TSG RAN Meeting #22 **RP-030680**
Maui, USA, 9 - 12 December 2003

Title **CR (Rel-5 only) to TS 25.435 on Power control correction for DSCH for TDD**
Source **TSG RAN WG3**
Agenda Item **7.4.5**

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
R3-031519	25.435	5.5.0	5.6.0	REL-5	105	1	F	Power control correction for DSCH for TDD	TEI5

3GPP TSG-RAN WG3 Meeting #39 **Tdoc ⌘R3-031519**
San Diego, USA, 17th – 21st Novemer 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.435** **CR** **105** ⌘ **rev** **1** ⌘ Current version: **5.5.0** ⌘

*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:	⌘	Power control correction for DSCH for TDD
Source:	⌘	RAN3
Work item code:	⌘	TEI5
Date:	⌘	10/11/2003
Category:	⌘	**F**
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:	⌘	The Transmit Power Level IE is currently used in the DSCH Frame Protocol for TDD. There are two items that should be solved: 1. Transmit Power Level is not needed for LCR TDD, and is not needed for HCR TDD if closed loop TPC power control is used. 2. The TDD description for Downlink Shared Channels should talk about the Transmit Power Level instead of power offset.
Summary of change:	⌘	It is clarified that the Node B shall ignore the Transmit Power Level for LCR TDD, and for HCR TDD if closed loop TPC power control is used.The TDD description for Downlink Shared Channels talks about Transmit Power Level instead of power offset.
Consequences if not approved:	⌘	If this CR is not approved, the behaviour of the power control for PDSCH is not clear for LCR TDD, and for HCR TDD if closed loop TPC is used. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has isolated impact with the previous version of the specification (same release) because the behaviour of the Node B for DSCH transmit power is clarified. This CR has an impact under functional point of view. The impact can be considered isolated because the change affects one function namely DSCH Transmit Power for TDD.

Clauses affected:	⌘	5.1.4, 6.2.7.10
Other specs	⌘	Y: ☐ N: ☒ Other core specifications ⌘

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

How to create CRs using this form:

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

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

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

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

5.1.4 Downlink Shared Channels

The Data Transfer procedure is used to transfer a DSCH DATA FRAME from the CRNC to a Node B.

If the Node B does not receive a valid DSCH DATA FRAME for transmission in a given TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel. For the DSCH transport channel, the TFS shall never define a Transport Block Size of zero bits.

[FDD - The Node B shall use the header information in the DSCH DATA FRAME to determine which channelisation code(s) and power offset should be used in the PDSCH Uu frame associated to the specified CFN. The specified channelisation code(s) and power offset shall then be used for PDSCH transmission for as long as there is data to transmit or until a new DSCH DATA FRAME arrives that specifies that a different PDSCH channelisation code(s) and/or power offset should be used. This feature enables multiple DSCH's with different TTI to be supported].

[FDD - In the event that the DSCH FP header indicates that a multi-code PDSCH transmission is to be applied ('MC Info' value > 1) then the 'power offset' field indicates the power offset at which each individual code should be transmitted relative to the power of the TFCI bits of the downlink DPCCH directed to the same UE as the DSCH].

[FDD - The Node B may receive a DSCH DATA FRAME which contains a TFI value corresponding to there being no data to transmit, such a DSCH DATA FRAME will have no transport blocks. On receiving such a data frame the Node B shall apply the specified channelisation code(s) and power offset as described above starting in the PDSCH Uu frame associated to the specified CFN. This feature enables multiple DSCH's with different TTI to be supported, the use of such a zero payload DSCH DATA FRAME solves the problem of how the Node B should determine what channelisation code(s) and power offset should be used in the event that transmission of a transport block set being transmitted with a short TTI comes to an end, whilst the transmission of a TBS with a long TTI continues].

[TDD - The Node B shall use the header information in the DSCH DATA FRAME to determine which PDSCH Set [3.84Mcps TDD - and ~~power offset~~Transmit Power Level if no closed loop TPC power control is used] should be used in the PDSCH Uu frames associated to the specified CFN. The specified PDSCH Set [3.84Mcps TDD - and ~~power offset~~Transmit Power Level if no closed loop TPC power control is used] shall then be used for DSCH transmission for as long as there is data to transmit or until a new DSCH DATA FRAME arrives that specifies that a different PDSCH Set [3.84Mcps TDD - and/or ~~power offset~~Transmit Power Level if no closed loop TPC power control is used] should be used. This feature enables multiple DSCH's with different TTI to be supported].

[TDD - The Node B may receive a DSCH data frame which contains a TFI value corresponding to there being no data to transmit, such a DSCH DATA FRAME will have no transport blocks. On receiving such a DATA FRAME the Node B shall apply the specified PDSCH Set [3.84Mcps TDD - and ~~power offset~~Transmit Power Level if no closed loop TPC power control is used] as described above starting in the PDSCH Uu frame associated to the specified CFN. This feature enables multiple DSCH's with different TTI to be supported, the use of such a zero payload DSCH DATA FRAME solves the problem of how the Node B should determine what PDSCH Set [3.84Mcps TDD - and ~~power offset~~Transmit Power Level if no closed loop TPC power control is used] should be used in the event that transmission of a transport block set being transmitted with a short TTI comes to an end, whilst the transmission of a TBS with a long TTI continues].

Data Frames sent on Iub for different DSCH transport channels multiplexed on one CCTrCH might indicate different transmission power levels to be used in a certain Uu frame. Node-B shall determine the highest DL power level required for any of the transport channels multiplexed in a certain Uu frame and use this power level as the desired output level.

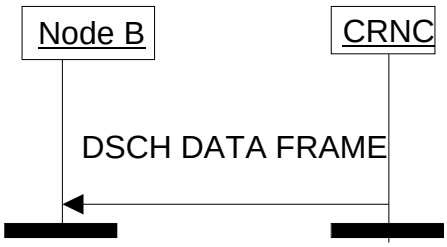

Figure 5: DSCH Data Transfer procedure

/* partly omitted */

6.2.7.10 Transmit Power Level

Description: Preferred transmission power level during this TTI for the corresponding transport channel. The indicated value is the negative offset relative to the maximum power configured for the physical channel(s) used for the respective transport channel. [1.28Mcps TDD - The Node B shall ignore the Transmit Power Level in the TDD DSCH DATA FRAME.] [3.84Mcps TDD - The Node B shall ignore the Transmit Power Level in the TDD DSCH DATA FRAME if closed loop TPC power control is used.]

Value range: {0 .. 25.5 dB}.

Granularity: 0,1 dB.

Field length: 8 bits.