



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 **2-4576-21-02/07**
report no. **:**
Type identification **: AAB-1022101-BV**
Applicant **: Sony Ericsson Mobile Communications AB**
FCC ID **: PY7A1022101**
IC Certification No **: 4170B-A1022101**
Test standards **: 47 CFR Part 24**
 RSS - 133 Issue 3

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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:

2007-06-28

Jakob Reschke

Date

Name

Signature

A black ink signature of Jakob Reschke, written in a cursive style.

Technical responsibility for area of testing:

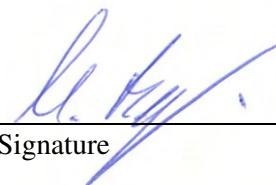
2007-06-28

Michael Berg

Date

Name

Signature

A blue ink signature of Michael Berg, written in a cursive style.

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:	2007-06-25
Date of receipt of test item:	2007-06-25
Date of start test:	2007-06-25
Date of end test	2007-06-28
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 Vattentorget
Town:	22188 Lund
Country:	Sweden

2.2 Test item(s) and test configuration

No.: 1	Standard Charger CST-60	with	AAB-1022101-BV
No.: 2		with	AAB-1022101-BV
No.: 3		with	AAB-1022101-BV
No.: 4		with	AAB-1022101-BV
No.: 5		with	AAB-1022101-BV
No.: 6		with	AAB-1022101-BV
No.: 7		with	AAB-1022101-BV
No.: 8		with	AAB-1022101-BV
No.: 9		with	AAB-1022101-BV
No.: 10		with	AAB-1022101-BV

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 RSS 210, Issue 7, Section 6.6 , 7.4	Pass
5.2	Receiver spurious emission radiated (Idle mode) CFR Part SUBCLAUSE § 15.109 RSS 210, Issue 7, Section 7.3 Receiver Spurious Emissions (Radiated)	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, 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

5 Annex A: FCC Part 15 Subpart B

5.1 Conducted Limits

Reference

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

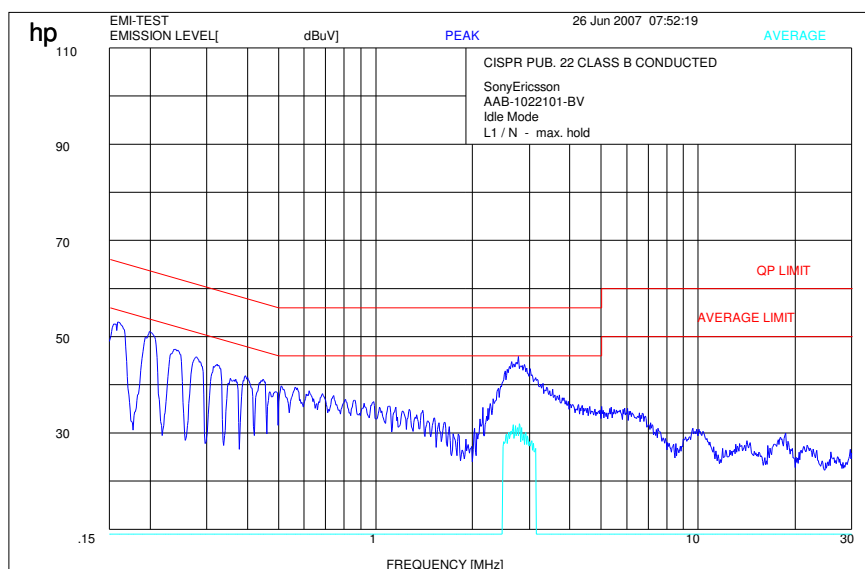
Limits: § 15.107 / 15.207

Frequency of Emission (MHz)	Conducted Limit (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

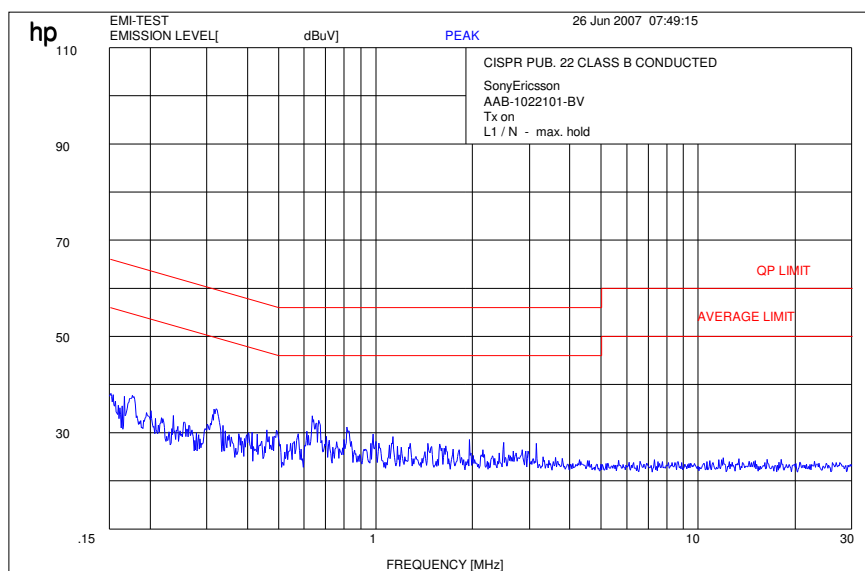
Plot 1:

Idle Mode: 150 kHz – 30 MHz



Plot 2:

Traffic Mode : 150 kHz – 30 MHz



5.2 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								
F [MHz]	Detector	Level [$\mu\text{V/m}$]	F [MHz]	Detector	Level [$\mu\text{V/m}$]	F [MHz]	Detector	Level [$\mu\text{V/m}$]
Measurement uncertainty			$\pm 3\text{ dB}$					

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

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

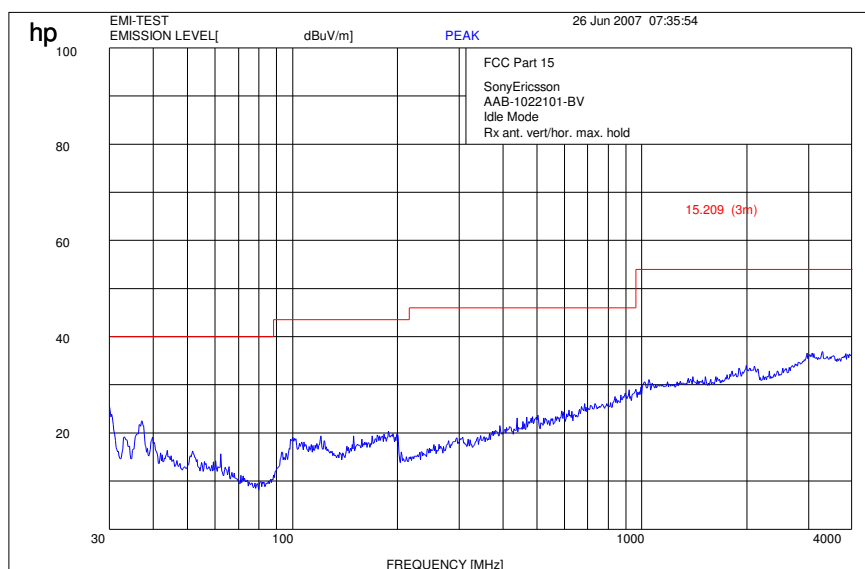
Limits

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

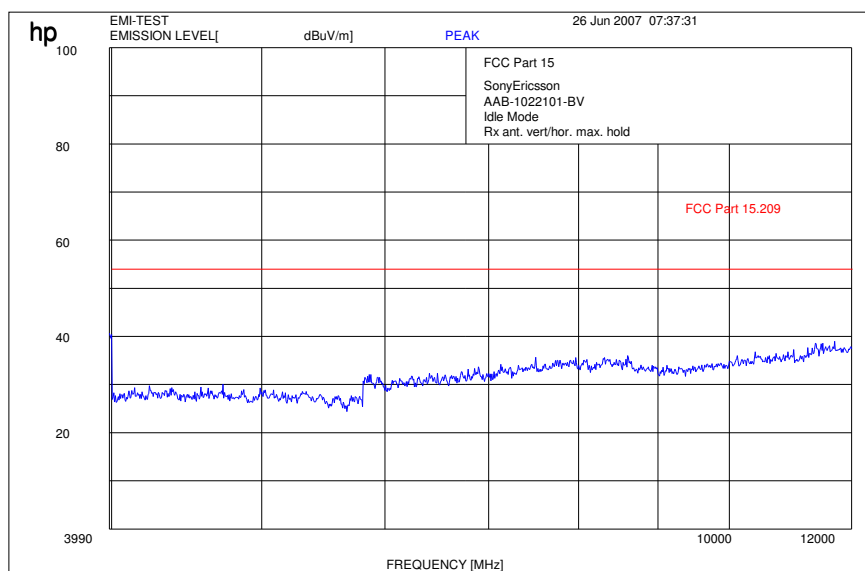
Plot 1:

RX (30 MHz to 4 GHz)

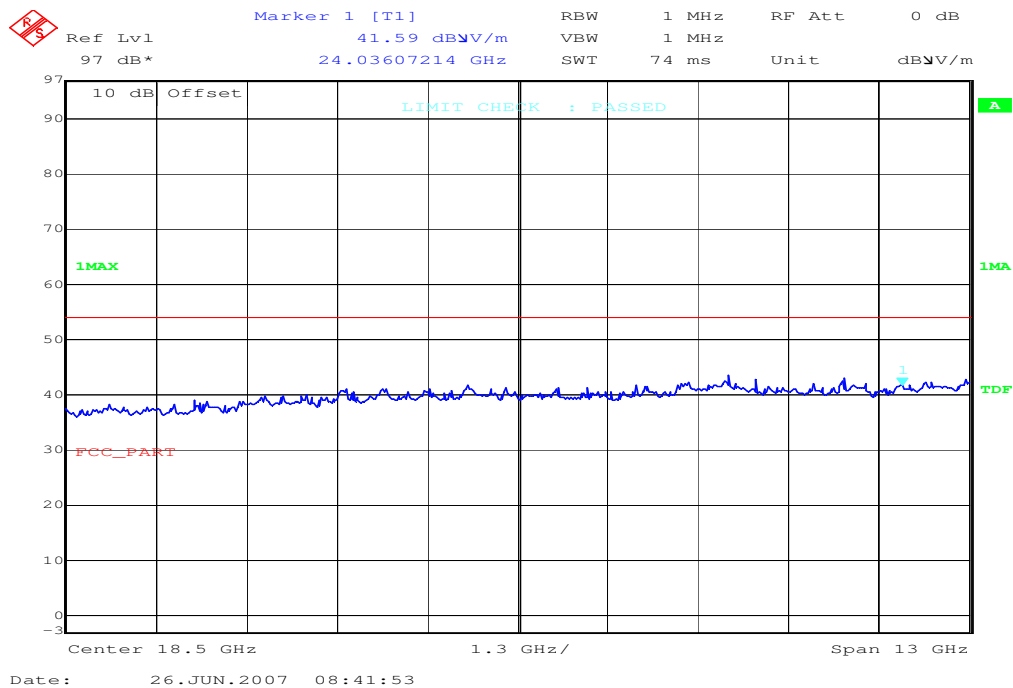


Plot 2:

RX (4 GHz to 12 GHz)



Plot 3:
RX (12 GHz to 25 GHz)



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

Signaling Units:

No	Equipment/Type	Manufact.	Serial Nr.	Inv. No. Cetecom
1	CBT	R&S	100313	300003516
2	CBT	R&S	100185	300003416
3	CMU-200	R&S	103992	300003231
4	CMU-200	R&S	106240	300003321

SRD Laboratory Room 002:

No	Equipment/Type	Manufact.	Serial Nr.	Inv. No. Cetecom
1	System Controller PSM 12	R&S	835259/007	3000002681
2	Memory Extension PSM-K10	R&S	To 1	3000002681
3	Operating Software PSM-B2	R&S	To 1	3000002681
4	19" Monitor		22759020-ED	3000002681
5	Mouse		LZE 0095/6639	3000002681

6	Keyboard		G00013834L46 1	3000002681
7	Spectrum Analyser FSIQ 26	R&S	835540/018	3000002681
8	Tracking Generator FSIQ-B10	R&S	835107/015	3000002681
10	RF-Generator SMIQ03 (B1 Signal)	R&S	835541/056	3000002681
11	Modulation Coder SMIQ-B20	R&S	To 10	3000002681
12	Data Generator SMIQ-B11	R&S	To 10	3000002681
13	RF Rear Connection SMIQ-B19	R&S	To 10	3000002681
14	Fast CPU SM-B50	R&S	To 10	3000002681
15	FM Modulator SM-B5	R&S	835676/033	3000002681
16	RF-Generator SMIQ03 (B2 Signal)	R&S	835541/055	3000002681
17	Modulation Coder SMIQ-B20	R&S	To 16	3000002681
18	Data Generator SMIQ-B11	R&S	To 16	3000002681
19	RF Rear Connection SMIQ-B19	R&S	To 16	3000002681
20	Fast CPU SM-B50	R&S	To 16	3000002681
21	FM Modulator SM-B5	R&S	836061/022	3000002681
22	RF-Generator SMP03 (B3 Signal)	R&S	835133/011	3000002681
23	Attenuator SMP-B15	R&S	835136/014	3000002681
24	RF Rear Connection SMP-B19	R&S	834745/007	3000002681
25	Power Meter NRVD	R&S	835430/044	3000002681
26	Power Sensor NRVD-Z1	R&S	833894/012	3000002681
27	Power Sensor NRVD-Z1	R&S	833894/011	3000002681
28	Rubidium Standard RUB	R&S	6197	3000002681
29	Switching and Signal Conditioning Unit SSCU	R&S	338864/003	3000002681
30	Laser Printer HP Deskjet 2100	HP	N/A	3000002681
31	19'' Rack	R&S	1113836300000 4	3000002681
32	RF-cable set	R&S	N/A	3000002681
33	IEEE-cables	R&S	N/A	3000002681
34	Sampling System FSIQ-B70	R&S	835355/009	3000002681
35	RSP programmable attenuator	R&S	834500/010	3000002681
36	Signalling Unit	R&S	838312/011	3000002681
37	NGPE programmable Power Supply for EUT	R&S	192.033.41	3000002681
38	Climatic box VT 4002	Heraeus Vötsch	--	300003019
39	Signaling Unit CMU200	R&S	832221/0055	300002862
40	Power Splitter 6005-3	Inmet Corp.	none	300002841
41	SMA Cables SPS-1151-985-SPS	Insulated Wire	different	different
42	CBT32 with EDR Signaling Unit	R&S		
43	Coupling unit	Narda	N/A	--
44	2xSwitch Matrix PSU	R&S	872584/021	--
45	RF-cable set	R&S	N/A	different
46	IEEE-cables	R&S	N/A	--

7 Photographs of the Test Set-up

Photo documentation

Photo 1:

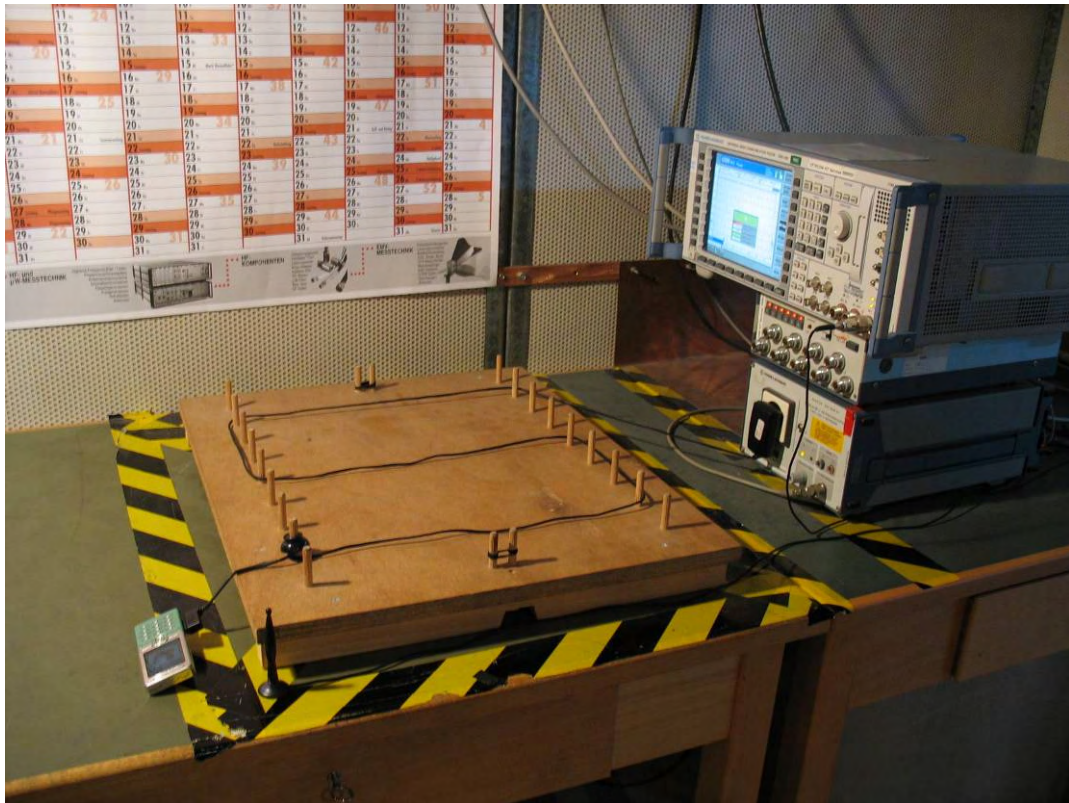


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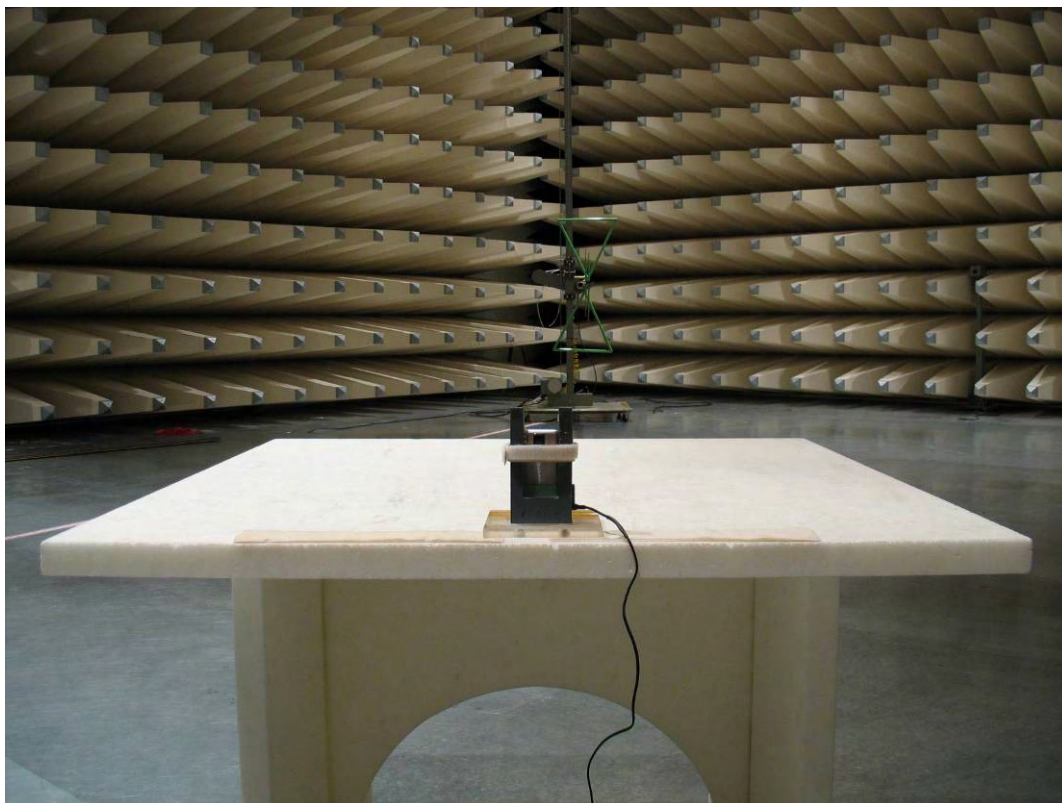
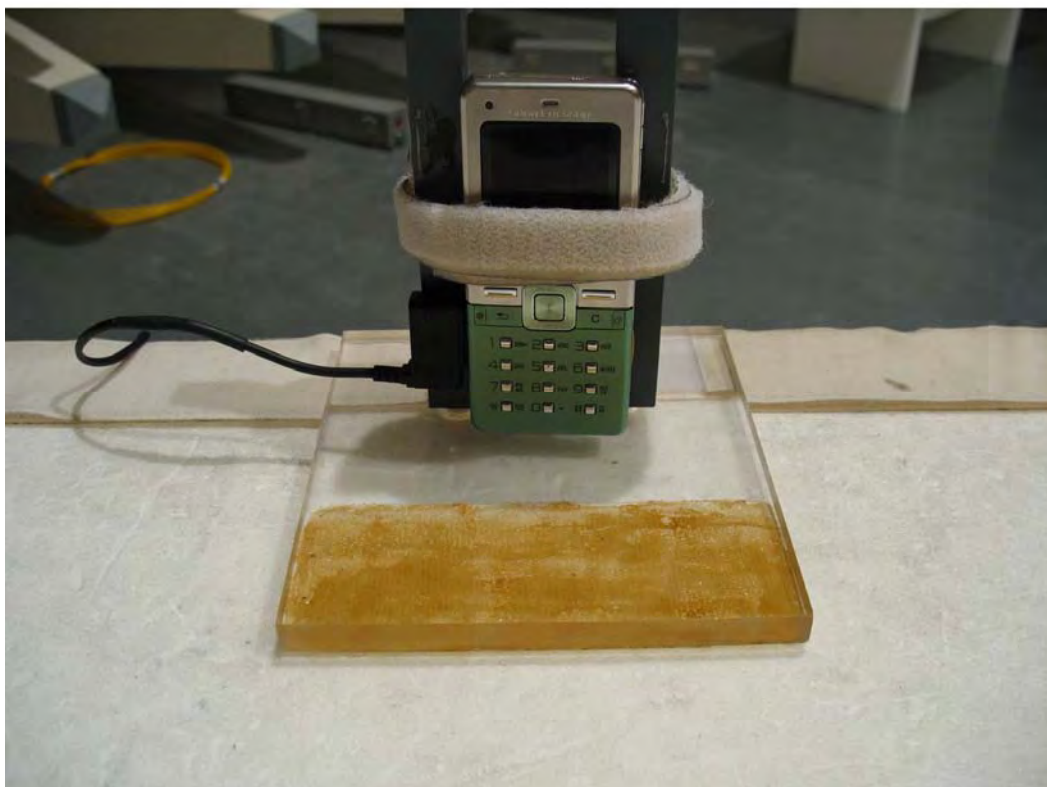


Photo 3:



8 Photographs of the EUT

Photo documentation

Photo 4:



Photo 5:



Photo 6:



Photo 7:

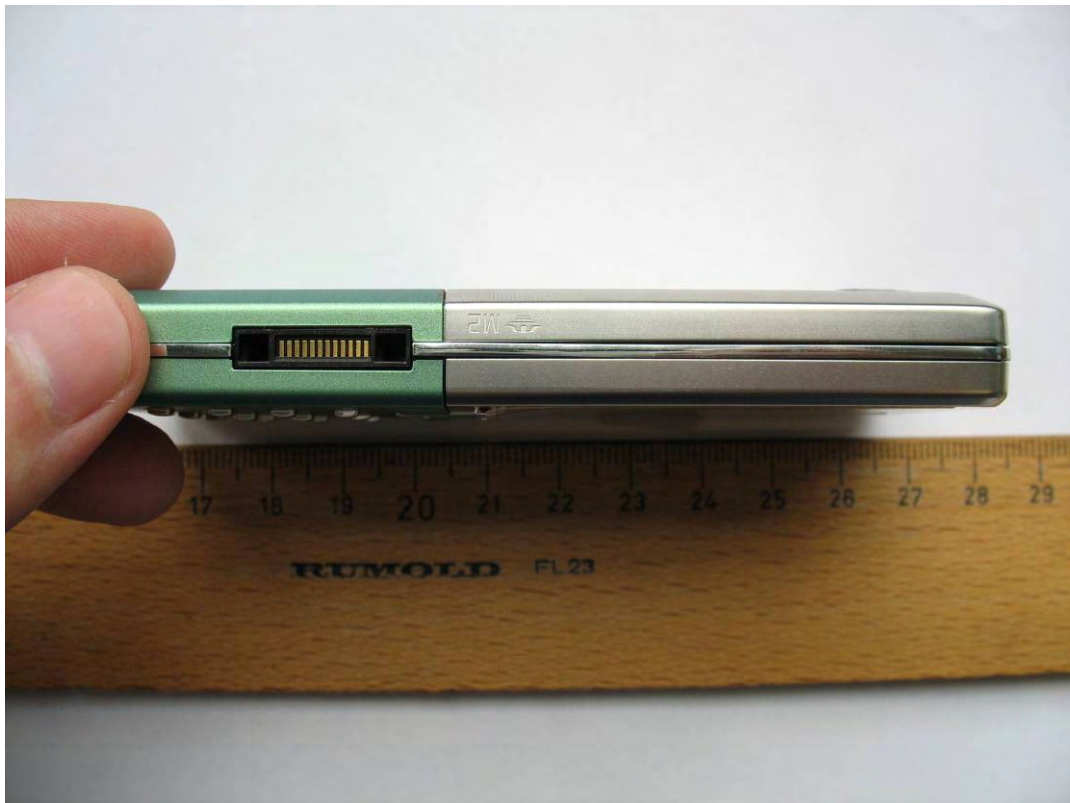


Photo 8:



Photo 9:



Photo 10:



Photo 11:

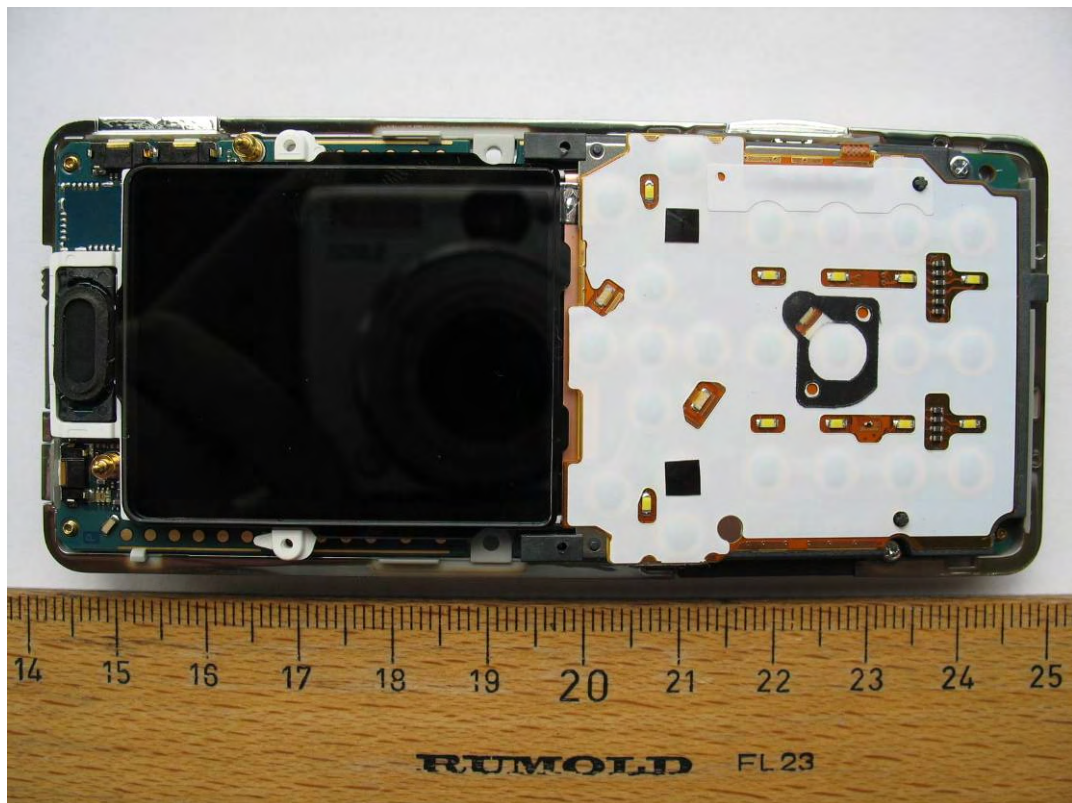


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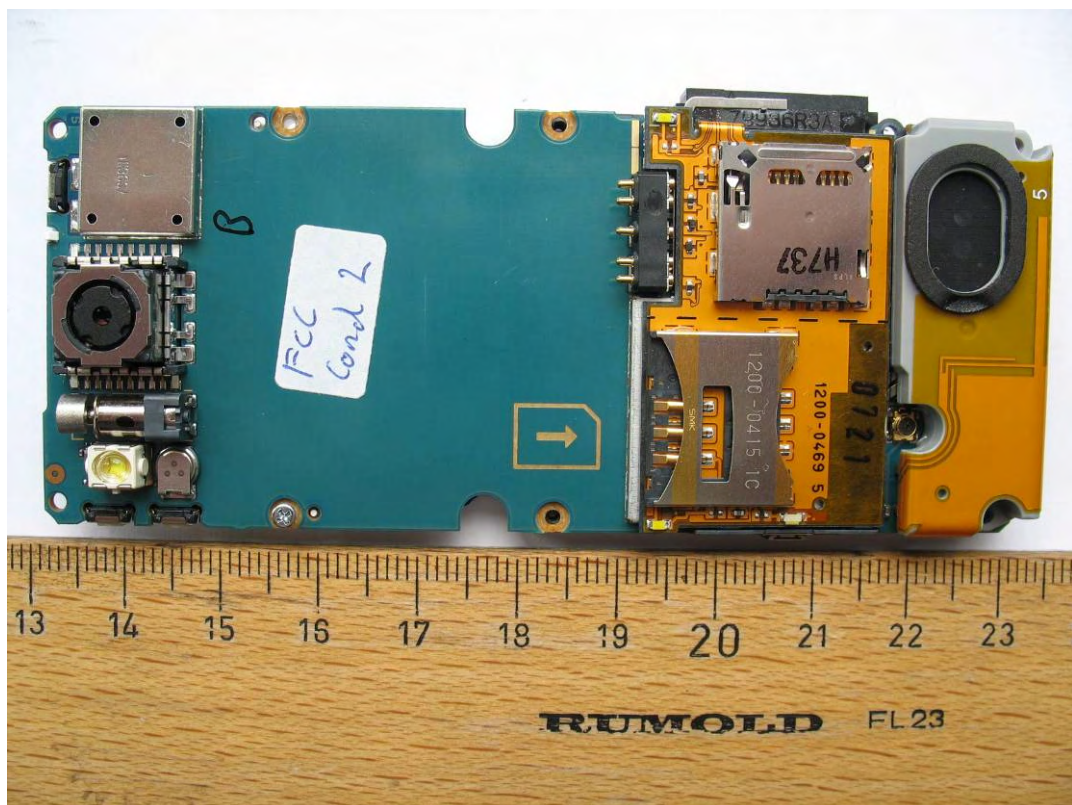


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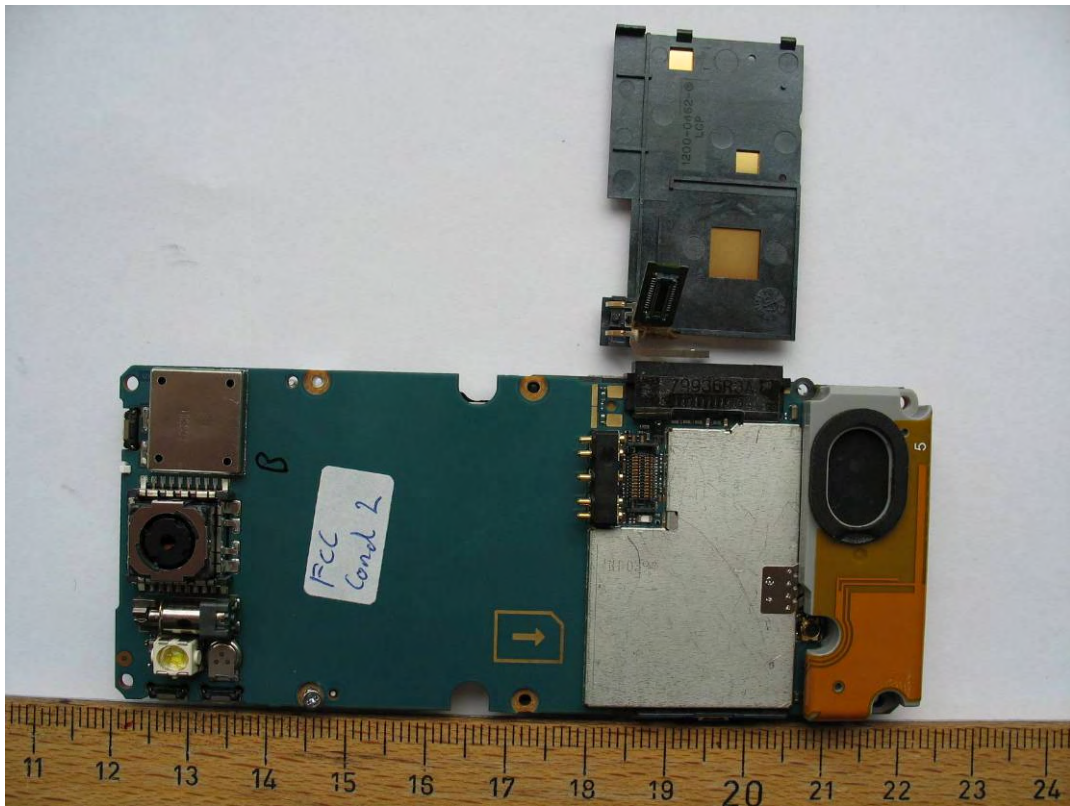


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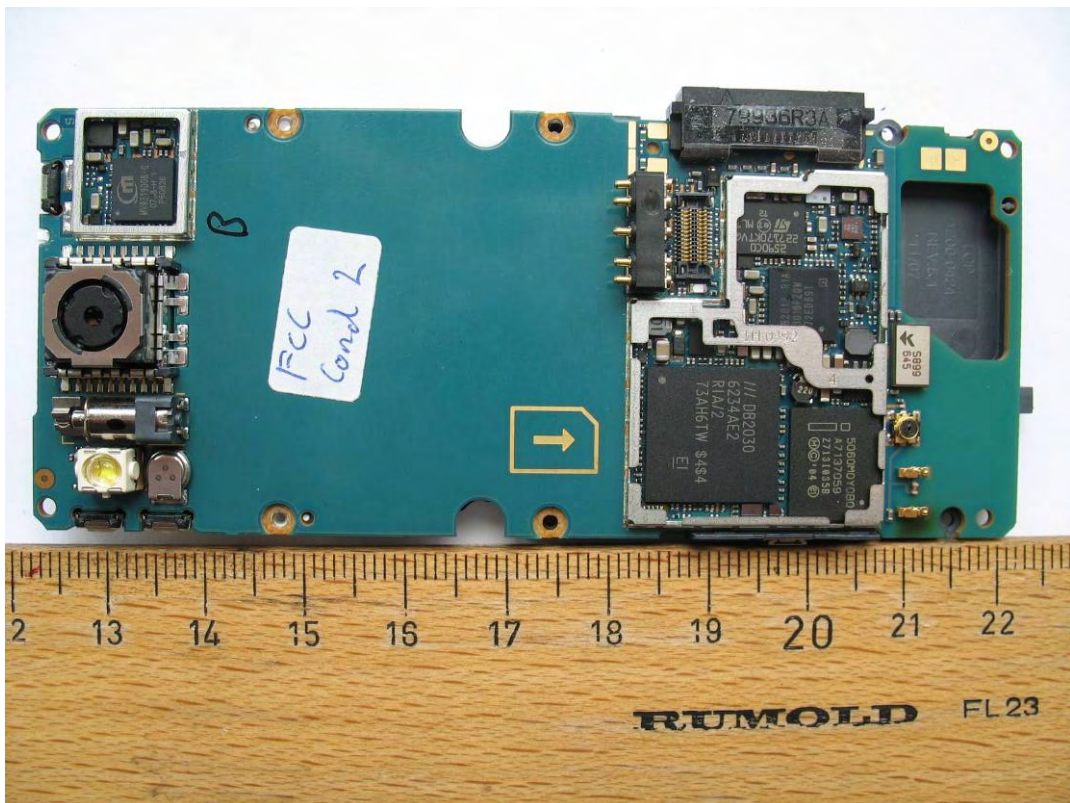


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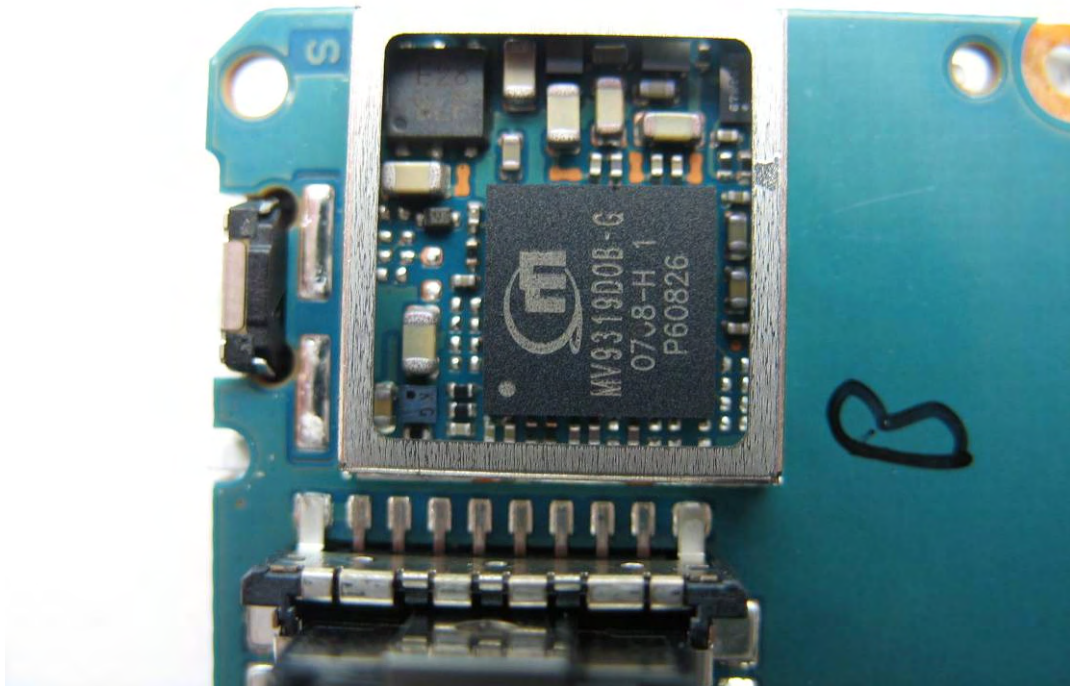


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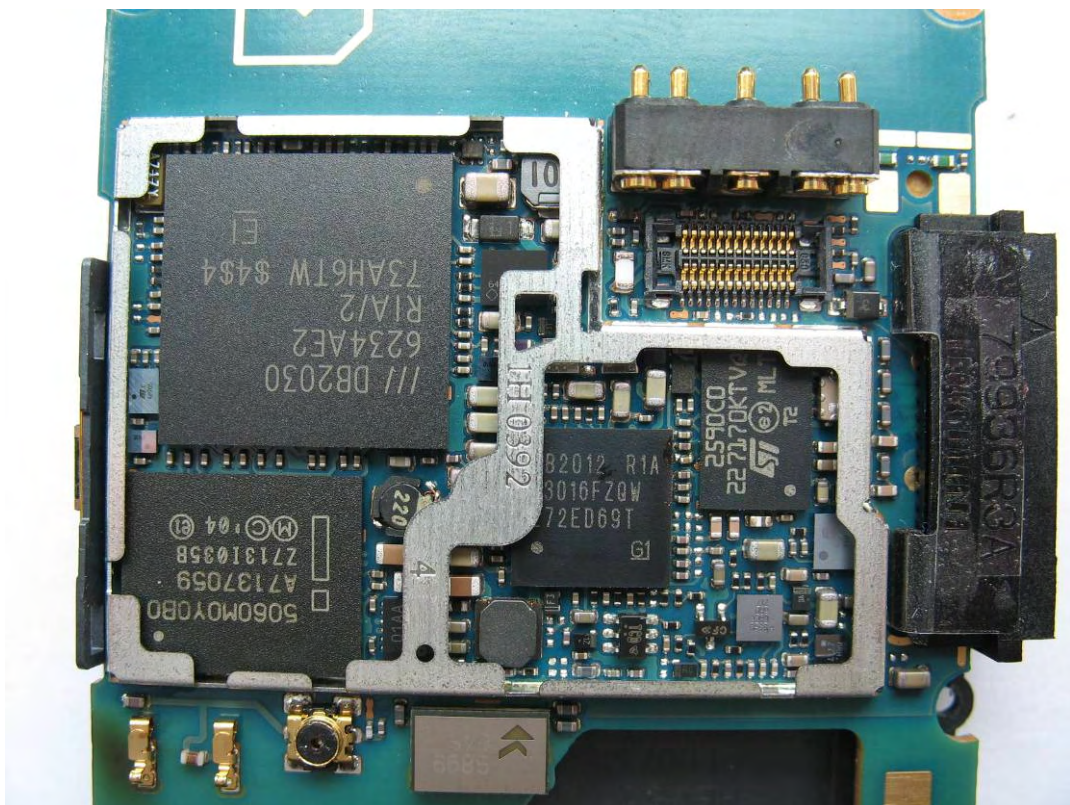


Photo 17:

