TSG RAN Meeting #27 **RP-050047**
Tokyo, Japan, 9 - 11 March 2005

Title **CR (Rel-6 Category F) to TS25.213 for Defining E-DPDCH power offset**
Source **TSG RAN WG1**
Agenda Item **9.6**

RAN1 Tdoc	Spec	CR	Rev	Rel	Cat	Current Version	Subject	Work item	Remarks
R1-050204	25.213	73	1	Rel-6	F	6.1.0	Defining E-DPDCH power offset	EDCH-Phys	

3GPP TSG RAN WG1 Meeting #40 **R1-050204**
Scottsdale, AZ, USA, 14 – 18 February, 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.213** **CR** **73** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Defining E-DPDCH power offset
Source:	⌘	RAN WG1
Work item code:	⌘	EDCH-Phys
Date:	⌘	17/02/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The gain factor of E-DPDCH should be derived based on the relative power offset to the DPCCH similarly with HS-DPCCH because the gain factor of DPCCH is set based on the DPCCH/DPDCH power difference that can vary per minimum DCH TTI. However, there is no descrption about the power offset for the E-DPDCH gain factor.
Summary of change:	⌘	The relative power offset is defined to set the gain factor for E-DPDCH.
Consequences if not approved:	⌘	Correct E-DPDCH power setting with respect to DPCCH will not be guaranteed.

Clauses affected:	⌘	4.2.1.3

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
			Test specifications	
			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.

4.2.1.3 E-DPDCH/E-DPCCH

Figure 1c illustrates the spreading operation for the E-DPDCHs and the E-DPCCH.

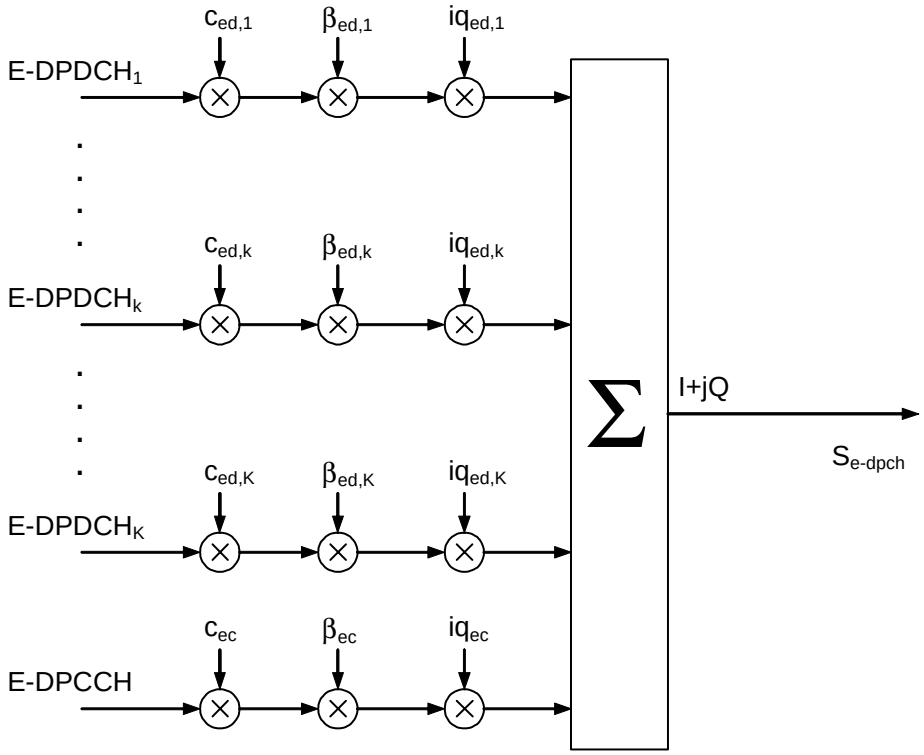

Figure 1c: Spreading for E-DPDCH/E-DPCCH

The E-DPCCH shall be spread to the chip rate by the channelisation code c_{ec}. The *k*:th E-DPDCH, denominated E-DPDCH$_k$, shall be spread to the chip rate using channelisation code $c_{ed,k}$.

After channelisation, the real-valued spread E-DPCCH and E-DPDCH$_k$ signals shall respectively be weighted by gain factor β_{ec} and $\beta_{ed,k}$.

The value of β_{ec} shall be derived as specified in [6] based on the power offset $\Delta_{E\text{-}TFCI}$ signalled by higher layers. The relative power offsets $\Delta_{E\text{-}TFCI}$ are quantized into amplitude ratios as specified in Table 1B.

Table 1B: Quantization for $\Delta_{E\text{-}TFCI}$

Signalling values for $\Delta_{E\text{-}TFCI}$	Quantized amplitude ratios for $10^{\left(\frac{\Delta_{E-DPCCH}}{20}\right)}$
Blank	blank

The value of β_{ed} shall be computed based on the reference gain factors as specified in [6].

The reference gain factors are derived from the power offsets $\Delta_{E\text{-}DPDCH}$ signalled by higher layers. The relative power offsets $\Delta_{E\text{-}DPDCH}$ are quantized into amplitude ratios as specified in Table1B.1.

Table 1B.1: Quantization for $\Delta_{E\text{-}DPDCH}$

Signalling values for $\Delta_{E\text{-}DPDCH}$	Quantized amplitude ratios for $10^{\left(\frac{\Delta_{E-DPDCH}}{20}\right)}$
Blank	Blank

The value for $\beta_{ed,k}$ shall be set to $\sqrt{2} \times \beta_{ed}$ if the spreading factor for E-DPDCH$_k$ is 2 and to β_{ed} otherwise.

After weighting, the real-valued spread signals shall be mapped to the I branch or the Q branch according to the iq_{ec} value for the E-DPCCH and to $iq_{ed,k}$ for E-DPDCH$_k$ and summed together.

The E-DPCCH shall always be mapped to the I branch, i.e. $iq_{ec} = 1$.

The IQ branch mapping for the E-DPDCHs depends on $N_{max\text{-}dpdch}$ and on whether an HS-DSCH is configured for the UE; the IQ branch mapping shall be as specified in table 1C.

Table 1C: IQ branch mapping for E-DPDCH

$N_{max\text{-}dpdch}$	HS-DSCH configured	E-DPDCH$_k$	$iq_{ed,k}$
0	No/Yes	E-DPDCH$_1$	1
		E-DPDCH$_2$	j
		E-DPDCH$_3$	1
		E-DPDCH$_4$	j
1	No	E-DPDCH$_1$	j
		E-DPDCH$_2$	1
1	Yes	E-DPDCH$_1$	1
		E-DPDCH$_2$	j

NOTE: In case the UE transmits more than 2 E-DPDCHs, the UE then always transmits E-DPDCH$_3$ and E-DPDCH$_4$ simultaneously