TSG-RAN Working Group 1 meeting #19
Las Vegas, NE, USA
February 27 – March 2, 2001

TSGR1#19(01)0211

Agenda item: R99
Source: InterDigital Comm. Corp.
Title: DPCH Transmit Diversity
Document for: Decision

In the current version of the specification it is not indicated that for proper reception UE DL transmit diversity is signaled by higher. This CR adds a text saying that DL DPCH Tx Diversity is indicated by higher layers.

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Tdoc R1-01-0211

CR-Form-v3

CHANGE REQUEST

25.224	CR	52	rev		Current version:	3.5.0

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

Proposed change affects: ✍ (U)SIM ☐ ME/UE ☒ Radio Access Network ☒ Core Network ☐

Title: ✍	DPCH Transmit Diversity	
Source: ✍	InterDigital Comm. Corp.	
Work item code: ✍		***Date:*** ✍ February 20, 2001
Category: ✍	**F**	***Release:*** ✍ R99

Use one of the following categories:	*Use one of the following releases:*	
F *(essential correction)*	*2*	*(GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96*	*(Release 1996)*
B *(Addition of feature),*	*R97*	*(Release 1997)*
C *(Functional modification of feature)*	*R98*	*(Release 1998)*
D *(Editorial modification)*	*R99*	*(Release 1999)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.	*REL-4*	*(Release 4)*
	REL-5	*(Release 5)*

Reason for change: ✍	UE DL transmit diversity indication by higher layers for proper reception is not stated in the specification.
Summary of change: ✍	DL DPCH Tx Diversity indicated by higher layers note added.
Consequences if not approved: ✍	Degraded reception performance.

Clauses affected: ✍	4.6.1		
Other specs affected: ✍	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	✍	25.331
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/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

4.6 Downlink Transmit Diversity

Downlink transmit diversity for DPCH, P-CCPCH, and SCH is optional in UTRAN. Its support is mandatory at the UE.

4.6.1 Transmit Diversity for DPCH

The transmitter structure to support transmit diversity for DPCH transmission is shown in figure 1. Channel coding, interleaving and spreading are done as in non-diversity mode. The spread complex valued signal is fed to both TX antenna branches, and weighted with antenna specific weight factors w_1 and w_2. The weight factors are complex valued signals (i.e., $w_i = a_i + jb_i$), in general. These weight factors are calculated on a per slot and per user basis.

The weight factors are determined by the UTRAN. Examples of transmit diversity schemes are given in annex B.

The use of DPCH transmit diversity is indicated by higher layers.

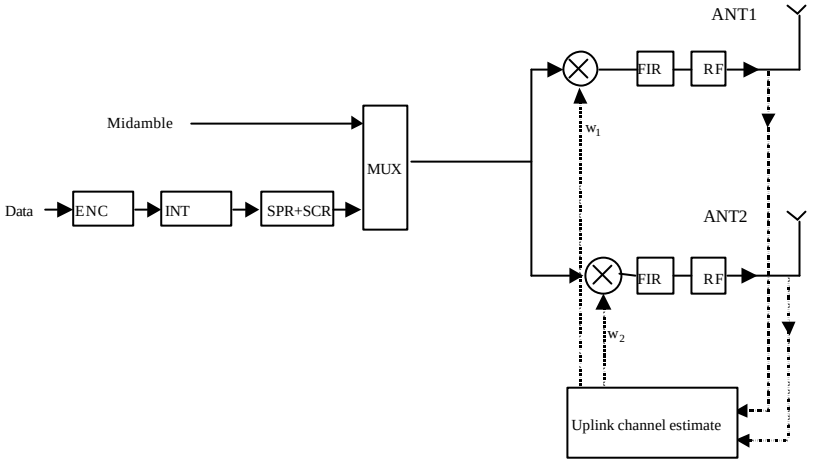

Figure 1: Downlink transmitter structure to support Transmit Diversity for DPCH transmission (UTRAN Access Point)