TSG-RAN WG1 meeting #14 Oulu, Finland July 4 – July 7, 2000

Agenda item:

Source:	Lucent Technologies
Title:	CR 25.212-086R1: Clarification on DL slot format for compressed mode by SF/2
Document for:	Approval

In down-link compressed mode by SF/2 the data bit mapping into the DPDCH field of a half slot is implicitly defined. For data fields the equations in 4.2.12.2 imply this mapping however for the control fields the mapping is implied in 4.3.5.2.2 (TFCI mapping) and handled in the same manner as other compressed modes.

This CR makes an explicit clarification of the mapping.

Revision 1 of CR 25.212 086 is presented here, incorporating all comments received.

2

Document R1-000918

## 3GPP/RAN WG1 Meeting #14 OULU, Finland, 4-7 July 2000

help.doc

OULU, Finland, 4-7 July 2000						e.	.g. for 3GPP use the or for SMG, use the	format TP-99xxx format P-99-xxx
		CHANGE F	REQI	JEST	Please page f	e see embedded or instructions or	help file at the bo n how to fill in this	ttom of this form correctly.
		25.212	CR	086	R1	Current V	ersion: 3.3	.0
GSM (AA.BB) or 3G (AA.BBB) specification number ↑							n	
For submission to	to: RAN #9 meeting # here ↑	for approval <b>X</b> strateg for information <b>D</b> non-strateg					rategic	(for SMG use only)
Proposed change affects: (U)SIM ME X UTRAN / Radio X Core Network (at least one should be marked with an X)								
Source:	Lucent Tec	hnologies				Da	ate: 04/07/	2000
Subject:	Clarification	on DL slot format	t for con	npresse	d mode	by SF/2		
Work item:								
Category:FA(only one categoryshall be markedCwith an X)D	Correction Correspond Addition of Functional Editorial mo	ds to a correction i feature modification of fea odification	n an ea ature	rlier rele		X <u>Releas</u>	se: Phase Releas Releas Releas Releas Releas	2 96 97 97 98 98 99 X 600 X
<u>Reason for</u> <u>change:</u>	Data bit ma change ma	pping in compress kes the definition e	sed mod explicit.	le by SF	/2 is imp	olicitly define	ed. The edito	orial
Clauses affected	<u>d:</u> 4.2.12.	.2						
Other specs affected:	Other 3G cor Other GSM c specificat MS test spec BSS test spe O&M specific	e specifications ore ions ifications cifications cations		$\begin{array}{l} \rightarrow \text{ List o} \\ \rightarrow \text{ List o} \end{array}$	of CRs: of CRs: of CRs: of CRs: of CRs:			
Other comments:								

<----- double-click here for help and instructions on how to create a CR.

# 4.2.12 Physical channel mapping

The PhCH for both uplink and downlink is defined in [2]. The bits input to the physical channel mapping are denoted by  $v_{p1}, v_{p2}, \dots, v_{pU}$ , where *p* is the PhCH number and *U* is the number of bits in one radio frame for one PhCH. The bits  $v_{pk}$  are mapped to the PhCHs so that the bits for each PhCH are transmitted over the air in ascending order with respect to *k*.

In compressed mode, no bits are mapped to certain slots of the PhCH(s). If  $N_{first} + TGL \le 15$ , no bits are mapped to slots  $N_{first}$  to  $N_{last}$ . If  $N_{first} + TGL > 15$ , i.e. the transmission gap spans two consecutive radio frames, the mapping is as follows:

- In the first radio frame, no bits are mapped to slots N<sub>first</sub>, N<sub>first</sub>+1, N<sub>first</sub>+2, ..., 14.
- In the second radio frame, no bits are mapped to the slots 0, 1, 2, ...,  $N_{last}$ .

TGL,  $N_{first}$ , and  $N_{last}$  are defined in subclause 4.4.

#### 4.2.12.1 Uplink

In uplink, the PhCHs used during a radio frame are either completely filled with bits that are transmitted over the air or not used at all. The only exception is when the UE is in compressed mode. The transmission can then be turned off during consecutive slots of the radio frame.

#### 4.2.12.2 Downlink

In downlink, the PhCHs do not need to be completely filled with bits that are transmitted over the air. Bits  $v_{pk} \notin \{0, 1\}$  are not transmitted.

During compressed mode by reducing the spreading factor by 2, <u>the data bits are always mapped into 7.5 slots within a compressed frame</u>. **n**No bits are mapped to the DPDCH field as follows:

If  $N_{first} + TGL \le 15$ , i.e. the transmission gap spans one radio frame,

if 
$$N_{first} + 7 \le 14$$

no bits are mapped to slots  $N_{first}, N_{first} + 1, N_{first} + 2, \dots, N_{first} + 6N_{hast} + (7 - TGL)$ 

no bits are mapped to the first  $(N_{Data1} + N_{Data2})/2$  bit positions of slot  $N_{first} + 7N_{tast} + (8 - TGL)$ 

else

no bits are mapped to slots  $N_{first}$ ,  $N_{first}$  + 1,  $N_{first}$  + 2,..., 14

no bits are mapped to slots  $N_{first}$  - 1,  $N_{first}$  - 2,  $N_{first}$  - 3, ..., <u>8</u>  $N_{first}$  - (7 - TGL - (14 -  $N_{tast}$ ))

no bits are mapped to the last  $(N_{Data1} + N_{Data2})/2$  bit positions of slot  $\frac{7}{N_{first}} \frac{N_{first}}{(8 - TGL - (14 - N_{tast}))}$ 

end if

If  $N_{first} + TGL > 15$ , i.e. the transmission gap spans two consecutive radio frames,

In the first radio frame, no bits are mapped to last  $(N_{Data1} + N_{Data2})/2$  bit positions in slot 7 as well as to slots 8, 9, 10, ..., 14.

In the second radio frame, no bits are mapped to slots 0, 1, 2, ..., 6 as well as to first  $(N_{Data1} + N_{Data2})/2$  bit positions in slot 7.

 $N_{Data1}$  and  $N_{Data2}$  are defined in [2].

### 4.2.13 Restrictions on different types of CCTrCHs

Restrictions on the different types of CCTrCHs are described in general terms in TS 25.302[11]. In this subclause those restrictions are given with layer 1 notation.