Accredited testing-laboratory

DAR registration number: DGA-PL-176/94-D1

Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97

Recognized by the Federal Communications Commission
Anechoic chamber registration no.: 90462 (FCC)
Anechoic chamber registration no.: 3462C-1 (IC)
Certification ID: DE 0001
Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

Annex to Test report no.	**:**	**1-1954-11-02/10**
Type identification	**:**	**AAD-3880077-BV**
Applicant	**:**	**Sony Ericsson Mobile Communications AB**
FCC ID	**:**	**PY7A3880077**
IC Certification No	**:**	**4170B-A3880077**
Test standards	**:**	**47 CFR Part 15**
		ICES-003 Issue 4

Table of contents

1 General information

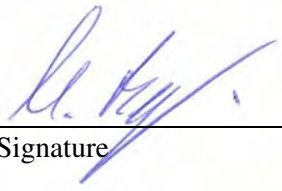
1.1 Notes

The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

Test laboratory manager:

2010-03-19	**Jakob Reschke**	
Date	Name	Signature

Technical responsibility for area of testing:

2010-03-19	**Michael Berg**	
Date	Name	Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10
66117 Saarbrücken
Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
e-mail: info@ICT.cetecom.de
Internet: http://www.cetecom-ict.de

State of accreditation: **The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025**
DAR registration number: DGA-PL-176/94-D1

Accredited by: **Federal Motor Transport Authority (KBA)**
DAR registration number: KBA-P 00070-97

Testing location, if different from CETECOM ICT Services GmbH:

Name :
Street :
Town :
Country :
Phone :
Fax :

1.3 Details of applicant

Name:	**Sony Ericsson Mobile Communications AB**
Street:	**Nya Vattentornet**
Town:	**22188 Lund**
Country:	**Sweden**
Telephone:	**+46-46-19-3000**
Fax:	**+46 (0) 46 19 32 95**
Contact:	**Johan Wedin**
E-mail:	**johan.wedin@sonyericsson.com**
Telephone:	**+46 (0) 707 19 57 36**

1.4 Application details

Date of receipt of order:	**2010-03-02**
Date of receipt of test item:	**2010-03-10**
Date of start test:	**2010-03-18**
Date of end test	**2010-03-19**
Persons(s) who have been present during the test:	**-/-**

2 Technical tests

2.1 Details of manufacturer

Name:	**Sony Ericsson Mobile Communications AB**
Street:	**Nya Vattentornet**
Town:	**22188 Lund**
Country:	**Sweden**

2.2 Test item(s) and test configuration

No.: 1 **Standard Charger (CST-80)** **with** **AAD-3880077-BV**
(GPS turned on)

2.3 Test item

Kind of test item	:	**Mobile Phone GSM 850/900/1800/1900, UMTS FDD1/FDD8 /HSDPA/HSUPA, BT2.0+EDR, GPS, FM-Rx, WLan**
Type identification	:	**AAD-3880077-BV**
Serial Number	:	**Rad. BX9019LXL0** **Cond. BX9019PYKK**
Frequency	:	**1850.2 – 1909.8 MHz and 824.2 – 848.8 MHz**
Antenna Type	:	**Integrated antenna**
Power supply (normal)	:	**DC by Li-Polymer Battery (EP500) and Power Supply**

3 Summary of Measurement Results and list of all performed test cases

☒ **No deviations from the technical specifications were ascertained**

☐ There were deviations from the technical specifications ascertained

Section in this Report	Test Name	Verdict
5.1	Conducted limits CFR Part 15.207, 15.107 ICES-003 Issue 4	Pass
5.2	Unwanted emissions CFR Part SUBCLAUSE § 15.109 ICES-003 Issue 4	Pass

4 Measurements and results

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 20 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber.
The receiving antennas are conforming to specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test set-ups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received.
The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.4-2003 clause 4.2.
Antennas are conforming to ANSI C63.2-1996 item 15.

9 kHz – 150 kHz ,Quasi Peak measurement, 200 Hz Bandwidth, active loop antenna.
150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, active loop antenna.
30 MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, trilog antenna
>1GHz: Average, RBW 1MHz, VBW 10 Hz, wave guide horn

All measurement settings are according to FCC 15.109 and 15.107

5 Annex A: FCC Part 15 Subpart B

5.1 Conducted Limits

Reference

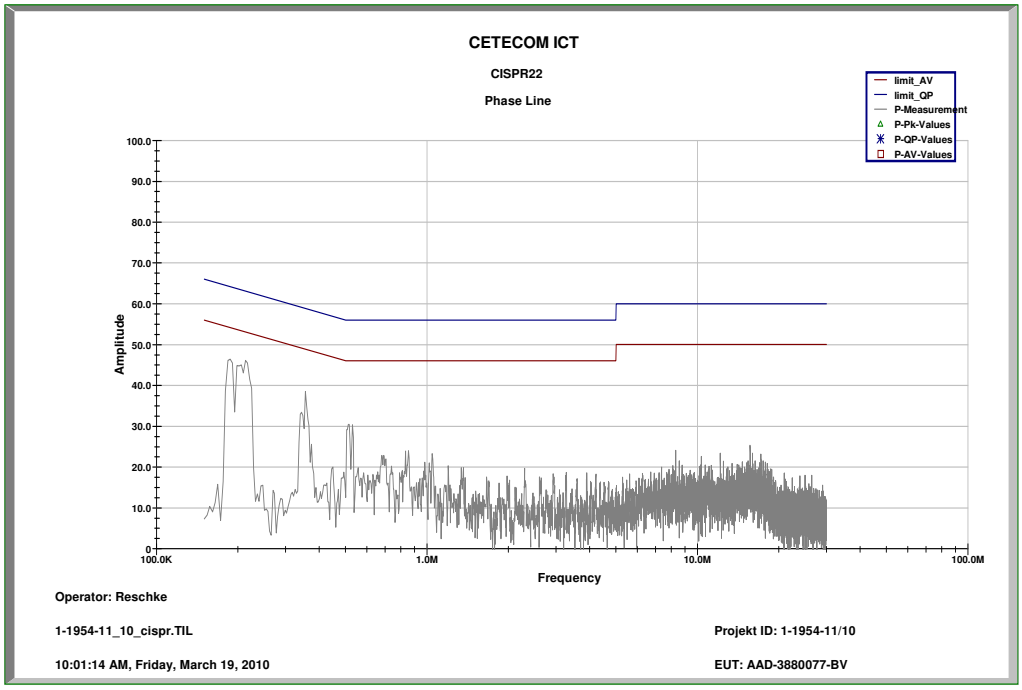
FCC:	CFR Part 15.207, 15.107
IC:	ICES-003 Issue 4

Limits: § 15.107 / 15.207

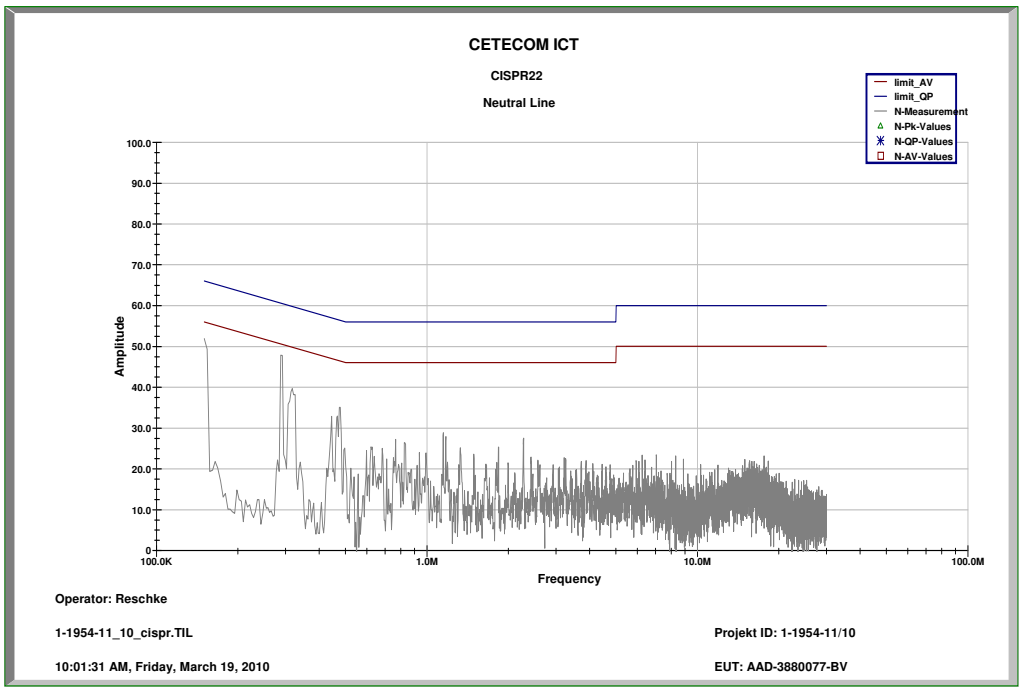
Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency

Plot 1: Phase Line
Idle Mode: 150 kHz – 30 MHz
,



Plot 2: Neutral Line
Idle Mode: 150 kHz – 30 MHz



5.2 Unwanted emissions

Reference

FCC:	CFR Part SUBCLAUSE § 15.109
IC:	ICES-003 Issue 4

Measurement Results

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
Idle mode			-/-			-/-		
f (MHz)	Detector	Level (dBµV/m)	f (MHz)	Detector	Level (dBµV/m)	f (MHz)	Detector	Level (dBµV/m)
No critical peaks found								
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

H = Horizontal ; V= Vertical

For measurement distance see table below

Limits: § 15.109

Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
30 - 88	30.0	10
88 - 216	33.5	10
216 - 960	36.0	10
above 960	54.0	3

Plot 1: (30 MHz to 1 GHz)

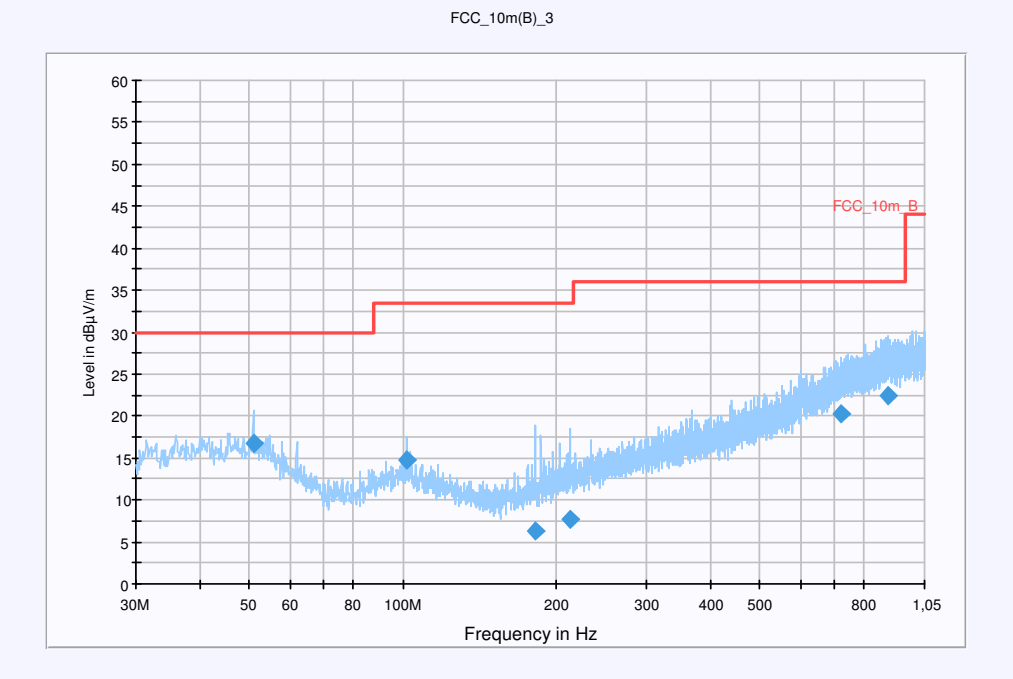
Common Information

EUT:	AAD-3880077-BV + CAA-0003005-BV
Serial Number:	IMEI:00440214-012729-5 + 5908W49308170
Test Description:	FCC part 15 B @ 10 m
Operating Conditions:	GSM idle + GPS on
Operator Name:	Lang
Comment:	powered with 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1,05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
50.991000	16.7	15000.000	120.000	118.0	V	31.0	13.3	13.3	30.0	
101.688150	14.7	15000.000	120.000	116.0	V	35.0	11.7	18.8	33.5	
181.341600	6.3	15000.000	120.000	161.0	V	35.0	10.5	27.2	33.5	
212.244750	7.7	15000.000	120.000	220.0	V	52.0	12.0	25.8	33.5	
719.190750	20.2	15000.000	120.000	220.0	V	21.0	22.9	15.8	36.0	
890.915850	22.4	15000.000	120.000	170.0	V	258.0	25.1	13.6	36.0	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

6 Test equipment and ancillaries used for tests

In order to simplify the identification of the equipment used at each specific test, each item of test equipment and ancillaries are provided with an identifier or number in the equipment list below.

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

No.	Labor / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kal. Art	Last Calibration	Next Calibration
1	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
2	50	Netzgerät	6032A	HP Meßtechnik	2920A04466	300000580	k	06.01.2009	06.01.2011
3	n. a.	software	SPS_PHE 1.4f	Spitzberger & Spieß	B5981; 5D1081;B5979	300000210	k	03.09.2001	03.09.2003
4	n. a.	EMI-Messempfänger	ESCI 1166.5950.03	R&S	100083	300003312	k	08.01.2010	08.01.2012
5	n. a.	Analysator-Referenz-System (Harmonics u. Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	k	06.06.2007	06.06.2009
6	n. a.	Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379	ev		
7	n. a.	Antennenmast	Model 2175	ETS-LINDGREN	64762	300003745	izw		
8	n. a.	Steuergerät	Model 2090	ETS-LINDGREN	64672	300003746	izw		
9	n. a.	Interface-Box für Drehtisch	Model 105637	ETS-LINDGREN	44583	300003747	izw		
10	n. a.	Breitbandantenne	VULB9163	Schwarzbeck	295	300003787	k	01.04.2008	01.04.2010
11	n. a.	Spectrum-Analyzer	FSU26	R&S	200809	300003874	k	08.01.2010	08.01.2012
12	9	Artificial Mains 9 kHz to 30 MHz, 4 x 25 Ampere	ESH3-Z5	R&S	828576/020	300001210	Ve	06.01.2010	06.01.2012
13	n. a.	Isolating Transformer	RT5A	Grundig	9242	300001263	ne		
14	n. a.	Switch / Control Unit	3488A	HP	2605e08770	300001443	ne		