

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

**RP-040206**

**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	-	Rel-4	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	-	Rel-5	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	-	Rel-6	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

CR-Form-v7

## CHANGE REQUEST

# 25.331 CR 2306 # rev - # Current version: 4.13.0 #

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	# Correction on SFN-SFN time difference misalignment in 1.28 Mcps TDD		
<b>Source:</b>	# RAN WG2		
<b>Work item code:</b>	# LCRTDD_L23	<b>Date:</b>	# 10/05/2004
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# Rel-4
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	# 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.		
<b>Summary of change:</b>	# 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.		
<b>Consequences if not approved:</b>	# The range of SFN-SFN time difference type 2 for 1.28 Mcps TDD is still incomplete.		

<b>Clauses affected:</b>	# 10.3.7.64, 11.3										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="width: 20px; text-align: center;">#</td> <td style="width: 20px; text-align: center;">#</td> </tr> <tr> <td style="width: 20px; text-align: center;">#</td> <td style="width: 20px; text-align: center;">#</td> </tr> <tr> <td style="width: 20px; text-align: center;">#</td> <td style="width: 20px; text-align: center;">#</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	#	#	#	#	#	#		
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#	#										
#	#										
#	#										
<b>Other comments:</b>	#										

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

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
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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 <i>type</i>	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.	
>Type 2			Integer(0..40961)	According to T2_SFN-SFN_TIME in [19] and [20]. 24574 spare values are needed.	
			<a href="#">Integer(0..27649)</a>	<a href="#">For 1.28 Mcps TDD: 37886 spare values are needed.</a>	

11.3 Information element definitions

```

SFN-SFN-ObsTimeDifference ::= CHOICE {
    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

# 25.331 CR 2307 # rev - # Current version: 5.8.0 #

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	# Correction on SFN-SFN time difference misalignment in 1.28 Mcps TDD		
<b>Source:</b>	# RAN WG2		
<b>Work item code:</b>	# LCRTDD_L23	<b>Date:</b>	# 10/05/2004
<b>Category:</b>	# <b>A</b>	<b>Release:</b>	# Rel-5
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	# 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.
<b>Summary of change:</b>	# 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.
<b>Consequences if not approved:</b>	# The range of SFN-SFN time difference type 2 for 1.28 Mcps TDD is still incomplete.

<b>Clauses affected:</b>	# 10.3.7.64, 11.3								
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> </tr> <tr> <td style="width: 20px; height: 15px;"></td> <td style="width: 20px; height: 15px;"></td> </tr> </table> Other core specifications # Test specifications # O&M Specifications #	Y	N						
Y	N								
<b>Other comments:</b>	#								

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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
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>Type 2			Integer(0..40961)	According to T2_SFN-SFN_TIME in [19] and [20]. 24574 spare values are needed.	
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11.3 Information element definitions

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-- 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

# 25.331 CR 2308 # rev - # Current version: 6.1.0 #

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	# Correction on SFN-SFN time difference misalignment in 1.28 Mcps TDD		
<b>Source:</b>	# RAN WG2		
<b>Work item code:</b>	# LCRTDD_L23	<b>Date:</b>	# 10/05/2004
<b>Category:</b>	# <b>A</b>	<b>Release:</b>	# Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

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11.3 Information element definitions

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-- 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

⌘ **25.331** **CR** **2343** ⌘ rev **-** ⌘ Current version: **4.13.0** ⌘

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

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Clarification about open loop power control in 1.28Mcps TDD		
<b>Source:</b>	⌘ RAN WG2		
<b>Work item code:</b>	⌘ LCRTDD_L23	<b>Date:</b>	⌘ 15/04/2004
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	<b>2</b> (GSM Phase 2)	
	<b>A</b> (corresponds to a correction in an earlier release)	<b>R96</b> (Release 1996)	
	<b>B</b> (addition of feature),	<b>R97</b> (Release 1997)	
	<b>C</b> (functional modification of feature)	<b>R98</b> (Release 1998)	
	<b>D</b> (editorial modification)	<b>R99</b> (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<b>Rel-4</b> (Release 4)
			<b>Rel-5</b> (Release 5)
			<b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ In current specifications, desired DPCH RX power is termed "PRX <sub>DPCHdes</sub> ". In 1.28Mcps TDD mode, dedicated physical channel is DPCH. So, it is more accurate that "PRX <sub>DPCHdes</sub> " should be termed "PRX <sub>DPCHdes</sub> ". Otherwise, there is some ambiguity.
<b>Summary of change:</b>	⌘ This CR just changed the term "PRX <sub>DPCHdes</sub> " into "PRX <sub>DPCHdes</sub> " at corresponding section in text, tabular and ASN.1.
	<b>Impact Analysis:</b> Impact assessment towards the previous version of the specification (same release): The impact can be considered isolated because the change affects only the name of PRX <sub>DPCHdes</sub> .
<b>Consequences if not approved:</b>	⌘ If this CR is not approved, the name of PRX <sub>DPCHdes</sub> would be some ambiguity.

<b>Clauses affected:</b>	⌘ 8.5.7, 8.6.6.6, 8.6.6.11, 10.3.6.88, 10.3.6.91, 10.3.6.92, 11.3										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
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⌘	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

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## 8.5.7 Open loop power control



For 1.28 Mcps TDD the UE shall:

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

$$P_{\text{UpPCH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{UpPCHdes}} + (i-1) * P_{\text{Wramp}}$$

NOTE: When  $i$  equals 1, the initial signature power "Signature\_Initial\_Power" defined in [33] corresponds to  $P_{\text{UpPCH}}$  with  $i$  set to 1.

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

$$P_{\text{PRACH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{PRACHdes}} + (i_{\text{UpPCH}}-1) * P_{\text{Wramp}}$$

- 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.

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

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

- 2> when transmitting a Negative Acknowledgement;

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}}$$

- 2> when transmitting an Acknowledgement

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}} + \text{Ack-Nack Power Offset}$$

- 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.

$$P_{\text{DPCH}} = \text{PRX}_{\text{DPCHdes}} + L_{\text{PCCPCH}}$$

Where:

- $P_{\text{UpPCH}}$ ,  $P_{\text{PRACH}}$ ,  $P_{\text{DPCH}}$ ,  $P_{\text{HS-SICH}}$  &  $P_{\text{USCH}}$ : Transmitter power level in dBm.
- $L_{\text{PCCPCH}}$ : 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,  $i=1 \dots \text{Max SYNC\_UL Transmissions}$ .
- $i_{\text{UpPCH}}$  is the final value of  $i$ .
- $\text{PRX}_{\text{PRACHdes}}$ : 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.
- $\text{PRX}_{\text{UpPCHdes}}$ : Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX<sub>UpPCHdes</sub>" 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".
- $PRX_{DPCHdes}$ : Desired DPCH 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  $PRX_{DPCHdes}$  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  $PRX_{PDCHdes}$  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 Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Uplink DPCH power control info	OP		Uplink DPCH power control info 10.3.6.91		
CHOICE <i>mode</i>	MP				
>FDD					
>>Scrambling code type	MP		Enumerated(short, long)		
>>>Scrambling code number	MP		Integer(0..16777215)		
>>>Number of DPDCH	MD		Integer(1..maxDPDCH)	Default value is 1. Number of DPDCH is 1 in HANDOVER TO UTRAN COMMAND	
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	Minimum allowed SF of the channelisation code for data part	
>>>TFCI existence	MD		Boolean	TRUE means existence. Default value is "TRUE"	
>>>Number of FBI bits	OP		Integer (1, 2)	In bits.	
>>>Puncturing Limit	MP		Real(0.40..1 by step of 0.04)		
>TDD					
>>Uplink Timing Advance Control	OP		Uplink Timing Advance Control 10.3.6.96		
>>>UL CCTrCH List	OP	1 to <maxCC TrCH>		UL physical channels to establish or reconfigure list.	
>>>>TFCS ID	MD		Integer(1..8)	Default value is 1.	
>>>>UL target SIR	MP		Real (-11..20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents PRX <sub>DPCHdes</sub> with range Integer(-120...-58 by step of 1) dBm	REL-4
>>>>Time info	MP		Time info 10.3.6.83		
>>>>Common timeslot info	MD		Common timeslot info 10.3.6.10	Default is the current Common timeslot info	
>>>>Uplink DPCH timeslots and codes	MD		Uplink Timeslots and Codes 10.3.6.94	Default is to use the old timeslots and codes.	
>>>>UL CCTrCH List to Remove	OP	1..<max CCTrCH >		UL physical channels to 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 <i>mode</i>	MP				
>FDD					
>>DPCCCH Power offset	MP		Integer(-164,...-6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (0..7)	In number of frames	
>>SRB delay	MP		Integer(0..7)	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- <i>algo</i>		Integer (1, 2)	In dB	
>>Δ <sub>ACK</sub>	OP		Integer (0..8)	Refer to quantization of the power offset in [28]	REL-5
>>Δ <sub>NACK</sub>	OP		Integer (0..8)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(1..4)		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 PRX <sub>DPCHdes</sub> with range Integer(-120...-58 by step of 1) dBm	REL-4
>>>CHOICE <i>UL OL PC info</i>	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE <i>TDD option</i>	MP				REL-4
>>>>>3.84 Mcps TDD					REL-4
>>>>>Individual timeslot interference info	MP	1 to <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

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
<i>algo</i>	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 <i>mode</i>	MP				
>FDD					
>>DPCCH Power offset	MP		Integer(-110..-50 by step of 4)	In dB	
>>PC Preamble	MP		Integer (0..7)	in number of frames	
>>SRB delay	MP		Integer (0..7)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents $PRX_{DPCHdes}$ with range Integer(-120...-58 by step of 1) dBm	REL-4
>>CHOICE <i>TDD option</i>	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
<i>algo</i>	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 {
    tdd384                SEQUENCE {
      ul-CCTrCH-TimeslotsCodes    UplinkTimeslotsCodes    OPTIONAL
    },
    tdd128                SEQUENCE {
      ul-CCTrCH-TimeslotsCodes    UplinkTimeslotsCodes-LCR-r4  OPTIONAL
    }
  }
}

```

[...]

```

UL-DPCH-PowerControlInfo-r4 ::= CHOICE {
  fdd                    SEQUENCE {
    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      SEQUENCE {
        tddOption                CHOICE {
          tdd384                SEQUENCE {
            individualTS-InterferenceList  IndividualTS-InterferenceList,
            dpch-ConstantValue            ConstantValue
          },
          tdd128                SEQUENCE {
            tpc-StepSize          TPC-StepSizeTDD
          }
        }
      },
      primaryCCPCH-TX-Power      PrimaryCCPCH-TX-Power
    }
  }
}

```

```

UL-DPCH-PowerControlInfo-r5 ::= CHOICE {
  fdd                    SEQUENCE {
    dpcch-PowerOffset    DPCCH-PowerOffset,
    pc-Preamble          PC-Preamble,
    -- TABULAR: TPC step size nested inside PowerControlAlgorithm
    powerControlAlgorithm PowerControlAlgorithm,
    deltaACK             DeltaACK    OPTIONAL,
    deltaNACK            DeltaNACK   OPTIONAL,
    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 {

```



## CHANGE REQUEST

⌘ **25.331** **CR** **2344** ⌘ rev **-** ⌘ Current version: **5.8.0** ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Clarification about open loop power control in 1.28Mcps TDD		
<b>Source:</b>	⌘ RAN WG2		
<b>Work item code:</b>	⌘ LCRTDD_L23	<b>Date:</b>	⌘ 15/04/2004
<b>Category:</b>	⌘ <b>A</b>	<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	<b>2</b>	(GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)	<b>R96</b>	(Release 1996)
	<b>B</b> (addition of feature),	<b>R97</b>	(Release 1997)
	<b>C</b> (functional modification of feature)	<b>R98</b>	(Release 1998)
	<b>D</b> (editorial modification)	<b>R99</b>	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<b>Rel-4</b> (Release 4)
			<b>Rel-5</b> (Release 5)
			<b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ In current specifications, desired DPCH RX power is termed "PRX <sub>DPCHdes</sub> ". In 1.28Mcps TDD mode, dedicated physical channel is DPCH. So, it is more accurate that "PRX <sub>DPCHdes</sub> " should be termed "PRX <sub>DPCHdes</sub> ". Otherwise, there is some ambiguity.
<b>Summary of change:</b>	⌘ This CR just changed the term "PRX <sub>DPCHdes</sub> " into "PRX <sub>DPCHdes</sub> " at corresponding section in text, tabular and ASN.1.
	<b>Impact Analysis:</b> Impact assessment towards the previous version of the specification (same release): The impact can be considered isolated because the change affects only the name of PRX <sub>DPCHdes</sub> .
<b>Consequences if not approved:</b>	⌘ If this CR is not approved, the name of PRX <sub>DPCHdes</sub> would be some ambiguity.

<b>Clauses affected:</b>	⌘ 8.5.7, 8.6.6.6, 8.6.6.11, 10.3.6.88, 10.3.6.91, 10.3.6.92, 11.3										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

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

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

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

## 8.5.7 Open loop power control



For 1.28 Mcps TDD the UE shall:

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

$$P_{\text{UpPCH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{UpPCHdes}} + (i-1) * P_{\text{Wramp}}$$

NOTE: When  $i$  equals 1, the initial signature power "Signature\_Initial\_Power" defined in [33] corresponds to  $P_{\text{UpPCH}}$  with  $i$  set to 1.

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

$$P_{\text{PRACH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{PRACHdes}} + (i_{\text{UpPCH}}-1) * P_{\text{Wramp}}$$

- 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.

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

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

- 2> when transmitting a Negative Acknowledgement;

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}}$$

- 2> when transmitting an Acknowledgement

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}} + \text{Ack-Nack Power Offset}$$

- 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.

$$P_{\text{DPCH}} = \text{PRX}_{\text{DPCHdes}} + L_{\text{PCCPCH}}$$

Where:

- $P_{\text{UpPCH}}$ ,  $P_{\text{PRACH}}$ ,  $P_{\text{DPCH}}$ ,  $P_{\text{HS-SICH}}$  &  $P_{\text{USCH}}$ : Transmitter power level in dBm.
- $L_{\text{PCCPCH}}$ : 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,  $i=1 \dots \text{Max SYNC\_UL Transmissions}$ .
- $i_{\text{UpPCH}}$  is the final value of  $i$ .
- $\text{PRX}_{\text{PRACHdes}}$ : 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.
- $\text{PRX}_{\text{UpPCHdes}}$ : Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX<sub>UpPCHdes</sub>" 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".
- $PRX_{DPCHdes}$ : Desired DPCH 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  $PRX_{DPCHdes}$  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  $PRX_{PDCHdes}$  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 Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Uplink DPCH power control info	OP		Uplink DPCH power control info 10.3.6.91		
CHOICE <i>mode</i>	MP				
>FDD					
>>Scrambling code type	MP		Enumerated(short, long)		
>>>Scrambling code number	MP		Integer(0..16777215)		
>>>Number of DPDCH	MD		Integer(1..maxDPDCH)	Default value is 1. Number of DPDCH is 1 in HANDOVER TO UTRAN COMMAND	
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	Minimum allowed SF of the channelisation code for data part	
>>>TFCI existence	MD		Boolean	TRUE means existence. Default value is "TRUE"	
>>>Number of FBI bits	OP		Integer (1, 2)	In bits.	
>>>Puncturing Limit	MP		Real(0.40..1 by step of 0.04)		
>TDD					
>>Uplink Timing Advance Control	OP		Uplink Timing Advance Control 10.3.6.96		
>>>UL CCTrCH List	OP	1 to <maxCC TrCH>		UL physical channels to establish or reconfigure list.	
>>>>TFCS ID	MD		Integer(1..8)	Default value is 1.	
>>>>UL target SIR	MP		Real (-11..20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents PRX <sub>DPCHdes</sub> with range Integer(-120...-58 by step of 1) dBm	REL-4
>>>>Time info	MP		Time info 10.3.6.83		
>>>>Common timeslot info	MD		Common timeslot info 10.3.6.10	Default is the current Common timeslot info	
>>>>Uplink DPCH timeslots and codes	MD		Uplink Timeslots and Codes 10.3.6.94	Default is to use the old timeslots and codes.	
>>>>UL CCTrCH List to Remove	OP	1..<max CCTrCH >		UL physical channels to 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 <i>mode</i>	MP				
>FDD					
>>DPCCCH Power offset	MP		Integer(-164,...-6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (0..7)	In number of frames	
>>SRB delay	MP		Integer(0..7)	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- <i>algo</i>		Integer (1, 2)	In dB	
>> $\Delta_{ACK}$	OP		Integer (0..8)	Refer to quantization of the power offset in [28]	REL-5
>> $\Delta_{NACK}$	OP		Integer (0..8)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(1..4)		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 PRX <sub>DPCHdes</sub> with range Integer(-120...-58 by step of 1) dBm	REL-4
>>CHOICE <i>UL OL PC info</i>	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE <i>TDD option</i>	MP				REL-4
>>>>>3.84 Mcps TDD					REL-4
>>>>>Individual timeslot interference info	MP	1 to <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

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
<i>algo</i>	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 <i>mode</i>	MP				
>FDD					
>>DPCCH Power offset	MP		Integer(-110..-50 by step of 4)	In dB	
>>PC Preamble	MP		Integer (0..7)	in number of frames	
>>SRB delay	MP		Integer (0..7)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents $PRX_{DPCHdes}$ with range Integer(-120...-58 by step of 1) dBm	REL-4
>>CHOICE <i>TDD option</i>	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
<i>algo</i>	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 {
    tdd384                                     SEQUENCE {
      ul-CCTrCH-TimeslotsCodes                UplinkTimeslotsCodes      OPTIONAL
    },
    tdd128                                     SEQUENCE {
      ul-CCTrCH-TimeslotsCodes                UplinkTimeslotsCodes-LCR-r4 OPTIONAL
    }
  }
}

```

[...]

```

UL-DPCH-PowerControlInfo-r4 ::=              CHOICE {
  fdd                                          SEQUENCE {
    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                   SEQUENCE {
        tddOption                             CHOICE {
          tdd384                              SEQUENCE {
            individualTS-InterferenceList     IndividualTS-InterferenceList,
            dpch-ConstantValue                ConstantValue
          },
          tdd128                              SEQUENCE {
            tpc-StepSize                       TPC-StepSizeTDD
          }
        },
        primaryCCPCH-TX-Power                 PrimaryCCPCH-TX-Power
      }
    }
  }
}

```

```

UL-DPCH-PowerControlInfo-r5 ::=              CHOICE {
  fdd                                          SEQUENCE {
    dpcch-PowerOffset                         DPCCH-PowerOffset,
    pc-Preamble                               PC-Preamble,
    -- TABULAR: TPC step size nested inside PowerControlAlgorithm
    powerControlAlgorithm                    PowerControlAlgorithm,
    deltaACK                                  DeltaACK                     OPTIONAL,
    deltaNACK                                  DeltaNACK                     OPTIONAL,
    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 {

```



## CHANGE REQUEST

⌘ **25.331** **CR** **2345** ⌘ rev **-** ⌘ Current version: **6.1.0** ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Clarification about open loop power control in 1.28Mcps TDD		
<b>Source:</b>	⌘ RAN WG2		
<b>Work item code:</b>	⌘ LCRTDD_L23	<b>Date:</b>	⌘ 15/04/2004
<b>Category:</b>	⌘ <b>A</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	<b>2</b>	(GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)	<b>R96</b>	(Release 1996)
	<b>B</b> (addition of feature),	<b>R97</b>	(Release 1997)
	<b>C</b> (functional modification of feature)	<b>R98</b>	(Release 1998)
	<b>D</b> (editorial modification)	<b>R99</b>	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<b>Rel-4</b> (Release 4)
			<b>Rel-5</b> (Release 5)
			<b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ In current specifications, desired DPCH RX power is termed "PRX <sub>DPCHdes</sub> ". In 1.28Mcps TDD mode, dedicated physical channel is DPCH. So, it is more accurate that "PRX <sub>DPCHdes</sub> " should be termed "PRX <sub>DPCHdes</sub> ". Otherwise, there is some ambiguity.
<b>Summary of change:</b>	⌘ This CR just changed the term "PRX <sub>DPCHdes</sub> " into "PRX <sub>DPCHdes</sub> " at corresponding section in text, tabular and ASN.1.
	<b>Impact Analysis:</b> Impact assessment towards the previous version of the specification (same release): The impact can be considered isolated because the change affects only the name of PRX <sub>DPCHdes</sub> .
<b>Consequences if not approved:</b>	⌘ If this CR is not approved, the name of PRX <sub>DPCHdes</sub> would be some ambiguity.

<b>Clauses affected:</b>	⌘ 8.5.7, 8.6.6.6, 8.6.6.11, 10.3.6.88, 10.3.6.91, 10.3.6.92, 11.3										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

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

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

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



## 8.5.7 Open loop power control



For 1.28 Mcps TDD the UE shall:

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

$$P_{\text{UpPCH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{UpPCHdes}} + (i-1) * P_{\text{Wramp}}$$

NOTE: When  $i$  equals 1, the initial signature power "Signature\_Initial\_Power" defined in [33] corresponds to  $P_{\text{UpPCH}}$  with  $i$  set to 1.

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

$$P_{\text{PRACH}} = L_{\text{PCCPCH}} + \text{PRX}_{\text{PRACHdes}} + (i_{\text{UpPCH}}-1) * P_{\text{Wramp}}$$

- 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.

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

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

- 2> when transmitting a Negative Acknowledgement;

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}}$$

- 2> when transmitting an Acknowledgement

$$P_{\text{HS-SICH}} = \text{PRX}_{\text{HS-SICH}} + L_{\text{PCCPCH}} + \text{Ack-Nack Power Offset}$$

- 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.

$$P_{\text{DPCH}} = \text{PRX}_{\text{DPCHdes}} + L_{\text{PCCPCH}}$$

Where:

- $P_{\text{UpPCH}}$ ,  $P_{\text{PRACH}}$ ,  $P_{\text{DPCH}}$ ,  $P_{\text{HS-SICH}}$  &  $P_{\text{USCH}}$ : Transmitter power level in dBm.
- $L_{\text{PCCPCH}}$ : 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,  $i=1 \dots \text{Max SYNC\_UL Transmissions}$ .
- $i_{\text{UpPCH}}$  is the final value of  $i$ .
- $\text{PRX}_{\text{PRACHdes}}$ : 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.
- $\text{PRX}_{\text{UpPCHdes}}$ : Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in "PRX<sub>UpPCHdes</sub>" 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".
- $PRX_{DPCHdes}$ : Desired DPCH 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  $PRX_{DPCHdes}$  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  $PRX_{PDCHdes}$  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 Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Uplink DPCH power control info	OP		Uplink DPCH power control info 10.3.6.91		
CHOICE <i>mode</i>	MP				
>FDD					
>>Scrambling code type	MP		Enumerated(short, long)		
>>>Scrambling code number	MP		Integer(0..16777215)		
>>>Number of DPDCH	MD		Integer(1..maxDPDCH)	Default value is 1. Number of DPDCH is 1 in HANDOVER TO UTRAN COMMAND	
>>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	Minimum allowed SF of the channelisation code for data part	
>>>TFCI existence	MD		Boolean	TRUE means existence. Default value is "TRUE"	
>>>Number of FBI bits	OP		Integer (1, 2)	In bits.	
>>>Puncturing Limit	MP		Real(0.40..1 by step of 0.04)		
>TDD					
>>Uplink Timing Advance Control	OP		Uplink Timing Advance Control 10.3.6.96		
>>>UL CCTrCH List	OP	1 to <maxCC TrCH>		UL physical channels to establish or reconfigure list.	
>>>>TFCS ID	MD		Integer(1..8)	Default value is 1.	
>>>>UL target SIR	MP		Real (-11..20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents PRX <sub>DPCHdes</sub> with range Integer(-120...-58 by step of 1) dBm	REL-4
>>>>Time info	MP		Time info 10.3.6.83		
>>>>Common timeslot info	MD		Common timeslot info 10.3.6.10	Default is the current Common timeslot info	
>>>>Uplink DPCH timeslots and codes	MD		Uplink Timeslots and Codes 10.3.6.94	Default is to use the old timeslots and codes.	
>>>>UL CCTrCH List to Remove	OP	1..<max CCTrCH >		UL physical channels to 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 <i>mode</i>	MP				
>FDD					
>>DPCCCH Power offset	MP		Integer(-164,...-6 by step of 2)	In dB	
>>PC Preamble	MP		Integer (0..7)	In number of frames	
>>SRB delay	MP		Integer(0..7)	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- <i>algo</i>		Integer (1, 2)	In dB	
>>Δ <sub>ACK</sub>	OP		Integer (0..8)	Refer to quantization of the power offset in [28]	REL-5
>>Δ <sub>NACK</sub>	OP		Integer (0..8)	refer to quantization of the power offset in [28]	REL-5
>>Ack-Nack repetition factor	OP		Integer(1..4)		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 PRX <sub>DPCHdes</sub> with range Integer(-120...-58 by step of 1) dBm	REL-4
>>CHOICE <i>UL OL PC info</i>	MP				
>>>Broadcast UL OL PC info			Null	No data	
>>>Individually Signalled	OP				
>>>>CHOICE <i>TDD option</i>	MP				REL-4
>>>>>3.84 Mcps TDD					REL-4
>>>>>>Individual timeslot interference info	MP	1 to <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

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
<i>algo</i>	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 <i>mode</i>	MP				
>FDD					
>>DPCCH Power offset	MP		Integer(-110..-50 by step of 4)	In dB	
>>PC Preamble	MP		Integer (0..7)	in number of frames	
>>SRB delay	MP		Integer (0..7)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB For 1.28 Mcps TDD this parameter represents $PRX_{DPCHdes}$ with range Integer(-120...-58 by step of 1) dBm	REL-4
>>CHOICE <i>TDD option</i>	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
<i>algo</i>	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 {
    tdd384                SEQUENCE {
      ul-CCTrCH-TimeslotsCodes    UplinkTimeslotsCodes    OPTIONAL
    },
    tdd128                SEQUENCE {
      ul-CCTrCH-TimeslotsCodes    UplinkTimeslotsCodes-LCR-r4  OPTIONAL
    }
  }
}

```

[...]

```

UL-DPCH-PowerControlInfo-r4 ::= CHOICE {
  fdd                SEQUENCE {
    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      SEQUENCE {
        tddOption              CHOICE {
          tdd384                SEQUENCE {
            individualTS-InterferenceList    IndividualTS-InterferenceList,
            dpch-ConstantValue              ConstantValue
          },
          tdd128                SEQUENCE {
            tpc-StepSize          TPC-StepSizeTDD
          }
        }
      },
      primaryCCPCH-TX-Power      PrimaryCCPCH-TX-Power
    }
  }
}

```

```

UL-DPCH-PowerControlInfo-r5 ::= CHOICE {
  fdd                SEQUENCE {
    dpcch-PowerOffset    DPCCH-PowerOffset,
    pc-Preamble          PC-Preamble,
    -- TABULAR: TPC step size nested inside PowerControlAlgorithm
    powerControlAlgorithm PowerControlAlgorithm,
    deltaACK             DeltaACK    OPTIONAL,
    deltaNACK            DeltaNACK   OPTIONAL,
    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 {

```





CR-Form-v7

## CHANGE REQUEST

⌘ **25.331** **CR** **2346** ⌘ rev **-** ⌘ Current version: **4.13.0** ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Clarification about measurement control system information in TDD mode
<b>Source:</b>	⌘ RANWG2
<b>Work item code:</b>	⌘ TEI4
<b>Date:</b>	⌘ 15/04/2004
<b>Category:</b>	⌘ <b>F</b>
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .
<b>Release:</b>	⌘ Rel-4
	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ In current specification , the defination of IE “Cell selection and reselection quality measure” included in section 10.3.7.47 is “Enumerated (CPICH Ec/N0, CPICH RSCP)”. But in TDD mode, PCCPCH RSCP will be used for “Cell selection and reselection quality measure”. So, it needs to add a NOTE to clarify meaning of this IE.
<b>Summary of change:</b>	⌘ This CR just add a NOTE in tabular and ASN.1 to clarify the meaning of IE “Cell selection and reselection quality measure” in TDD mode.
	<b>Impact Analysis:</b> Impact assessment towards the previous version of the specification (same release): The impact can be considered isolated because the change just clarify the meaning of IE “Cell selection and reselection quality measure” in TDD mode.
<b>Consequences if not approved:</b>	⌘ If this CR is not approved, the meaning of IE “Cell selection and reselection quality measure” in TDD mode would be some ambiguity.

<b>Clauses affected:</b>	⌘ 10.3.7.47, 11.3								
<b>Other specs affected:</b>	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;">Y</td> <td style="border: 1px solid black; padding: 2px; text-align: center;">N</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;"> </td> <td style="border: 1px solid black; padding: 2px; text-align: center;">X</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;"> </td> <td style="border: 1px solid black; padding: 2px; text-align: center;">X</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px; text-align: center;"> </td> <td style="border: 1px solid black; padding: 2px; text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X
Y	N								
	X								
	X								
	X								
<b>Other comments:</b>	⌘								

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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.

## 10.3.7.47 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. <a href="#">NOTE: For TDD, each choice of this parameter represents PCCPCH RSCP.</a>
Intra-frequency measurement system information	OP		Intra-frequency measurement system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter-frequency measurement system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measurement system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measurement system information 10.3.7.73	

## 11.3 Information element definitions

[...]

```

MeasurementControlSysInfo ::= SEQUENCE {
  -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
  use-of-HCS CHOICE {
    hcs-not-used SEQUENCE {
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP
        }
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP OPTIONAL
      },
      cpich-Ec-N0 SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0 OPTIONAL
      }
    },
    interRATMeasurementSysInfo InterRATMeasurementSysInfo-B OPTIONAL
  },
  hcs-used SEQUENCE {
    cellSelectQualityMeasure CHOICE {
      cpich-RSCP SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP
      },
      cpich-Ec-N0 SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-ECN0
      }
    },
    interRATMeasurementSysInfo 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 {
    hcs-not-used SEQUENCE {
      -- CHOICE cellSelectQualityMeasure shall have the same value as the
      -- cellSelectQualityMeasure in MeasurementControlSysInfo
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL
        },
        cpich-Ec-N0 SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL,
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
        }
      }
    },
    hcs-used SEQUENCE {
      -- CHOICE cellSelectQualityMeasure shall have the same value as the
      -- cellSelectQualityMeasure in MeasurementControlSysInfo
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP-LCR-r4
        },
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
      }
    }
  },
  dummy UE-InternalMeasurementSysInfo OPTIONAL
}

```

```
cpich-Ec-N0          SEQUENCE {
OPTIONAL,            intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0-LCR-r4
                    }
                    }
                    }
                    }
}
```

[...]

## CHANGE REQUEST

⌘ **25.331** **CR** **2347** ⌘ rev **-** ⌘ Current version: **5.8.0** ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Clarification about measurement control system information in TDD mode
<b>Source:</b>	⌘ RAN WG2
<b>Work item code:</b>	⌘ TEI4
<b>Date:</b>	⌘ 15/04/2004
<b>Category:</b>	⌘ <b>A</b>
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .
<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ In current specification , the defination of IE "Cell selection and reselection quality measure" included in section 10.3.7.47 is "Enumerated (CPICH Ec/N0, CPICH RSCP)". But in TDD mode, PCCPCH RSCP will be used for "Cell selection and reselection quality measure". So, it needs to add a NOTE to clarify meaning of this IE.
<b>Summary of change:</b>	⌘ This CR just add a NOTE in tabular and ASN.1 to clarify the meaning of IE "Cell selection and reselection quality measure" in TDD mode.
	<b>Impact Analysis:</b> Impact assessment towards the previous version of the specification (same release): The impact can be considered isolated because the change just clarify the meaning of IE "Cell selection and reselection quality measure" in TDD mode.
<b>Consequences if not approved:</b>	⌘ If this CR is not approved, the meaning of IE "Cell selection and reselection quality measure" in TDD mode would be some ambiguity.

<b>Clauses affected:</b>	⌘ 10.3.7.47, 11.3									
<b>Other specs affected:</b>	<table border="1" style="border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘
Y	N									
⌘	X									
⌘	X									
⌘	X									
<b>Other comments:</b>	⌘									

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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. <a href="#">NOTE: For TDD, each choice of this parameter represents PCCPCH RSCP.</a>
Intra-frequency measurement system information	OP		Intra-frequency measurement system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter-frequency measurement system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measurement system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measurement system information 10.3.7.73	



## 11.3 Information element definitions

[...]

```

MeasurementControlSysInfo ::= SEQUENCE {
  -- CHOICE cellSelectQualityMeasure represents PCCPCH-RSCP in TDD mode.
  use-of-HCS CHOICE {
    hcs-not-used SEQUENCE {
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP
        }
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP OPTIONAL
      },
      cpich-Ec-N0 SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0 OPTIONAL
      }
    },
    interRATMeasurementSysInfo InterRATMeasurementSysInfo-B OPTIONAL
  },
  hcs-used SEQUENCE {
    cellSelectQualityMeasure CHOICE {
      cpich-RSCP SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP
      },
      cpich-Ec-N0 SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-ECN0
      }
    },
    interRATMeasurementSysInfo 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 {
    hcs-not-used SEQUENCE {
      -- CHOICE cellSelectQualityMeasure shall have the same value as the
      -- cellSelectQualityMeasure in MeasurementControlSysInfo
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL
        },
        cpich-Ec-N0 SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL,
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
        }
      }
    },
    hcs-used SEQUENCE {
      -- CHOICE cellSelectQualityMeasure shall have the same value as the
      -- cellSelectQualityMeasure in MeasurementControlSysInfo
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP-LCR-r4
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
        },

```

```
cpich-Ec-N0          SEQUENCE {
OPTIONAL,            intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0-LCR-r4
                    }
                    }
                    }
                    }
}
```

[...]

## CHANGE REQUEST

⌘ **25.331** **CR** **2348** ⌘ rev **-** ⌘ Current version: **6.1.0** ⌘

For [HELP](#) on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

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<b>Title:</b>	⌘ Clarification about measurement control system information in TDD mode
<b>Source:</b>	⌘ RAN WG2
<b>Work item code:</b>	⌘ TEI4
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⌘	X								
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## 11.3 Information element definitions

[...]

```

MeasurementControlSysInfo ::= SEQUENCE {
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  use-of-HCS CHOICE {
    hcs-not-used SEQUENCE {
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP
        }
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP OPTIONAL
      },
      cpich-Ec-N0 SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0 OPTIONAL
      }
    },
    interRATMeasurementSysInfo InterRATMeasurementSysInfo-B OPTIONAL
  },
  hcs-used SEQUENCE {
    cellSelectQualityMeasure CHOICE {
      cpich-RSCP SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP
      },
      cpich-Ec-N0 SEQUENCE {
        intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-ECN0
      }
    },
    interRATMeasurementSysInfo 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 {
    hcs-not-used SEQUENCE {
      -- CHOICE cellSelectQualityMeasure shall have the same value as the
      -- cellSelectQualityMeasure in MeasurementControlSysInfo
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL,
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-RSCP-LCR-r4 OPTIONAL
        },
        cpich-Ec-N0 SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL,
          interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-ECN0-LCR-r4 OPTIONAL
        }
      }
    },
    hcs-used SEQUENCE {
      -- CHOICE cellSelectQualityMeasure shall have the same value as the
      -- cellSelectQualityMeasure in MeasurementControlSysInfo
      cellSelectQualityMeasure CHOICE {
        cpich-RSCP SEQUENCE {
          intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-RSCP-LCR-r4
        },
        interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-RSCP-LCR-r4 OPTIONAL
      }
    }
  },
  dummy UE-InternalMeasurementSysInfo OPTIONAL
}

```

```
cpich-Ec-N0          SEQUENCE {
OPTIONAL,            intraFreqMeasurementSysInfo IntraFreqMeasurementSysInfo-HCS-ECN0-LCR-r4
                    }
                    interFreqMeasurementSysInfo InterFreqMeasurementSysInfo-HCS-ECN0-LCR-r4 OPTIONAL
                }
            }
        }
```

[...]