3GPP TSG RAN WG1 Meeting #16
Pusan, Korea, 10th – 13th October, 2000

Document R1-00-1200
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	082	Current Version:	3.4.0

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

For submission to: RAN #10 *list expected approval meeting # here ?*

for approval [X]
for information [ ]

strategic [ ]
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-Formv2.doc*

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

Source: Philips **Date:** 2000-10-03

Subject: Improvement of uplink timing reference

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: UL transmit timing could be continually slewing in soft handover.

Clauses affected: 7.6.3

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.

7.6 DPCCH/DPDCH timing relations

7.6.1 Uplink

In uplink the DPCCH and all the DPDCHs transmitted from one UE have the same frame timing.

7.6.2 Downlink

In downlink, the DPCCH and all the DPDCHs carrying CCTrCHs of dedicated type to one UE have the same frame timing.

7.6.3 Uplink/downlink timing at UE

When the UE has no more than one Node B in the active set~~At the UE~~, the uplink DPCCH/DPDCH frame transmission at the UE shall take~~s~~ place approximately T_0 chips after the reception of the first detected path (in time) of the corresponding downlink DPCCH/DPDCH frame. T_0 is a constant defined to be 1024 chips. The first detected path (in time) is defined implicitly by the relevant tests in [14]. More information about the uplink/downlink timing relation and meaning of T_0 can be found in [5].

When the UE has more than one Node B in the active set, the uplink DPCCH/DPDCH frame transmission at the UE shall take place approximately $T_0 + \tau_0$ chips after the reception of the first detected path (in time) of the corresponding downlink DPCCH/DPDCH frame from the first cell, where τ_0 shall be calculated from the signalled upper and lower thresholds of the valid range for DL DPCH reception in soft handover as follows:

$$\tau_0 = \left\lfloor \frac{threshold_{upper} \cdot T_0}{threshold_{upper} - threshold_{lower}} - \tau_{diff} - 40 \right\rfloor - 20 \text{ chips,}$$

where τ_{diff} is equal to the number of chips between the arrival time of the first detected path (in time) of the first-received DL DPCH and the arrival time of the first detected path (in time) of the last-received DL DPCH.

The rate of timing adjustment which shall be used by the UE is detailed in [14].