

Recognized by the  
Federal Communications Commission  
**Anechoic chamber registration no.: 90462 (FCC)**  
**Anechoic chamber registration no.: 3463 (IC)**  
TCB ID: DE 0001



Accredited by the  
German Accreditation Council  
DAR-Registration Number  
DAT-P-176/94-D1



Independent ETSI  
compliance test house



Accredited Bluetooth<sup>®</sup> Test Facility (BQTF)

**Annex to Test report no. : 2-4094-19-02/05**  
**Applicant : Sony Ericsson Mobile Communications AB**  
**Test Standard : FCC Part 15 / RSS210**

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## 1 General information

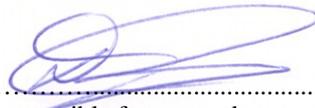
### 1.1 Administrative data of the test facility

#### 1.1.1 Identification of the testing laboratory

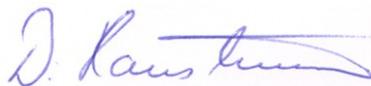
Company name:	Cetecom ICT Services GmbH
Address:	Untertürkheimerstr. 6-10 D-66117 Saarbruecken Germany
Laboratory accreditation:	DAR-Registration No. DAT-P-176/94-D1 Bluetooth Qualification Test Facility (BQTF) Federal Communications Commission (FCC)
Responsible for testing laboratory:	Identification/Registration No : 90462 D. Hausknecht Phone: +49 681 598 0 Fax: +49 681 598 9075 email: info@ict.cetecom.de

### 1.2 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 generalizations 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.



.....  
Responsible for test and test report  
(D. Gillmann)



.....  
Responsible for testing laboratory  
(D. Hausknecht)

## 1.3 Details of Applicant

Name : Sony Ericsson Mobile Communications AB  
Address : Vya Vattentornet  
City : S-22188 Lund  
Country : Sweden  
Phone : + 46 (0) 705757 380  
Fax : + 46 (0) 46 19 32 95  
Contact : Peter Lindeborg  
Phone : + 46 (0) 705757 380  
Fax : + 46 (0) 46 19 32 95  
e-mail : peter.lindeborg@sonyericsson.com

## 1.4 Application Details

Date of receipt of application : 2006-01-23  
Date of receipt of test item : 2006-01-23  
Date(s) of test : 2006-01-24 to 2006-01-26  
Date of report : 2006-01-26

## 1.5 Test Set-up Description

No.: 1 Standard Charger CST-60 with mobile: AAA-1042021-BV



## 1.6 Test Specifications

FCC:	CFR Part 15
IC:	RSS 210, Issue 4

## 2     **Statement of Compliance**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

### 2.1    **Summary of Measurement Results**

#### 2.1.1   **CFR 47 Part 15 Radio frequency devices**

Section in this Report	Test Name	Verdict
4.1	Conducted limits	Pass
4.2	Receiver spurious emission radiated (Idle mode)	Pass

### 3    **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 conform with 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 conform with 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, 9kHz Bandwidth, passive loop antenna.  
30 MHz - 200 MHz: Quasi Peak measurement, 120KHz Bandwidth, biconical antenna  
200MHz - 1GHz: Quasi Peak measurement, 120KHz 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

## 4    Annex A: FCC Part 15 Subpart B

### 4.1    Conducted Limits

#### Reference

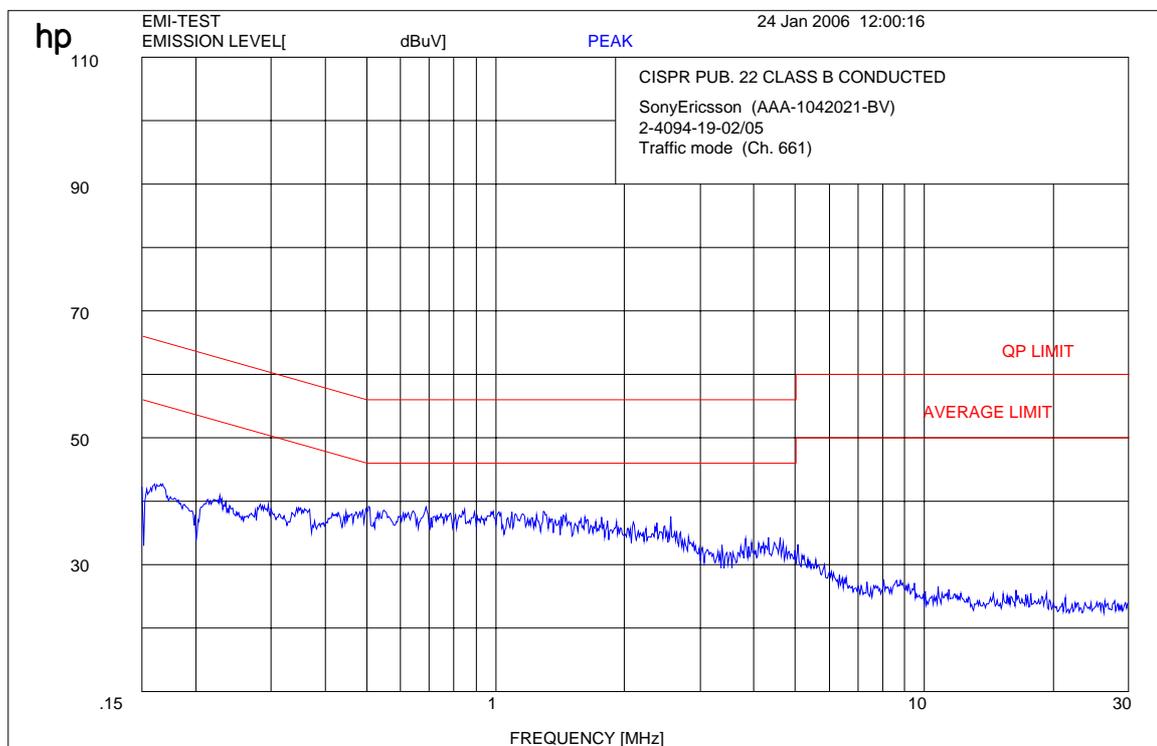
FCC:	CFR Part 15.207, 15.107
IC:	RSS 210, Issue 4, Section 6.6 , 7.4

#### Limits: § 15.107 / 15.207

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ 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

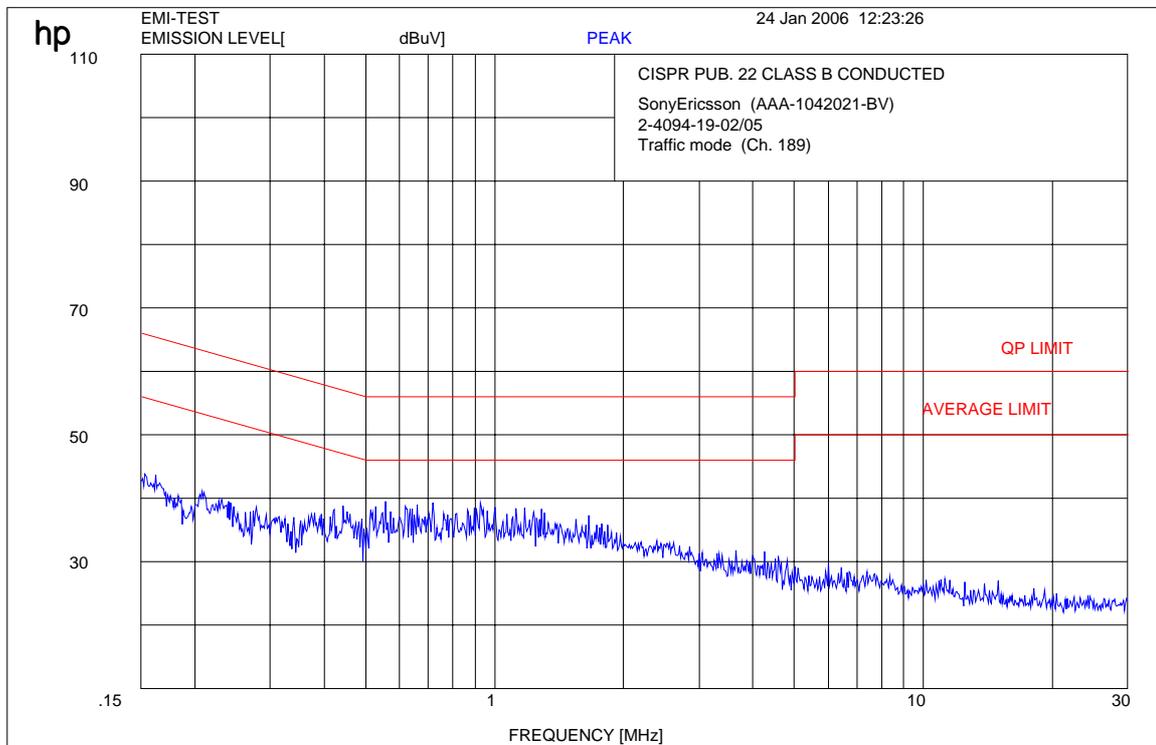
EUT:                               : Standard Charger CST - 60  
  ( with mobile AAA-1042021-BV )  
Power AC (measured)       : 115 V / 60 Hz  
Manufacturer:               : SonyEricsson  
Operating Condition       : Traffic Mode (Part 1900 )  
Test Site:                    : Room 006 (Shielded chamber)  
Operator:                     : Gillmann



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)

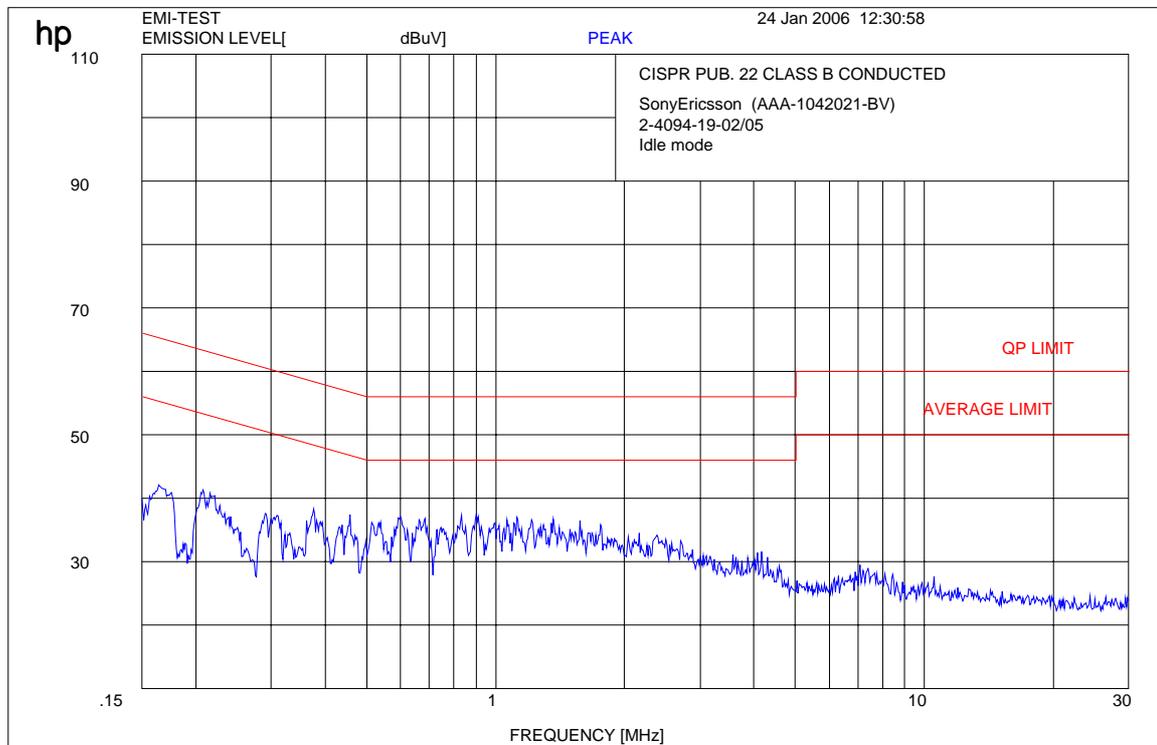
EUT: : Standard Charger CST - 60  
( with mobile AAA-1042021-BV )  
Power AC (measured) : 115 V / 60 Hz  
Manufacturer: : SonyEricsson  
Operating Condition : Traffic Mode (Part 850 )  
Test Site: : Room 006 (Shielded chamber)  
Operator: : Gillmann



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: : Standard Charger CST - 60  
( with mobile AAA-1042021-BV )  
Power AC (measured) : 115 V / 60 Hz  
Manufacturer: : SonyEricsson  
Operating Condition : Idle Mode  
Test Site: : Room 006 (Shielded chamber)  
Operator: : Gillmann



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)

## 4.2 Receiver spurious emission radiated (Idle mode)

### Reference

FCC:	CFR Part SUBCLAUSE § 15.109
IC:	RSS 210, Issue 5, Section 7.3 Receiver Spurious Emissions (Radiated)

SPURIOUS EMISSIONS LEVEL ( $\mu\text{V/m}$ )								
850 MHz			1900 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 traceable peak found			No traceable peak found					
Measurement uncertainty			±3 dB					

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

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

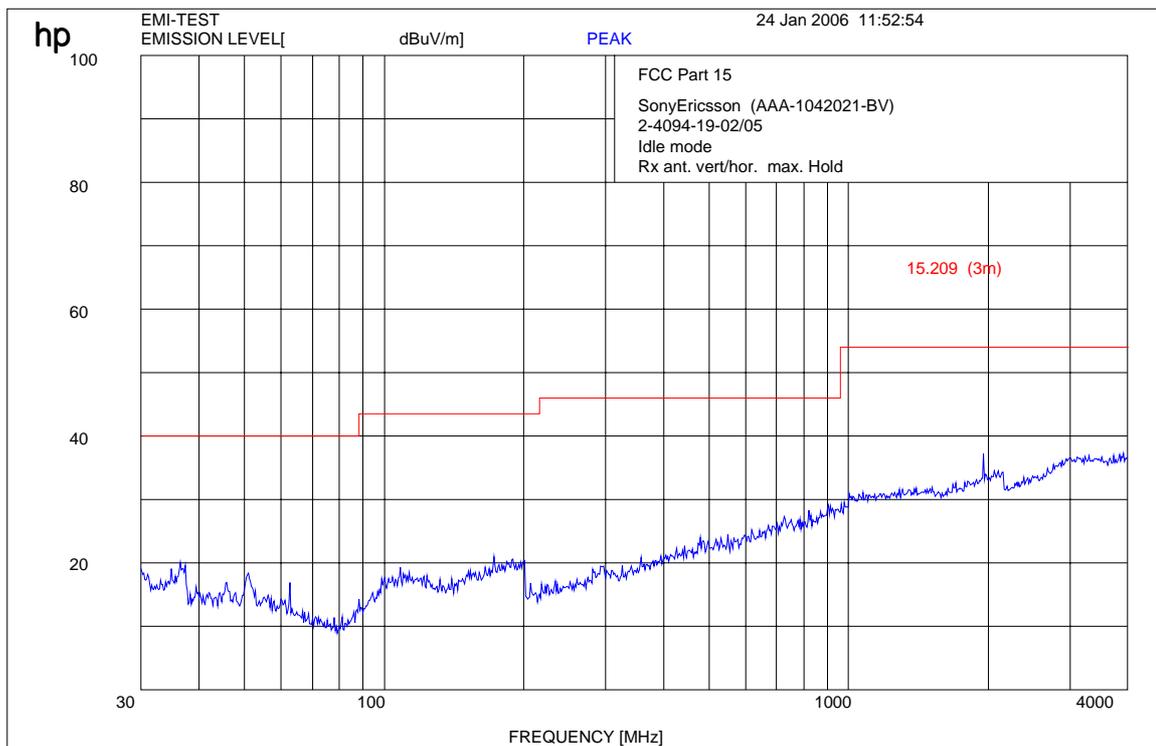
### Limits

### 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

EUT: : Standard Charger CST - 60  
( with mobile AAA-1042021-BV )  
Power AC (measured) : 115 V / 60 Hz  
Manufacturer: : SonyEricsson  
Operating Condition : Idle Mode

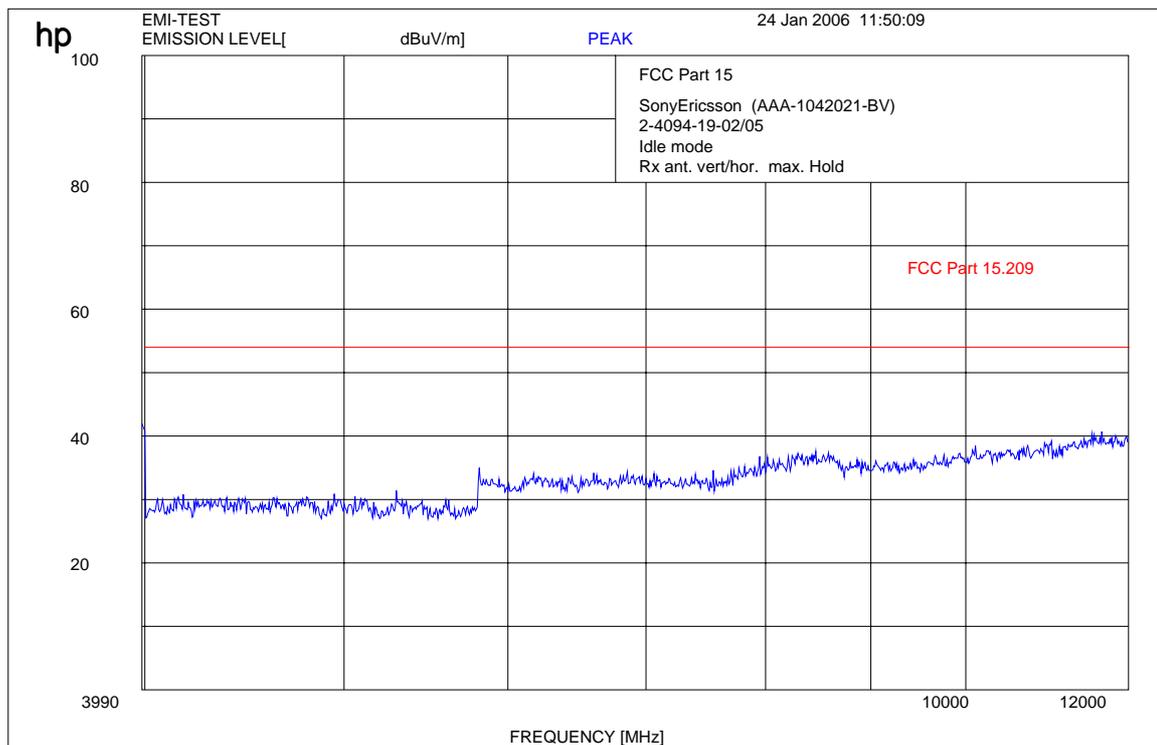
### RX (30 MHz to 4 GHz)



Setting : < 1 000 MHz RBW/VBW 100 kHz  
> 1 000 MHz : RBW/VBW 1 MHz

EUT:                               : Standard Charger CST - 60  
  ( with mobile AAA-1042021-BV )  
Power AC (measured)       : 115 V / 60 Hz  
Manufacturer:               : SonyEricsson  
Operating Condition        : Idle Mode

## RX (4 GHz to 12 GHz)



Setting : > 1 000 MHz : RBW/VBW    1 MHz

EUT: : Standard Charger CST - 60  
( with mobile AAA-1042021-BV )  
Power AC (measured) : 115 V / 60 Hz  
Manufacturer: : SonyEricsson  
Operating Condition : Idle Mode

**RX (12 GHz to 25 GHz)**



Marker 1 [T1]

RBW 1 MHz RF Att 0 dB

Ref Lvl -49.17 dBm

VBW 1 MHz

15 dBm

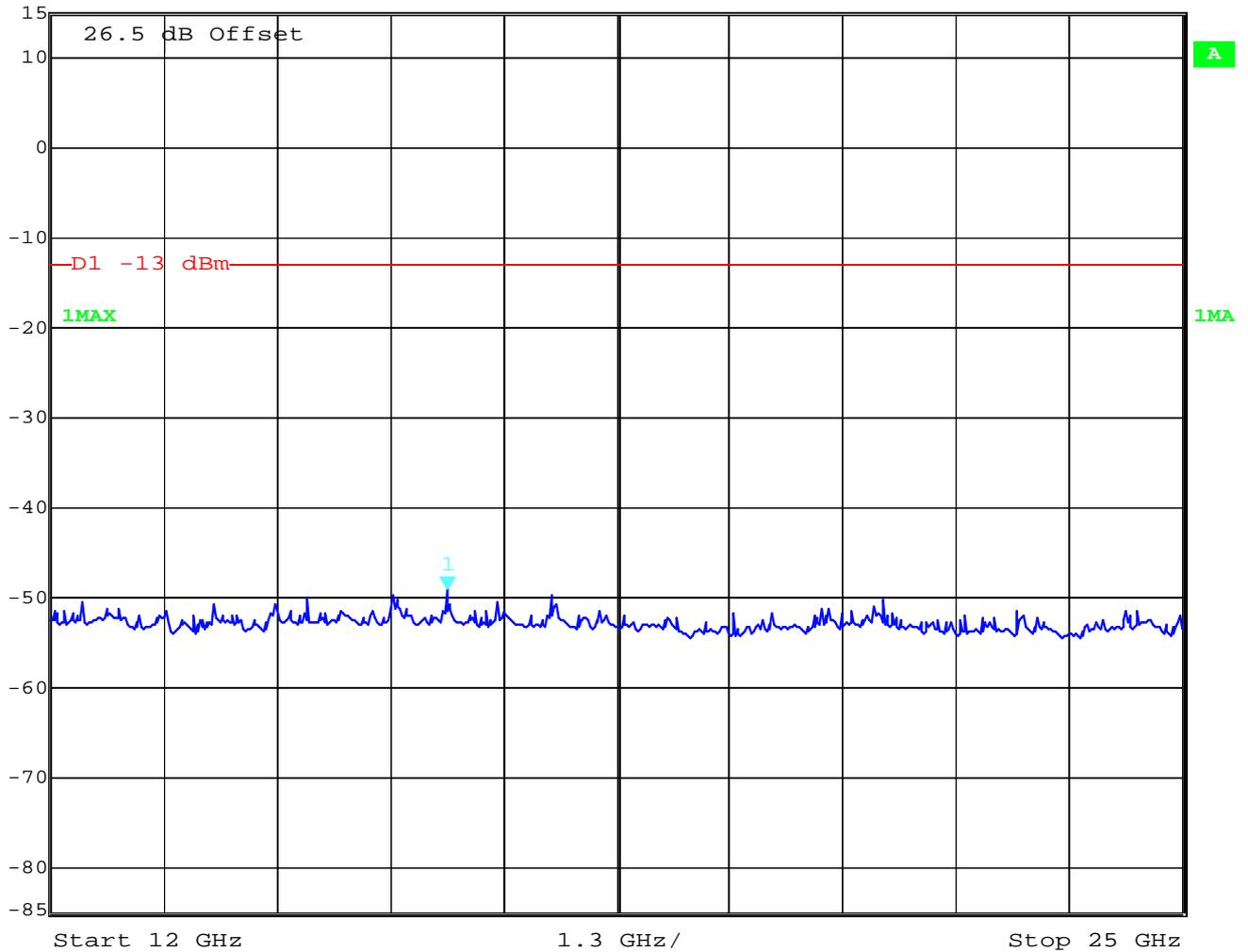
16.55911824 GHz

SWT

74 ms

Unit

dBm



Date: 25.JAN.2006 10:12:30

## 5 Used Testequipment

Device	Manufacturer	Type	S/N Number	Inv. No. Cetecom
Spektrum Analyser	HP	8566B	2747A05306	300001000
Spektrum Analyser Display	HP	85662A	2816A16541	300002297
Quasi-Peak-Adapter	HP	85650A	2811A01131	300000999
Power Dupply	HP	6032A	2818A03450	300001040
Power Attenuator	Byrd	8325	1530	300001595
Bikonical Antenna	EMCO	3104	3758	300001602
Log. Period. Antenna	EMCO	3146	2130	300001603
Double Ridged Antenna	EMCO	HP 3115P	3088	300001032
Active Loop Antenna	EMCO	6502	2210	300001015
Antenna VDE/FCC		HP11965B		300002298
SRM-Drive	HP	9144A	2823e46556	300001044
Software	HP	EMI		300000983
Busisolator	Kontron			300001056
Absorberhalle	MWB		87400/02	300000996
Salzsäule	Kontron			300001055
Antenna	R&S	HMO20	832211/003	300002243
Indukt.Tast Antenna	R&S	HFH 2 Z4	881468/026	300001464
System-Rack	HP I.V.	85900	*	300000222
Spectrum Analyzer	HP	8566B	2747A05275	300000219
Quasi-Peak-Adapter	HP	85650A	2811A01135	300000216
RF-Preselector	HP	85685A	2837A00779	300000218
Rahmen Antenne	R&S	HFH2-Z2	891847-35	300001169
Leitungsteiler	HP	11850C		300000997
Breitband-Hornantenne EMI	HP	35155P		300002300
PC	HP	Vectra VL		300001688
VHF Meßantenne	Schwarzbeck	VHA 9103		300001778
Spectrum Analyzer Display	HP	85662A	2816A16497	300001690
VHF Meßantenna	Schwarzbeck	VHA 9103		300001780
Biconical Antenna	EMCO	3104 C	9909-4868	300002590

### SRD Laboratory:

Device	300001207	Type	S/N Number	Inv. No. Cetecom
Spectrum Analyzer	300001208	494AP	B010241	300000863
Spectrum Analyzer	HP	71210A (70000)	2731A02347	300000321
Spectrum Analyzer Display	HP	70206A	2840A01553	300002017
Reference Frequency	HP	70310A	2736A00707	300002018
Local Oscillator	HP	70900A	2842A02221	300002019
ZF-Modul 10Hz-300 kHz	HP	70902A	2840A02145	300002020
ZF-Modul 100 kHz-3 MHz	HP	70903A	2835A01069	300002021
HF-Teil für 71210A 100Hz- 22GHz	HP	70908A		300002022
Spectrum Analyzer 2	HP	85660B	3138A07614	
Spectrum Analyzer Display 2	HP	85662A	3144A20627	

Signal Generator DC-600 KHz	HP	8904A	2822A01213	300001157
Signal Generator DC-600 KHz	HP	8904A	2822A01214	300001158
Powersupply	HP	6038A	3122A11097	300001204
Netznachbildung	R&S	ESH3-Z5	828576/020	300001210
Amplituden Controller	R&S	SMDU-Z2	871829/051	300002309
Trenntrafo	Erfi	913501		300001205
Trenntrafo	Grundig	RT5A	9242	300001627
Relais Matrix	HP	3488A	2719A15013	300001156
Multimeter	Siemens	Multizet		300001102
Peak Power Calibrator	HP	8900B		300001084
Schallgeber	Schomandl	SG 1	10159	300001209
Schallgeber	Schomandl	SG 2	10176	300002473
Filter	FSY Microwave			300001206
Attenuatorer	Pro Nova			300002476
Klimaschrank	Heraeus Voetsch	VUK04/500		300001012
Spectrum Analyzer 3	HP	8566A	1925A00257	300001098
Spectrum Analyzer Display 3	HP	85662	1925A00860	300002306
Oszilloscope	Tektronix	2432	110261	300001165
Radiocom. Analyzer	R&S	CMTA 54	894043/010	300001175
Powersupply	HP	6038A	2848A07027	300001174
Signal Generator 0.01-1280 MHz	HP	8662A	2224A01012	300001110
Signal Generator (Funkions)	R&S	AFGU	862490/032	300001201
Trenntrafo	Erfi	MPL	91350	300001155
Relais Matrix	R&S	PSU	893285/020	300001173
Power Meter	HP	436A	2101A12378	300001136
Powersensor	HP	8484A	2237A10156	300001140
Powersensor	HP	8482A	2237A06016	300001139
Relais Matrix	R&S	PSU	282628/004	300001214
Powersupply	Zentro		2007	300001109
Oszilloscope	Tektronix	7633		300001111
Klimaschrank	Heraeus Voetsch	VUK04/500	32926	300001500
Quasi-Peak Adapter	HP	85650A	2811A01204	300002308
Radiocom. Analyzer	R&S	CMTA 84	894199/012	300001176
Oszilloscope	HP	54510A	3022A02062	300001202
Funkmeßplatz	Schomandl	FD1000	34982	300001115
Signal Generator	R&S	SMPC	882416/019	300001162
Frequency counter	HP	5340A	2116A08138	300001104
Power Meter	HP	436A	2031U01461	300001105
Powersensor	HP	8482A		300001106
Powersensor	HP	8484A		300001107
Powersensor	HP	8485A		300001108
Powersupply	HP	6038A	2752A04866	300001161
Reflectionsmeter	R&S	NAP	879191	300001132
Signal Generator NF	R&S	SPN	880139/068	300001142
Trenntrafo	Erfi	MPL	91350	300001151
Attenuator	JFW	30 db	1350h/104	300001703
Attenuator	JFW	10 db	1350h/103	300001704
Attenuator	JFW	20 db	1350h/106	300001705
Attenuator	JFW	20 db	1350h/105	300001766
Filter	Spinner	153755		300001791

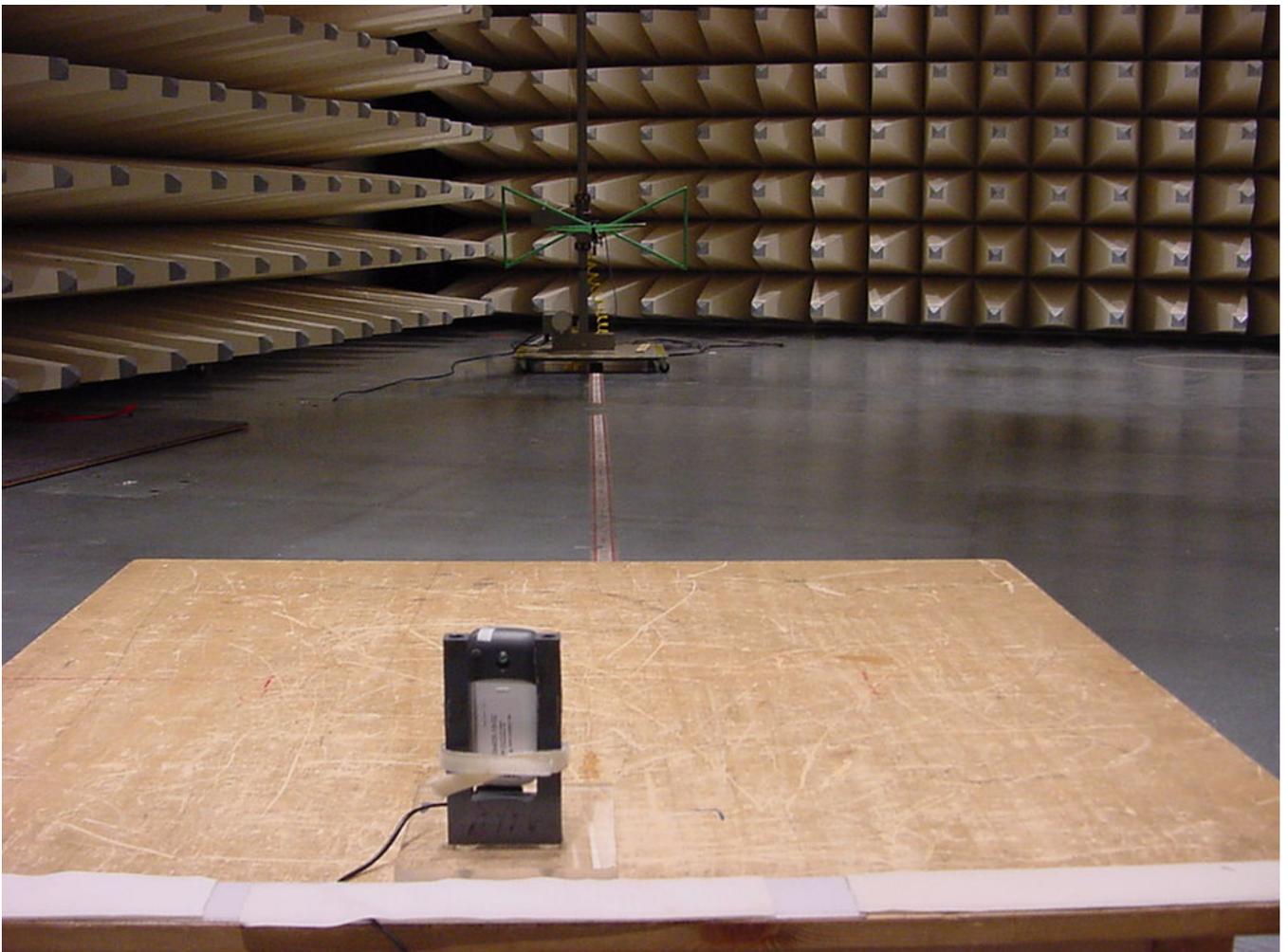
Powersensor	HP	8484A	2237A10494	300001666
Powersupply	HP	6038A	3122A11097	300001204
Netznachbildung	R&S	ESH3-Z5	828576/020	300001210
Amplituden Controller	R&S	SMDU-Z2	871829/051	300002309
Trenntrafo	Erfi	913501		300001205
Trenntrafo	Grundig	RT5A	9242	300001627
Relais Matrix	HP	3488A	2719A15013	300001156
Multimeter	Siemens	Multizet		300001102
Peak Power Calibrator	HP	8900B		300001084
Schallgeber	Schomandl	SG 1	10159	300001209
Schallgeber	Schomandl	SG 2	10176	300002473
Filter	FSY Microwave			300001206
Attenuatorer	Pro Nova			300002476
Klimaschrank	Heraeus Voetsch	VUK04/500		300001012
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Spectrum Analyzer Display 3	HP	85662	1925A00860	300002306
Oszilloscope	Tektronix	2432	110261	300001165
Radiocom. Analyzer	R&S	CMTA 54	894043/010	300001175
Powersupply	HP	6038A	2848A07027	300001174
Signal Generator 0.01-1280 MHz	HP	8662A	2224A01012	300001110
Signal Generator (Funkions)	R&S	AFGU	862490/032	300001201
Trenntrafo	Erfi	MPL	91350	300001155
Relais Matrix	R&S	PSU	893285/020	300001173
Power Meter	HP	436A	2101A12378	300001136
Powersensor	HP	8484A	2237A10156	300001140
Powersensor	HP	8482A	2237A06016	300001139
Relais Matrix	R&S	PSU	282628/004	300001214
Powersupply	Zentro		2007	300001109
Oszilloscope	Tektronix	7633		300001111
Klimaschrank	Heraeus Voetsch	VUK04/500	32926	300001500
Quasi-Peak Adapter	HP	85650A	2811A01204	300002308
Radiocom. Analyzer	R&S	CMTA 84	894199/012	300001176
Oszilloscope	HP	54510A	3022A02062	300001202
Funkmeßplatz	Schomandl	FD1000	34982	300001115
Signal Generator	R&S	SMPC	882416/019	300001162
Frequency counter	HP	5340A	2116A08138	300001104
Power Meter	HP	436A	2031U01461	300001105
Powersensor	HP	8482A		300001106
Powersensor	HP	8484A		300001107
Powersensor	HP	8485A		300001108
Powersupply	HP	6038A	2752A04866	300001161
Reflectionsmeter	R&S	NAP	879191	300001132
Signal Generator NF	R&S	SPN	880139/068	300001142
Trenntrafo	Erfi	MPL	91350	300001151
Attenuator	JFW	30 db	1350h/104	300001703
Attenuator	JFW	10 db	1350h/103	300001704
Attenuator	JFW	20 db	1350h/106	300001705
Attenuator	JFW	20 db	1350h/105	300001766
Filter	Spinner	153755		300001791
Powersensor	HP	8484A	2237A10494	300001666

## 6 Annex B: Photographs of Test site

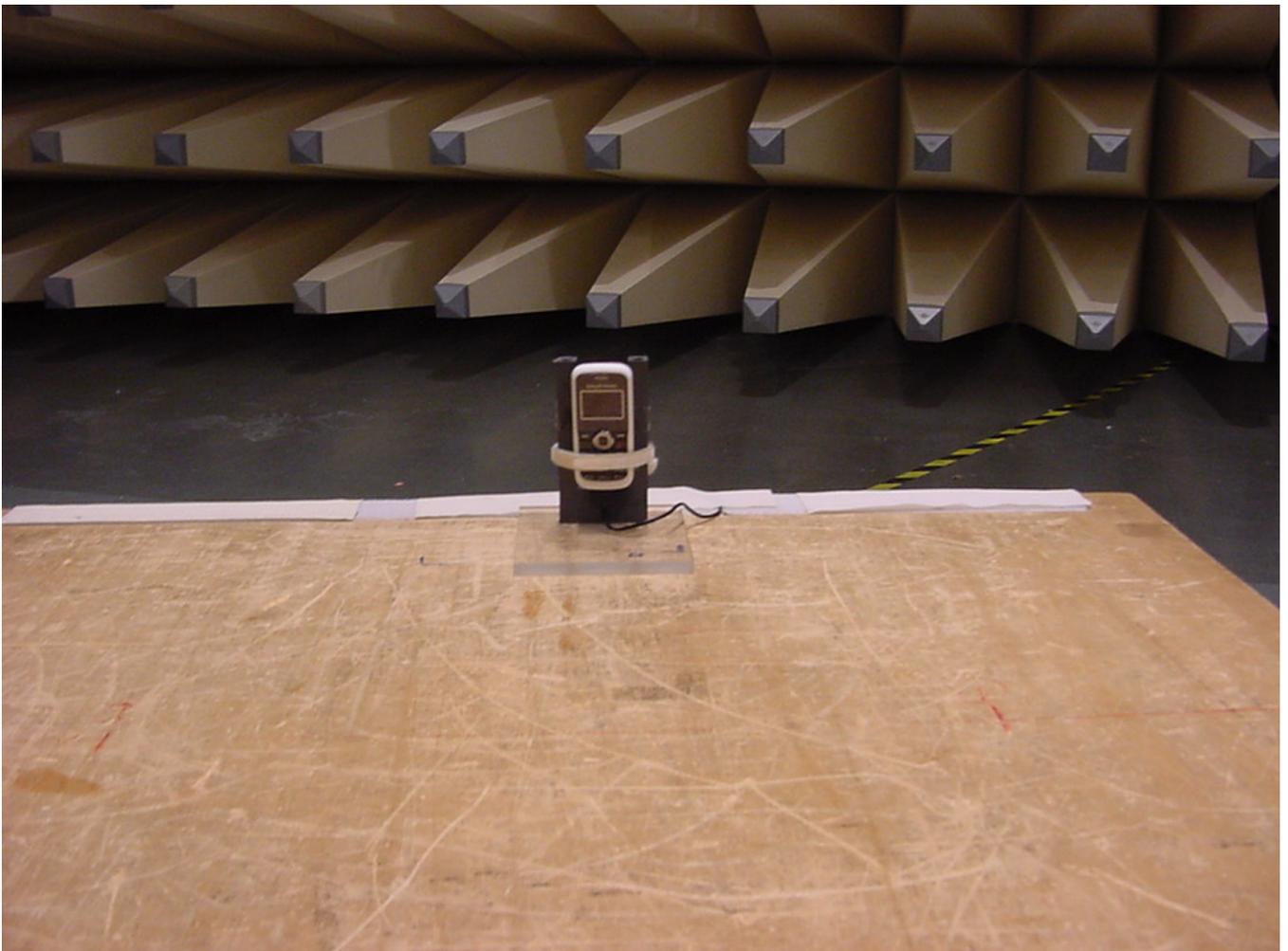
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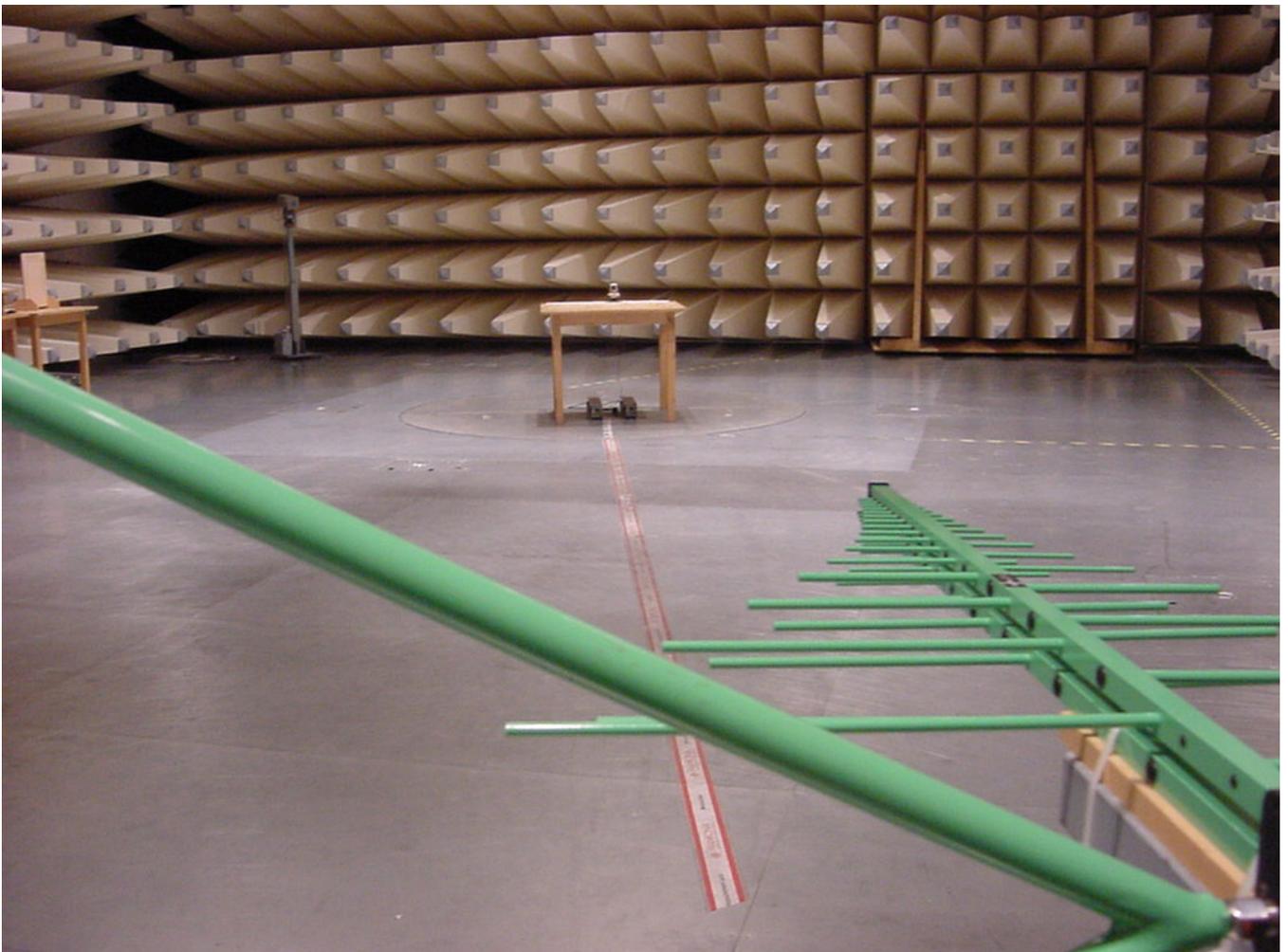
## Photo 2 (Radiated Emissions):



**Photo 3 (Radiated Emissions):**



**Photo 4 (Radiated Emissions):**



**Photo 5 (Conducted Emissions):**



## 7 Annex C: External Photographs of the Equipment

**Photo 1 (Radiated Emissions):**



**Photo 2**



## Annex D: Internal Photographs of the Equipment

### Photo 1 (Radiated Emissions):



## Photo 2



**Photo 3**



**Photo 4**



Photo 5

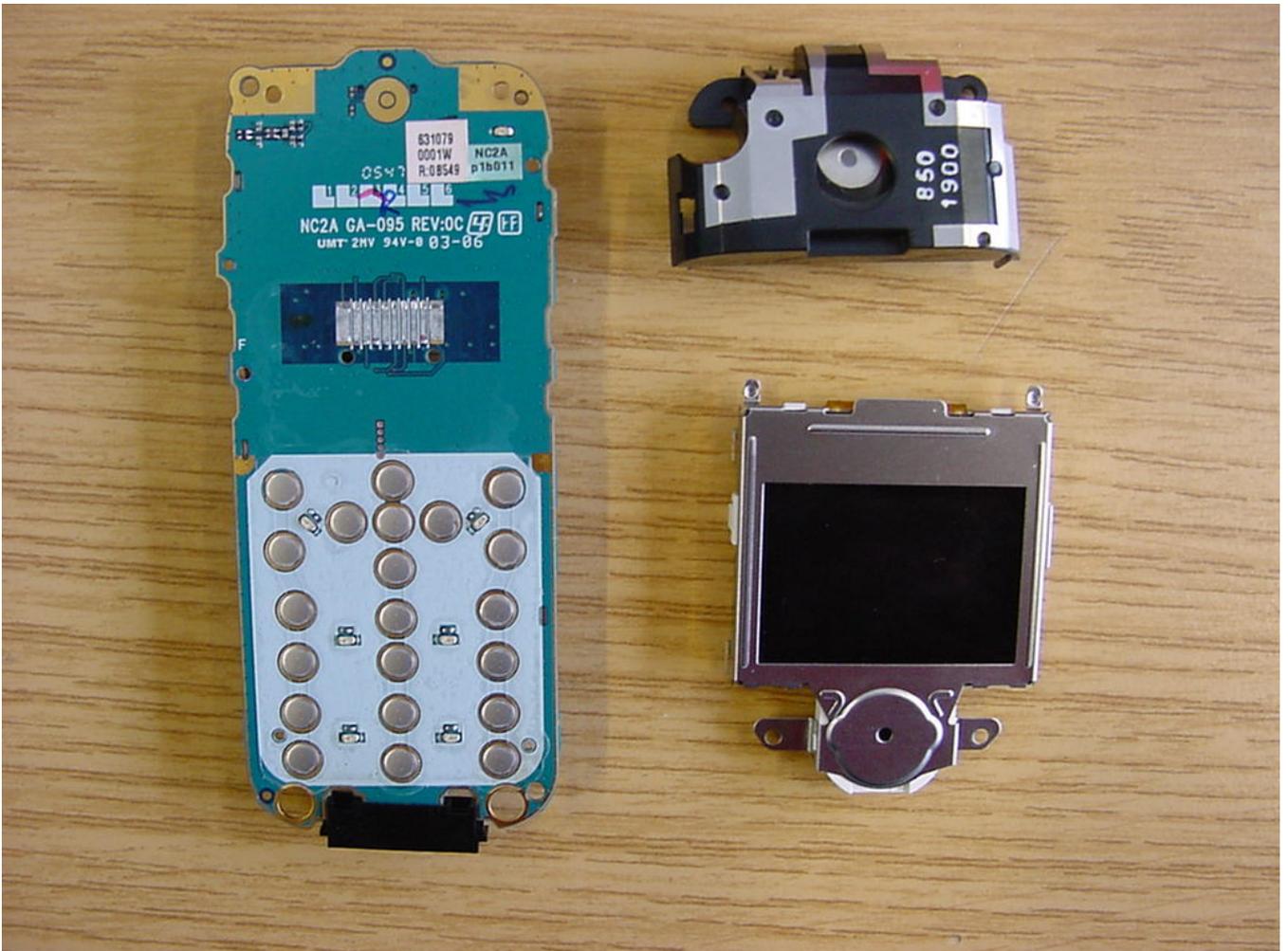
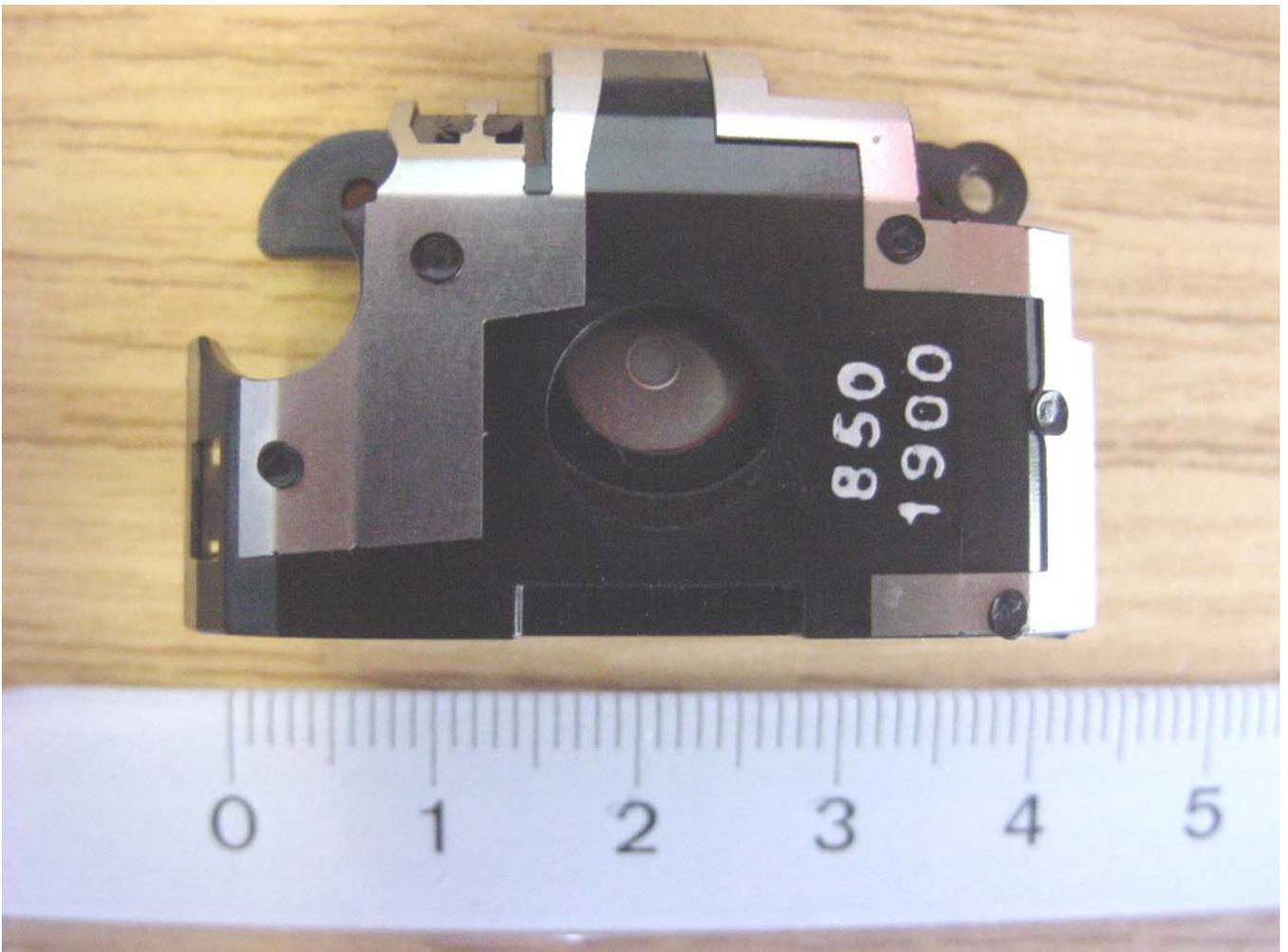
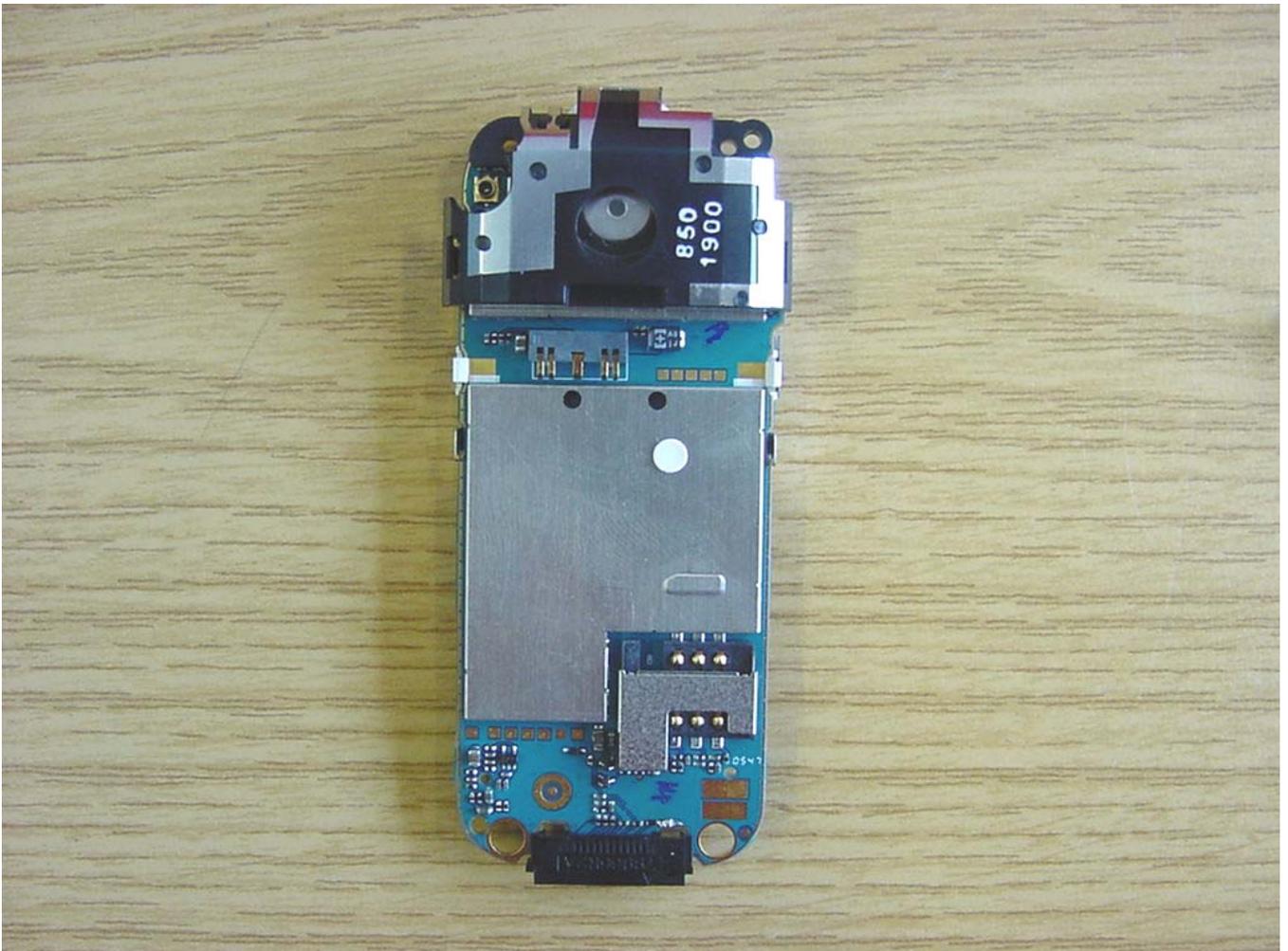


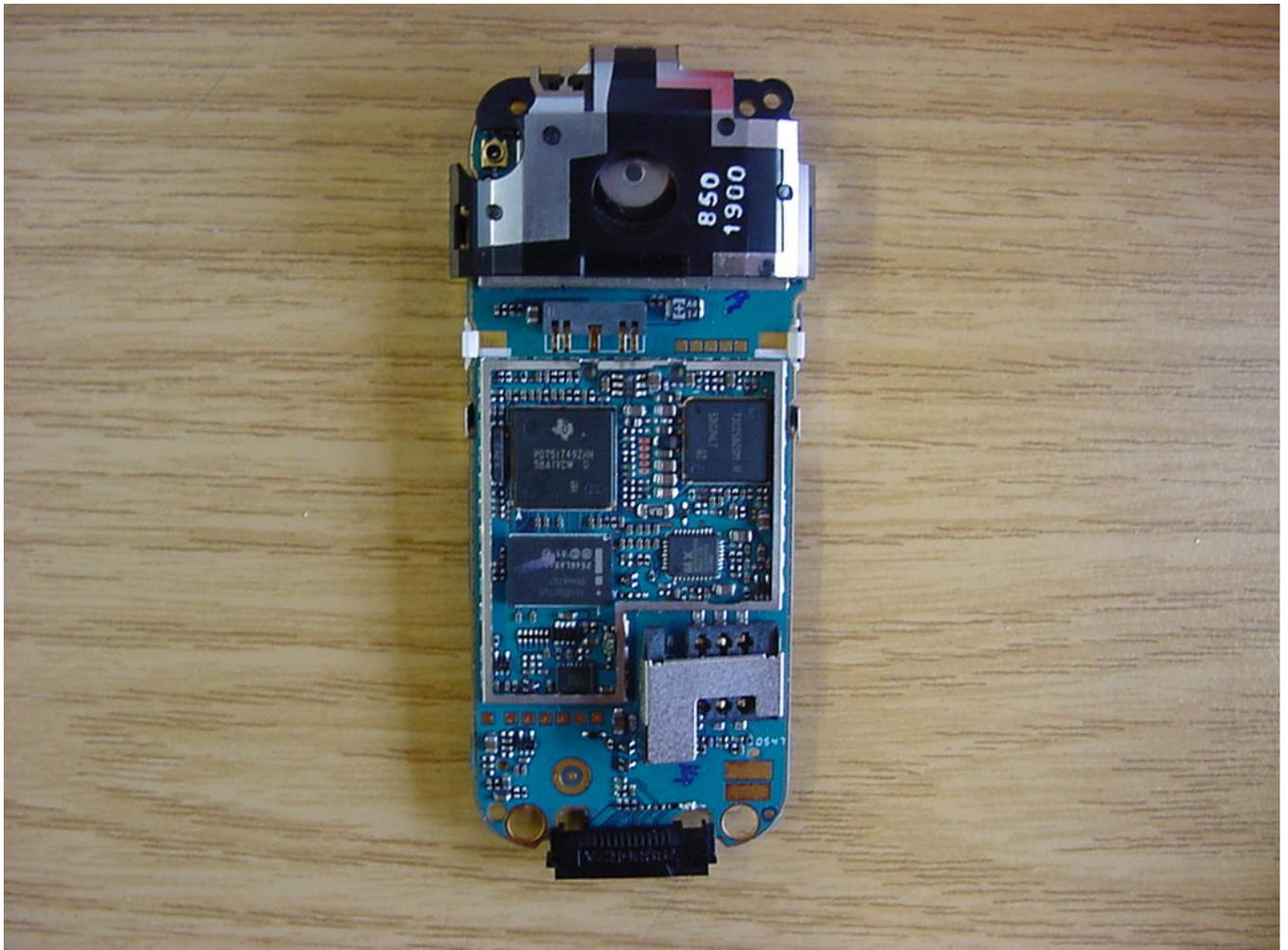
Photo 6



**Photo 7**



**Photo 8**



**Photo 9**

