3GPP TSG RAN WG1#12
Korea, Seoul, April 10 – April 13 2000

Document R1-00-0553
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** **067r1** Current Version: 3.2.0

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

For submission to: *list expected approval meeting # here ↑*

for approval	X	strategic	
for information		non-strategic	

(for SMG use only)

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: Siemens **Date:** 2000-04-07

Subject: TFCI mapping in Uplink Compressed Mode

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	X

Reason for change: Comment noted that CR25.212-048 corrected a fault in downlink compressed mode which also needs to be addressed in uplink compressed mode. Specification of TFCI mapping in Compressed Mode is not sufficiently clear in the case of double-frame method. Text clarified for both uplink and downlink.

Clauses affected: 4.3.5.2.1, 4.3.5.2.2

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:

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

4.3.5.2.1 Uplink compressed mode

For uplink compressed mode, the slot format is changed so that no TFCI bits are lost. The different slot formats in compressed mode do not match the exact number of TFCI bits for all possible TGLs. Repetition of the TFCI bits is therefore used.

Denote the number of bits available in the TFCI fields of one compressed radio frame by D and the number of bits in the TFCI field in a slot by N_{TFCI}. ~~Denote by E the first bit to be repeated,~~

$E=N_{first}$~~N_{TFCI}~~, if the start of the transmission gap is allocated to the current frame.
$E=0$, if the start of the gap is allocated to the previous frame and the end of the transmission gap is allocated to the current frame.

~~-~~If the transmission gap does not exceed the frame boundary and N_{last}~~$\neq$~~14, then E corresponds to the number of the first TFCI bit in the slot directly after the ~~TG~~transmission gap. The following relations then define the mapping.

$d_k = b_{k \bmod 32}$

where k = 0, 1, 2, …, min (31, D-1).

If D > 32, the remaining positions are filled by repetition (in reversed order):

$d_{D-k-1} = b_{(E+k) \bmod 32}$

where k = 0, …, D-33.

4.3.5.2.2 Downlink compressed mode

For downlink compressed mode, the slot format is changed so that no TFCI bits are lost. The different slot formats in compressed mode do not match the exact number of TFCI bits for all possible TGLs. DTX is therefore used if the number of TFCI fields exceeds the number of TFCI bits. The block of fields, where DTX is used, starts on the first field after the gap. If there are fewer TFCI fields after the gap than DTX bits, the last fields before of the gap are also filled with DTX.

Denote the number of bits available in the TFCI fields of one compressed radio frame by D and the number of bits in the TFCI field in a slot by N_{TFCI}. ~~Denote by E the first bit to be repeated.~~

$E = N_{first}$~~N_{TFCI}~~, if ~~$N_{first} + TGL \leq 15$, else~~ the start of the transmission gap is allocated to the current frame.
$E = 0$, if the start of the transmission gap is allocated to the previous frame and the end of the transmission gap is allocated to the current frame.

If the transmission gap does not exceed ~~tend to the end of~~ the frame boundary and N_{last}~~$\neq$~~14, then E corresponds to the number of the first TFCI bit in the slot directly after the ~~TG~~transmission gap. Denote the total number of TFCI bits to be transmitted by N_{tot}. If SF ≥ 128 then N_{tot} = 32, else N_{tot} = 128. The following relations then define the mapping:

$d_k = b_{(k \bmod 32)}$

where k = 0, 1, 2, …, min (E, N_{tot})-1 and, if E< N_{tot},

$d_{k+D-Ntot} = b_{(k \bmod 32)}$

where k = E, ..., N_{tot} -1.

DTX bits are sent on d_k where k = min (E, N_{tot}), ..., min (E, N_{tot}) +D - N_{tot} -1.