TSG-RAN WG1 meeting #14 *TSGR1# R1*-00-0843
Oulu, Finland
july 4 – July 7, 2000

Agenda item:

Source: **Lucent Technologies**

Title: **CR 25.212-086: Clarification on DL slot format for compressed mode by SF/2**

Document for: Decision

In down-link compressed mode by SF/2 the date bit mapping into the DPDCH field of a half slot is implicitly defined. For data fields the equations in 4.2.12.2 implies this mapping however for the control fields the mapping is implied by 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.

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***Document* R1-000843**
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.

25.212	CR	086	Current Version:	3.3.0

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

For submission to:	RAN #9	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: Lucent Technologies **Date:** 29/06/2000

Subject: Clarification on DL slot format for compressed mode by SF/2

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change: Data bit mapping in compressed mode by SF/2 is implicitly defined. The editorial change makes the definition explicit.

Clauses affected: 4.2.12.2

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:

help.doc

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

Table 6 Inter-column permutation pattern for 2nd interleaving

Number of column C2	Inter-column permutation pattern < P2(0), P2(1), …,P2(29) >
30	<0, 20, 10, 5, 15, 25, 3, 13, 23, 8, 18, 28, 1, 11, 21, 6, 16, 26, 4, 14, 24, 19, 9, 29, 12, 2, 7, 22, 27, 17>

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 $v_{p1}, v_{p2}, \ldots, v_{pU}$, 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 $N_{first} + TGL \leq 15$, 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_{first}, $N_{first}+1$, $N_{first}+2$, …, 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, the data bits are always mapped into 7.5 slots within a compressed frame while the number of slots into which the control bits are mapped is dependent of TGL and the frame structure type A or B. ~~n~~No bits are mapped to the DPDCH field as follows:

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

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

no bits are mapped to slots N_{first},N_{first} + 1, N_{first} +2,…, $N_{first+6}$ ~~$N_{last} + (7 - TGL)$~~

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

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, …, 8 ~~$N_{first} - (7 - TGL - (14 - N_{last}))$~~

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

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.