



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 **2-4576-09-02/07**
report no. **:**
Type identification **: AAD-3252011-BV**
Applicant **: Sony Ericsson Mobile Communications AB**
FCC ID **: PY7A3252011**
IC Certification No **: 4170B-A3252011**
Test standards **: 47 CFR Part 15**
 RSS - 210 Issue 7

Table of contents

1	General information.....	3
1.1	Notes	3
1.2	Testing laboratory	4
1.3	Details of applicant	4
1.4	Application details	4
2	Test standard/s:.....	5
3	Technical tests.....	6
3.1	Details of manufacturer.....	6
3.2	Test item(s) and test configuration.....	6
4	Summary of Measurement Results and list of all performed test cases	7
5	Measurements and results	8
6	Annex A: FCC Part 15 Subpart B	9
6.1	Conducted Limits	9
7	Test equipment and ancillaries used for tests	13
8	Photographs of the Test Set-up	13
9	Photographs of the EUT	13

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:

2007-09-06

Jakob Reschke

Date

Name

Signature



Technical responsibility for area of testing:

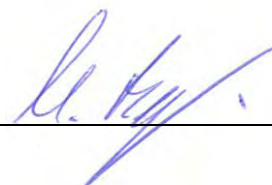
2007-09-06

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: 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:	Nya Vattentornet
Town:	22188 Lund
Country:	Sweden
Telephone:	+46-46-19-3000
Fax:	+46-46-19-3295
Contact:	Peter Lindeborg
E-mail:	peter.lindeborg@sonyericsson.com
Telephone:	+46-46-212-6180

1.4 Application details

Date of receipt of order:	2007-08-20
Date of receipt of test item:	2007-08-20
Date of start test:	2007-08-22
Date of end test	2007-09-06
Persons(s) who have been present during the test:	

2 Test standard/s:

47 CFR Part 15	2006-08	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 Standard AC charger CST-75 with AAD-3252011-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

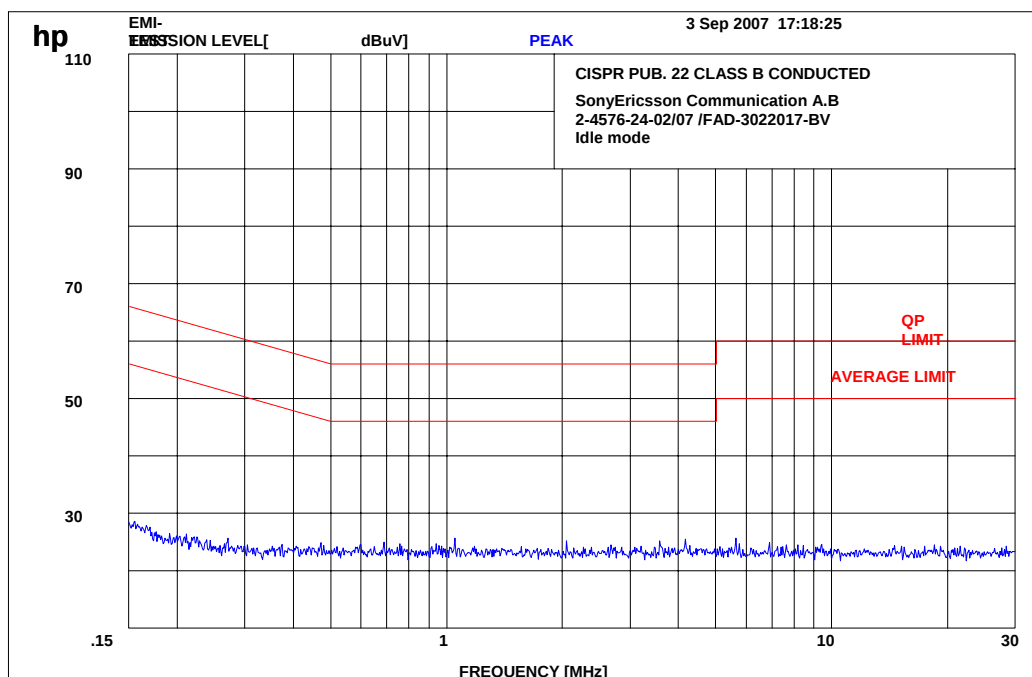
Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency

Plot 1:

Idle Mode: 150 kHz – 30 MHz

EUT: : AC/DC Standard charger CST - 75
(with mobile: AAD-3252011-BV)
Power AC (measured) : 115 V / 60 Hz
Manufacturer: : Sony Ericsson Mobile Communications AB
Operating Condition : Idle mode
Operator: : Reschke



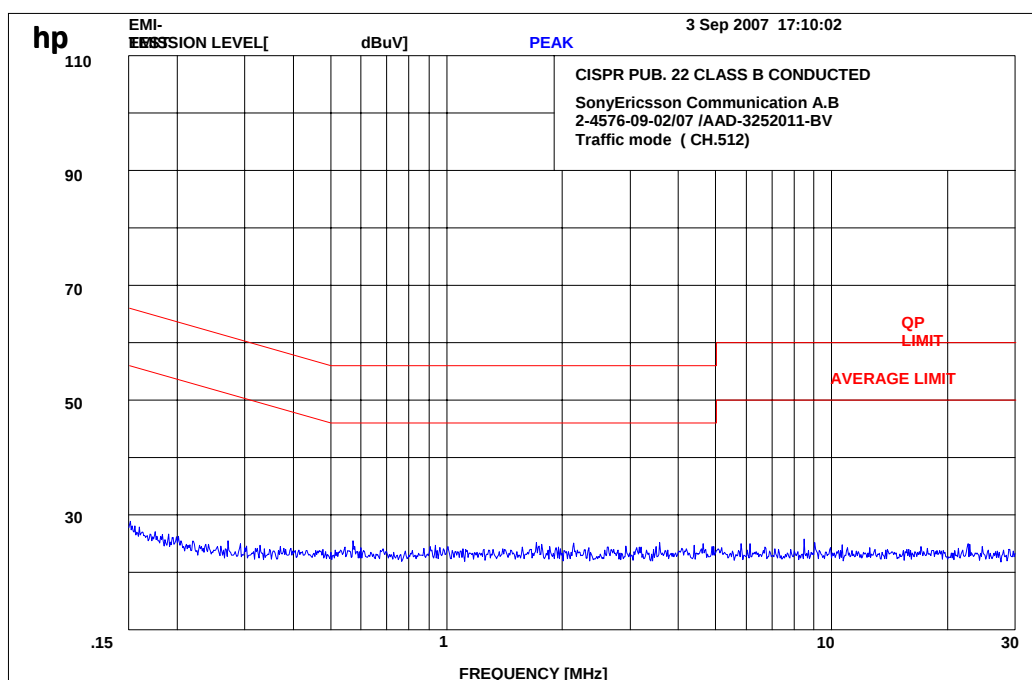
Upper Limit LINE CISPPR 22 QP
Lower Limit LINE CISPPR 22 AV

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

Plot 2:

Traffic Mode : 150 kHz – 30 MHz

EUT: : AC/DC Standard charger CST - 75
(with mobile: AAD-3252011-BV)
Power AC (measured) : 115 V / 60 Hz
Manufacturer: : Sony Ericsson Mobile Communications AB
Operating Condition : Traffic mode
Operator: : Reschke



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)

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			Idle Mode			Idle Mode		
GSM 850 MHz			PCS 1900 MHz			UMTS 850 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 peaks found			No peaks found			No peaks found		
Measurement uncertainty			± 3 dB					

SPURIOUS EMISSIONS LEVEL ($\mu\text{V/m}$)								
Idle Mode								
UMTS 1900 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 peaks found								
Measurement uncertainty			± 3 dB					

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

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

Limits

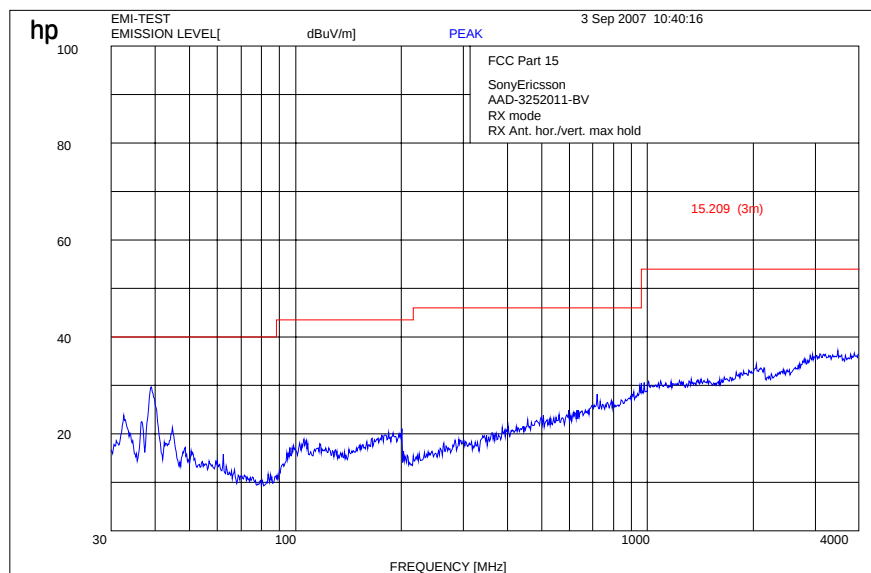
SUBCLAUSE § 15.109

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

GSM 850 MHz

Plot 1:

RX (30 MHz to 4 GHz)

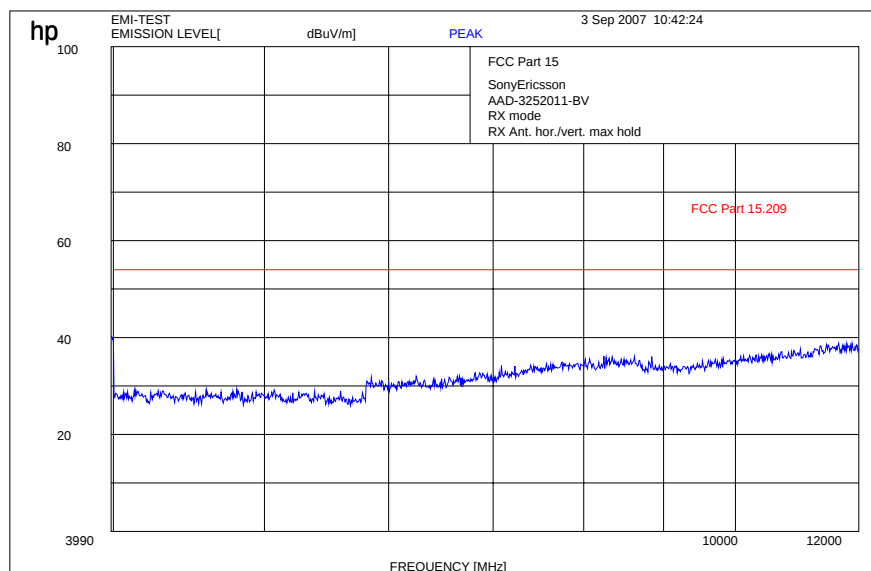


$f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

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

Plot 2:

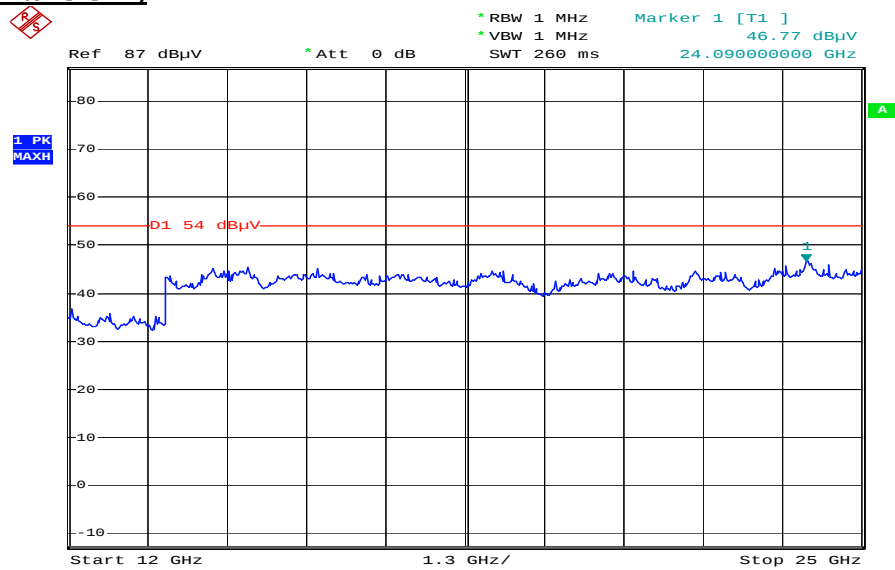
RX (4 GHz to 12 GHz)



RBW / VBW 1 MHz

Plot 3:

RX (12 GHz to 25 GHz)

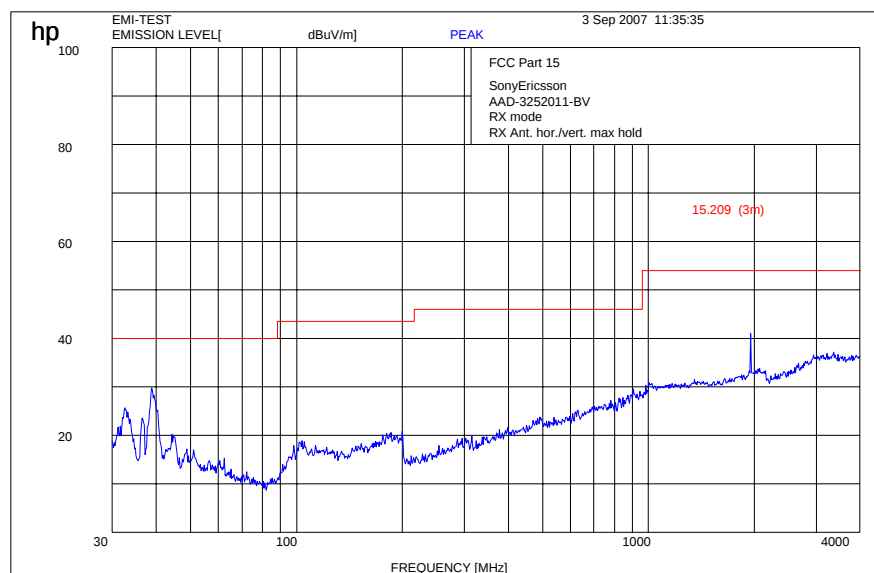


Date: 23.AUG.2007 11:51:35

PCS 1900 MHz

Plot 1:

RX (30 MHz to 4 GHz)

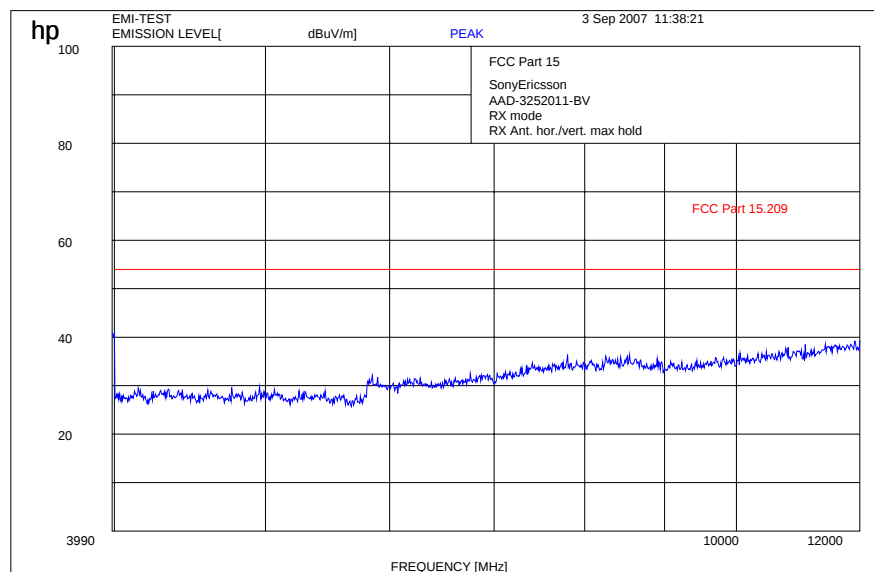


f < 1 GHz : RBW/VBW: 100 kHz

f > 1 GHz : RBW / VBW 1 MHz

Plot 2:

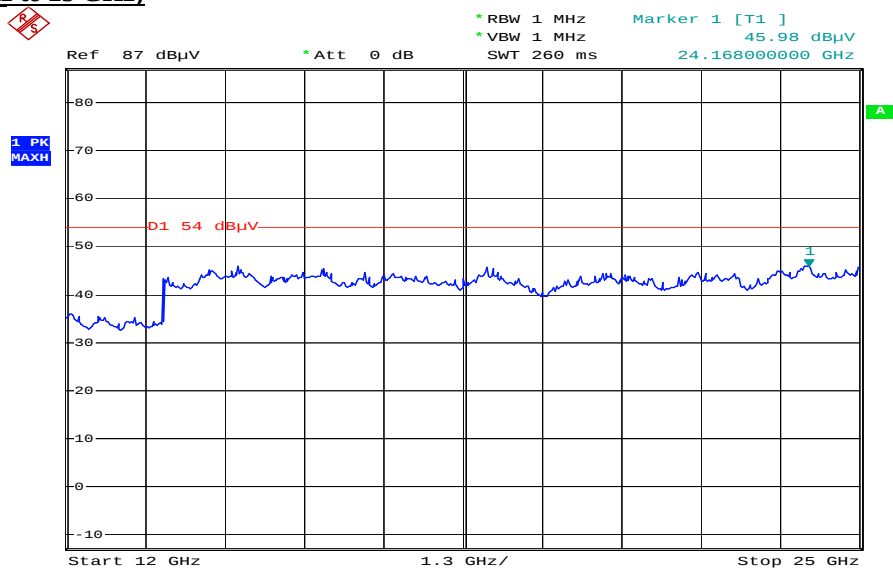
RX (4 GHz to 12 GHz)



RBW / VBW 1 MHz

Plot 3:

RX (12 GHz to 25 GHz)

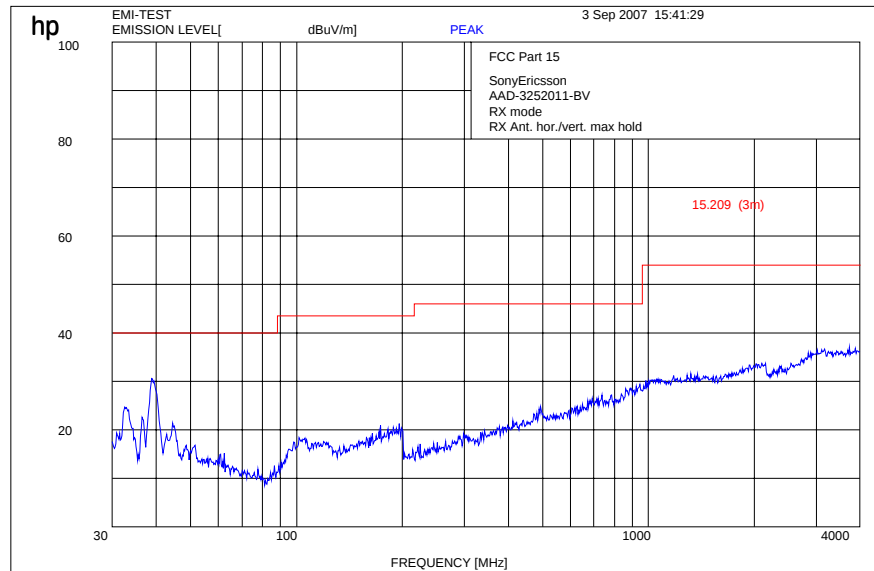


Date: 23.AUG.2007 11:51:12

UMTS 850 MHz

Plot 1:

RX (30 MHz to 4 GHz)

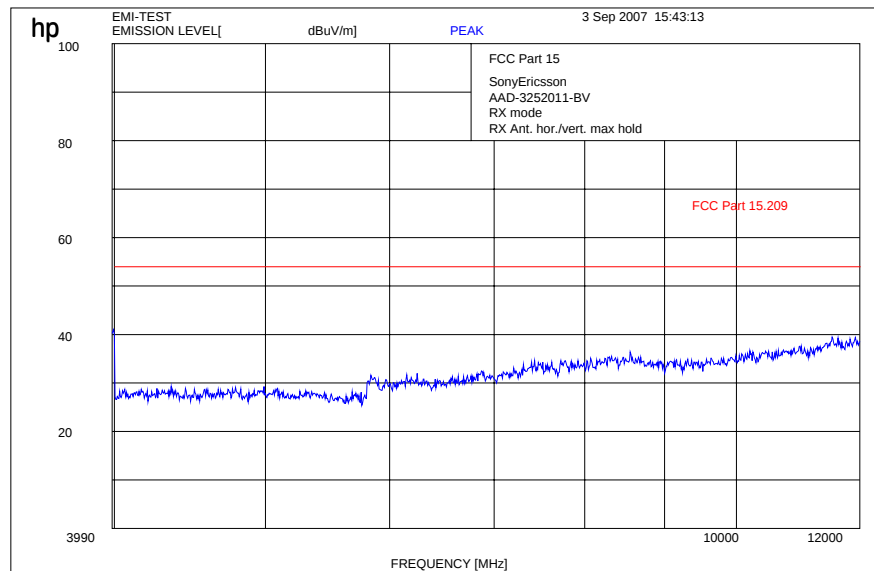


$f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

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

Plot 2:

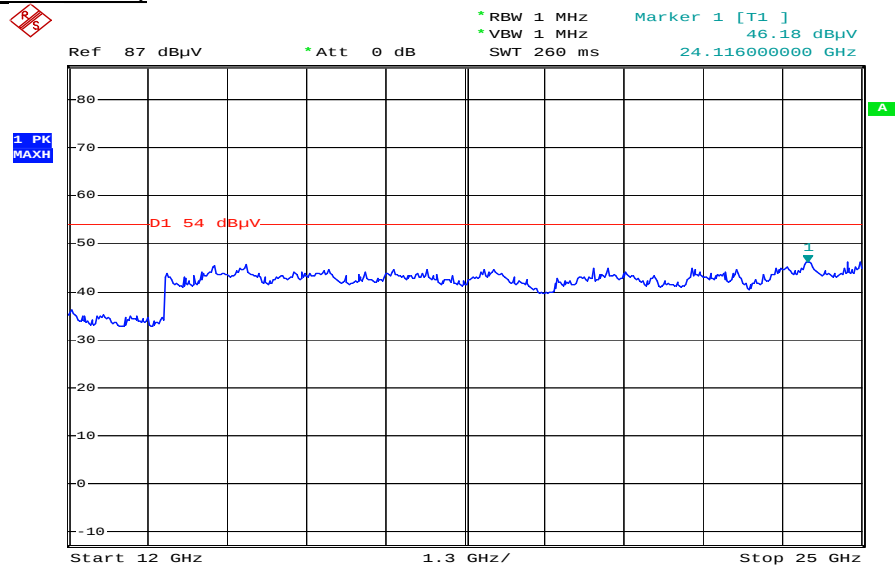
RX (4 GHz to 12 GHz)



RBW / VBW 1 MHz

Plot 3:

RX (12 GHz to 25 GHz)

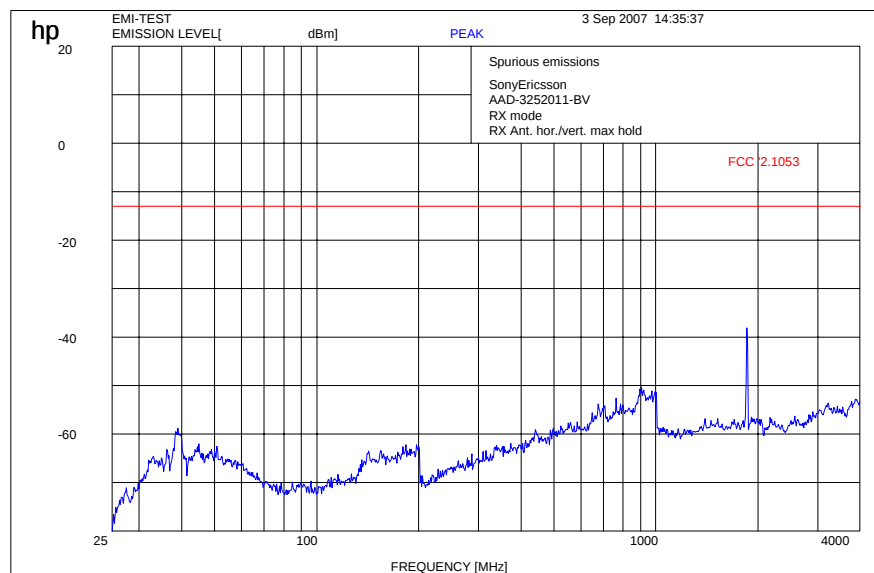


Date: 23.AUG.2007 11:52:28

UMTS 1900 MHz

Plot 1:

RX (30 MHz to 4 GHz)

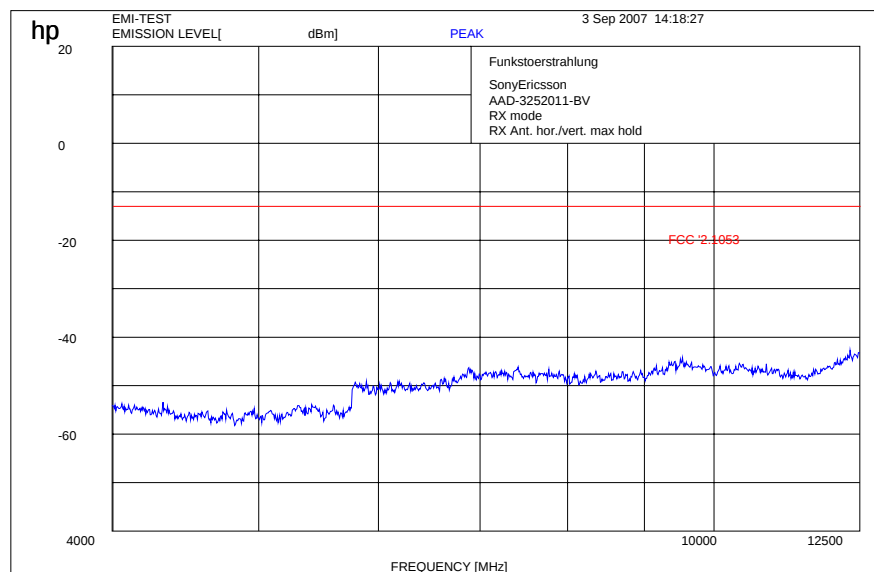


f < 1 GHz : RBW/VBW: 100 kHz

f > 1 GHz : RBW / VBW 1 MHz

Plot 2:

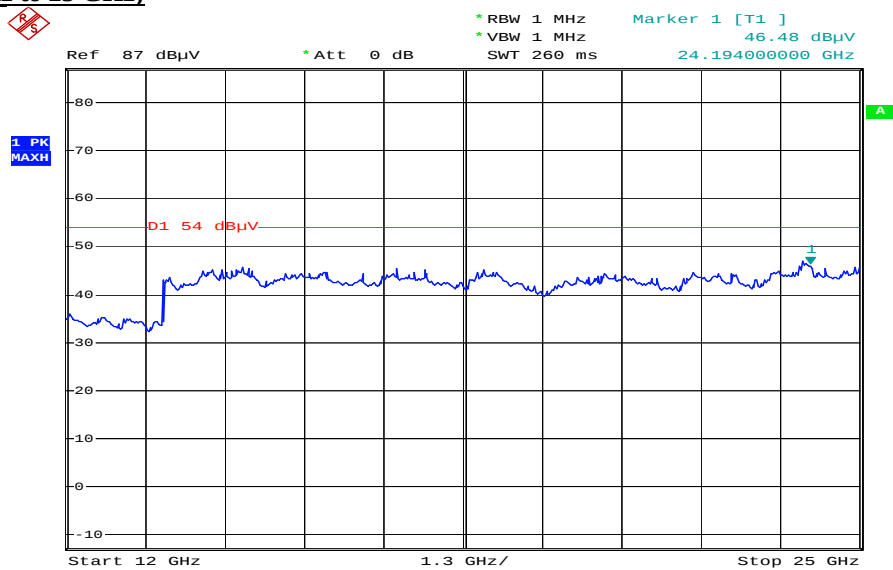
RX (4 GHz to 12 GHz)



RBW / VBW 1 MHz

Plot 3:

RX (12 GHz to 25 GHz)



Date: 23.AUG.2007 11:52:05

7 Test equipment and ancillaries used for tests

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

Anechoic chamber C:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Anechoic chamber	MWB	87400/02	300000996	Monthly verification		
2	System-Rack 85900	HP I.V.	*	300000222	n.a.		
3	Measurement System 1						
4	Spektrum Analyzer 8566B	HP	2747A05306	300001000	05.10.2006	24	05.10.2008
5	Spektrum Analyzer Display 85662A	HP	2816A16541	300002297	05.10.2006	24	05.10.2008
6	Quasi-Peak-Adapter 85650A	HP	2811A01131	300000999	05.10.2006	24	05.10.2008
7	RF-Preselector 85685A	HP	2837A00779	300000218	08.11.2006	24	08.11.2008
8	PC Vectra VL	HP		300001688	n.a.		
9	Software EMI	HP		300000983	n.a.		
10	Measurement System 2						
11	FSP 30	R&S	100623	ICT 300003464	26.10.2006	12	26.10.2007
12	PC	F+W			n.a.		
13	TILE	TILE			n.a.		
14	Biconical antenna	EMCO	S/N: 860 942/003		Monthly verification (System cal.)		
15	Log. Period. Antenna 3146	EMCO	2130	300001603	Monthly verification (System cal.)		
16	Double Ridged Antenna HP 3115P	EMCO	3088	300001032	Monthly verification (System cal.)		
17	Active Loop Antenna 6502	EMCO	2210	300001015	Monthly verification (System cal.)		
18	Power Supply 6032A	HP	2818A03450	300001040	12.05.2007	36	12.05.2010
19	Busisolator	Kontron		300001056	n.a.		
20	Leitungsteiler 11850C	HP		300000997	Monthly verification (System cal.)		
21	Power attenuator 8325	Byrd	1530	300001595	Monthly verification (System cal.)		
22	Band reject filter WRCG1855/1910	Wainwright	7	300003350	Monthly verification (System cal.)		
23	Band reject filter WRCG2400/2483	Wainwright	11	300003351	Monthly verification (System cal.)		

Signaling Units:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	CMU-200	R&S	103992	300003231	27.04.2007	12	27.04.2008
2	CMU-200	R&S	106240	300003321	02.05.2006	24	02.05.2008

SRD Laboratory Room 005:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Spektrum Analyzer 8566B	HP	2747A05275	300000219	08.11.2006	24	08.11.2008
2	Spektrum Analyzer Display 85662A	HP	2816A16497	300001690	08.11.2006	24	08.11.2008
3	Quasi-Peak-Adapter 85650A	HP	2811A01135	300000216	08.11.2006	24	08.11.2008
4	Power Supply	Heiden	003202	300001187	12.05.2007	36	12.05.2010
5	Power Supply	Heiden	1701	300001392	12.05.2007	36	12.05.2010

8 Photographs of the Test Set-up

Photo 1:



Photo 2:

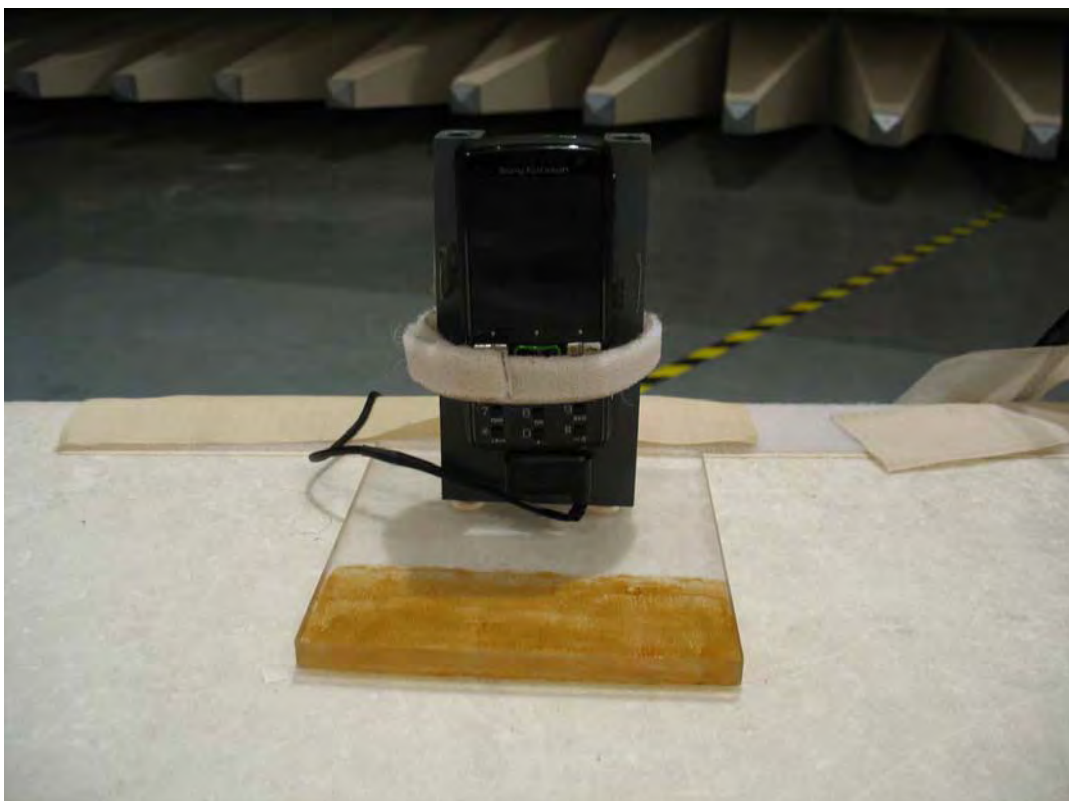


Photo 3:



9 Photographs of the EUT

Photo 4:



Photo 5:



Photo 6:



Photo 7:



Photo 8:



Photo 9:



Photo 10:



Photo 11:



Photo 12:

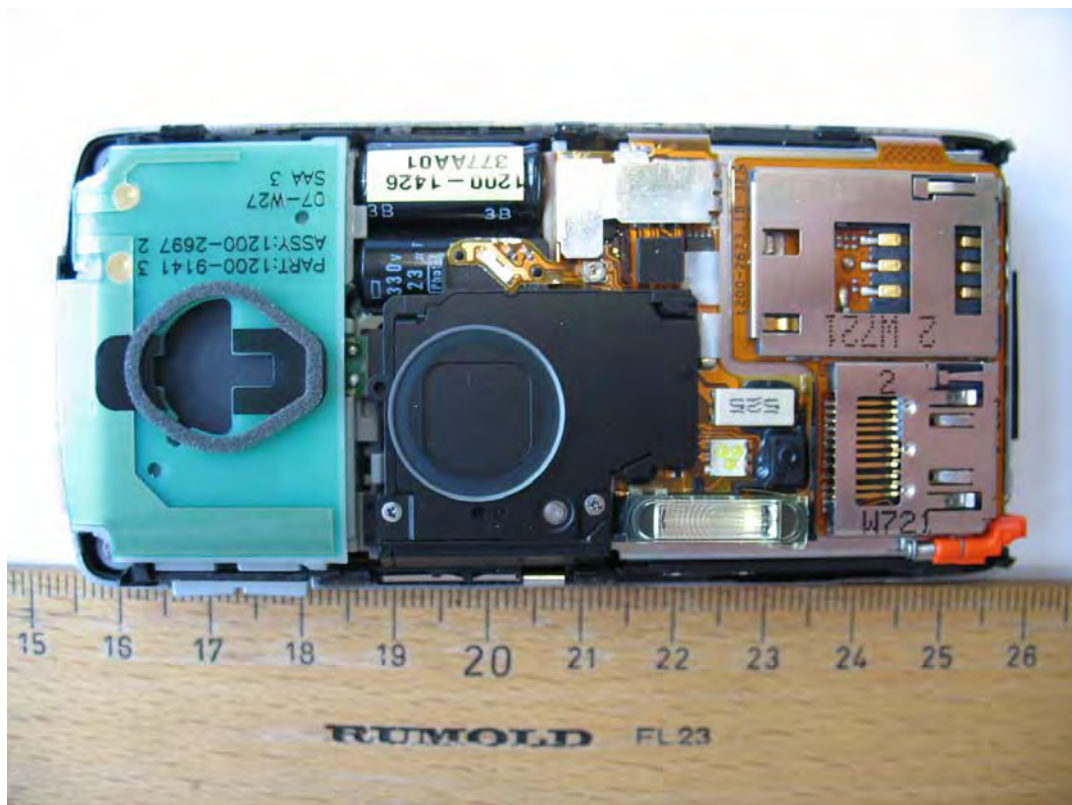


Photo 13:

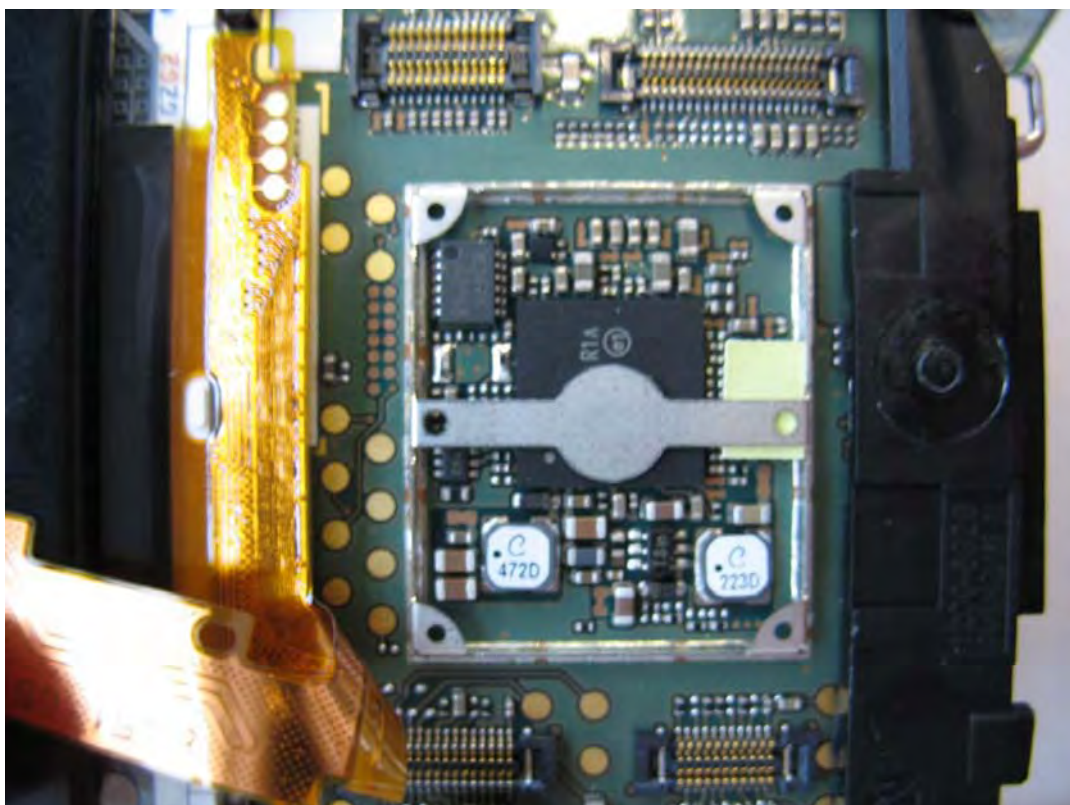


Photo 14:

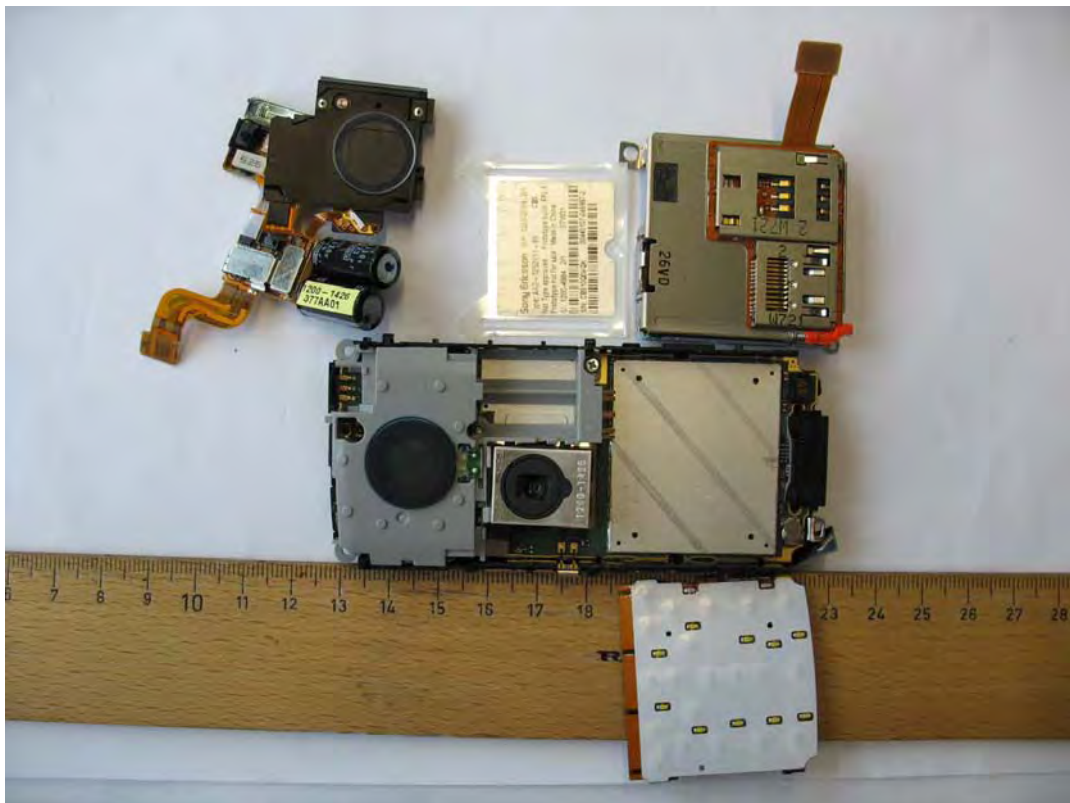


Photo 15:



Photo 16:

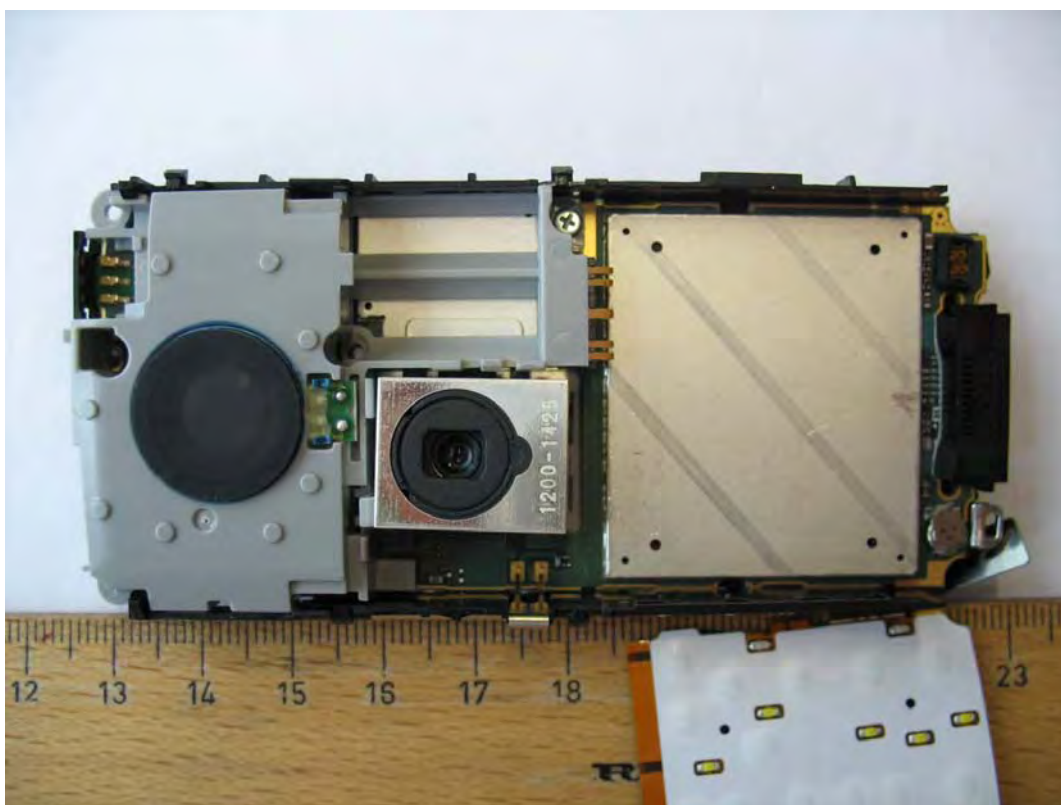


Photo 17:



Photo 18:

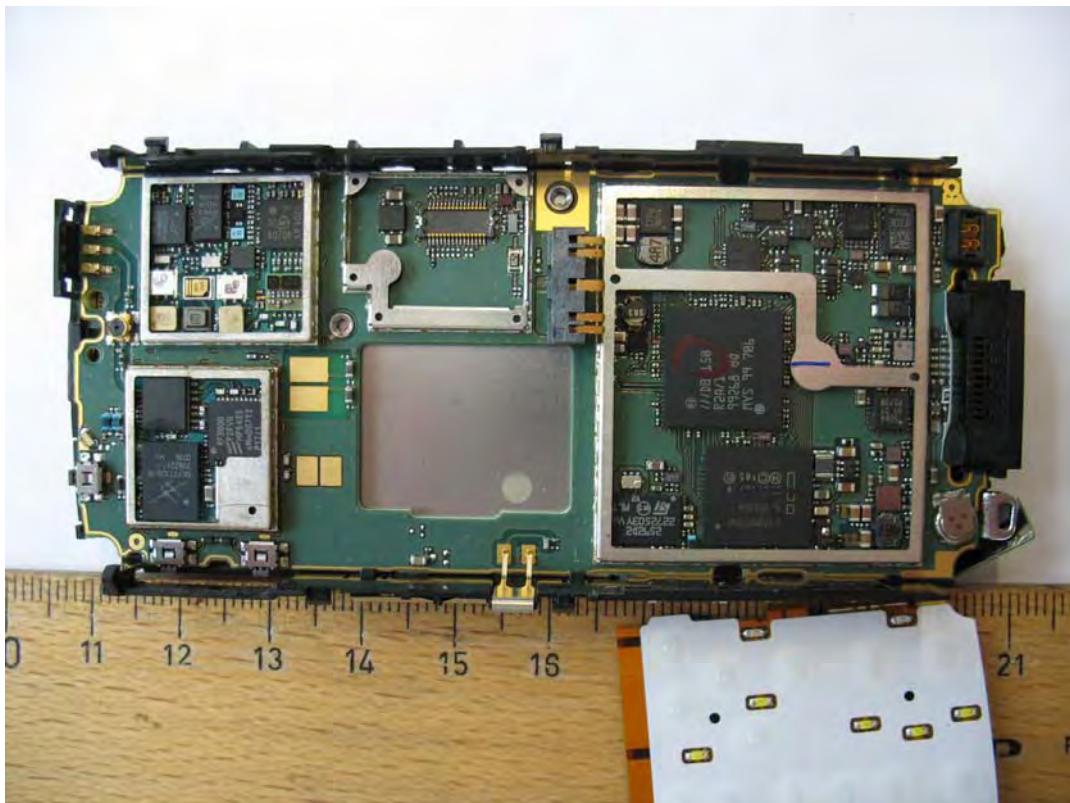


Photo 19:

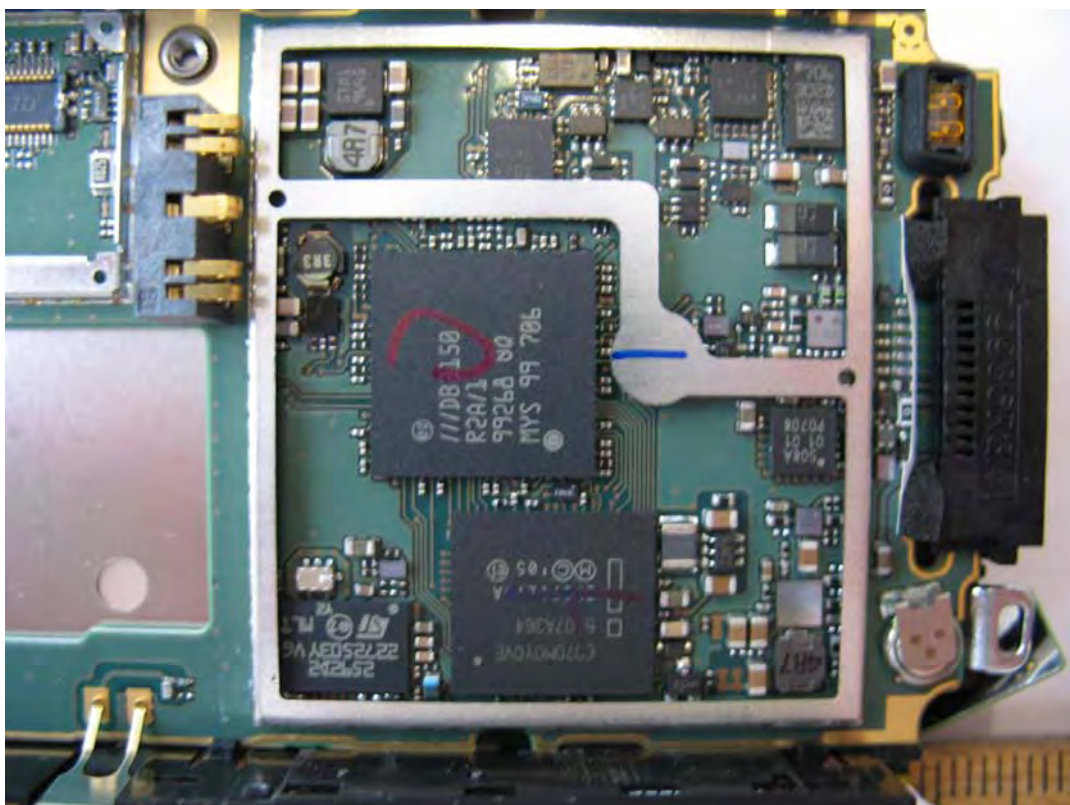


Photo 20:

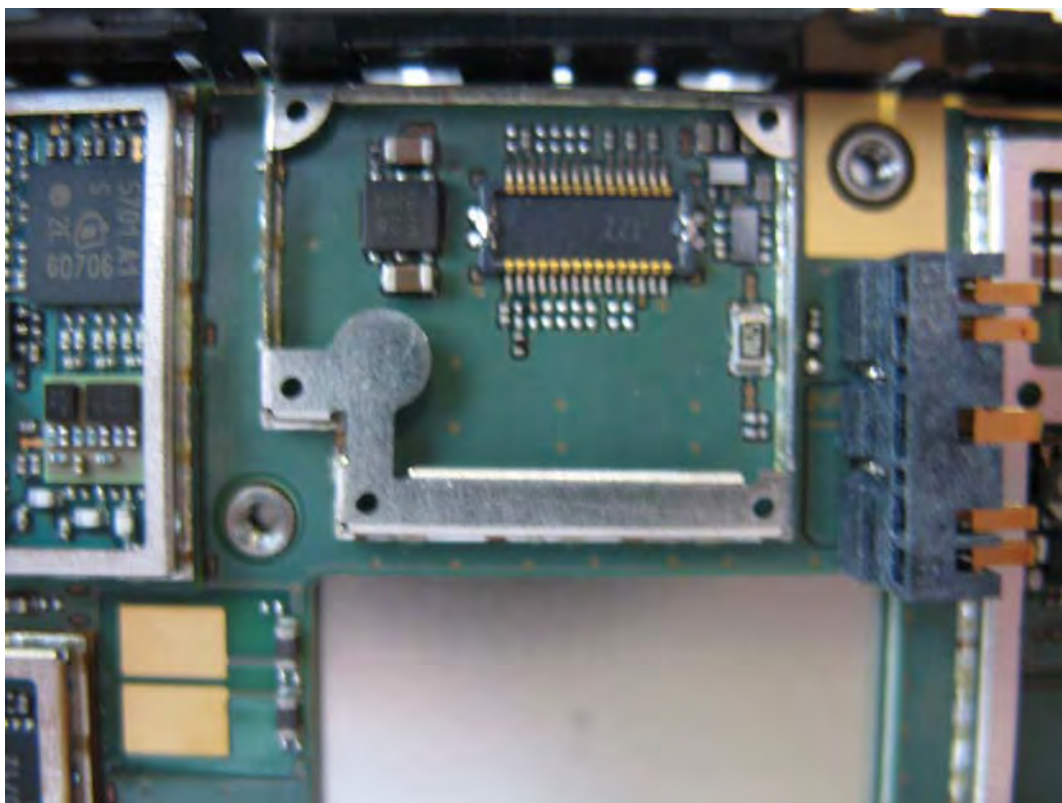


Photo 21:

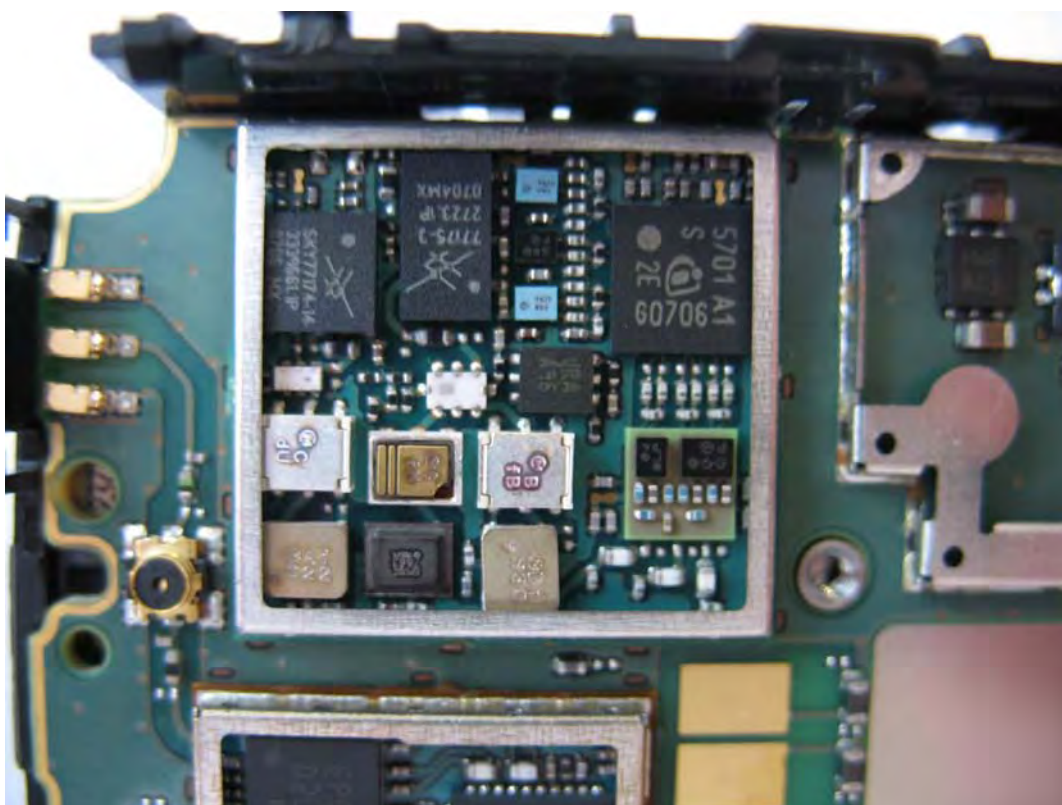


Photo 22:



Photo 23:

