CHANGE REQUEST

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25.214	CR	**030**	Current Version:	3.0.0

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

For submission to: **TSG-RAN #6**   for approval **X**   strategic   *(for SMG*
list expected approval meeting # here   for information   non-strategic   *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: (U)SIM   ME   UTRAN / Radio **X**   Core Network
(at least one should be marked with an X)

Source:	NEC and Telecom MODUS	**Date:**	1999-11-24

Subject:	State update rule addition to SSDT specification

Work item:	

Category: F   Correction   **Release:**   Phase 2
                      A   Corresponds to a correction in an earlier release   Release 96
(only one category   B   Addition of feature   **X**   Release 97
shall be marked   C   Functional modification of feature   Release 98
with an X)   D   Editorial modification   **X**   Release 99   **X**
                                                                                                                Release 00

Reason for change:	To handle compressed mode in SSDT operation. To align primary state update timing among active cells.

Clauses affected:	5.2.1.4.2, 5.2.1.4.4 and 5.2.1.4.5

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.

ID must be terminated within a frame. If FBI space for sending a given ID cannot be obtained within a frame, hence if the entire ID is not transmitted within a frame but must be split over two frames, the last bit(s) of the ID is(are) punctured. The relating bit(s) to be punctured are shown with brackets in table 3 and table 4.

5.2.1.4.2   TPC procedure in UE

The TPC procedure of the UE in SSDT is identical to that described in subclause ~~5.2.3.2~~5.2.1.2 or 5.2.1.3 in compressed mode.

5.2.1.4.3   Selection of primary cell

The UE selects a primary cell periodically by measuring the RSCP of CPICHs transmitted by the active cells. The cell with the highest CPICH RSCP is detected as a primary cell.

5.2.1.4.4   Delivery of primary cell ID

The UE periodically sends the ID code of the primary cell via portion of the uplink FBI field assigned for SSDT use (FBI S field). A cell recognises its state as non-primary if the following ~~two~~ conditions are fulfilled simultaneously:

- the received primary ID code does not match with the own ID code,

- ~~and~~ the received uplink signal quality satisfies a quality threshold, Qth, a parameter defined by the network.

- and whenever uplink compressed mode is activated regardless of downlink one, the number of bits in FBI S field punctured by transmission gap is less than x bits. x is calculated by $(int)N_{ID}/3$ where operation (int) and N_{ID} mean omission of fractions and the number of bits that would be contained in the received primary ID if uplink compressed mode would not be activated.

Otherwise the cell recognises its state as primary. The cells in the active set change its primary or non-primary state with synchronous. If a cell receives the last portion of ID in uplink slot #j, the state of cell is updated from downlink slot#$\{(j+T_{os})$ mod 15$\}$. T_{os} is a constant defined to be 3 slots. In case downlink compressed mode is activated but uplink one is not activated, the cell state is updated normally in accordance with SSDT operation..

At the UE, the primary ID code to be sent to the cells is segmented into a number of portions. These portions are distributed in the uplink FBI S-field. The cell in SSDT collects the distributed portions of the primary ID code and then detects the transmitted ID. Period of primary cell update depends on the settings of code length and the number of FBI bits assigned for SSDT use as shown in table 5

Table 5: Period of primary cell update

code length	The number of FBI bits per slot assigned for SSDT	
	1	2
"long"	1 update per frame	2 updates per frame
"medium"	2 updates per frame	4 updates per frame
"short"	3 updates per frame	5 updates per frame

5.2.1.4.5   TPC procedure in the network

In SSDT, a non-primary cell can switch off its DPDCH output (i.e. no transmissions).

The cell manages two downlink transmission power levels, P1, and P2. Power level P1 is used for downlink DPCCH transmission power level and this level is updated as the same way specified in ~~5.2.3.2~~5.2.1.2 or 5.2.1.3 in compressed mode regardless of the selected state (primary or non-primary). The actual transmission power of TFCI, TPC and pilot fields of DPCCH is set by adding P1 and the offsets PO1, PO2 and PO3, respectively, as specified in ~~5.2.3.1~~5.2.1.1. P2 is used for downlink DPDCH transmission power level and this level is set to P1 if the cell is selected as primary, otherwise P2 is switched off. The cell updates P1 first and P2 next, and then the two power settings P1 and P2 are maintained within the power control dynamic range. Table 6 summarizes the updating method of P1 and P2.

Table 6: Updating of P1 and P2

State of cell	P1 (DPCCH)	P2 (DPDCH)
non primary	Updated by the same way as specified in ~~5.2.3.2~~5.2.1.2 or 5.2.1.3 in compressed mode	Switched off
Primary		= P1