

**TSG-RAN Meeting #9
Hawaii, US, 20 - 22 September 2000**

TSGRP#9(00)0398

Title: Agreed CRs to TS 25.113

Source: TSG-RAN WG4

Agenda item: 5.4.3

Tdoc Num	TS	CR number	Title	TYPE	Status	Cur_Ver	New_Ver
R4-000741	25.113	3	Alignment of EMC requirements.	F	agreed	3.2.0	3.3.0

TSG-RAN Working Group 4, meeting #13
Turin, Italy, 04-08 September 2000

Document R4(00)0741
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.
25.113	CR	3	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: RAN #9	for approval <input checked="checked" type="checkbox"/>	strategic <input type="checkbox"/>	(for SMG use only)	
list expected approval meeting # here ↑	for information <input type="checkbox"/>	non-strategic <input type="checkbox"/>		

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 Core Network
(at least one should be marked with an X)

Source: RAN WG4 **Date:** 2000-09-07

Subject: Alignment of EMC requirements.

Work item: _____

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

Reason for change: To align the EMC specification with the common technical EMC requirements in Europe

Clauses affected: A.2.5, A.2.6, A.2.8, A.2.8.2

Other specs affected:	Other 3G core specifications <input type="checkbox"/> → List of CRs: Other GSM core specifications <input type="checkbox"/> → List of CRs: MS test specifications <input type="checkbox"/> → List of CRs: BSS test specifications <input type="checkbox"/> → List of CRs: O&M specifications <input type="checkbox"/> → List of CRs:	
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Other comments: _____

A.2.5 Fast transients common mode

The test shall be performed on AC mains power input ports.

This test shall be performed on signal ports, [telecommunication ports](#), control ports and DC power input/output ports if the cables may be longer than 3 m.

Where this test is not carried out on a port or any other ports because the manufacturer declares that it is not intended to be used with cables longer than 3 m, a list of ports which were not tested for this reason shall be included in the test report.

This test shall be performed on a representative configuration of the equipment, the associated ancillary equipment, or representative configuration of the combination of radio and ancillary equipment.

A.2.5.1 Definition

This test assesses the ability of radio equipment and ancillary equipment to operate as intended in the event of fast transients present on one of the input/output ports.

A.2.5.2 Test method and level

The test method shall be in accordance with IEC 61000-4-4 [10]:

- the test level for signal [ports, telecommunication ports](#) and control ports shall be 0,5 kV open circuit voltage as given in IEC 61000-4-4 [10];
- the test level for DC power input/output ports shall be 1 kV open circuit voltage as given in IEC 61000-4-4 [10];
- the test level for AC mains power input ports shall be 2 kV open circuit voltage as given in IEC 61000-4-4 [10].

For AC and DC power input ports the transients shall be applied (in parallel) to all the conductors in the cable with reference to the cabinet reference earth (true common mode) and the source impedance shall be 50 Ω .

A.2.5.3 Performance criteria

Base station:

The performance criteria of subclause 6.2 shall apply.

Ancillary equipment:

The performance criteria of subclause 6.5 shall apply.

A.2.6 RF common mode (0,15 MHz - 80 MHz)

The test shall be performed on AC mains power input/output ports.

This test shall be performed on signal [ports, telecommunication ports](#), control and DC power input/output ports, which may have cables longer than 1 m.

Where this test is not carried out on a port or any other ports because the manufacturer declares that it is not intended to be used with cables longer than stated above, a list of ports which were not tested shall be included in the test report.

This test shall be performed on a representative configuration of the equipment, the associated ancillary equipment, or representative configuration of the combination of radio and ancillary equipment.

NOTE: This test can also be performed using the intrusive method, where appropriate, see IEC 61000-4-6 [12].

A.2.6.1 Definition

This test assesses the ability of radio equipment and ancillary equipment to operate as intended in the presence of a radio frequency electromagnetic disturbance.

A.2.6.2 Test method and level

The test method shall be in accordance with IEC 61000-4-6 [12]:

- the test signal shall be amplitude modulated to a depth of 80 % by a sinusoidal audio signal of 1 kHz;
- the stepped frequency increments shall be 1% of the momentary frequency in the frequency range 0.15 MHz-80 MHz.
- the test level shall be severity level 2 as given in IEC 61000-4-6 [12] corresponding to 3 V rms, at a transfer impedance of 150 Ω ;
- the test shall be performed over the frequency range 150 kHz - 80 MHz;
- responses of stand alone receivers or receivers which are part of transceivers occurring at discrete frequencies which are narrow band responses, shall be disregarded, see subclause 4.3;
- the frequencies selected during the test and the test method used shall be recorded in the test report.

A.2.6.3 Performance criteria

Base station:

The performance criteria of subclause 6.1 shall apply.

Ancillary equipment:

The performance criteria of subclause 6.4 shall apply.

A.2.7 Voltage dips and interruptions

The tests shall be performed on AC mains power input ports.

These tests shall be performed on a representative configuration of the equipment, the associated ancillary equipment, or representative configuration of the combination of radio and ancillary equipment.

A.2.7.1 Definition

These tests assess the ability of radio equipment and ancillary equipment to operate as intended in the event of voltage dips and interruptions present on the AC mains power input ports.

A.2.7.2 Test method and level

The following requirements shall apply.

The test method shall be in accordance with IEC 61000-4-11 [13].

The test levels shall be:

- a voltage dip corresponding to a reduction of the supply voltage of 30 % for 10 ms;
- a voltage dip corresponding to a reduction of the supply voltage of 60 % for 100 ms;
- a voltage interruption corresponding to a reduction of the supply voltage of > 95 % for 5 000 ms.

A.2.7.3 Performance criteria

For a voltage dip corresponding to a reduction of the supply voltage of 30 % for 10 ms the performance criteria of subclause 6.2 shall apply for base station and performance criteria of subclause 6.5 for ancillary equipment;

For a voltage dip corresponding to a reduction of the supply voltage of 60 % for 100 ms and/or a voltage interruption corresponding to a reduction of the supply voltage of > 95 % for 5 000 ms the performance criteria of subclause 6.3 shall apply for base station and performance criteria of subclause 6.6 with following exception:

- in the case where the equipment is powered solely from the AC mains supply (without the use of a parallel battery back-up the communications link need not be maintained and may have to be re-established and volatile user data may have been lost.

In the event of loss of the communications link or in the event of loss of user data, this fact shall be recorded in the test report, the product description and the user documentation.

A.2.8 Surges, common and differential mode

The tests shall be performed on AC mains power input ports.

This test shall be additionally performed on telecommunication ports.

These tests shall be performed on a representative configuration of the equipment, the associated ancillary equipment, or representative configuration of the combination of radio and ancillary equipment.

A.2.8.1 Definition

These tests assess the ability of radio equipment and ancillary equipment to operate as intended in the event of surges being present at the AC mains power input ports.

A.2.8.2 Test method and level

The test method shall be in accordance with IEC 61000-4-5 [11].

The following requirements and evaluation of test results shall apply:

- the test levels for telecommunication ports, intended to be directly connected to a telecommunication network, shall be 0.5 kV line to ground as given in IEC 61000-4-5. In this case the total output impedance of the surge generator shall be in accordance with the basic standard IEC 61000-4-5.
- the test level for ac mains power input ports shall be 1 kV line to earth and 0,5 kV line to line with the output impedance of the surge generator as given in the IEC61000-4-5 [11];
- the test generator shall provide the 1,2/50 (8/20) μ sec pulse as defined in IEC 61000-4-5 [11].