



Accredited testing-laboratory

DAR registration number: DAT-P-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.: 3463A-1 (IC)

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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Annex to Test report no. : 2-4883-06-02/08
Type identification : FAD-3022018-BV
Applicant : Sony Ericsson Mobile Communications AB
Test standards : FCC Part 15 / RSS210 Issue 7

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1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. 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:

2008-02-18	Detlev Gillmann	
Date	Name	Signature

Technical responsibility for area of testing:

2008-02-18	Stefan Bös	
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: DAT-P-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:	Torshamnsgatan 27
Town:	164 94 Kista
Country:	Sweden
Telephone:	+46 (0) 70 320 7056
Fax:	+46 (0) 8 404 3430
Contact:	Mr Kenth Skoglund
E-mail:	Kenth.Skoglund@sonyericsson.com
Telephone:	+46 (0) 70 320 7056

1.4 Application details

Date of receipt of order:	2008-01-28
Date of receipt of test item:	2008-02-11
Date of start test:	2008-02-18
Date of end test	2008-02-18
Persons(s) who have been present during the test:	

2 Test standard/s:

2.1 Test Specifications

47 CFR Part 15	2007-09	Title 47 of the Code of Federal Regulations; Chapter I- Federal Communications Commission subchapter A - general, Part 15-Radio frequency devices
RSS - 210 Issue 7	2007-06	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

3 Technical tests

3.1 Details of manufacturer

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

3.2 Test item(s) and test configuration

No.: 1 AC/DC Standard charger CST – 75 with FAD-3022018-BV



4 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
6.1	Conducted limits CFR Part 15.207, 15.107 RSS 210, Issue 7, Section 6.6 , 7.4	Pass
6.2	Receiver spurious emission radiated (Idle mode) CFR Part SUBCLAUSE § 15.109 RSS 210, Issue 7, Section 7.3 Receiver Spurious Emissions (Radiated)	Pass

5 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, passive loop antenna.
150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.
30 MHz - 200 MHz: Quasi Peak measurement, 120 KHz Bandwidth, biconical antenna
200MHz - 1GHz: Quasi Peak measurement, 120 KHz Bandwidth, log periodic antenna
>1GHz: Average, RBW 1MHz, VBW 10 Hz, wave guide horn

All measurement settings are according to FCC 15.109 and 15.107

6 Annex A: FCC Part 15 Subpart B

6.1 Conducted Limits

Reference

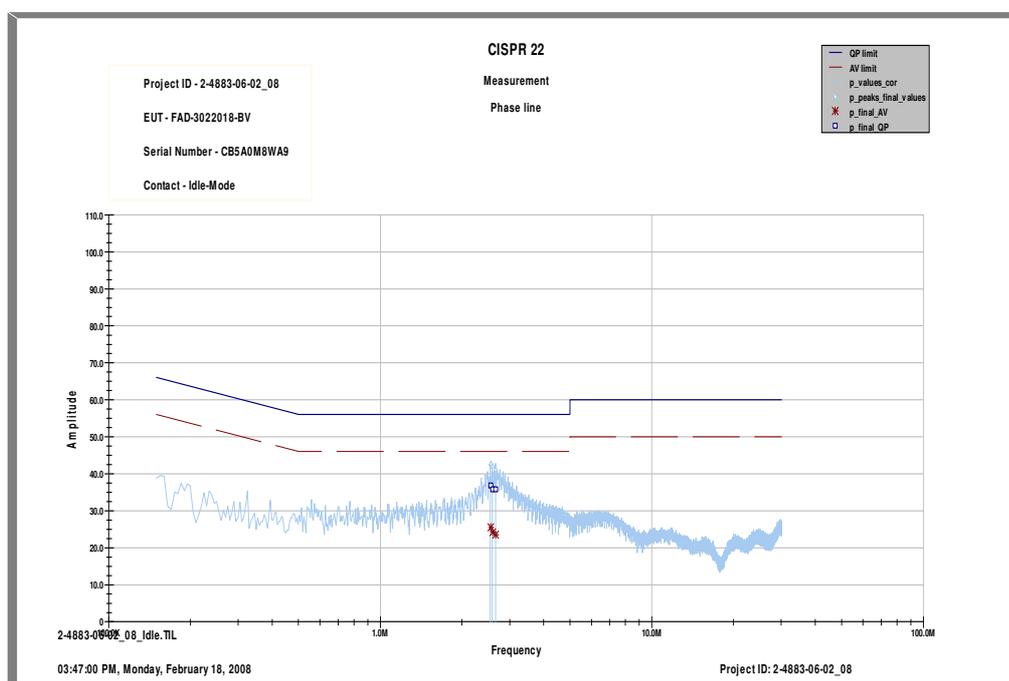
FCC:	CFR Part 15.207, 15.107
IC:	RSS 210, Issue 7, Section 6.6 , 7.4

Limits: § 15.107 / 15.207

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

EUT: : AC/DC Standard charger CST – 75
(with mobile FAD-3022018-BV)
Power AC (measured) : 115 V / 60 Hz
Manufacturer: : Sony Ericsson Mobile Communications
Operating Condition : Idle mode
Test Site: : Room 006 (Shielded chamber)
Operator: : Gillmann

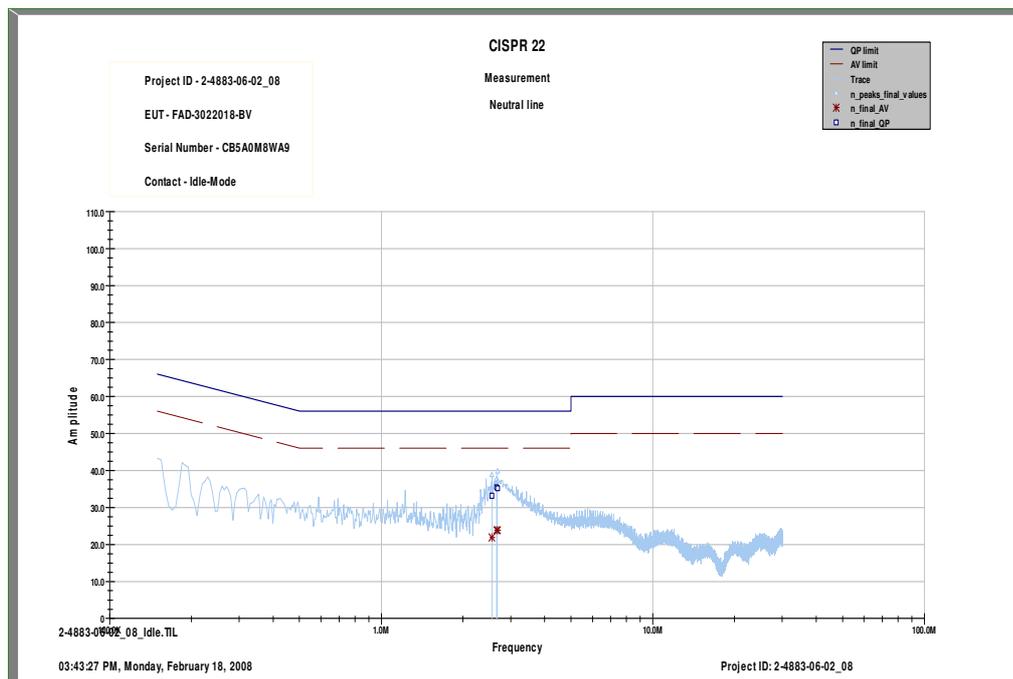


Frequency	QuasiPeak (dBµV)	Margin QP (dBµV)	Average (dBµV)	Margin AV (dBµV)
2.543 MHz	36.719	-19.281	25.628	-20.372
2.5828 MHz	35.662	-20.338	24.262	-21.738
2.6574 MHz	35.639	-20.361	23.654	-22.346

Upper Limit LINE CISPPR 22 QP
Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
L1 and N – system (max. Hold)

EUT: : AC/DC Standard charger CST – 75
(with mobile FAD-3022018-BV)
Power AC (measured) : 115 V / 60 Hz
Manufacturer: : Sony Ericsson Mobile Communications
Operating Condition : Idle mode
Test Site: : Room 006 (Shielded chamber)
Operator: : Gillmann

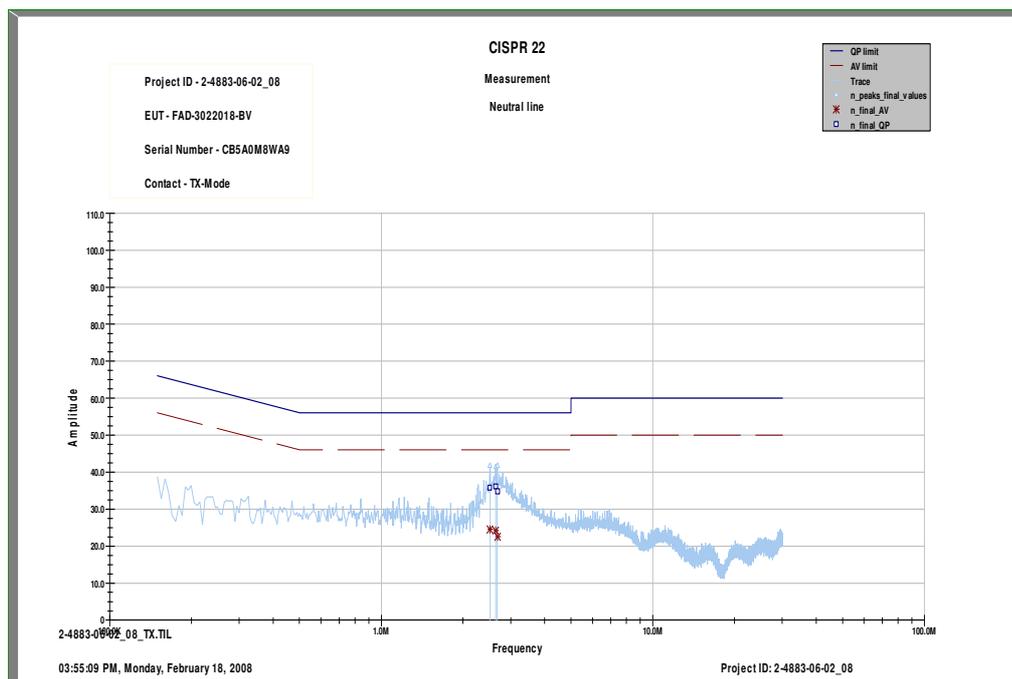


Frequency	QuasiPeak (dBµV)	Margin QP (dBµV)	Average (dBµV)	Margin AV (dBµV)
2.558 MHz	32.997	-23.003	21.800	-24.200
2.657 MHz	34.437	-20.563	23.687	-22.313
2.672 MHz	35.099	-20.901	23.916	-22.084

Upper Limit LINE CISPPR 22 QP
Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
L1 and N – system (max. Hold)

EUT: : AC/DC Standard charger CST – 75
(with mobile FAD-3022018-BV)
Power AC (measured) : 115 V / 60 Hz
Manufacturer: : Sony Ericsson Mobile Communications
Operating Condition : Traffic mode (Ch. 661)
Test Site: : Room 006 (Shielded chamber)
Operator: : Gillmann

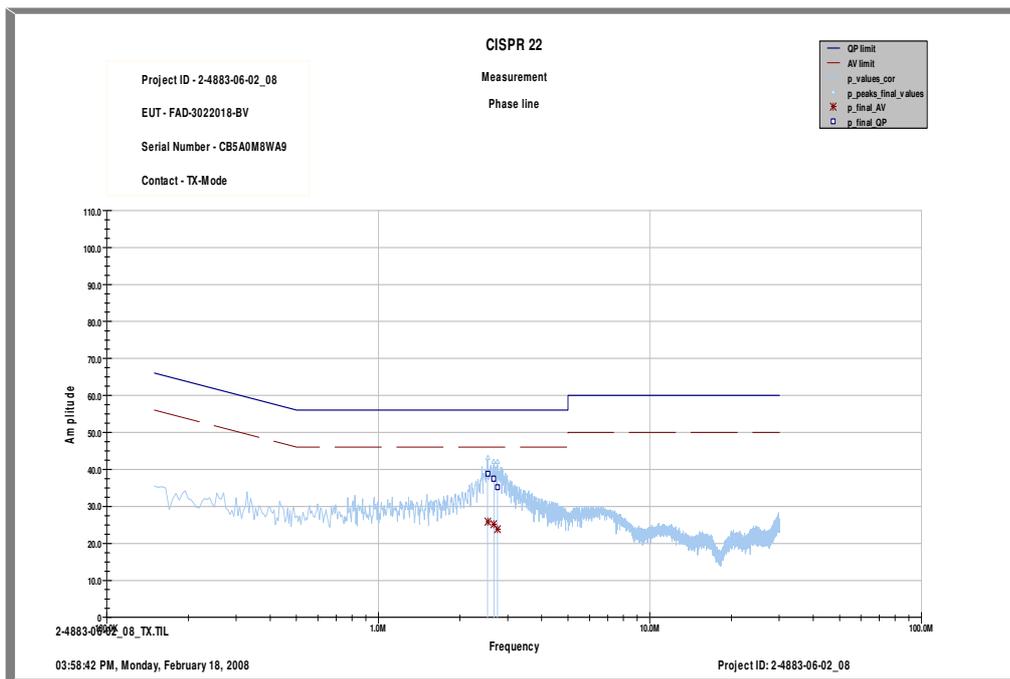


Frequency	QuasiPeak (dBµV)	Margin QP (dBµV)	Average (dBµV)	Margin AV (dBµV)
2.518 MHz	35.887	-20.113	24.491	-21.509
2.638 MHz	36.019	-19.981	24.063	-21.937
2.677 MHz	34.951	-21.049	22.576	-23.424

Upper Limit LINE CISPPR 22 QP
Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
L1 and N – system (max. Hold)

EUT: : AC/DC Standard charger CST – 75
(with mobile FAD-3022018-BV)
Power AC (measured) : 115 V / 60 Hz
Manufacturer: : Sony Ericsson Mobile Communications
Operating Condition : Traffic mode (Ch. 661)
Test Site: : Room 006 (Shielded chamber)
Operator: : Gillmann



Frequency	QuasiPeak (dBµV)	Margin QP (dBµV)	Average (dBµV)	Margin AV (dBµV)
2.523 MHz	38.933	-17.067	25.665	-20.335
2.667 MHz	37.588	-18.412	25.246	-20.754
2.747 MHz	35.046	-20.954	23.722	-22.278

Upper Limit LINE CISPPR 22 QP
Lower Limit LINE CISPPR 22 AV

Setting : 150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth,
L1 and N – system (max. Hold)

6.2 Receiver spurious emission radiated (Idle mode)

Reference

FCC:	CFR Part SUBCLAUSE § 15.109
IC:	RSS 210, Issue 7, Section 7.3 Receiver Spurious Emissions (Radiated)

SPURIOUS EMISSIONS LEVEL ($\mu\text{V/m}$)								
Idle Mode								
1900 MHz			MHz			MHz		
F [MHz]	Detector	Level [$\mu\text{V/m}$]	F [MHz]	Detector	Level [$\mu\text{V/m}$]	F [MHz]	Detector	Level [$\mu\text{V/m}$]
No critical peaks								
Measurement uncertainty			± 3 dB					

$f < 1$ GHz : RBW/VBW: 100 kHz

$f \geq 1$ GHz : RBW/VBW: 1 MHz

Limits

SUBCLAUSE § 15.109

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

Idle Mode (30 MHz - 1 GHz)

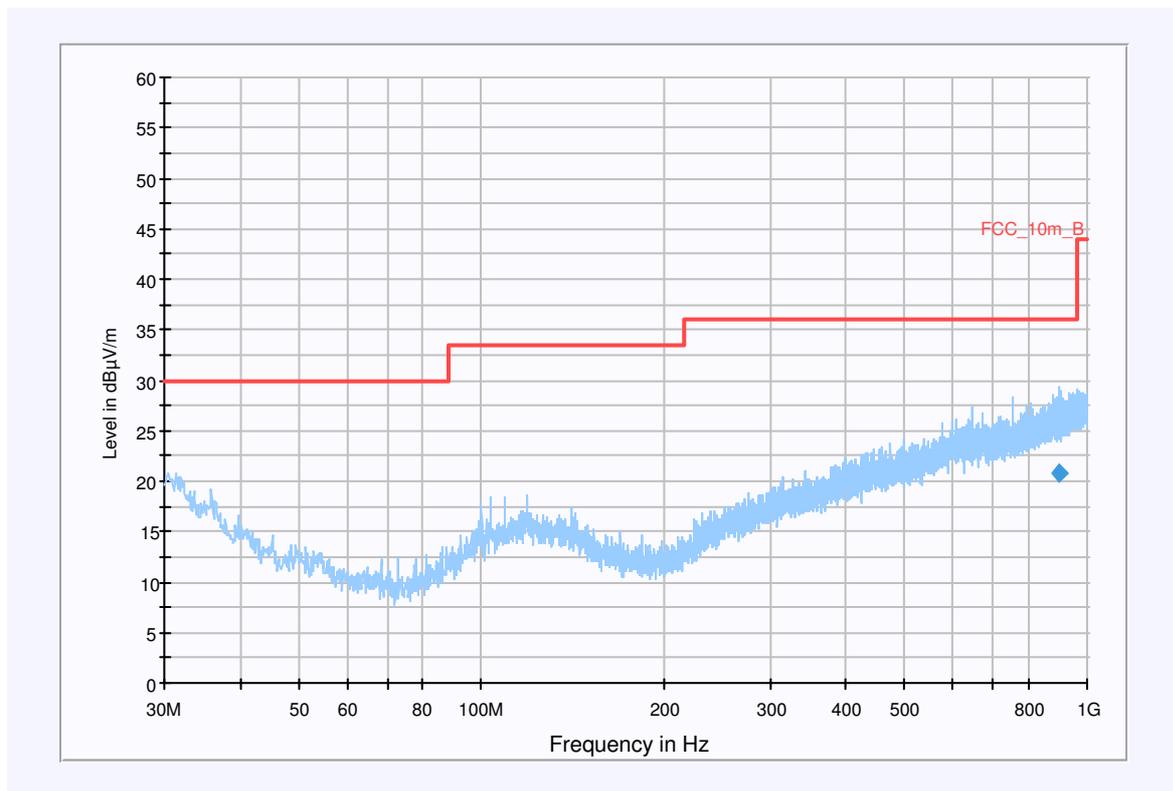
EUT: FAD-3022018-BV + AC/DC-Adapter CST-75
 Serial Number: CB5A0M8WA9
 Test Description: FCC part 15B class B @ 10 m
 Operating Conditions: Idle 900MHz + charging
 Operator Name: HNA
 Comment: AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

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

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

FCC_10m_Fast_1GHz (B)



Final Measurement Detector 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
898.536900	20.8	15000.000	120.000	128.0	H	242.0	24.0	15.2	36.0	

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

Subrange 1

Frequency Range: 30MHz - 2GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009

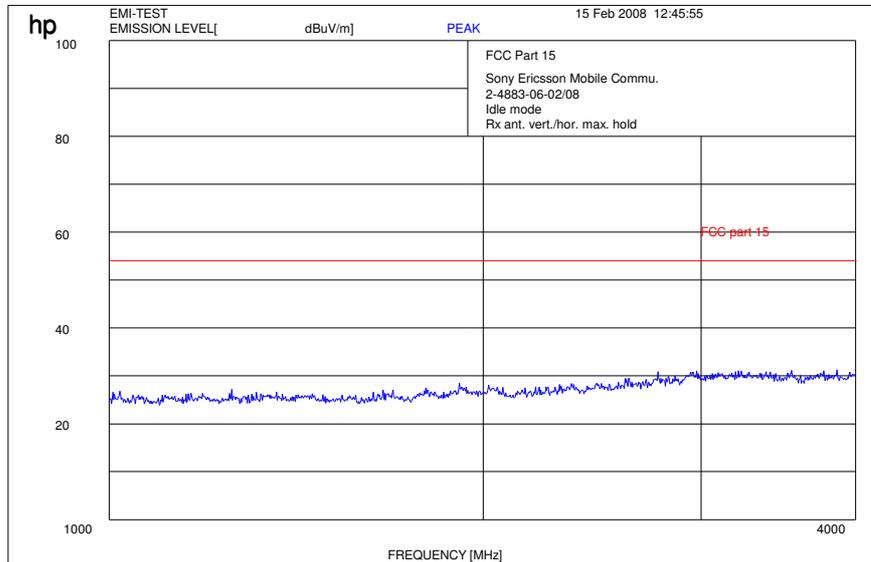
Signal Path: without Notch
FW 1.0

Antenna: Chase Broadband BiLog Antenna CBL 6112
SN 2110, FW A, CAL 07.01.2009
Correction Table (vertical): Chase Broadband BiLog Antenna CBL
6112
Correction Table (horizontal): Chase Broadband BiLog Antenna CBL
6112
Correction Table: Cabel with switch (1007)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

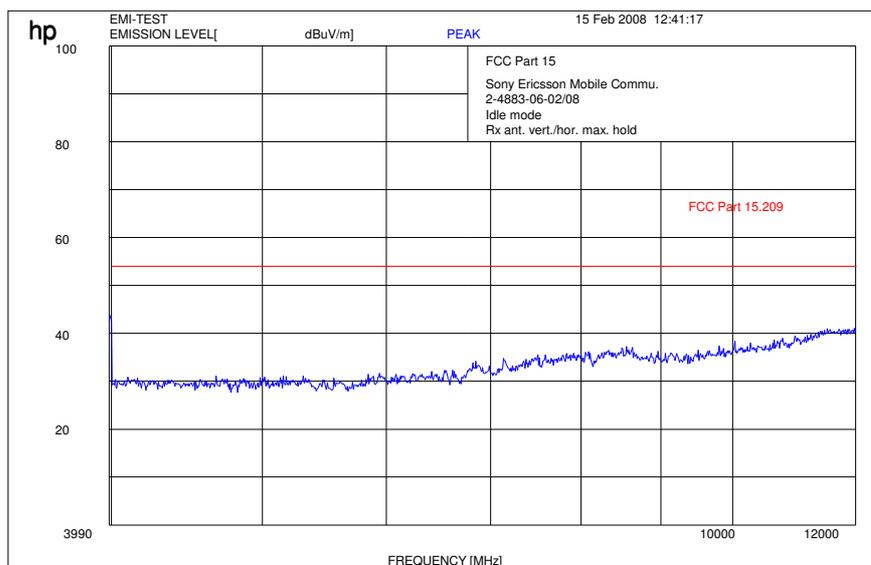
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9)

Idle Mode (1 MHz - 4 GHz)



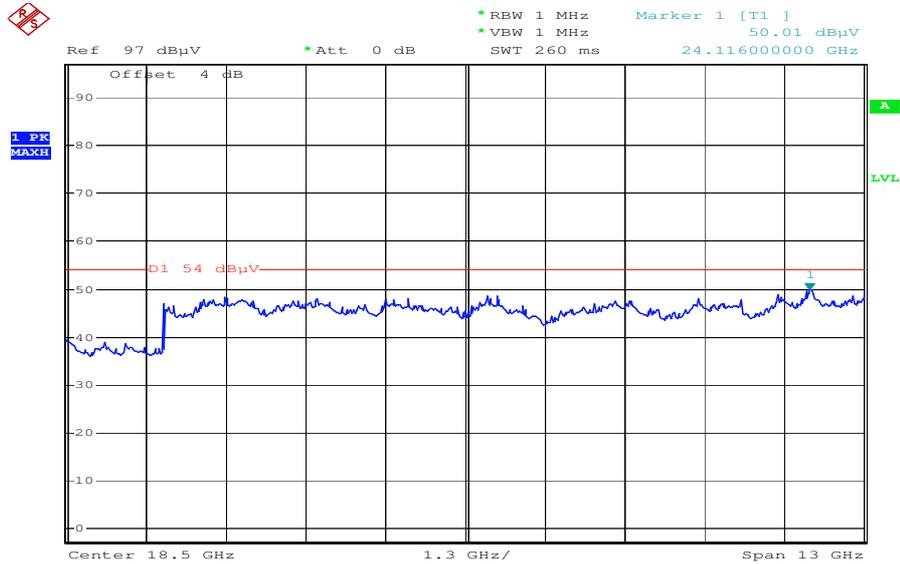
$f \geq 1\text{GHz}$: RBW / VBW 1 MHz

Idle Mode (4 GHz – 12.0 GHz)



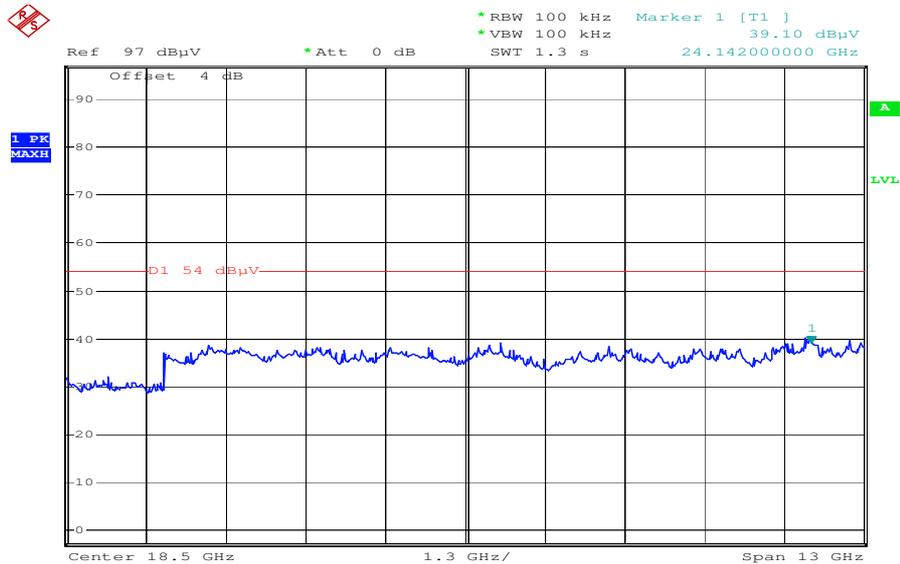
$f \geq 1\text{GHz}$: RBW / VBW 1 MHz

Idle Mode (12 GHz - 25 GHz)



Date: 15.FEB.2008 13:56:38

Idle Mode (12 GHz - 25 GHz)



Date: 15.FEB.2008 13:53:16

7 Photographs of the Test Set-up

Photo No.: 01

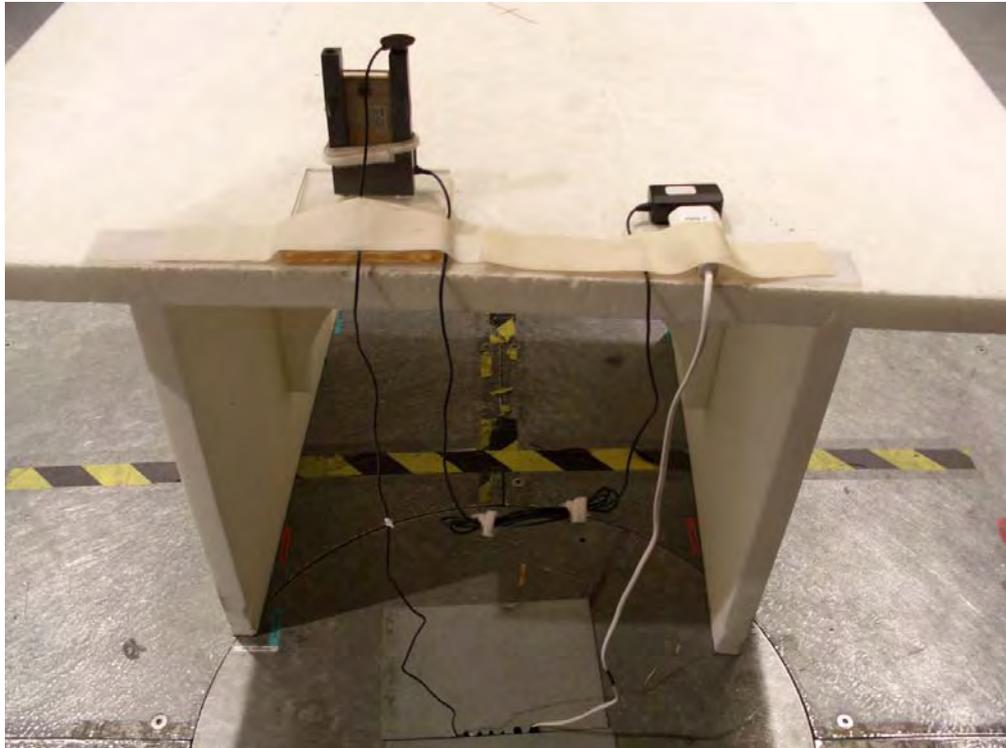


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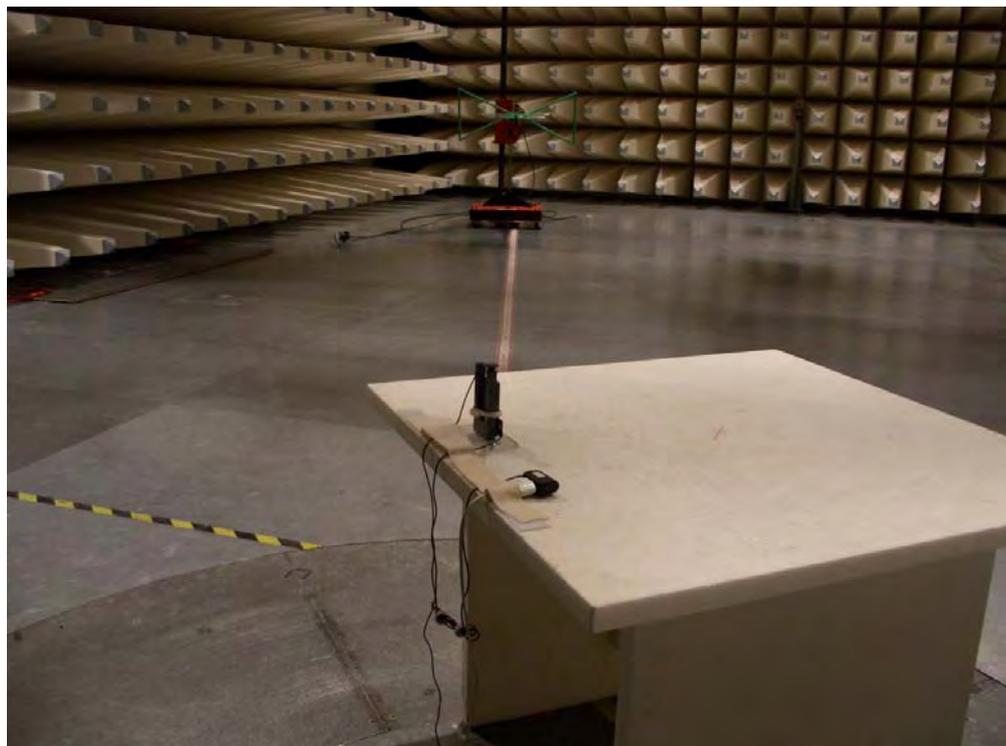


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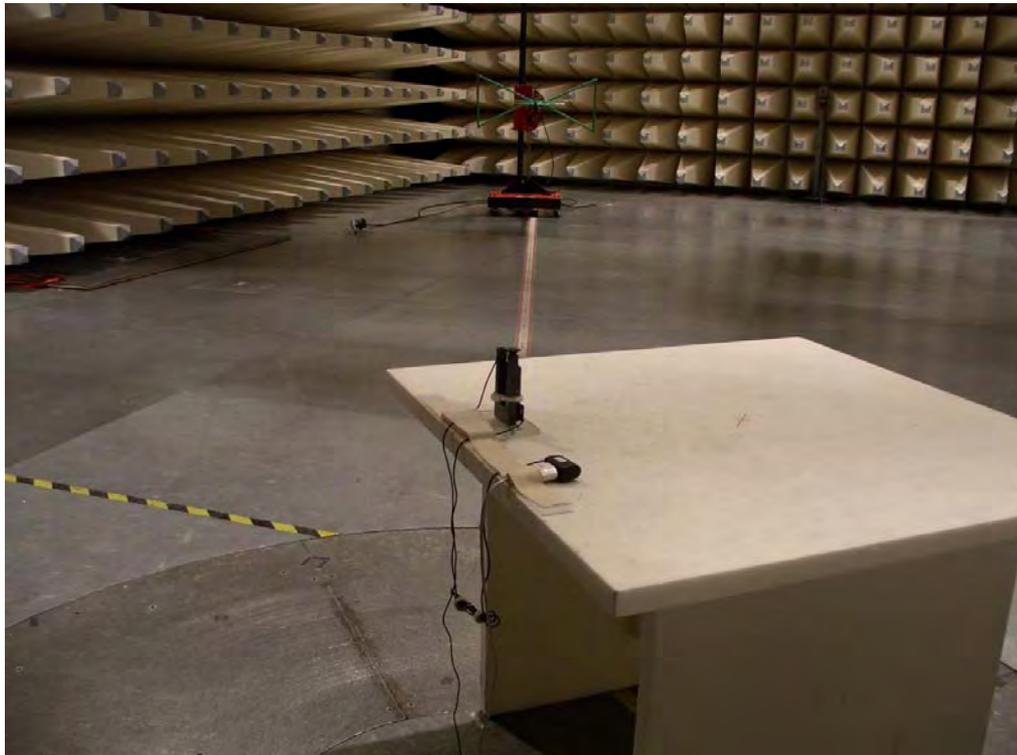


Photo No.: 04

