauses affected	:	3.7.47, 11.3					
Other specs affected:	¥ N 米 X メ ス メ	Other core specif Test specification	IS	ж			
Other comments	: ¥						

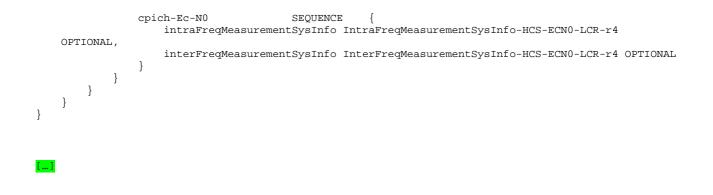
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to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

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q. <u>NOTE: For TDD,each choice</u> of this parameter represents <u>PCCPCH RSCP.</u>
Intra-frequency measurement system information	OP		Intra- frequency measuremen t system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter- frequency measuremen t system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measuremen t system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measuremen t system information 10.3.7.73	

```
MeasurementControlSysInfo ::=
                                                                      SEQUENCE {
        -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
                                                                              CHOICE {
         use-of-HCS
               hcs-not-used
                                                                               SEQUENCE
                                                                                                       {
                       cellSelectQualityMeasure
                                                                               CHOICE {
                                                                              SEOUENCE
                               cpich-RSCP
                                                                                                      {
                                      intraFreqMeasurementSysInfo
                                                                                                             IntraFreqMeasurementSysInfo-RSCP
       OPTIONAL.
                                       interFreqMeasurementSysInfo
                                                                                                              InterFreqMeasurementSysInfo-RSCP
                                                                                                                                                                                     OPTIONAL
                               },
                               cpich-Ec-N0
                                                                              SEQUENCE
                                                                                                      {
                                                                                                              IntraFreqMeasurementSysInfo-ECN0
                                       intraFreqMeasurementSysInfo
       OPTIONAL,
                                       interFreqMeasurementSysInfo
                                                                                                             InterFreqMeasurementSysInfo-ECN0
                                                                                                                                                                                     OPTIONAL
                               }
                       }.
                       interRATMeasurementSysInfo
                                                                                   InterRATMeasurementSysInfo-B
                                                                                                                                                             OPTIONAL
               },
               hcs-used
                                                                              SEOUENCE
                                                                                                      {
                                                                              CHOICE {
                       cellSelectQualityMeasure
                               cpich-RSCP
                                                                              SEOUENCE
                                                                                                      {
                                       intraFreqMeasurementSysInfo
                                                                                                              IntraFreqMeasurementSysInfo-HCS-RSCP
       OPTIONAL,
                                       interFreqMeasurementSysInfo
                                                                                                             InterFreqMeasurementSysInfo-HCS-RSCP
       OPTIONAL
                               },
                               cpich-Ec-N0
                                                                              SEQUENCE
                                                                                                      {
                                       intraFreqMeasurementSysInfo
                                                                                                              IntraFreqMeasurementSysInfo-HCS-ECN0
       OPTIONAL.
                                       interFreqMeasurementSysInfo
                                                                                                              InterFreqMeasurementSysInfo-HCS-ECN0
       OPTIONAL
                                                       }
                       },
                       interRATMeasurementSvsInfo
                                                                                      InterRATMeasurementSysInfo
                                                                                                                                                    OPTIONAL
               }
       },
                                                                             TrafficVolumeMeasSysInfo
       trafficVolumeMeasSysInfo
                                                                                                                                                     OPTIONAL,
        -- dummy is not used in this version of specification and it shall be ignored by the UE.
       dummy
                              UE-InternalMeasurementSysInfo
                                                                                                     OPTIONAL
}
MeasurementControlSysInfo-LCR-r4-ext ::=
                                                                                  SEQUENCE {
        -- CHOICE use-of-HCS shall have the same value as the use-of-HCS
        -- in MeasurementControlSysInfo
            CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
       use-of-HCS
                                                                              CHOICE
                                                                              SEQUENCE
                                                                                                      {
               hcs-not-used
                       -- CHOICE cellSelectQualityMeasure shall have the same value as the
                       -- cellSelectQualityMeasure in MeasurementControlSysInfo
                       cellSelectQualityMeasure CHOICE {
                               cpich-RSCP
                                                                              SEQUENCE
                                       intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
                                       inter {\tt FreqMeasurementSysInfo} \ {\tt InterFreqMeasurementSysInfo-RSCP-LCR-r4} \ {\tt OPTIONAL} 
                               },
                               cpich-Ec-N0
                                                                              SEOUENCE
                                                                                                      {
                                       intra \texttt{FreqMeasurementSysInfo} \ \texttt{IntraFreqMeasurementSysInfo-ECN0-LCR-r4} \ \texttt{OPTIONAL},
                                       interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
                               }
                       }
               },
               hcs-used
                                                                              SEQUENCE
                                                                                                      {
                        -- CHOICE cellSelectQualityMeasure shall have the same value as the
                        -- cellSelectQualityMeasure in MeasurementControlSysInfo
                                                                             CHOICE
                       cellSelectOualityMeasure
                                                                                              {
                               cpich-RSCP
                                                                              SEQUENCE
                                                                                                       {
                                       intra {\tt FreqMeasurementSysInfo Intra {\tt FreqMeasurementSysInfo-HCS-RSCP-LCR-r4}
       OPTIONAL,
                                       interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
                               },
```



3GPP TSG RAN WG2 meeting #42 Montreal , Canada , 10th – 14th May 2004

R2-041190

CHANGE REQUEST								CR-Form-v7
^ж 2	<mark>5.331</mark>	CR	2348	жrev	- #	Current vers	sion: 6.1.0	æ
For <u>HELP</u> of	n using i	this form, see	bottom of th	is page or	look at t	he pop-up text	t over the ೫ sy	mbols.
Proposed chang			ops#				rk 🗙 Core N	etwork
Title:	ដ <mark>Cla</mark>	rification abou	<mark>it measurem</mark>	ent contro	l system	<mark>i information i</mark> r	n TDD mode	
Source:	<mark>೫ RA</mark>	N WG2						
Work item code.	: ೫ TE	14				Date: ೫	15/04/2004	
Category:	Deta	one of the follo F (correction) A (correspond B (addition of a C (functional mo- iled explanation bund in 3GPP <u>T</u>	s to a correction feature), nodification of ndification) ns of the above	on in an ear feature)		2	Rel-6 the following re (GSM Phase 2) (Release 1996) (Release 1997) (Release 1999) (Release 4) (Release 4) (Release 5) (Release 6))))
Reason for char	nge:	measure" inc RSCP)". But	luded in sect in TDD mode	tion 10.3.7 e, PCCPC	.47 is "E H RSCF	numerated (C will be used f	and reselectic PICH Ec/N0, C or "Cell selectio to clarify mean	PICH on and
Summary of cha	ange: ೫	selection and Impact Analy Impact asses release): The impact c	reselection ysis: sment towar an be consid	quality me ds the pre lered isola	asure" in vious ve ted beca	n TDD mode. ersion of the sp ause the chang	ne meaning of pecification (sar ge just clarify th ure" in TDD m	ne
Consequences i not approved:	if X					IE "Cell selection ome ambiguity	on and reseled	tion
0		40.07.47.4	4.0					
Clauses affected Other specs affected:	ж	X Test s	1.3 core specific pecifications Specification		¥			
Other comments	s: ж							

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10.3.7.47	Measurement control	system information

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q. <u>NOTE: For TDD,each choice</u> of this parameter represents <u>PCCPCH RSCP.</u>
Intra-frequency measurement system information	OP		Intra- frequency measuremen t system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter- frequency measuremen t system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measuremen t system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measuremen t system information 10.3.7.73	

```
MeasurementControlSysInfo ::=
                                                                      SEQUENCE {
        -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
                                                                              CHOICE {
         use-of-HCS
               hcs-not-used
                                                                               SEQUENCE
                                                                                                       {
                       cellSelectQualityMeasure
                                                                               CHOICE {
                                                                              SEOUENCE
                               cpich-RSCP
                                                                                                      {
                                      intraFreqMeasurementSysInfo
                                                                                                             IntraFreqMeasurementSysInfo-RSCP
       OPTIONAL.
                                       interFreqMeasurementSysInfo
                                                                                                              InterFreqMeasurementSysInfo-RSCP
                                                                                                                                                                                     OPTIONAL
                               },
                               cpich-Ec-N0
                                                                              SEQUENCE
                                                                                                      {
                                                                                                              IntraFreqMeasurementSysInfo-ECN0
                                       intraFreqMeasurementSysInfo
       OPTIONAL,
                                       interFreqMeasurementSysInfo
                                                                                                             InterFreqMeasurementSysInfo-ECN0
                                                                                                                                                                                     OPTIONAL
                               }
                       }.
                       interRATMeasurementSysInfo
                                                                                   InterRATMeasurementSysInfo-B
                                                                                                                                                             OPTIONAL
               },
               hcs-used
                                                                              SEOUENCE
                                                                                                      {
                                                                              CHOICE {
                       cellSelectQualityMeasure
                               cpich-RSCP
                                                                              SEOUENCE
                                                                                                      {
                                       intraFreqMeasurementSysInfo
                                                                                                              IntraFreqMeasurementSysInfo-HCS-RSCP
       OPTIONAL,
                                       interFreqMeasurementSysInfo
                                                                                                             InterFreqMeasurementSysInfo-HCS-RSCP
       OPTIONAL
                               },
                               cpich-Ec-N0
                                                                              SEQUENCE
                                                                                                      {
                                       intraFreqMeasurementSysInfo
                                                                                                              IntraFreqMeasurementSysInfo-HCS-ECN0
       OPTIONAL.
                                       interFreqMeasurementSysInfo
                                                                                                              InterFreqMeasurementSysInfo-HCS-ECN0
       OPTIONAL
                                                       }
                       },
                       interRATMeasurementSvsInfo
                                                                                      InterRATMeasurementSysInfo
                                                                                                                                                    OPTIONAL
               }
       },
                                                                             TrafficVolumeMeasSysInfo
       trafficVolumeMeasSysInfo
                                                                                                                                                     OPTIONAL,
        -- dummy is not used in this version of specification and it shall be ignored by the UE.
       dummy
                              UE-InternalMeasurementSysInfo
                                                                                                     OPTIONAL
}
MeasurementControlSysInfo-LCR-r4-ext ::=
                                                                                  SEQUENCE {
        -- CHOICE use-of-HCS shall have the same value as the use-of-HCS
        -- in MeasurementControlSysInfo
            CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
       use-of-HCS
                                                                              CHOICE
                                                                              SEQUENCE
                                                                                                      {
               hcs-not-used
                       -- CHOICE cellSelectQualityMeasure shall have the same value as the
                       -- cellSelectQualityMeasure in MeasurementControlSysInfo
                       cellSelectQualityMeasure CHOICE {
                               cpich-RSCP
                                                                              SEQUENCE
                                       intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
                                       inter {\tt FreqMeasurementSysInfo} \ {\tt InterFreqMeasurementSysInfo-RSCP-LCR-r4} \ {\tt OPTIONAL} 
                               },
                               cpich-Ec-N0
                                                                              SEOUENCE
                                                                                                      {
                                       intra \texttt{FreqMeasurementSysInfo} \ \texttt{IntraFreqMeasurementSysInfo-ECN0-LCR-r4} \ \texttt{OPTIONAL},
                                       interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
                               }
                       }
               },
               hcs-used
                                                                              SEQUENCE
                                                                                                      {
                        -- CHOICE cellSelectQualityMeasure shall have the same value as the
                        -- cellSelectQualityMeasure in MeasurementControlSysInfo
                                                                             CHOICE
                       cellSelectOualityMeasure
                                                                                              {
                               cpich-RSCP
                                                                              SEQUENCE
                                                                                                       {
                                       intra {\tt FreqMeasurementSysInfo Intra {\tt FreqMeasurementSysInfo-HCS-RSCP-LCR-r4}
       OPTIONAL,
                                       interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
                               },
```

