TSG RAN Meeting #19 **RP-030064**
Birmingham, UK, 11 - 14 March 2003

Title **CR (Rel-5 only) to 25.435 on S-CCPCH power setting in case of no data transmission**
Source **TSG RAN WG3**
Agenda Item **8.3.5**

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
R3-030356	25.435	5.3.0	5.4.0	REL-5	095	2	F	S-CCPCH power setting in case of no data transmission	TEI5

3GPP TSG-RAN WG3 Meeting #34 ***R3-030356***
Sophia Antipolis, France, 17-21 February 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.435** **CR** **095** ⌘**rev** **2** ⌘ Current version: **5.3.0** ⌘

*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 ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	S-CCPCH power setting in case of no data transmission
Source:	⌘	RAN WG3
Work item code:	⌘	TEI5
Date:	⌘	27/01/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

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:
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: ⌘ When in a S-CCPCH frame, neither PCH nor FACH data has to be transmitted, the way to fix the TFCI and Pilot bits power is not specified, whereas they may still need to be transmitted:
Indeed, in this case, no transmit power level is defined for S-CCPCH data bits in the 3GPP standard, since no data bits need to be transmitted. Therefore, the TFCI and Pilot powers are undefined as well, since they expressed relatively to the power of the S-CCPCH data bits.

Summary of change: ⌘ Rev2:

Removal of TDD statement according to answer from RAN1

Removal of Pilot Bits power according to TS 25.211 restrictions

Editorial corrections

Rev 1:

Introduction of corresponding modifications for TDD.

Rewording of procedural text.

Rev 0:Additional procedural text of TS25.435 is included to specify the way to compute the TFCI and Pilot powers relatively to the data power, using offsets PO1 and PO3, and defining the data power when no data bits have to be transmitted as:

Data_power = Min (Max_FACH1_Power, …, Max_FACHn_Power, PCH_power)

Impact Analysis:
Impact assessment towards the previous version of the specification (same

		release): this CR has isolated impact on the previous version of the specification (same release) because only one function is impacted. This CR has an impact under the protocol point of view. The impact can be considered as isolated as it affects only one function, namely the computation of TFCI and Pilot powers.
Consequences if not approved:	⌘	If this CR is not approved, the transmit power of S-CCPCH, and therefore the TFCI and Pilot powers, are not specified in case no data bits need to be transmitted.

Clauses affected:	⌘	2, 5.1.3			
		Y	**N**		
Other specs affected:	⌘		**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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 25.301: "Radio Interface Protocol Architecture".

[2] 3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".

[3] 3GPP TS 25.302: "Services provided by the Physical Layer".

[4] 3GPP TS 25.221: "Physical channels and mapping of transport channels to physical channels (TDD)".

[5] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".

[6] 3GPP TS 25.433: "UTRAN Iub interface NBAP signalling".

[7] 3GPP TS 25.225: "Physical layer – Measurements (TDD)".

[8] 3GPP TS 25.331: "Radio Ressource Control (RRC) protocol specification".

[9] 3GPP TS 25.214: " Physical layer procedures".

Next change

5.1.3 Secondary-CCPCH related transport Channels

For the FACH transport channel, a Data Transfer procedure is used to transfer data from CRNC to Node B. Data Transfer procedure consists of a transmission of Data Frame from CRNC to Node B.

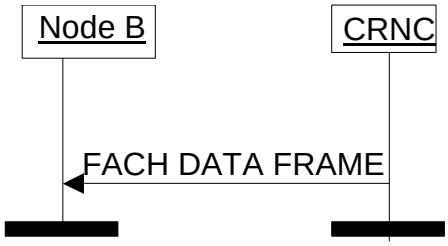

Figure 3: FACH Data Transfer procedure

For the PCH transport channel, a Data Transfer procedure is used to transfer data from CRNC to Node B. Data Transfer procedure consists of a transmission of Data Frame from CRNC to Node B.

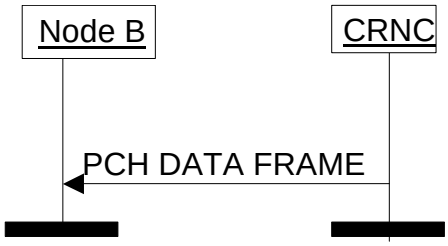

Figure 4: PCH Data Transfer procedure

In this case the PCH DATA FRAME may also transport information related to the PICH channel.

If the Node B does not receive a valid FP frame in a TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel. For the FACH and PCH transport channels, the TFS shall never define a Transport Block Size of zero bits.

If the Node B is aware of a TFI value corresponding to zero bits for this transport channel, this TFI is assumed. When combining the TFI's of the different transport channels, a valid TFCI might result and in this case data shall be transmitted on the Uu.

If the Node B is not aware of a TFI value corresponding to zero bits for this transport channel or if combining the TFI corresponding to zero bits with other TFI's results in an unknown TFI combination, the handling as described in the following paragraph shall be applied.

At each frame, the Node B shall build the TFCI value of each secondary-CCPCH according to the TFIs of the transport channels multiplexed on this secondary-CCPCH and scheduled for that frame. [FDD - In case the Node B receives an unknown TFI combination, no pilot bits, TFCI bits or Data bits shall be transmitted.] [TDD - In case the Node B receives an unknown TFI combination, it shall apply DTX, i.e. suspend transmission on the corresponding S-CCPCH - except if this S-CCPCH provides the "beacon function", in which case the Node B shall maintain the physical layer transmission as specified in TS 25.221].

If the Node B does not receive a valid FP frame in a TTI or a frame without paging indication information, it assumes that no UE's have to be paged on the Uu in this TTI. In this case the default PICH bit pattern of all zeros shall be transmitted.

Data Frames sent on Iub for different transport channels multiplexed on one secondary-CCPCH might indicate different transmission power levels to be used in a certain Uu frame. Node-B shall determine the highest DL power level required for any of the transport channels multiplexed in a certain Uu frame and use this power level as the desired output level for the data.

.[FDD - In the case there is no data (i.e. no TB in the FP frame or no FP frame) in any transport channel for a given TTI and a TFCI is to be transmitted for no transmission on all transport channels multiplexed on the S-CCPCH, the TFCI transmit power is determined by the Node B relatively to $P_{ref\text{-}nodata}$ = Min (PCH Power, Max FACH1 Power, Max FACH2 Power, ..., Max FACHn Power) where PCH, FACH1, FACH2, ..., FACHn are the transport channels of the S-CCPCH, using the respective PO1 and PO3 offsets specified in [9].]