TSG RAN Meeting #14   **RP-010793**

Kyoto, Japan, 11 - 14 December 2001

Title:　　　　**CRs (Rel-4) to TS 25.102**

Source:　　　**TSG RAN WG4**

Agenda Item:　**8.4.3**

RAN4 Tdoc	Spec	CR	Title	Cat	Phase	Curr	New
R4-011551	25.102	85	Tx On/Off Test Requirements for Continuous Transmission	F	Rel-4	4.2.0	4.3.0

CR-Form-v4

CHANGE REQUEST

| ⌘ | **25.102** CR **85** | ⌘ | ev | **-** | ⌘ | Current version: | **4.2.0** | ⌘ |

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

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

Title: ⌘	Tx On/Off Test Requirements for Continuous Transmission	
Source: ⌘	RAN WG4	
Work item code: ⌘	TEI4	**Date:** ⌘ 13 Nov. 2001
Category: ⌘ **F**		**Release:** ⌘ Rel-4

Use one of the following categories:
F (correction)
A (corresponds to a correction in an earlier release)
B (addition of feature),
C (functional modification of feature)
D (editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘	The required change to the discontinuous transmission out-of-synchronisation handling of output power (6.4.3.1) has caused the test values to be inconsistent with the continuous test case. Inconsistency in the test cases can lead to unnecessary confusion and reduces the clarity of the specification. Therefore for consistency the test values for the continuous test are adjusted.
Summary of change: ⌘	The test requirement is modified to provide a functional test that is consistent with that of the discontinuous test case (6.4.3.2). Also the $\hat{I}_{or}/I_{oc}$ value is adjusted to be consistent with the recently revised requirement for DCH testing of 12.2 kbps operation in Table 8.3.
b Consequences if not approved: ⌘	The continuous and discontinuous test cases will be inconsistent and the clarity of the specification will be reduced. Isolated Impact Analysis: Correction to a function where the specification was: • Ambiguous or not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Clauses affected: ⌘	6.4.3.1		
Other specs affected: ⌘	☐ Other core specifications ⌘		
	☐ Test specifications		
	☐ O&M Specifications		
Other comments: ⌘			

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ 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.

6.4.3.1   Requirement for continuous transmission

6.4.3.1.1   3.84 Mcps TDD Option

6.4.3.1.1.1   Minimum requirement

When the UE estimates the DPCH quality over the last 160 ms period to be worse than a threshold Q_{out}, the UE shall shut its transmitter off within 40 ms. The UE shall not turn its transmitter on again until the DPCH quality exceeds an acceptable level Q_{in}. When the UE estimates the DPCH quality over the last 160 ms period to be better than a threshold Q_{in}, the UE shall again turn its transmitter on within 40 ms.

The UE transmitter shall be considered "off" if the transmitted power is below the level defined in subclause 6.5.1 (Transmit off power). Otherwise the transmitter shall be considered as "on".

6.4.3.1.1.2   Test case

This subclause specifies a test case, which provides additional information for how the minimum requirement should be interpreted for the purpose of conformance testing in case of continuous transmission.

The conditions for the continuous test case are as follows:

The handover triggering level shall be set very high to ensure that the beacon channel power never exceeds the value of 10dB above it. Therefore the averaging time for signal quality will always be 160 milliseconds.

The quality levels at the thresholds Q_{out} and Q_{in} correspond to different signal levels depending on the downlink conditions DCH parameters. For the conditions in Table 6.4, a signal with the quality at the level Q_{out} can be generated by a ΣDPCH_Ec/Ior ratio of -13 dB, and a signal with Q_{in} by a ΣDPCH_Ec/Ior ratio of -9 dB. In this test, the DL reference measurement channel (12.2) kbps specified in subclauseA.2.2, where the CRC bits are replaced by data bits, and with static propagation conditions is used.

Table 6.4: DCH parameters for the of Out-of-synch handling test case – 3.84 Mcps TDD option – continuous transmission

Parameter	Unit	Value
$\hat{I}_{or}/I_{oc}$	dB	~~-1~~1.1
I_{oc}	dBm/3.84 MHz	-60
$\dfrac{\Sigma DPCH\_E_c}{I_{or}}$	dB	See figure 6.1
Information Data Rate	kbps	13
TFCI	-	On

Figure 6.1 shows an example scenario where the ΣDPCH_Ec/Ior ratio varies from a level where the DPCH is demodulated under normal conditions, down to a level below Q_{out} where the UE shall shut its power off and then back up to a level above Q_{in} where the UE shall turn the power back on.
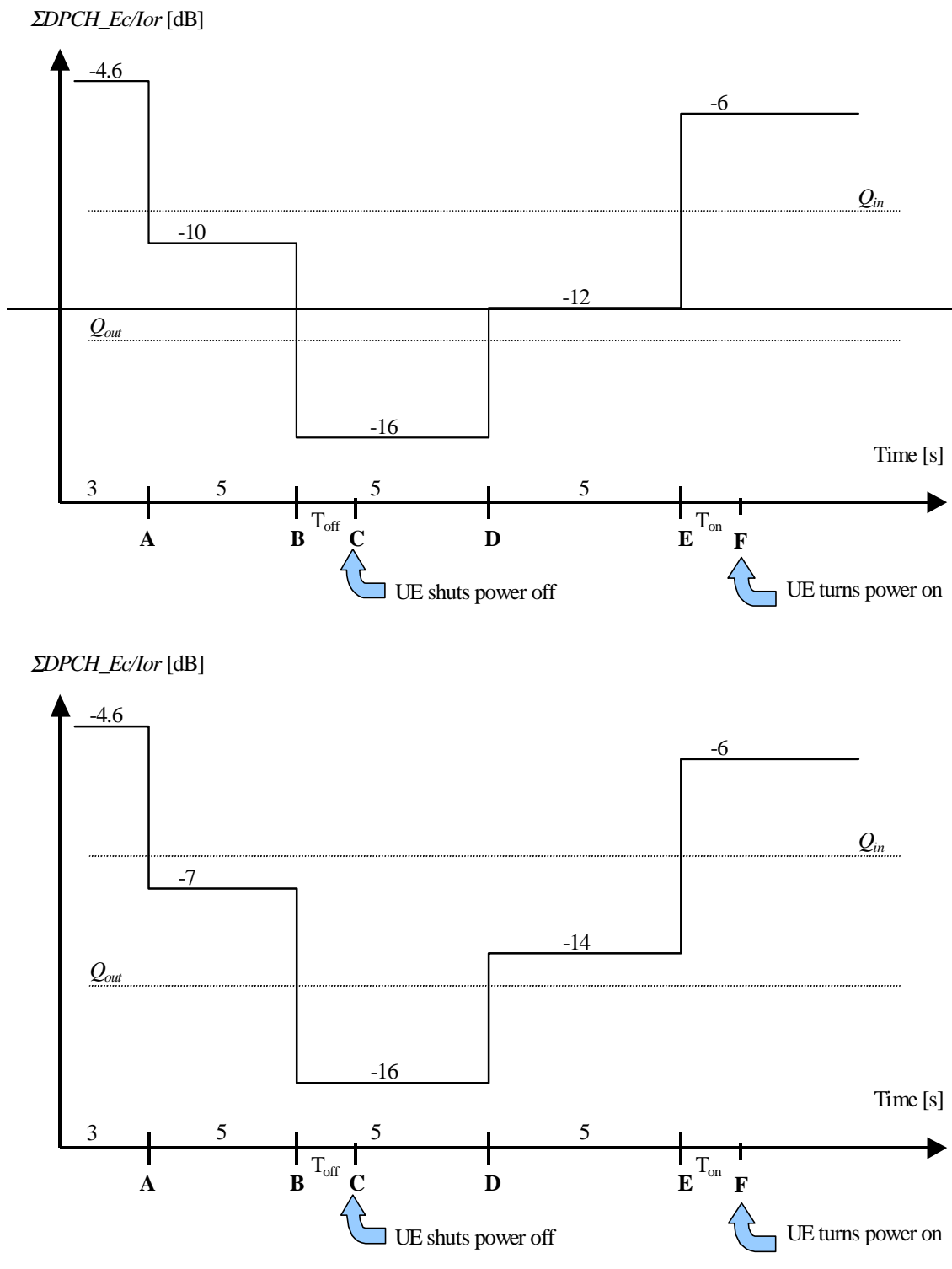
Figure 6.1: Test case for out-of-synch handling in the UE. - 3.84 Mcps TDD option – continuous transmission

In this test case, the requirements for the UE are that

1) The UE shall not shut its transmitter off before point B.

2) The UE shall shut its transmitter off before point C, which is T_{off} = 200 ms after point B

3) The UE shall not turn its transmitter on between points C and E.

4) The UE shall turn its transmitter on before point F, which is $T_{on} = 200$ ms after Point E.