

**3GPP TSG-RAN Meeting #16**  
**Marco Island, FL, U.S.A., 4 – 7, June, 2002**

***RP-020318***

**Title:** Agreed CR (Rel-5) for the WI of "Support of Site Selection Diversity Transmission in UTRAN"

**Source:** TSG-RAN WG1

**Agenda item:** 8.3.4

No.	Spec	CR	Rev	R1 T-doc	Subject	Phase	Cat	Work Item	Source	V_old	V_new
1	25.214	265	1	R1-02-0778	Definition of Qth threshold parameter in SSDT	Rel-5	C	RANimp-SSDT	NEC, Fujitsu	5.0.0	5.1.0

CR-Form-v5.1	
<b>CHANGE REQUEST</b>	
z	25.214 CR 265 z rev 1 z Current version: 5.0.0 z

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the z symbols.

**Proposed change affects:** z (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	z	Definition of Qth threshold parameter in SSDT		
<b>Source:</b>	z	TSG RAN WG1		
<b>Work item code:</b>	z	RANimp-SSDT		
		<b>Date:</b> z 07.05.2002		
<b>Category:</b>	z	<b>C</b>		
		<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <i>Use <u>one</u> of the following categories:</i>  <b>F</b> (correction)  <b>A</b> (corresponds to a correction in an earlier release)  <b>B</b> (addition of feature),  <b>C</b> (functional modification of feature)  <b>D</b> (editorial modification)                      Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a>.                 </td> <td style="width: 50%; vertical-align: top;"> <i>Use <u>one</u> of the following releases:</i>  <b>2</b> (GSM Phase 2)  <b>R96</b> (Release 1996)  <b>R97</b> (Release 1997)  <b>R98</b> (Release 1998)  <b>R99</b> (Release 1999)  <b>REL-4</b> (Release 4)  <b>REL-5</b> (Release 5)                 </td> </tr> </table>	<i>Use <u>one</u> of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)
<i>Use <u>one</u> of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)			

<b>Reason for change:</b>	z	To allow Qth threshold parameter be signalled over the lub/lur interface(s), to have a consistant behaviour of Site Selection Diversity Transmission process in a UTRAN composed of multivendor Node-Bs.
<b>Summary of change:</b>	z	Qth threshold parameter is defined as a value relative to target value of UL DPCH, and that it is signalled via higher layer signalling. In addition, the physical measurement quantity used for comparing with the Qth threshold parameter is detailed. The legacy text from REL-4 specifications that restricts (in that version of the specifications) the operation of SSDT to "long" cell ID codeword is removed.
<b>Consequences if not approved:</b>	z	Non-consistant behaviour of UTRAN in a multivendor environment.

<b>Clauses affected:</b>	z	5.2.1.4.4		
<b>Other specs affected:</b>	z	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <input type="checkbox"/> Other core specifications  <input type="checkbox"/> Test specifications  <input type="checkbox"/> O&amp;M Specifications                 </td> <td style="width: 50%; border: none;">z</td> </tr> </table>	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	z
<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	z			
<b>Other comments:</b>	z			

**How to create CRs using this form:**

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked z contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.2.1.4.4 Delivery of primary cell ID

~~For this version of the specification, only long length cell ID code is supported for SSDT in UTRAN.~~

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 conditions are fulfilled simultaneously:

- The received ID code does not match with the own ID code.
- The received uplink signal quality satisfies the following:

$$SIR_{estIDcode} > SIR_{target} + Qth \quad [dB]$$

Where  $SIR_{estIDcode}$  is the average of estimated signal-to-interference ratio of the received uplink DPCH  $SIR_{est}$ , described in subclause 5.1.2.2.1, over the uplink slots containing the received cell ID code;  $SIR_{target}$  is the target SIR of the uplink, described in subclause 5.1.2.2.1; and  $Qth$  is uplink quality threshold which corresponds to the uplink DPCH quality level relative to the  $SIR_{target}$ .  $Qth$  parameter is signalled via higher layer signalling.

- If uplink compressed mode is used, and less than  $\lfloor N_{ID}/3 \rfloor$  bits are lost from the ID code (as a result of uplink compressed mode), where  $N_{ID}$  is the number of bits in the ID code (after puncturing according to clause 5.2.1.4.1.1, if puncturing has been done).

Otherwise the cell recognises its state as primary.

The state of the cells (primary or non-primary) in the active set is updated synchronously. If a cell receives the last portion of the coded ID in uplink slot  $j$ , the state of cell is updated in downlink slot  $(j+1+T_{os}) \bmod 15$ , where  $T_{os}$  is defined as a constant of 2 time slots. The updating of the cell state is not influenced by the operation of downlink compressed mode.

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. The period of the primary cell update depends on the settings of the code length and the number of FBI bits assigned for SSDT use as shown in table 5. However, SSDT is only applicable with  $DPC\_MODE = 0$ .

**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