TSG-RAN Meeting #22 **RP-030621**
Maui, USA, 09-12 December 2003

Title: **25.331 CRs to Rel-4 (and linked Rel-5 CRs)**

Source: **TSG-RAN WG2**

Agenda item: **7.3.4**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	2092	-	Rel-4	Corrections to 1.28 Mcps TDD power control: ASN1/Tabular consistency, correction of omissions	F	4.11.0	4.12.0	R2-032259	LCRTDD-L23
25.331	2093	-	Rel-5	Corrections to 1.28 Mcps TDD power control: ASN1/Tabular consistency, correction of omissions	A	5.6.0	5.7.0	R2-032260	LCRTDD-L23
25.331	2094	-	Rel-4	UpPCH power control for 1.28Mcps	F	4.11.0	4.12.0	R2-032268	LCRTDD-L23
25.331	2095	-	Rel-5	UpPCH power control for 1.28Mcps	A	5.6.0	5.7.0	R2-032269	LCRTDD-L23
25.331	2131	1	Rel-4	General protocol error handling failure for DL CCCH messages due to ASN.1 error	F	4.11.0	4.12.0	R2-032655	TEI4
25.331	2132	1	Rel-5	General protocol error handling failure for DL CCCH messages due to ASN.1 error	A	5.6.0	5.7.0	R2-032656	TEI4
25.331	2135	-	Rel-4	Corrections Relating to 1.28 Mcps TDD	F	4.11.0	4.12.0	R2-032604	LCRTDD-L23
25.331	2136	-	Rel-5	Corrections Relating to 1.28 Mcps TDD	A	5.6.0	5.7.0	R2-032605	LCRTDD-L23
25.331	2137	-	Rel-4	Missing CHOICE RLC Info type in the ASN.1 IE ‘RB-InformationSetup-r4’	F	4.11.0	4.12.0	R2-032606	TEI4
25.331	2138	-	Rel-5	Missing CHOICE RLC Info type in the ASN.1 IE ‘RB-InformationSetup-r4’	A	5.6.0	5.7.0	R2-032607	TEI4

3GPP TSG-RAN WG2 Meeting #38 **R2-032259**
Sophia Antipolis, France, 6th – 10th October 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2092** ⌘**rev** ⌘ Current version: **4.11.0** ⌘

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

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

Title:	⌘	Corrections for 1.28 Mcps TDD power control: ASN1/tabular consistency, correction of ommissions.
Source:	⌘	RAN WG2
Work item code:	⌘	LCRTDD-L23
Date:	⌘	6th October 2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ In the ASN1 for TDD the 3.84 Mcps IE 'UL target SIR' and the 1.28 Mcps TDD IEs '$PRX_{PDPCHdes}$' and '$PRX_{PUSCHdes}$' are represented by a single entry 'UL target SIR' with a comment being added to indicate that they are equivalent and the value is mapped to a different parameter range in each case. This is not reflected in the tabular form where, in some cases a 3.84 Mcps/ 1.28 Mcps TDD choice is indicated, but this choice is not present in the ASN1, and in others there is no mention of the 1.28 Mcps TDD parameter i.e. only 'UL target SIR' is listed.

Furthermore, in two cases the equivalence comment is omitted from the ASN1.

This CR corrects the tabular representation to make it consistent with the ASN1 and inserts the missing comments into the ASN1.

Summary of change: ⌘ 1. For IE 10.3.6.65 'PUSCH power control info' the choice 3.84 Mcps/ 1.28Mcps TDD is repositioned in the tabular to make it consistent with the ASN1. A comment is added to the semantics description of the IE 'UL Target SIR' to indicate that in the case of 1.28 Mcps TDD the value should be used for the value of '$PRX_{PUSCHdes}$'. The IE '$PRX_{PUSCHdes}$' is removed from the tabular.

2. For IE 10.3.6.88 'Uplink DPCH info' a comment is added to the semantics description of 'UL target SIR' in the tabular form to indicate that for 1.28 Mcps TDD the value of this parameter should be used for the value of '$PRX_{PDPCHdes}$'. A comment is added to the ASN1 (UL-CCTrCH-r4) to indicate this mapping.

		3. For IE 10.3.6.91 'Uplink DPCH power control info' the choice 3.84 Mcps TDD/ 1.28 Mcps TDD and the IE '$PRX_{PDPCHdes}$' are removed from the tabular form because it is inconsistent with the ASN1. A comment is added to the semantics description of 'UL target SIR'. 4. For the IE 10.3.6.92 'Uplink DPCH power control info Post' a comment is added to the semantics description of 'UL target SIR' in the tabular form to indicate that for 1.28 Mcps TDD the value of this parameter should be used for the value of '$PRX_{PDPCHdes}$'. A comment is added to the ASN1 (UL-DPCH-PowerControlInfoPostTDD-LCR-r4) to indicate this mapping. **Isolated Impact Change Analysis.** This change is limited to the functionality for 1.28 Mcps TDD power control. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	The tabular and ASN1 descriptions for the IEs 10.3.6.65, 10.3.6.88 10.3.6.91 and 10.3.6.92 will be erroneous for 1.28 Mcps TDD.

Clauses affected:	⌘	10.3.6.65, 10.3.6.88, 10.3.6.91, 10.3.6.92, 11.3			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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

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.

10.3.6.65 PUSCH power control info

NOTE: Only for TDD.

Interference level measured for a frequency at the UTRAN access point used by UE to set PUSCH output power.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
UL target SIR	MP		Real (-11 .. 20 by step of 0.5 dB)		
				For 1.28 Mcps TDD this parameter represents $PRX_{PUSCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
CHOICE *TDD option*	MP				REL-4
>3.84 Mcps TDD				(no data)	REL-4
~~>>UL target SIR~~	~~MP~~		~~Real (-11 .. 20 by step of 0.5)~~	~~in dB~~	
>1.28 Mcps TDD					REL-4
~~>>$PRX_{PUSCHdes}$~~	~~MP~~		~~Integer(-120… 58 by step of 1)~~	~~in dBm~~	~~REL-4~~
>>TPC Step Size	OP		Integer (1, 2, 3)	In dB	REL-4

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 *mode*	MP				
>FDD					
>>Scrambling code type	MP		Enumerated(short, long)		
>>Scrambling code number	MP		Integer(0..16 777215)		
>>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 <maxCCTrCH>		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 $PRX_{PDPCHdes}$ 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..<maxCCTrCH>		UL physical channels to remove list	
>>>TFCS ID	MP		Integer(1..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 (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-*algo*		Integer (1, 2)	In dB	
>TDD					
~~>>CHOICE *TDD option*~~					~~REL-4~~
~~>>>3.84 Mcps TDD~~					~~REL-4~~
>>~~>~~UL target SIR	OP		Real (-11 .. 20 by step of 0.5dB)	In dB	
				For 1.28 Mcps TDD this parameter represents $PRX_{PDPCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
~~>>>1.28 Mcps TDD~~					~~REL-4~~
~~>>>> $PRX_{PDPCHdes}$~~	~~OP~~		~~Integer(-120…-58 by step of 1)~~	~~in 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>			
>>>>>>>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
>>>>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(-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 $PRX_{PDPCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
>>CHOICE *TDD option*	MP				
>>>3.84 Mcps TDD					
>>>>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

```
-------------

-- **************************************************
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- **************************************************

[……..]


UL-CCTrCH ::=                       SEQUENCE {
    tfcs-ID                             TFCS-IdentityPlain                  DEFAULT 1,
    ul-TargetSIR                        UL-TargetSIR,
    timeInfo                            TimeInfo,
    commonTimeslotInfo                  CommonTimeslotInfo                  OPTIONAL,
    ul-CCTrCH-TimeslotsCodes            UplinkTimeslotsCodes                OPTIONAL
}

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-CCTrCHList ::=                   SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                        UL-CCTrCH

UL-CCTrCHList-r4 ::=                SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                        UL-CCTrCH-r4


[……..]



UL-DPCH-PowerControlInfoPostFDD ::= SEQUENCE {
    -- DPCCH-PowerOffset2 has a smaller range to save bits
    dpcch-PowerOffset                   DPCCH-PowerOffset2,
    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
}

UL-DPCH-PowerControlInfoPredef ::=      CHOICE {
    fdd                                 SEQUENCE {
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
```

```
        powerControlAlgorithm               PowerControlAlgorithm
    },
    tdd                                  SEQUENCE {
        -- dpch-ConstantValue shall be ignored if in 1.28Mcps TDD mode.
        dpch-ConstantValue                  ConstantValueTdd
    }
}
```

3GPP TSG-RAN WG2 Meeting #38 **R2-032260**
Sophia Antipolis, France, 6th – 10th October 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2093** ⌘ **rev** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Corrections for 1.28 Mcps TDD power control: ASN1/tabular consistency, correction of ommissions.
Source:	⌘	RAN WG2
Work item code:	⌘	LCRTDD-L23
Date:	⌘	6th October 2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ In the ASN1 for TDD the 3.84 Mcps IE 'UL target SIR' and the 1.28 Mcps TDD IEs '$PRX_{PDPCHdes}$' and '$PRX_{PUSCHdes}$' are represented by a single entry 'UL target SIR' with a comment being added to indicate that they are equivalent and the value is mapped to a different parameter range in each case. This is not reflected in the tabular form where, in some cases a 3.84 Mcps/ 1.28 Mcps TDD choice is indicated, but this choice is not present in the ASN1, and in others there is no mention of the 1.28 Mcps TDD parameter i.e. only 'UL target SIR' is listed.

Furthermore, in two cases the equivalence comment is omitted from the ASN1.

This CR corrects the tabular representation to make it consistent with the ASN1 and insert the missing comments into the ASN1. Specifically:

Summary of change: ⌘ 1. For IE 10.3.6.65 'PUSCH power control info' the choice 3.84 Mcps/ 1.28Mcps TDD is repositioned in the tabular to make it consistent with the ASN1. A comment is added to the semantics description of the IE 'UL Target SIR' to indicate that in the case of 1.28 Mcps TDD the value should be used for the value of '$PRX_{PUSCHdes}$'. The IE '$PRX_{PUSCHdes}$' is removed from the tabular.

2. For IE 10.3.6.88 'Uplink DPCH info' a comment is added to the semantics description of 'UL target SIR' in the tabular form to indicate that for 1.28 Mcps TDD the value of this parameter should be used for the value of '$PRX_{PDPCHdes}$'. A comment is added to the ASN1 (UL-CCTrCH-r4) to indicate this mapping.

	3. For IE 10.3.6.91 'Uplink DPCH power control info' the choice 3.84 Mcps TDD/ 1.28 Mcps TDD and the IE '$PRX_{PDPCHdes}$' are removed from the tabular form because it is inconsistent with the ASN1. A comment is added to the semantics description of 'UL target SIR'. 4. For the IE 10.3.6.92 'Uplink DPCH power control info Post' a comment is added to the semantics description of 'UL target SIR' in the tabular form to indicate that for 1.28 Mcps TDD the value of this parameter should be used for the value of '$PRX_{PDPCHdes}$'. A comment is added to the ASN1 (UL-DPCH-PowerControlInfoPostTDD-LCR-r4) to indicate this mapping. **Isolated Impact Change Analysis.** This change is limited to the functionality for 1.28 Mcps TDD power control. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved: ⌘	The tabular and ASN1 descriptions for the IEs 10.3.6.65, 10.3.6.88 10.3.6.91 and 10.3.6.92 will be erroneous for 1.28 Mcps TDD.

Clauses affected:	⌘	10.3.6.65, 10.3.6.88, 10.3.6.91, 10.3.6.92, 11.3			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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10.3.6.65 PUSCH power control info

NOTE: Only for TDD.

Interference level measured for a frequency at the UTRAN access point used by UE to set PUSCH output power.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
UL target SIR	MP		Real (-11 .. 20 by step of 0.5 dB)		
				For 1.28 Mcps TDD this parameter represents $PRX_{PUSCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
CHOICE *TDD option*	MP				REL-4
>3.84 Mcps TDD				(no data)	REL-4
~~>>UL target SIR~~	~~MP~~		~~Real (-11 .. 20 by step of 0.5)~~	~~in dB~~	
>1.28 Mcps TDD					REL-4
~~>>$PRX_{PUSCHdes}$~~	~~MP~~		~~Integer(-120… 58 by step of 1)~~	~~in dBm~~	~~REL-4~~
>>TPC Step Size	OP		Integer (1, 2, 3)	In dB	REL-4

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 *mode*	MP				
>FDD					
>>Scrambling code type	MP		Enumerated(short, long)		
>>Scrambling code number	MP		Integer(0..16 777215)		
>>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 <maxCCTrCH>		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 $PRX_{PDPCHdes}$ 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..<maxCCTrCH>		UL physical channels to remove list	
>>>TFCS ID	MP		Integer(1..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 (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-*algo*		Integer (1, 2)	In dB	
>>Δ_{ACK}	OP		Integer (0..8)	Refer to quantization of the power offset in [28]	REL-5
>>Δ_{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					
~~>>CHOICE *TDD option*~~					~~REL-4~~
~~>>>3.84 Mcps TDD~~					~~REL-4~~
>>>>UL target SIR	OP		Real (-11 .. 20 by step of 0.5dB)	In dB	
				For 1.28 Mcps TDD this parameter represents $PRX_{PDPCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
~~>>>1.28 Mcps TDD~~					~~REL-4~~
~~>>>> $PRX_{PDPCHdes}$~~	~~OP~~		~~Integer(-120… -58 by step of 1)~~	~~in 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>			
>>>>>>>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
>>>>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(-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 $PRX_{PDPCHdes}$ with range Integer(-120…-58 by step of 1) dBm	REL-4
>>CHOICE *TDD option*	MP				
>>>3.84 Mcps TDD					
>>>>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

```
-------------


-- **************************************************
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- **************************************************

[……..]

UL-CCTrCH ::=                       SEQUENCE {
    tfcs-ID                             TFCS-IdentityPlain                  DEFAULT 1,
    ul-TargetSIR                        UL-TargetSIR,
    timeInfo                            TimeInfo,
    commonTimeslotInfo                  CommonTimeslotInfo                  OPTIONAL,
    ul-CCTrCH-TimeslotsCodes            UplinkTimeslotsCodes                OPTIONAL
}

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-CCTrCHList ::=                   SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                        UL-CCTrCH

UL-CCTrCHList-r4 ::=                SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                        UL-CCTrCH-r4

UL-CCTrCHListToRemove ::=           SEQUENCE (SIZE (1..maxCCTrCH)) OF
                                        TFCS-IdentityPlain

UL-CCTrChTPCList ::=                SEQUENCE (SIZE (0..maxCCTrCH)) OF
                                            TFCS-Identity

[……..]

UL-DPCH-PowerControlInfoPostFDD ::= SEQUENCE {
    -- DPCCH-PowerOffset2 has a smaller range to save bits
    dpcch-PowerOffset                   DPCCH-PowerOffset2,
    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
}

UL-DPCH-PowerControlInfoPredef ::=      CHOICE {
    fdd                                 SEQUENCE {
        -- TABULAR: TPC step size nested inside PowerControlAlgorithm
        powerControlAlgorithm               PowerControlAlgorithm
```

```
    },
    tdd                                 SEQUENCE {
        -- dpch-ConstantValue shall be ignored if in 1.28Mcps TDD mode.
        dpch-ConstantValue                  ConstantValueTdd
    }
}

UL-Interference ::=                 INTEGER (-110..-70)

UL-ScramblingCode ::=               INTEGER (0..16777215)
```

TSG-RAN Working Group 2 meeting #38 **R2-032268**
Sophia-Antipolis, France 6th – 10th October 2003

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CHANGE REQUEST

⌘ **25.331** **CR** **2094** ⌘ **rev** **-** ⌘ Current version: **4.11.0** ⌘

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

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

Title:	⌘	UpPCH power control for 1.28Mcps
Source:	⌘	RAN WG2
Work item code:	⌘	LCRTDD-L23
Date:	⌘	08/10/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change:	⌘	In section 8.5.7, the meaning of parameter 'i' is erroneous in formula that calculate UpPCH UL transmit power. The power ramping should be done in a random access procedure. But according to current specification 'i=1…Mmax', UE will transmit SYNC_UL code with same power in a random access procedure except that random access procedure is failed completely. The meaning of parameter 'i' has been changed from 'i=1...Mmax' to 'i=1.....Max SYNC_UL Transmissions'. Thus UE will add transmission power if SYNC_UL code initial power is not high enough in a random access procedure.
Summary of change:	⌘	In section 8.5.7, statement 'i=1...Mmax' has been changed to 'i=1...Max SYNC_UL Transmissions' **Isolated Impact analysis:** This CR has isolated impact with the previous version of the specification (same release) because it only corrects the meaning of parameter 'i' for 1.28Mcps TDD.
Consequences if not approved:	⌘	The description of the UE behaviour for 1.28 Mcps TDD power calculation operation regarding UpPCH UL transmit power will be erroneous.

Clauses affected:	⌘	8.5.7			
Other specs affected:	⌘	**Y** / **N**		⌘	
		X /	Other core specifications		TS 25.331 Rel-5 CR2095
		/ X	Test specifications		
		/ X	O&M Specifications		

Other comments: ⌘

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

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 FDD and prior to PRACH or PCPCH transmission the UE shall:

1> read the IEs "Primary CPICH Tx power" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and the IE "UL interference" in System Information Block type 7;

1> measure the value for the CPICH_RSCP;

1> calculate the power for the first preamble as:

Preamble_Initial_Power = Primary CPICH TX power – CPICH_RSCP + UL interference + Constant Value

Where,

Primary CPICH TX power shall have the value of IE "Primary CPICH Tx power",

UL interference shall have the value of IE "UL interference"; and

Constant Value shall have the value of IE "Constant value".

1> as long as the physical layer is configured for PRACH or PCPCH transmission:

2> continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and

2> resubmit to the physical layer the new calculated Preamble_Initial_Power.

For 3.84 Mcps TDD the UE shall:

1> if in the IE "Uplink DPCH Power Control info" the "CHOICE UL OL PC info" has the value "Broadcast UL OL PC info":

3> acquire Reference Power, Constant Values from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), and I_{BTS} for all active UL timeslots from System Information Block type 14 on the BCH.

1> otherwise:

2> acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from the IE "Uplink DPCH Power Control info".

1> for PUSCH and PRACH power control:

2> acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5) and System Information Block type 14 on the BCH.

calculate the UL transmit power according to the following formula for the PRACH continuously while the physical channel is active:

$$P_{PRACH} = L_{PCCPCH} + I_{BTS} + \text{PRACH Constant value},$$

2> 3dB shall be added to RACH Constant Value in the above equation for the case where RACH Spreading Factor = 8.

1> calculate the UL transmit power according to the following formula for the DPCH continuously while the physical channel is active:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{DPCH Constant value}$$

1> calculate the UL transmit power according to the following formula for the PUSCH continuously while the physical channel is active:

$$P_{PUSCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{PUSCH Constant value}$$

Where, for all the above equations for TDD the following apply:

- $P_{PRACH,}$ P_{DPCH}, & P_{PUSCH}: Transmitter power level in dBm;
- Pathloss values:
  - L_{PCCPCH}: Measurement representing path loss in dB based on beacon channels (the reference transmit power is signalled as the value of the IE "Primary CCPCH Tx Power" on BCH in System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), or individually signalled in the IE" Uplink DPCH Power Control info").
  - L_0: Long term average of path loss in dB;
  - If the midamble is used in the evaluation of L_{PCCPCH} and L_0, and the Tx diversity scheme used for the P-CCPCH involves the transmission of different midambles from the diversity antennas, the received power of the different midambles from the different antennas shall be combined prior to evaluation of the variables.
- I_{BTS}: Interference signal power level at cell's receiver in dBm. I_{BTS} shall have the value of the IE "UL Timeslot Interference" (IE "UL Timeslot Interference" is broadcast on BCH in System Information Block type 14 or individually signalled to each UE in the IE "Uplink DPCH Power Control info" for each active uplink timeslot).
- α: α is a weighting parameter, which represents the quality of path loss measurements. α may be a function of the time delay between the uplink time slot and the most recent down link PCCPCH time slot. α is calculated at the UE. α shall be smaller or equal to the value of the IE "Alpha". If the IE "Alpha" is not explicitly signalled to the UE α shall be set to 1. If UE is capable of estimating its position by using the OTDOA IPDL method, the UE shall use the IPDL-α parameter.
- SIR_{TARGET}: Target SNR in dB. This value is individually signalled to UEs in IE "UL target SIR" in IE "Uplink DPCH Power Control Info" or in IE "PUSCH Power Control Info" respectively.
- PRACH Constant value: PRACH Constant value shall have the value of the IE "PRACH Constant value".
- DPCH Constant value: DPCH Constant value shall have the value of the IE "DPCH Constant value".
- PUSCH Constant value: PUSCH Constant value shall have the value of the IE "PUSCH Constant value".
- Values received by dedicated signalling shall take precedence over broadcast values.
- If IPDLs are applied, the UE may increase UL Tx power by the value given in the IE "Max power increase". This power increase is only allowed in the slots between an idle slot and the next beacon slot.

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.

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

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_{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~~Mmax~~.
- 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.

TSG-RAN Working Group 2 meeting #38 **R2-032269**
Sophia-Antipolis, France 6th – 10th October 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2095** ⌘ **rev** **-** ⌘ Current version: **5.6.0** ⌘

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Source:	⌘	RAN WG2
Work item code:	⌘	LCRTDD-L23
Date:	⌘	08/10/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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Summary of change:	⌘	In section 8.5.7, statement 'i=1...Mmax' has been changed to 'i=1...Max SYNC_UL Transmissions' **Isolated Impact analysis:** This CR has isolated impact with the previous version of the specification (same release) because it only corrects the meaning of parameter 'i' for 1.28Mcps TDD.
Consequences if not approved:	⌘	The description of the UE behaviour for 1.28 Mcps TDD power calculation operation regarding UpPCH UL transmit power will be erroneous.

Clauses affected:	⌘	8.5.7			
Other specs affected:	⌘	**Y** / **N**		⌘	
		X /	Other core specifications		TS 25.331 Rel-4 CR2094
		/ X	Test specifications		
		/ X	O&M Specifications		

Other comments: ⌘

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8.5.7 Open loop power control

For FDD and prior to PRACH or PCPCH transmission the UE shall:

1> read the IEs "Primary CPICH Tx power" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and the IE "UL interference" in System Information Block type 7;

1> measure the value for the CPICH_RSCP;

1> calculate the power for the first preamble as:

Preamble_Initial_Power = Primary CPICH TX power – CPICH_RSCP + UL interference + Constant Value

Where,

Primary CPICH TX power shall have the value of IE "Primary CPICH Tx power",

UL interference shall have the value of IE "UL interference"; and

Constant Value shall have the value of IE "Constant value".

1> as long as the physical layer is configured for PRACH or PCPCH transmission:

2> continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and

2> resubmit to the physical layer the new calculated Preamble_Initial_Power.

For 3.84 Mcps TDD the UE shall:

1> if in the IE "Uplink DPCH Power Control info" the "CHOICE UL OL PC info" has the value "Broadcast UL OL PC info":

3> acquire Reference Power, Constant Values from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), and I_{BTS} for all active UL timeslots from System Information Block type 14 on the BCH.

1> otherwise:

2> acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from the IE "Uplink DPCH Power Control info".

1> for PUSCH, PRACH and HS-SICH power control:

2> acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5) and System Information Block type 14 on the BCH.

calculate the UL transmit power according to the following formula for the PRACH continuously while the physical channel is active:

$$P_{PRACH} = L_{PCCPCH} + I_{BTS} + \text{PRACH Constant value},$$

2> 3dB shall be added to RACH Constant Value in the above equation for the case where RACH Spreading Factor = 8.

1> calculate the UL transmit power according to the following formula for the DPCH continuously while the physical channel is active:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{DPCH Constant value}$$

1> calculate the UL transmit power according to the following formula for the PUSCH continuously while the physical channel is active:

$$P_{PUSCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{PUSCH Constant value}$$

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

2> when transmitting a Negative Acknowledgement:

$$P_{HS\text{-}SICH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{HS-SICH Constant value}$$

2> when transmitting an Acknowledgement:

$$P_{HS\text{-}SICH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{HS-SICH Constant value} + \text{Ack\_Nack power offset}$$

Where, for all the above equations for 3.84 Mcps TDD the following apply:

- P_{PRACH}, P_{DPCH}, P_{PUSCH} and $P_{HS\text{-}SICH}$: Transmitter power level in dBm;
- Pathloss values:
  - L_{PCCPCH}: Measurement representing path loss in dB based on beacon channels (the reference transmit power is signalled as the value of the IE "Primary CCPCH Tx Power" on BCH in System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), or individually signalled in the IE" Uplink DPCH Power Control info").
  - L_0: Long term average of path loss in dB;
  - If the midamble is used in the evaluation of L_{PCCPCH} and L_0, and the Tx diversity scheme used for the P-CCPCH involves the transmission of different midambles from the diversity antennas, the received power of the different midambles from the different antennas shall be combined prior to evaluation of the variables.
- I_{BTS}: Interference signal power level at cell's receiver in dBm. I_{BTS} shall have the value of the IE "UL Timeslot Interference" (IE "UL Timeslot Interference" is broadcast on BCH in System Information Block type 14 or individually signalled to each UE in the IE "Uplink DPCH Power Control info" for each active uplink timeslot).
- α: α is a weighting parameter, which represents the quality of path loss measurements. α may be a function of the time delay between the uplink time slot and the most recent down link PCCPCH time slot. α is calculated at the UE. α shall be smaller or equal to the value of the IE "Alpha". If the IE "Alpha" is not explicitly signalled to the UE α shall be set to 1. If UE is capable of estimating its position by using the OTDOA IPDL method, the UE shall use the IPDL-α parameter.
- SIR_{TARGET}: Target SNR in dB. This value is individually signalled to UEs in IE "UL target SIR" in IE "Uplink DPCH Power Control Info" or in IE "PUSCH Power Control Info" respectively.
- PRACH Constant value: PRACH Constant value shall have the value of the IE "PRACH Constant value".
- DPCH Constant value: DPCH Constant value shall have the value of the IE "DPCH Constant value".
- PUSCH Constant value: PUSCH Constant value shall have the value of the IE "PUSCH Constant value".
- HS-SICH Constant value: HS-SICH Constant value shall have the value of the IE "HS-SICH Constant value".
- Values received by dedicated signalling shall take precedence over broadcast values.
- If IPDLs are applied, the UE may increase UL Tx power by the value given in the IE "Max power increase". This power increase is only allowed in the slots between an idle slot and the next beacon slot.
- 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".

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.

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

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

2> when transmitting a Negative Acknowledgement;

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

2> when transmitting an Acknowledgement

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

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.

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

Where:

- P_{UpPCH}, P_{PRACH}, P_{DPCH}, $P_{HS\text{-}SICH}$ & 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~~Mmax~~.
- 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.
- $PRX_{HS\text{-}SICH}$: 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".

3GPP TSG-RAN WG2 Meeting #39
San Diego, California, USA, 17 – 21 November 2003

Tdoc ⌘R2-032655

CR-Form-v7

CHANGE REQUEST

⌘ **TS 25.331 CR 2131** ⌘**rev 1** ⌘ Current version: **4.11.0** ⌘

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

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

Title:	⌘	General protocol error handling failure for DL CCCH messages due to ASN.1 error
Source:	⌘	RAN WG2
Work item code:	⌘	TEI-4
Date:	⌘	20/11/2003
Category:	⌘	**F**
Release:	⌘	REL-4

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	For DL CCCH messages with a version 'later than r3', the R99 ASN.1 is not compatible with the ASN.1 of later versions of the satandard. For DL CCCH messages the R99 ASN.1 does not include the UE identity
Summary of change:	⌘	A note is introduced outlining that R99 UEs are unable to determine which UE is addressed by a downlink CCCH message corresponding with a protocol version later than R99. The note also clarifies that, because a R99 UE will not be able to return a protocol error, UTRAN should only send a R99 message version towards them
Consequences if not approved:	⌘	No warning is provided UTRAN should not rely on the general protocol error handling that does not work for the DL CCCH messages send to R99 UEs due to an error in previous versions of the specification

Clauses affected:	⌘	8

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

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

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

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

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

8 RRC procedures

The UE shall be able to process several simultaneous RRC procedures. After the reception of a message which invoked a procedure, the UE shall be prepared to receive and act on another message which may invoke a second procedure. Whether this second invocation of a procedure (transaction) is accepted or rejected by the UE is specified in the subclauses of this clause, and in particular in subclause 8.6.3.11 (RRC transaction identifier).

On receiving a message the UE shall:

1> check that the message is addressed to the UE (e.g. by checking the IE "Initial UE identity" or the IE "U-RNTI" for messages on CCCH);

1> discard the messages addressed to other UEs.

and then the UE shall:

1> apply integrity check as appropriate;

1> proceed with error handling as specified in clause 9;

1> act upon the IE "RRC transaction identifier";

1> continue with the procedure as specified in the relevant subclause.

NOTE Due to an error in the R99 ASN.1, a R99 UE is unable to determine which UE is addressed by a downlink CCCH message corresponding with a protocol version later than R99. As a result, the R99 UE will not be able to return a protocol error according to 9.3a. Therefore, UTRAN should only send a R99 message version towards UEs that have indicated to conform to R99 within the IE 'Access stratum release indicator'.

The RRC entity in the UE shall consider PDUs to have been transmitted when they are submitted to the lower layers. If the RRC entity in the UE submits a message for transmission using AM RLC, it shall consider the message successfully transmitted when UTRAN reception of all relevant PDUs is acknowledged by RLC. In the UE, timers are started when the PDUs are sent on the radio interface in the case of the transmission using the CCCH.

3GPP TSG-RAN WG2 Meeting #39
San Diego, California, USA, 17 – 21 November 2003

Tdoc ⌘R2-032656

CR-Form-v7

CHANGE REQUEST

⌘ **TS 25.331 CR 2132** ⌘**rev 1** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	General protocol error handling failure for DL CCCH messages due to ASN.1 error
Source:	⌘	RAN WG2
Work item code:	⌘	TEI-4
Date:	⌘	20/11/2003
Category:	⌘	**A**
Release:	⌘	REL-5

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	For DL CCCH messages with a version 'later than r3', the R99 ASN.1 is not compatible with the ASN.1 of later versions of the satandard. For DL CCCH messages the R99 ASN.1 does not include the UE identity
Summary of change:	⌘	A note is introduced outlining that R99 UEs are unable to determine which UE is addressed by a downlink CCCH message corresponding with a protocol version later than R99. The note also clarifies that, because a R99 UE will not be able to return a protocol error, UTRAN should only send a R99 message version towards them
Consequences if not approved:	⌘	No warning is provided UTRAN should not rely on the general protocol error handling that does not work for the DL CCCH messages send to R99 UEs due to an error in previous versions of the specification

Clauses affected:	⌘	8

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:
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Below is a brief summary:

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://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 RRC procedures

The UE shall be able to process several simultaneous RRC procedures. After the reception of a message which invoked a procedure, the UE shall be prepared to receive and act on another message which may invoke a second procedure. Whether this second invocation of a procedure (transaction) is accepted or rejected by the UE is specified in the subclauses of this clause, and in particular in subclause 8.6.3.11 (RRC transaction identifier).

On receiving a message the UE shall:

1> check that the message is addressed to the UE (e.g. by checking the IE "Initial UE identity" or the IE "U-RNTI" for messages on CCCH);

1> discard the messages addressed to other UEs.

and then the UE shall:

1> apply integrity check as appropriate;

1> proceed with error handling as specified in clause 9;

1> act upon the IE "RRC transaction identifier";

1> continue with the procedure as specified in the relevant subclause.

NOTE Due to an error in the R99 ASN.1, a R99 UE is unable to determine which UE is addressed by a downlink CCCH message corresponding with a protocol version later than R99. As a result, the R99 UE will not be able to return a protocol error according to 9.3a. Therefore, UTRAN should only send a R99 message version towards UEs that have indicated to conform to R99 within the IE 'Access stratum release indicator'.

The RRC entity in the UE shall consider PDUs to have been transmitted when they are submitted to the lower layers. If the RRC entity in the UE submits a message for transmission using AM RLC, it shall consider the message successfully transmitted when UTRAN reception of all relevant PDUs is acknowledged by RLC. In the UE, timers are started when the PDUs are sent on the radio interface in the case of the transmission using the CCCH.

3GPP TSG-RAN WG2 Meeting #39 **R2-032604**
San-Diego, USA, 17th – 21st November 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2135** ⌘**rev** ⌘ Current version: **4.11.0** ⌘

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

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

Title:	⌘	Corrections Relating to 1.28 Mcps TDD
Source:	⌘	RAN WG2
Work item code:	⌘	LCRTDD-L23
Date:	⌘	17th November 2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

1. A section reference in section 8.2.10.3 is incorrect and should be amended.

2. The description in 8.6.6.6 currently relates only to FDD, there is no description for TDD.

3. The description in 8.6.6.11 for 1.28 Mcps TDD does not take account of the different scope of the parameters of IE „Uplink DPCH power control info“ when used in the message Uplink Physical Channel Control and in the IE Uplink DPCH info. In the former case the parameters apply to only one CCTrCH. In the latter case TPC applies to all CCTrCH added or reconfigured in the associated message and the IE “UL target SIR“ is not used.

Summary of change: ⌘

1. The section reference in 8.2.10.3 is changed.

2. Text is added to 8.6.6.6 to describe TDD actions on receiving the IE.

3. Text is ammended in 8.6.6.11 to explain the different scope of the parameters for 1.28 Mcps TDD when used in its two contexts.

Isolated Impact Change Analysis.
This change is limited to text descriptions of the functionality for 1.28 TDD and for one item 3.84 Mcps TDD. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Impact on Test specifications
There is no impact on the test specifications.

Consequences if ⌘ For items 1, 2 and 3 the text descriptions of UE response to receiving certain information

not approved:	elements and one message will not be correctly described or will be missing for 1.28 Mcps TDD. For item 2 it will also be missing for 3.84 Mcps TDD.

Clauses affected:	⌘	8.2.10.3, 8.6.6.6, 8.6.6.11			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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

8.2.10.3 Reception of UPLINK PHYSICAL CHANNEL CONTROL message by the UE

Upon reception of the UPLINK PHYSICAL CHANNEL CONTROL message, the UE shall:

1> act upon all received information elements as specified in subclause 8.6.

In 1.28 Mcps TDD, if the IE "Uplink DPCH Power Control Info" is transmitted, this information shall be taken into account by the UE for uplink open loop power control ~~as specified in subclause 8.5.7~~ and for uplink closed loop power control as described in subclause 8.6.6.11.

In 3.84 Mcps TDD, if the IEs "Uplink DPCH Power Control Info", "PRACH Constant Value", "PUSCH Constant Value", "HS-SICH Power Control Info", "Alpha" or IE group "list of UL Timeslot Interference" are transmitted, this information shall be taken into account by the UE for uplink open loop power control as specified in subclause 8.5.7. If the UE is capable of using IPDLs for UE positioning, the IE "IPDL-Alpha" shall be used instead of the IE "Alpha". If the IE "IPDL-Alpha" parameter is not present, the UE shall use IE "Alpha".

If the IE Special Burst Scheduling is transmitted the UE shall:

1> use the new value for the "Special Burst Generation Period".

The UE shall:

1> clear the entry for the UPLINK PHYSICAL CHANNEL CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> and the procedure ends.

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 ~~" PRX$_{PDPCHdes}$ "~~ "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].~~calculate and set an initial uplink transmission power~~.

~~4> if the IE " TPC step size" is included:~~

~~5> use this IE upon reception of TPC commands for closed loop power control.~~

~~4> else:~~

~~5> use the current value of this IE upon reception of TPC commands for closed loop power control.~~

~~3> else:~~

~~4> if the IE " TPC step size" is included:~~

~~5>use this IE for closed loop power control;~~

~~4> else:~~

~~5> ignore the IE "Uplink DPCH power control info".~~

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.

3GPP TSG-RAN WG2 Meeting #39 **R2-032605**
San-Diego, USA, 17th – 21st November 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2136** ⌘**rev** ⌘ Current version: **5.6.0** ⌘

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

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

Title:	⌘	Corrections Relating to 1.28 Mcps TDD
Source:	⌘	RAN WG2
Work item code:	⌘	LCRTDD-L23
Date:	⌘	17th November 2003
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
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Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

1. A section reference in section 8.2.10.3 is incorrect and should be amended.

2. The description in 8.6.6.6 currently relates only to FDD, there is no description for TDD.

3. The description in 8.6.6.11 for 1.28 Mcps TDD does not take account of the different scope of the parameters of IE „Uplink DPCH power control info“ when used in the message Uplink Physical Channel Control and in the IE Uplink DPCH info. In the former case the parameters apply to only one CCTrCH. In the latter case TPC applies to all CCTrCH added or reconfigured in the associated message and the IE “UL target SIR“ is not used.

Summary of change: ⌘

1. The section reference in 8.2.10.3 is changed.

2. Text is added to 8.6.6.6 to describe TDD actions on receiving the IE.

3. Text is ammended in 8.6.6.11 to explain the different scope of the parameters for 1.28 Mcps TDD when used in its two contexts.

Isolated Impact Change Analysis.
This change is limited to text descriptions of the functionality for 1.28 TDD and for one item 3.84 Mcps TDD. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise.

Impact on Test specifications
There is no impact on the test specifications.

Consequences if ⌘ For items 1, 2 and 3 the text descriptions of UE response to receiving certain information

not approved:	elements and one message will not be correctly described or will be missing for 1.28 Mcps TDD. For item 2 it will also be missing for 3.84 Mcps TDD.

Clauses affected:	⌘	8.2.10.3, 8.6.6.6, 8.6.6.11			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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8.2.10.3 Reception of UPLINK PHYSICAL CHANNEL CONTROL message by the UE

Upon reception of the UPLINK PHYSICAL CHANNEL CONTROL message, the UE shall:

1> act upon all received information elements as specified in subclause 8.6.

In 1.28 Mcps TDD, if the IE "Uplink DPCH Power Control Info" is transmitted, this information shall be taken into account by the UE for uplink open loop power control ~~as specified in subclause 8.5.7~~ and for uplink closed loop power control as described in subclause 8.6.6.11.

In 3.84 Mcps TDD, if the IEs "Uplink DPCH Power Control Info", "PRACH Constant Value", "PUSCH Constant Value", "HS-SICH Power Control Info", "Alpha" or IE group "list of UL Timeslot Interference" are transmitted, this information shall be taken into account by the UE for uplink open loop power control as specified in subclause 8.5.7. If the UE is capable of using IPDLs for UE positioning, the IE "IPDL-Alpha" shall be used instead of the IE "Alpha". If the IE "IPDL-Alpha" parameter is not present, the UE shall use IE "Alpha".

If the IE Special Burst Scheduling is transmitted the UE shall:

1> use the new value for the "Special Burst Generation Period".

The UE shall:

1> clear the entry for the UPLINK PHYSICAL CHANNEL CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> and the procedure ends.

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 ~~" PRX$_{PDPCHdes}$ "~~ "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].~~calculate and set an initial uplink transmission power~~.

~~4> if the IE " TPC step size" is included:~~

~~5> use this IE upon reception of TPC commands for closed loop power control.~~

~~4> else:~~

~~5> use the current value of this IE upon reception of TPC commands for closed loop power control.~~

~~3> else:~~

~~4> if the IE " TPC step size" is included:~~

~~5>use this IE for closed loop power control;~~

~~4> else:~~

~~5> ignore the IE "Uplink DPCH power control info".~~

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.

3GPP TSG-RAN WG2 Meeting #39
San Diego, California, USA, 17 – 21 November 2003

Tdoc R2-032606

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2137** ⌘ **rev** **-** ⌘ Current version: **4.11.0** ⌘

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

Title:	⌘	Missing CHOICE *RLC Info type* in the ASN.1 IE 'RB-InformationSetup-r4'.
Source:	⌘	RAN WG2
Work item code:	⌘	TEI4
Date:	⌘	04/11/2003
Category:	⌘	**F**
Release:	⌘	REL-4

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change:	⌘	The choise of *RLC Info type* is missing in the REL-4 version of the ASN.1 IE 'RB-InformationSetup-r4'. This is inconsistent with both the tabular notation (REL-4) and the corresponding R99 ASN.1 IE.
Summary of change:	⌘	The IE 'RLC-InfoChoice' is reinstated in the IE 'RB-InformationSetup-r4', replacing the current IE 'RLC-Info'. The IE 'RLC-InfoChoice' provides the selection of the *RLC Info type*, either 'RLC info' or 'Same as RB'.
Consequences if not approved:	⌘	A valid and highly useful coding option would be lost in REL-4. Without this option, it requires that the full 'RLC info' is provided in every instance of the IE 'RB-InformationSetup-r4'. That would be very wasteful in cases when the much more compact 'Same as RB' option could be used.

Clauses affected:	⌘	11.3 [IE 'RB-InformationSetup-r4']

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

CR editor: The IE 'RB information to setup' in the tabular notation provides a choice between RLC Info type = 'RLC info' or 'Same as RB' (see the shaded cells in the table below). The latter alternative has incorrectly been removed from the REL-4 version of the corresponding IE in ASN.1.

10.3.4.20 RB information to setup

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB identity	MP		RB identity 10.3.4.16	
PDCP info	OP		PDCP info 10.3.4.2	
CHOICE *RLC info type*	MP			
>RLC info			RLC info 10.3.4.23	
>Same as RB			RB identity 10.3.4.16	Identity of RB with exactly the same RLC info IE values
RB mapping info	MP		RB mapping info 10.3.4.21	

NOTE: This information element is included within IE "Predefined RB configuration".

CR editor: In the REL-4 version of the IE 'RB-InformationSetup', the reference to the IR 'RLC-InfoChoice' has incorrectly been replaced by a direct reference to the IE 'RLC-Info', thereby removing the option to use the RLC info type = 'Same as RB', cf. subclause 10.3.4.20 in the tabular notation.

```
RB-InformationSetup ::=             SEQUENCE {
    rb-Identity                         RB-Identity,
    pdcp-Info                           PDCP-Info                       OPTIONAL,
    rlc-InfoChoice                      RLC-InfoChoice,
    rb-MappingInfo                      RB-MappingInfo
}

RB-InformationSetup-r4 ::=          SEQUENCE {
    rb-Identity                         RB-Identity,
    pdcp-Info                           PDCP-Info-r4                    OPTIONAL,
    rlc-Info                            RLC-Info,
    rlc-InfoChoice                      RLC-InfoChoice,
    rb-MappingInfo                      RB-MappingInfo
}
```

CR editor: The IE 'RLC-Info' and IE 'RLC-InfoChoice' are provided for information.

```
RLC-Info ::=                        SEQUENCE {
    ul-RLC-Mode                         UL-RLC-Mode                         OPTIONAL,
    dl-RLC-Mode                         DL-RLC-Mode                         OPTIONAL
}

RLC-InfoChoice ::=                  CHOICE {
    rlc-Info                            RLC-Info,
    same-as-RB                          RB-Identity
}
```

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CHANGE REQUEST

⌘ **25.331** **CR** **2138** ⌘ **rev** **-** ⌘ Current version: **5.6.0** ⌘

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Source:	⌘	RAN WG2
Work item code:	⌘	TEI4
Date:	⌘	04/11/2003
Category:	⌘	**A**
Release:	⌘	REL-5

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

2	*(GSM Phase 2)*
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		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

```
RB-InformationSetup ::=             SEQUENCE {
    rb-Identity                         RB-Identity,
    pdcp-Info                           PDCP-Info                       OPTIONAL,
    rlc-InfoChoice                      RLC-InfoChoice,
    rb-MappingInfo                      RB-MappingInfo
}

RB-InformationSetup-r4 ::=          SEQUENCE {
    rb-Identity                         RB-Identity,
    pdcp-Info                           PDCP-Info-r4                    OPTIONAL,
    rlc-Info                            RLC-Info,
    rlc-InfoChoice                      RLC-InfoChoice,
    rb-MappingInfo                      RB-MappingInfo
}
```