TSG RAN Working Group 1 (Radio layer 1) Seoul (Korea), 10<sup>th</sup> April – 13<sup>rd</sup> April 2000

Agenda Item: Plenary
Source: Alcatel

Title: CR 25.214-099: Downlink inner-loop power control in compressed

mode

**Document for:** Decision

## Introduction

During the joint 3GPP RAN WG1-WG3 ad-hoc meeting that took place April 11<sup>th</sup>, it was agreed that downlink inner-loop power control would be fully specified, including the downlink inner-loop power control in compressed mode.

Due to the late date where this decision was taken, two solutions similar to the uplink algorithm were proposed in [1]. The attached CR corresponds to the second solution where no additional signalling is added, since this solution was favoured by delegates.

#### References

[1] R1-00-0576, "Downlink inner-loop power control in compressed mode", Alcatel, Philips

# 3GPP TSG RAN WG1 Meeting #12 Seoul, Korea, April 10 - April 13, 2000

# Document R1-00-607 e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

CHANGE REQUEST  Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.								
		25.214	CR	099		Current Version	on: 3.2.0	
GSM (AA.BB) or 3G (AA.BBB) specification number ↑ ↑ CR number as allocated by MCC support team								
For submission to: TSG-RAN #8 List expected approval meeting # here  for information The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.d							nly)	
Proposed change affects: (at least one should be marked with an X)  (U)SIM ME UTRAN / Radio X Core Network								
Source:	Alcatel					Date:	2000-04-14	
Subject:	Downlink inner-loop power control in compressed mode							
Work item: Outer-loop power control								
(only one category Shall be marked With an X)	B Addition of C Functional D Editorial m	Corresponds to a correction in an earlier release Addition of feature Functional modification of feature Editorial modification  Release 96 Release 97 Release 98 Release 99 Release 00						X
Reason for change:  Downlink inner-loop power control was not specified up to now.								
Clauses affecte	ed: 5.2.1.3	3						
Other specs affected:	Other 3G colors of the GSM of Specification of the GSM of Specification of the GSM specification	ions offications ocifications	- - -	<ul> <li>→ List of</li> </ul>	CRs: CRs: CRs:			
Other comments:								

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### 5.2.1.3 Power control in compressed mode

The aim of downlink power control in uplink or/and downlink compressed mode is to recover as fast as possible a signal-to-interference ratio (SIR) close to the target SIR after each transmission gap.

The UE behaviour is the same in compressed mode as in normal mode, described in subclause 5.2.1.2.

The UTRAN behaviour during compressed mode is not specified. As an example, the algorithm can be similar to uplink power control in downlink compressed mode as described in subclause 5.1.2.3.

In downlink compressed mode or in simultaneous downlink and uplink compressed mode, the transmission of downlink DPCCH and DPDCH(s) is stopped.

In compressed mode, compressed frames may occur in either the uplink or the downlink or both. In compressed frames, the transmission of downlink DPDCH(s) and DPCCH shall be stopped during transmission gaps.

The power of the DPCCH in the first slot after the transmission gap should be set to the same value as in the slot just before the transmission gap.

During RPL slots after each transmission gap, ordinary transmit power control algorithm is applied with a step size  $\Delta_{\text{RP-TPC}}$  instead of  $\Delta_{\text{TPC}}$ , where:

- $\Delta_{\text{RP-TPC}}$  is called the recovery power control step size and is expressed in dB.  $\Delta_{\text{RP-TPC}}$  is equal to the minimum value of 3 dB and  $2\Delta_{\text{TPC}}$ .
- RPL is called recovery period length and is equal to the minimum value out of the transmission gap length and 7 slots.

After the recovery period, ordinary transmit power control resumes with step size  $\Delta_{TPC}$ .