TSG RAN Meeting #21   **RP-030417**
Frankfurt, Germany, 16 - 19 September 2003

Title   **CRs (Rel-5 and Rel-6 Category A) to TS 25.101 under WI "High Speed Downlink Packet Access"**

Source   **TSG RAN WG4**

Agenda Item   **7.5.5**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020816	25.101	250	3	F	Rel-5	5.7.0	Addition of transmitter characteristics for HS-DPCCH	HSDPA-RF
R4-020817	25.101	251	3	A	Rel-6	6.1.0	Addition of transmitter characteristics for HS-DPCCH	HSDPA-RF

CR-Form-v7

CHANGE REQUEST

⌘   **25.101 CR 250**   ⌘**rev 3** ⌘   Current version: **5.7.0** ⌘

*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 **X** Radio Access Network ☐   Core Network ☐

Title: ⌘	Addition of transmitter characteristics for HS-DPCCH	
Source: ⌘	RAN WG4	
Work item code: ⌘	HSDPA-RF	***Date:*** ⌘ 08/09/2003

Category: ⌘ **F**	***Release:*** ⌘ Rel-5

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

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)*

Reason for change: ⌘	Transmitter power step torelance requirements with HS-DPCCH are missing.
Summary of change: ⌘	The power step torelance requirements with HS-DPCCH are added.
Consequences if not approved: ⌘	Transmitter power step torelance requirements with HS-DPCCH are missing.

Clauses affected: ⌘	6.5.5

Other specs affected: ⌘	Y	N		⌘	
		X	Other core specifications	⌘	
	X		Test specifications		34.121
		X	O&M Specifications		

Other comments: ⌘	Equivalent CRs in other Releases: CR251r3 cat. A to 25.101 v6.1.0

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.

6.5.5   HS-DPCCH

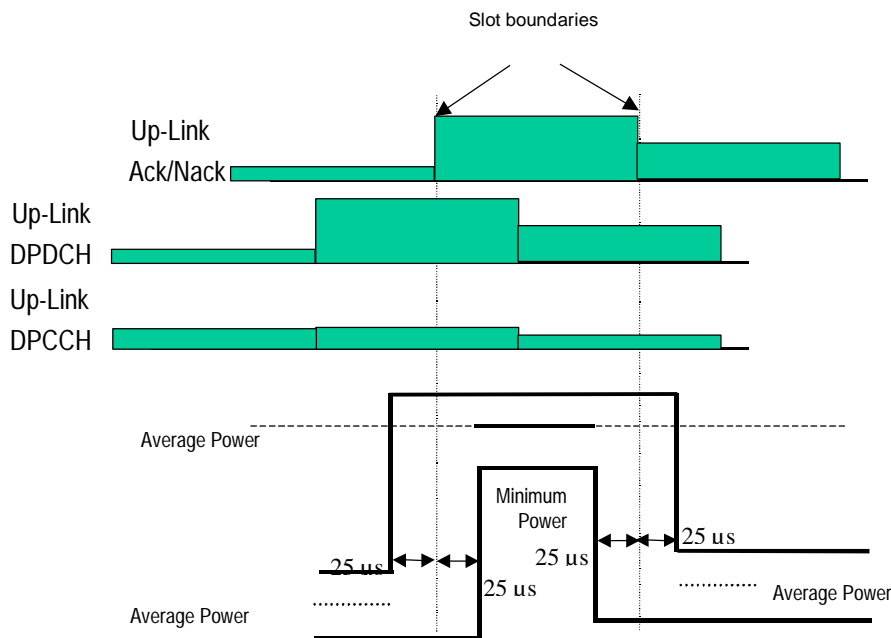The transmission of Ack/Nack or CQI over HS-DPCCH causes the transmission power in the uplink to vary.

6.5.5.1   Minimum requirement

A change of output power is required when Ack/Nack or CQI is transmitted. The ratio of the amplitude between the DPCCH and the Ack/Nack and CQI respectively is signalled by the higher layers. The sum power on DPCCH+DPDCH shall not change by the transmission of Ack/Nack and CQI unless UE output power when Ack/Nack or CQI is transmitted would exceed the maximum allowed value whereupon the UE shall apply additional scaling to the total transmit power as defined in section 5.1.2.6 of TS.25.214. The sum in total transmitted power (DPCCH + DPDCH+HS-DPCCH) shall then be rounded to the closest integer dB value. A power step exactly half-way between two integer values shall be rounded to the closest integer of greater magnitude. The accuracy of the power step, given the step size, is specified in Table 6.9A. The power change due to transmission of Ack/Nack or CQI is defined as the relative power difference between the mean power of the original (reference) timeslot and the mean power of the target timeslot, not including the transient duration. The transient duration is from 25µs before the HS-DPCCH slot boundary to 25µs after the HS-DPCCH slot boundary.
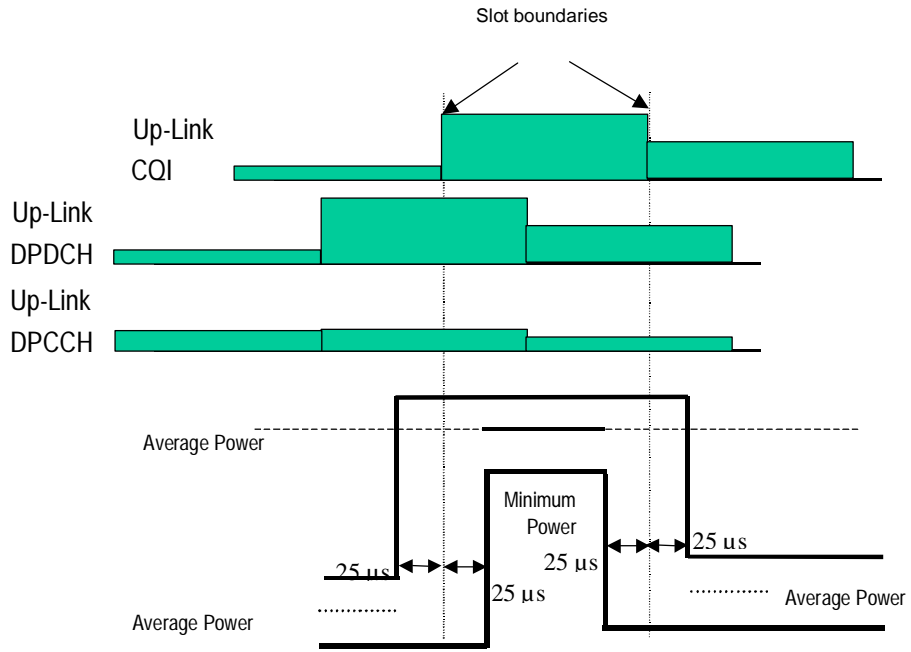
Table 6.9A: Transmitter power step tolerance

Power step size (Up or down) ΔP [dB]	Transmitter power step tolerance [dB]
0	+/- 0.5
1	+/- 0.5
2	+/- 1.0
3	+/- 1.5
$4 \leq \Delta P \leq 6$	+/- 2.0

The transmit power levels versus time shall meet the mask specified in Figure 6.x.

Figure 6.5A: Transmit template during Ack/Nack transmission

Slot boundaries

Up-Link
CQI

Up-Link
DPDCH

Up-Link
DPCCH

Average Power

Minimum
Power

25 µs

25 µs

25 µs

25 µs

Average Power

Average Power

Figure 6.5B: Transmit template during CQI transmission

CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.101** CR **251** | ⌘**rev** **3** | ⌘ Current version: | **6.1.0** ⌘ |

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

Title:	⌘	Addition of transmitter characteristics for HS-DPCCH

Source:	⌘	RAN WG4

Work item code:	⌘	HSDPA-RF		*Date:* ⌘	08/09/2003

Category:	⌘	**A**		*Release:* ⌘	Rel-6

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Summary of change:	⌘	The power step torelance requirements with HS-DPCCH are added.

Consequences if not approved:	⌘	Transmitter power step torelance requirements with HS-DPCCH are missing.

Clauses affected:	⌘	6.5.5

		Y	N		
Other specs affected:	⌘		X	Other core specifications ⌘	
		X		Test specifications	34.121
			X	O&M Specifications	

Other comments:	⌘	
		Equivalent CRs in other Releases: CR250r3 cat. F to 25.101 v5.7.0

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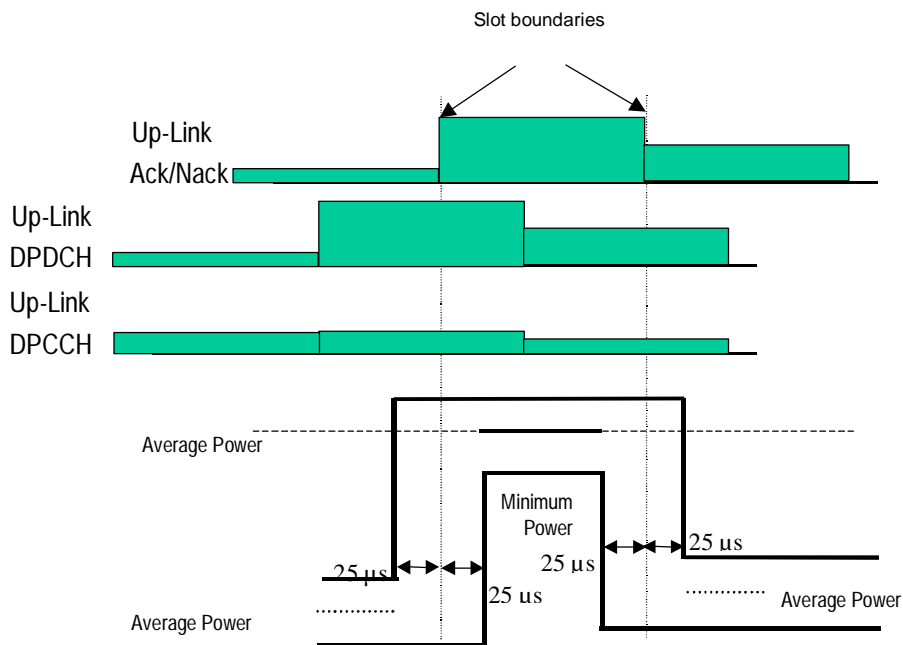
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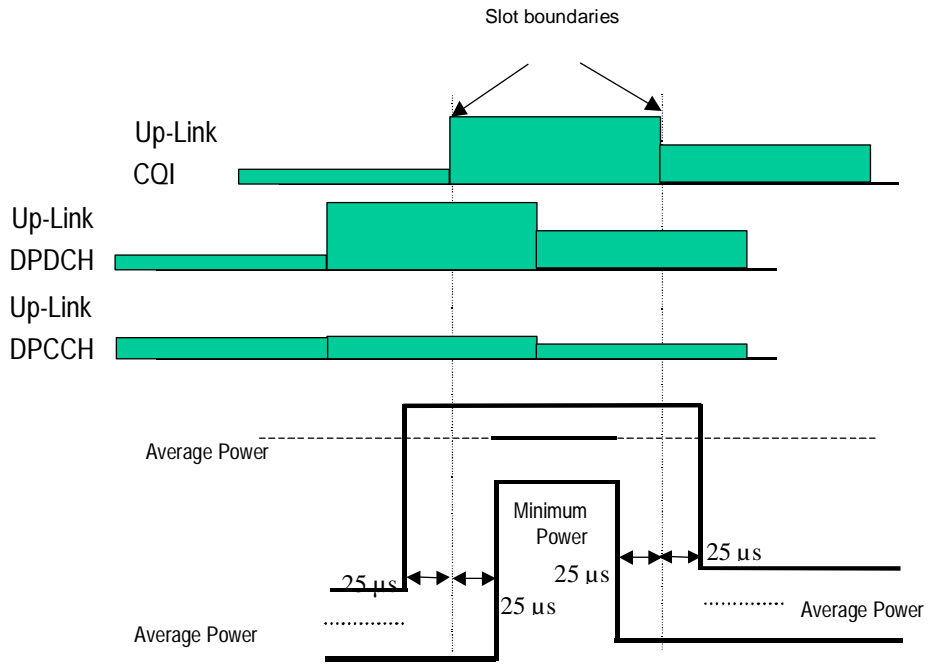
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Up-Link
DPCCH

Average Power

Minimum
Power

25 µs

25 µs

25 µs

25 µs

Average Power

Average Power

Figure 6.5B: Transmit template during CQI transmission