



TEST REPORT

No. 2010TAR170

for

Sony Ericsson Mobile Communications AB

GSM 850/900/1800/1900 quad bands and UMTS FDD 1 mobile phone

Type: AAD-3880084-BV

FCC ID: PY7A3880084

IC Certification No: 4170B-A3880084

with

Hardware Version: A

Software Version: R7BA084

Issued Date: May 14th, 2010

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

Test Laboratory:

DAR accreditation (DIN EN ISO/IEC 17025): No. DGA-PL-114/01-02

FCC 2.948 Listed: No.733176

IC O.A.T.S listed: No.6629A-1

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology

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1. Test Laboratory

1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code: 100191
Telephone: +86-10-62304633
Fax: +86-10-62304793

1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%
Air pressure 990 - 1040 hPa

The climatic requirements above are general exclude the special requirements for dedicated test environments listed in section 5 and some specific test cases in other parts of this report.

1.3. Project data

Testing Start Date: Apr. 24th, 2010
Testing End Date: May 13th, 2010

1.4. Signature



Qu Pengfei
(Prepared this test report)



Sun Xiangqian
(Reviewed this test report)



Lu Bingsong
Deputy Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: Sony Ericsson Mobile Communications(China) Co., Ltd.
 Address /Post: 1/F, China Digital Kingdom Building, No.1 North Road,
 Wangjing, Chaoyang District, Beijing, China
 City: Beijing
 Postal Code: 100102
 Country: China
 Contact Person: Ma, Gang
 Telephone: +86-10-58656312
 Fax: +86-10-58656750

2.2. Manufacturer Information

Company Name: Sony Ericsson Mobile Communications AB
 Address /Post: Nya Vattentorget, 22188 Lund, Sweden
 City: Lund
 Postal Code: 22188
 Country: Sweden
 Contact Person: Nordlof, Anders
 Telephone: +46-46-193919
 Fax: +46-46-193295

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	GSM850/900/1800/1900, GPRS EDGE, UMTS FDD 1, BT EDR2.0, FM receiver mobile phone
Model Name	AAD-3880084-BV
FCC ID	PY7A3880084
IC Certification No	4170B-A3880084
Frequency range	GSM 850: 824.2MHz-848.8MHz PCS 1900: 1850.2MHz-1909.8MHz
Antenna	Internal
Power supply	Battery or Charger (AC Adaptor)
Output power	30.40 dBm maximum ERP measured for GSM850 28.73 dBm maximum EIRP measured for PCS1900
Extreme vol. Limits	3.4VDC to 4.2VDC (nominal: 4.2VDC)
Extreme temp. Tolerance	-30°C to +50°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MII of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN	IMEI	HW Version	SW Version
N13	BX901ERF0Y	001003001759730	A	R7BA084

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	SN	Revision
AE1	Battery	442010ISMENX	Rev.1
AE2	Data Cable	/	R1B

AE1

Type Number	CBA-0002010
Manufacturer	Sony Ericsson
Capacitance	920mAh
Nominal Voltage	3.6V

AE2

Type Number	DCU-65
Manufacturer	Sony Ericsson
Length of Cable	79cm

3.4. General Description

Equipment Under Test (EUT) is a model of GSM 850/900/1800/1900 quad bands and UMTS FDD 1 mobile phone with integrated antenna. It has MP3, Camera, FM radio, USB memory and Bluetooth functions. It also supports GPRS function with multi-slots class 10 and EGPRS function with multi-slots class 10 too.

It consists of normal options: Lithium Battery and Travel Charger. Since subscribers often use MS during charging, EUT is to be test in accordance with "Base Station and ancillary equipment for fixed use" besides in accordance with "Portable and ancillary equipment for portable use".

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the Client.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	V 10.1.09
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009
ICES-003	Spectrum Management and Telecommunications Policy Interference-Causing Equipment Standard Digital Apparatus	Issue 4, Feb. 2004

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Conducted chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:	
P	Pass
NA	Not applicable
F	Fail

Items	Test Name	Clause in FCC rules	Clause in IC rules	Section in this report	Verdict
1	Radiated Emission	15.109(a)	Section 6 Section 7.2.3	B.1	P
2	Conducted Emission	15.107(a)	Section 7.2.2	B.2	P

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURER	CAL DUE DATE
1	Test Receiver	ESCI	100344	R&S	2011-03-11
2	Test Receiver	ESI40	831564/002	R&S	2011-02-12
3	BiLog Antenna	VULB 9163	9163 301	Schwarzbeck	2011-04-29
4	Signal Generator	SMP04	100070	R&S	2011-04-19
5	LISN	ESH2-Z5	829991/012	R&S	2011-04-20
6	Spectrum Analyzer	FSU26	200030	R&S	2010-06-17
7	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2010-08-14
8	PC	9439-IAC	L3B4535	LENOVO	N/A
9	Monitor	9227-AE1	31/1033768/1/2805	LENOVO	N/A
10	Printer	DeskJet D2368	TH72E12G7Q	HP	N/A
11	Keyboard	SK-8825(L)	00925776	LENOVO	N/A
12	Mouse	MO28UOL	23-115652	LENOVO	N/A

ANNEX B: MEASUREMENT RESULTS

B.1 Radiated Emission

Reference

FCC: CFR Part 15.109(a)

IC: ICES-003 Section 5.5.

B.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and/or charging mode of MS) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 - 2003, section 8.3.

B.1.2 EUT Operating Mode:

The MS is operating under the USB mode. During the test MS is connected to a PC via a USB cable in the case of USB mode. The model of the PC is LENOVO 9439-IAC, and the serial number of the PC is L3B4535. A software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

B.1.3 Test layout: see Pic.1 in ANNEX C.

B.1.4 Measurement Limit

Limit from CFR Part 15.109(a)

Frequency of emission (MHz)	Field strength (microvolts/meter)
30-88	100
88-216	150
216-960	200
Above 960	500

Limit from ICES-003 Section 5.5

Frequency range (MHz)	Field strength limits* (dB μ V/m)
30 to 230	40
230 to 1000	47

*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

To comply with both CFR Part 15.109(a) and ICES-003 section 5.5, the following limit is used during the test.

Frequency range (MHz)	Field strength limits (dB μ V/m)
30 to 230	40
230 to 960	46
960-1000	47
Above 1000	54

B.1.5 Measurement Results

USB Mode

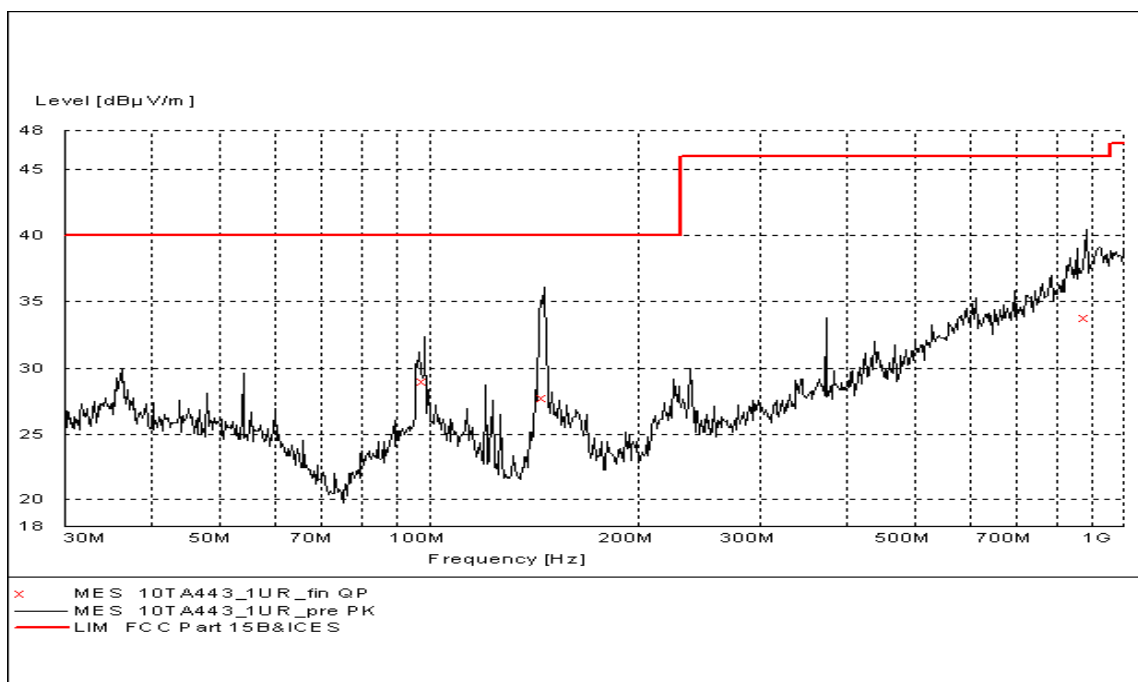


Figure B.1 Radiated Emission from 30MHz to 1GHz

MEASUREMENT RESULT: "10TA443_1UR_fin QP"

Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarisation
98.812074	29.00	17.7	40.0	11.0	213.0	18.00	VERTICAL
146.530791	27.70	13.2	40.0	12.3	105.0	-95.00	VERTICAL
882.492708	33.80	28.8	46.0	12.2	283.0	93.00	HORIZONTAL

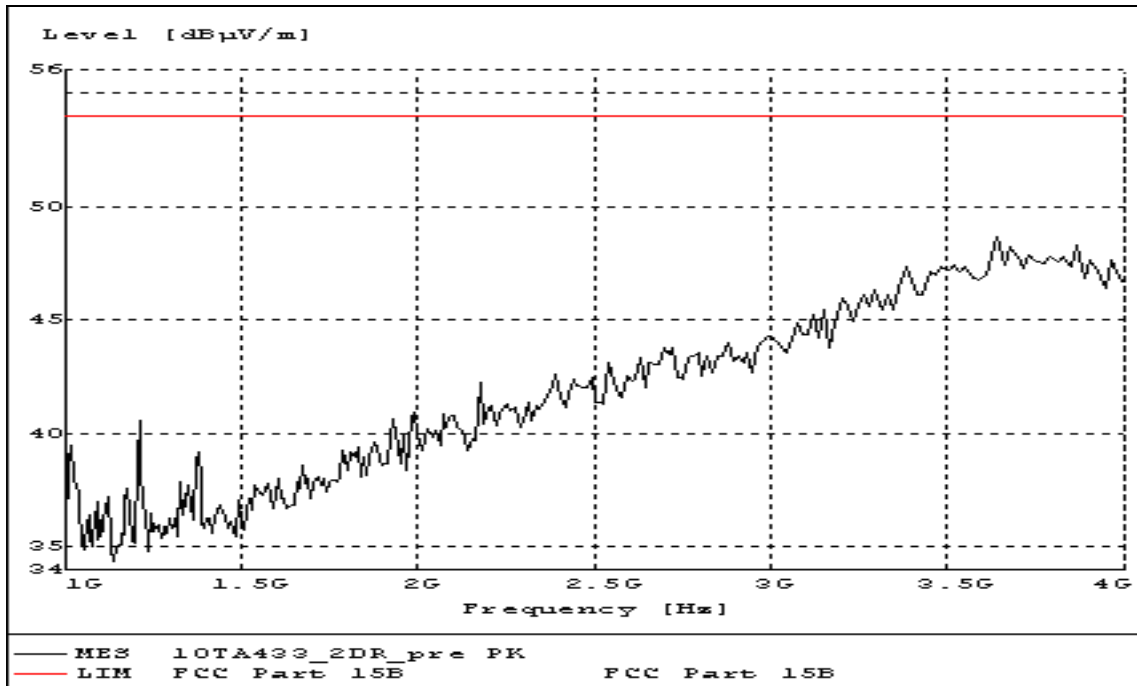


Figure B.2 Radiated Emission from 1GHz to 4GHz

B.2 Conducted Emission

Reference

FCC: CFR Part 15.107(a)

IC: ICES-003 Section 5.3.

B.2.1 Method of measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30MHz shall not exceed the limits. Test is performed in accordance with the procedures of ANSI C63.4–2003, section 7.2.

B.2.2 EUT Operating Mode:

The MS is operating in the USB mode. During the test MS is connected to a PC via a USB cable in the case of USB mode. The model of the PC is LENOVO 9439-IAC, and the serial number of the PC is L3B4535. A software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

B.2.3 Test layout: see Pic.2 in ANNEX C.

B.2.4 Measurement Limit

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency

B.2.5 Measurement Results
USB Mode

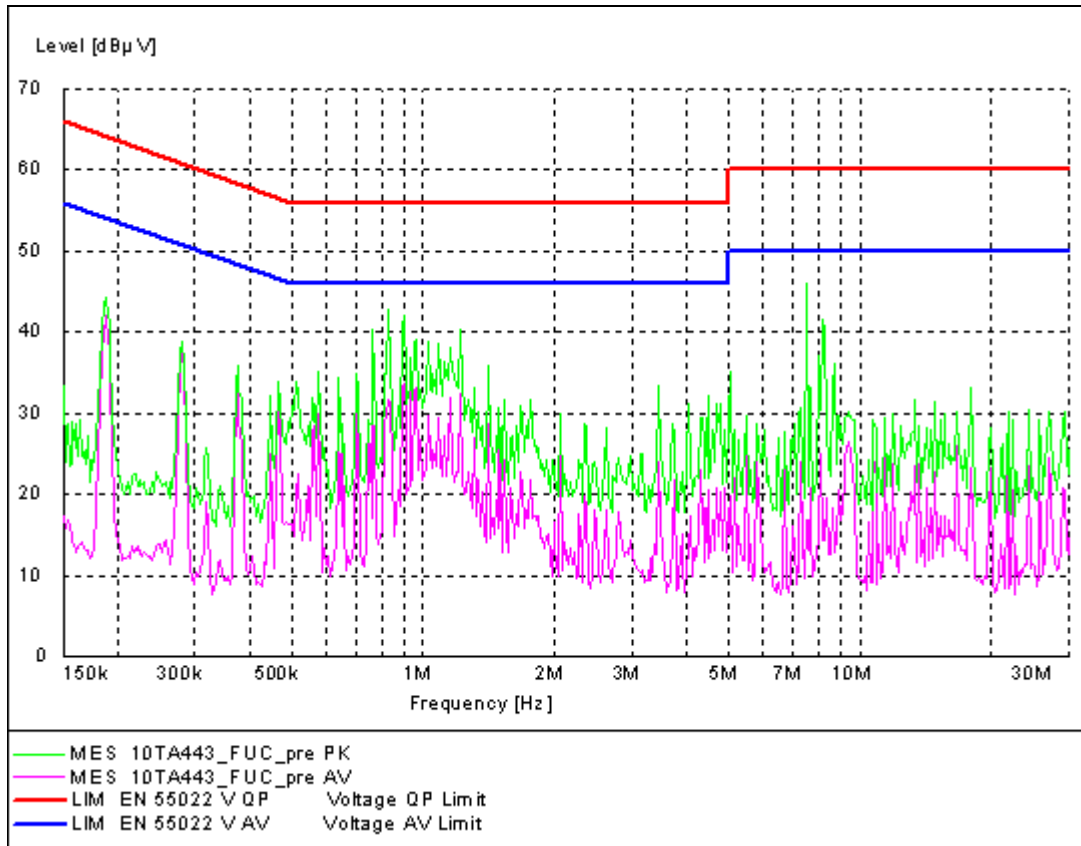


Fig B.3 Conducted Continuous Emission from 150 kHz to 30 MHz