3GPP TSG RAN WG1#11
San Diego USA, Feb. 29th – March 3rd, 2000

Document R1-00-0275
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.

25.211	CR	037	Current Version:	V3.1.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG RAN #7	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio	X	Core Network	

Source: LGIC, GBT, Philips **Date:** 2000-2-29

Subject: Clarification of pilot bit patterns for CPCH and slot formats for CPCH PC-P and message part.

Work item:

Category: *(only one category Shall be marked With an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification	X		Release 99	X
				Release 00	

Reason for change: TS25.211 does not exactly define pilot bit patterns for CPCH PC-P and message part. This CR clears this ambiguity. This CR also specifies the same slot formats CPCH message part and PC-P to ensure the same numbers of pilot bits and FBI bits.

Clauses affected: 5.2.2.2

Other specs Affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

5.2.2.2 Physical Common Packet Channel (PCPCH)

The Physical Common Packet Channel (PCPCH) is used to carry the CPCH.

5.2.2.2.1 CPCH transmission

The CPCH transmission is based on DSMA-CD approach with fast acquisition indication. The UE can start transmission at a number of well-defined time-offsets, relative to the frame boundary of the received BCH of the current cell. The access slot timing and structure is identical to RACH in section 5.2.2.1.1. The structure of the CPCH random access transmission is shown in figure 6. The CPCH random access transmission consists of one or several Access Preambles [A-P] of length 4096 chips, one Collision Detection Preamble (CD-P) of length 4096 chips, a DPCCH Power Control Preamble (PC-P) which is either 0 slots or 8 slots in length, and a message of variable length Nx10 ms.

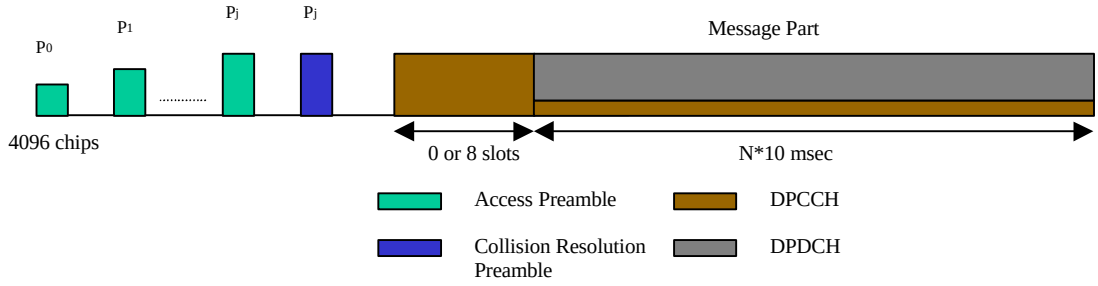

Figure 6: Structure of the CPCH random access transmission

5.2.2.2.2 CPCH access preamble part

Similar to 5.2.2.1.2 (RACH preamble part). The RACH preamble signature sequences are used. The number of sequences used could be less than the ones used in the RACH preamble. The scrambling code could either be chosen to be a different code segment of the Gold code used to form the scrambling code of the RACH preambles (see [4] for more details) or could be the same scrambling code in case the signature set is shared.

5.2.2.2.3 CPCH collision detection preamble part

Similar to 5.2.2.1.2 (RACH preamble part). The RACH preamble signature sequences are used. The scrambling code is chosen to be a different code segment of the Gold code used to form the scrambling code for the RACH and CPCH preambles (see [4] for more details).

5.2.2.2.4 CPCH power control preamble part

The power control preamble segment is a DPCCH Power Control Preamble (PC-P). ~~The following table 9 is identical to Rows 2 and 4 of table 2 in section 5.2.1.~~ Table 9 defines the DPCCH fields for CPCH PC-P part and this is identical to slot formats 0, 1, 2, 3, 4, and 5 of table 2 in section 5.2.1. ~~which only include Pilot, FBI and TPC bits.~~ The Power Control Preamble length is a parameter which shall take the values 0 or 8 slots, as set by the higher layers. The pilot bit patterns from slot #0 to slot #7 of table 3 and 4 in section 5.2.1 shall be used for CPCH PC-P pilot bit patterns when the power control preamble length is set to 8 slots.

Table 9: DPCCH fields for CPCH power control preamble segment

Slot Format #i	Channel Bit Rate (kbps)	Channel Symbol Rate (ksps)	SF	Bits/ Frame	Bits/ Slot	N_{pilot}	~~N_{TFCI}~~ N_{TPC}	~~N_{FBI}~~ N_{TFCI}	~~N_{TPC}~~ N_{FBI}
0	15	15	256	150	10	~~6~~8	~~2~~0	~~2~~0	~~0~~2
1	15	15	256	150	10	~~8~~7	~~2~~0	~~0~~1	~~0~~2
2	15	15	256	150	10	5	2	2	1
3	15	15	256	150	10	7	2	0	1
4	15	15	256	150	10	6	2	0	2
5	15	15	256	150	10	5	1	2	2

5.2.2.2.5 CPCH message part

Figure 1 in section 5.2.1 shows the structure of the CPCH message part. Each message consists of up to N_Max_frames 10 ms frames. N_Max_frames is a higher layer parameter. Each 10 ms frame is split into 15 slots, each of length T_{slot} = 2560 chips. Each slot consists of two parts, a data part that carries higher layer information and a control part that carries Layer 1 control information. The data and control parts are transmitted in parallel.

The data part consists of $10*2^k$ bits, where k = 0, 1, 2, 3, 4, 5, 6, corresponding to spreading factors of 256, 128, 64, 32, 16, 8, 4 respectively. Note that various rates might be mapped to different signature sequences.

~~The spreading factor for the UL-DPCCH (message control part) is 256. The entries in table 1 corresponding to spreading factors of 256 and below and table 2 [both in section 5.2.1] apply to the DPDCH and DPCCH fields respectively for the CPCH message part.~~

The entries of table 1 in section 5.2.1 apply to the data part of the CPCH message part. The spreading factor for the control part of the CPCH message part shall be 256. The slot format of the control part of CPCH message part shall be the same as the control part of CPCH PC-P. The pilot bit patterns of table 3 and 4 in section 5.2.1 shall be used for pilot bit patterns of the CPCH message part.