3GPP TSG RAN Meeting #17
Biarritz, France, 3 – 6, September 2002

RP-020586

Title: **Agreed CRs (Rel-5) to TS 25.224**

Source: **TSG-RAN WG1**

Agenda item: **7.1.5**

No.	Spec	CR	Rev	R1 T-doc	Subject	Phase	Cat	Workitem	V_old	V_new
1	25.224	091	1	R1-02-1171	Corrections to 25.224 for HSDPA	Rel-5	F	HSDPA-Phys	5.1.0	5.2.0

CR-Form-v7

CHANGE REQUEST

⌘ **25.224** CR **091** ⌘**rev** **1** ⌘ Current version: **5.1.0** ⌘

*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: ⌘	Corrections to 25.224 for HSDPA
Source: ⌘	TSG RAN WG1
Work item code:⌘	HSDPA-Phys
Date: ⌘	27/06/2002

Category: ⌘ **F**

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 <u>TR 21.900</u>.

Release: ⌘ Rel-5

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: ⌘	For HS-SICH power power, a power offset is applied when an ACK is transmitted, rather than a NAK. This reflects changes to 25.331. The BLER threshold for the CQI procedure is now fixed at 10%, rather than being signalled to the UE
Summary of change:⌘	It is specified that HS-SICH power offset is applied when an ACK is transmitted. For 1.28 Mcps TDD, the reference receive power is now that when a NAK is being transmitted. References to BLER threshold are deleted, and replaced by fixed value Some spelling and grammar corrections also
Consequences if not approved: ⌘	UE will expect to use parameters which are not signalled.

Clauses affected: ⌘	4.2.2.3, 5.1.1.5, 4.11.1 – 4.11.2

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

4.2.2.3   DPCH, PUSCH and HS-SICH

The transmit power for DPCH, PUSCH and HS-SICH is set by higher layers based on open loop power control as described in [15].

In the case that an ~~NAK~~ ACK is being transmitted on the HS-SICH, the UE shall apply a power offset to the transmit power of the entire HS-SICH. This power offset shall be signalled by higher layers.

5.1.1.5   HS-SICH

The transmit power of the HS-SICH shall be set by the UE according to the procedures described below. In the case that an ~~NAK~~ ACK is being transmitted on the HS-SICH, the UE shall apply a power offset to the transmit power of the entire HS-SICH. This power offset shall be signalled by higher layers.

On receipt of a TPC command in the HS-SCCH, the UE shall adjust the HS-SICH transmit power according to the power control step size specified by higher layers. However, for the first HS-SICH transmission following the first detected HS-SCCH transmission, or the first HS-SICH transmission following a gap of one or more detected HS-SCCH transmissions to the UE, the UE shall use open loop power control to set the HS-SICH transmit power for that transmission. In this case, the transmit power of the HS-SICH, $P_{\text{HS-SICH}}$, shall be calculated using the following equation:

$$P_{\text{HS-SICH}} = L_{\text{P-CCPCH}} + PRX_{\text{HS-SICH,des}}$$

where $L_{\text{P-CCPCH}}$ is the measured pathloss from the NodeB (based on the P-CCPCH received power level) and $PRX_{\text{HS-SICH,des}}$ is the desired receive power level on the HS-SICH when an ~~ACK~~NAK is being transmitted, which shall be signalled to the UE by higher layers.

4.11   HS-DSCH Procedure

4.11.1   Link Adaptation Procedure

For HS-DSCH, the modulation scheme and effective code rate, ~~may~~ shall be selected by higher layers located within the Node-B. This ~~may~~ shall be achieved by appropriate selection of an HS-DSCH transport ~~format~~ block size, modulation format and resources by higher layers. Selection of the~~se parameters~~transport format may be based on ~~channel-quality feedback~~ CQI report~~ed by~~from the UE.

The overall HS-DSCH ~~HSDPA~~ link adaptation procedure consists of *two parts:*

Node B procedure:

1) The Node-B shall transmit HS-SCCH carrying a UE identity identifying the UE for which HS-DSCH TTI allocation has been given. In the case of HS-DSCH transmissions in consecutive TTIs to the same UE, the same HS-SCCH shall be used for associated ~~signaling~~signalling.

2) The Node-B transmits HS-DSCH to the UE using the resources indicated in the HS-SCCH.

3) Upon receiving the HS-SICH from the respective UE, the status report (ACK/NACK and CQI) shall be passed to higher layers.

UE procedure:

1) When indicated by higher layers, the UE shall start monitoring all HS-SCCHs that are ~~allocated to it~~in its HS-SCCH set as signalled to it by higher layers. The information carried on the HS-SCCH is described in [8].

2) In the case that a HS-SCCH is identified to be correct by its CRC, the UE shall read the HS-PDSCHs indicated by the HS-SCCH. In the case that a HS-SCCH is identified to be incorrect, the UE shall discard the data on the HS-SCCH and return~~s~~ to monitoring.

3) After reading the HS-PDSCHs, the UE shall generate an ACK/NACK message ~~and CQI~~ and transmits ~~those~~ this to the NodeB in the associated HS-SICH, along with the most recently derived CQI.

4.11.2   HS-DSCH Channel Quality Indication Procedure

The quality indicator sent by the UE on the HS-SICH is a recommended Transport Format Resource Combination, TFRC. The recommended TFRC shall be based on the HS-PDSCH resources most recently received by the UE and refers to the possible transport ~~formats~~ block sizes and modulation schemes ~~as configured by higher layers~~ available for these resources. Hence the channel quality indicator (CQI) consists only of the Transport Block Size and Modulation Format fields of the TFRI. The UE adopts the same mapping table for these fields as ~~does~~ is used by the NodeB.

The reporting procedure is as follows:

1. The UE receives a message on an HS-SCCH telling it which resources have been allocated to it for the next associated HS-DSCH transmission.

2. The UE reads the HS-DSCH transmission, and makes the necessary measurements to derive a CQI that it estimates would give it the highest throughput for the allocated resources whilst still meeting a specified threshold BLER of 10%~~, BLER~~ $_{threshold}$~~. The BLER~~ $_{threshold}$~~ is signalled by higher layers~~.

3. The UE reports the most recently derived CQI to the NodeB in the next available ~~HS SICH~~HS-SICH.