



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.: 3462C-1 (IC)

Certification ID: DE 0001

Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

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**Annex to Test
report no. : 1-1290-01-09/09**
Type identification : OT8x0
Applicant : Sagem Wireless
FCC ID : M9HOT8X0
IC Certification No : 2599N-OT8X0
Test standards : 47 CFR Part 15
ICES-003 Issue 4

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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 2.2. 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:

2009-09-31

Date

Meheza K. Walla

Name



Signature

Technical responsibility for area of testing:

2009-09-31

Date

Stefan Boes

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:	Sagem Wireless
Street:	2, rue du Petit Albi
Town:	95801 Cergy Pontoise Cedex
Country:	France
Telephone:	86-574-27960929
Fax:	86-574-27960000
Contact:	Ms. Xinni Yang
E-mail:	Xinni.Yang@sagemwireless.com.cn
Telephone:	86-574-27960929

1.4 Application details

Date of receipt of order:	2009-08-14
Date of receipt of test item:	2009-08-14
Date of start test:	2009-08-17
Date of end test	2009-09-31
Persons(s) who have been present during the test:	-/-

2 Technical tests

2.1 Details of manufacturer

Name:	Sagem Wireless
Street:	2, rue du Petit Albi BP 28250
Town:	95801 Cergy Pontoise Cedex
Country:	France

2.2 Test item(s) and test configuration

No.: 1 DCH3-050EU EU Charger with OT8x0



No.: 2 DCH3-050US US Charger with OT8x0



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
0	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, 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:	ICES-003 Issue 4

Limits:

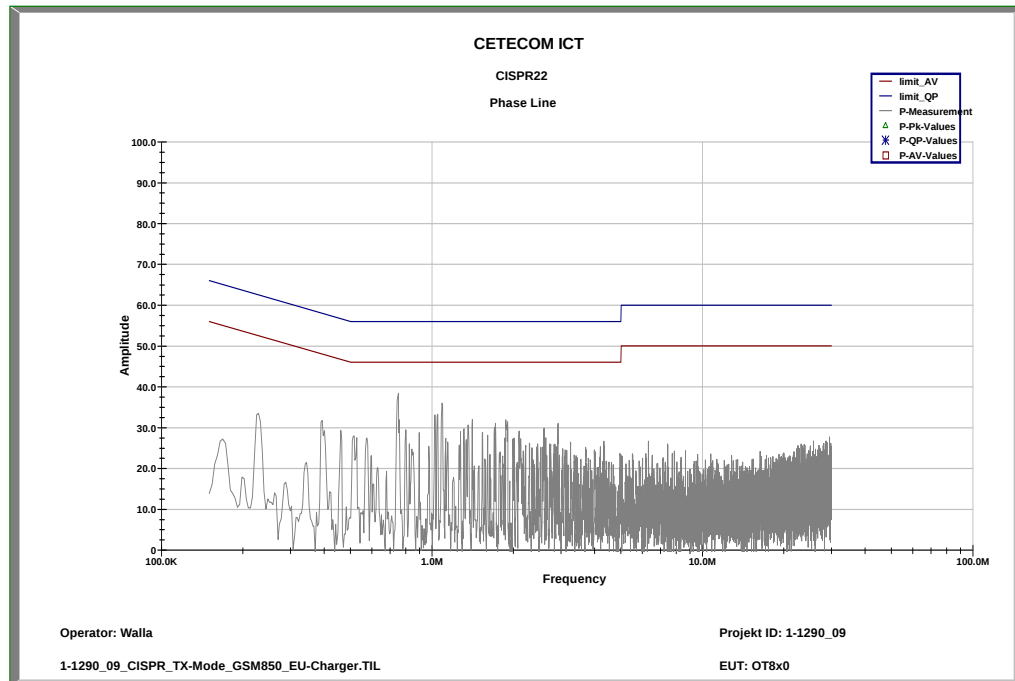
§ 15.107 / 15.207

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

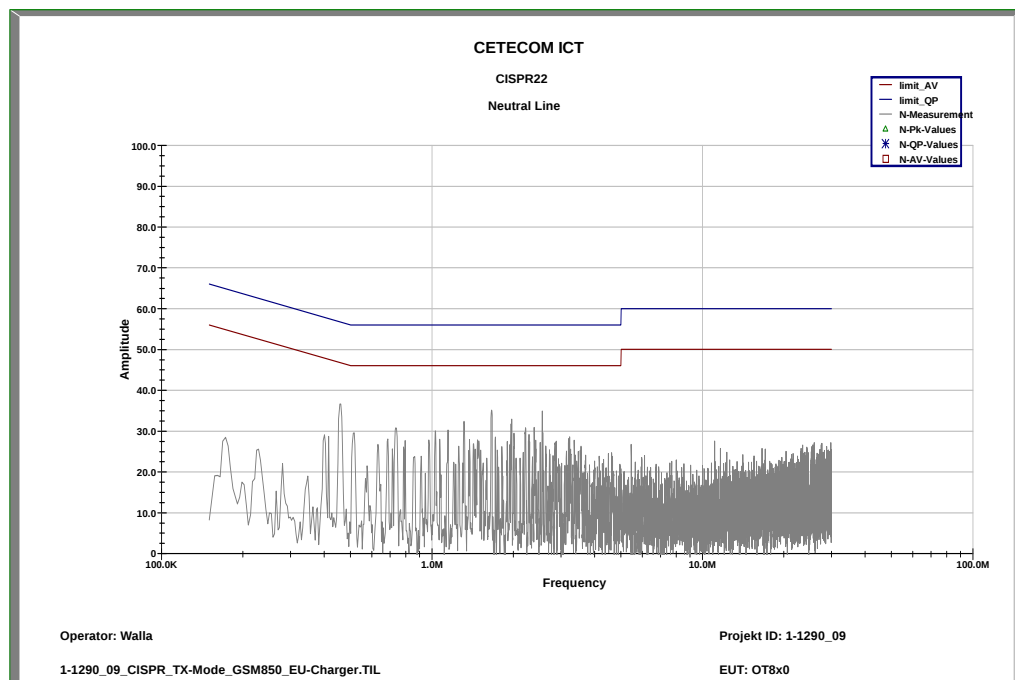
* Decreases with the logarithm of the frequency

GSM 850, EU Charger:

Plot 1: GSM 850 – Phase Line (150 kHz – 30 MHz)

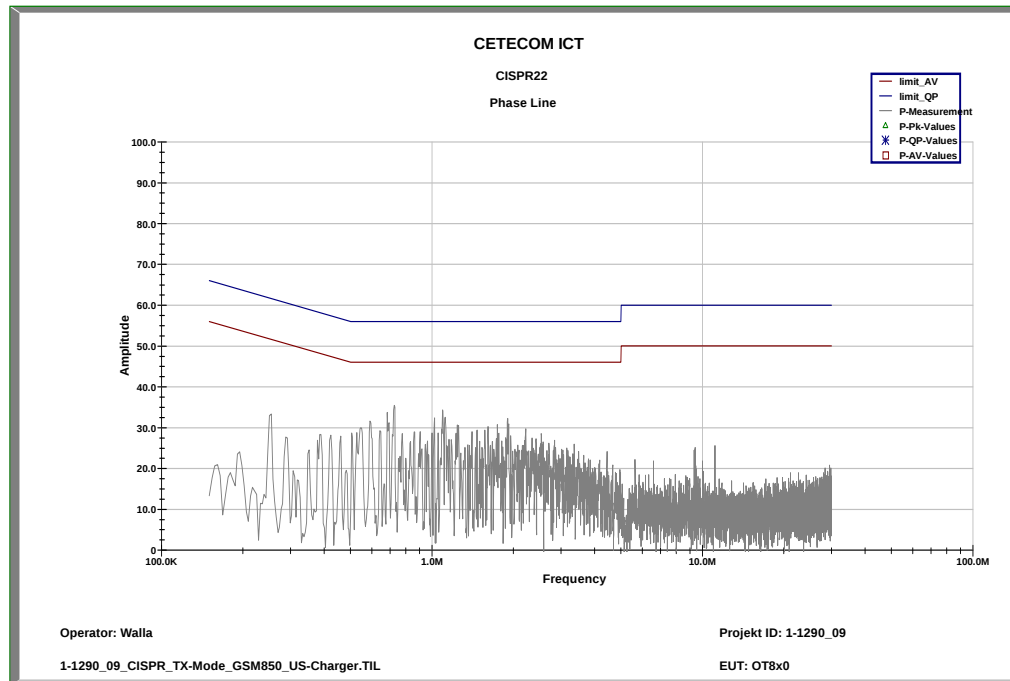


Plot 2: GSM 850 – Neutral Line (150 kHz – 30 MHz)

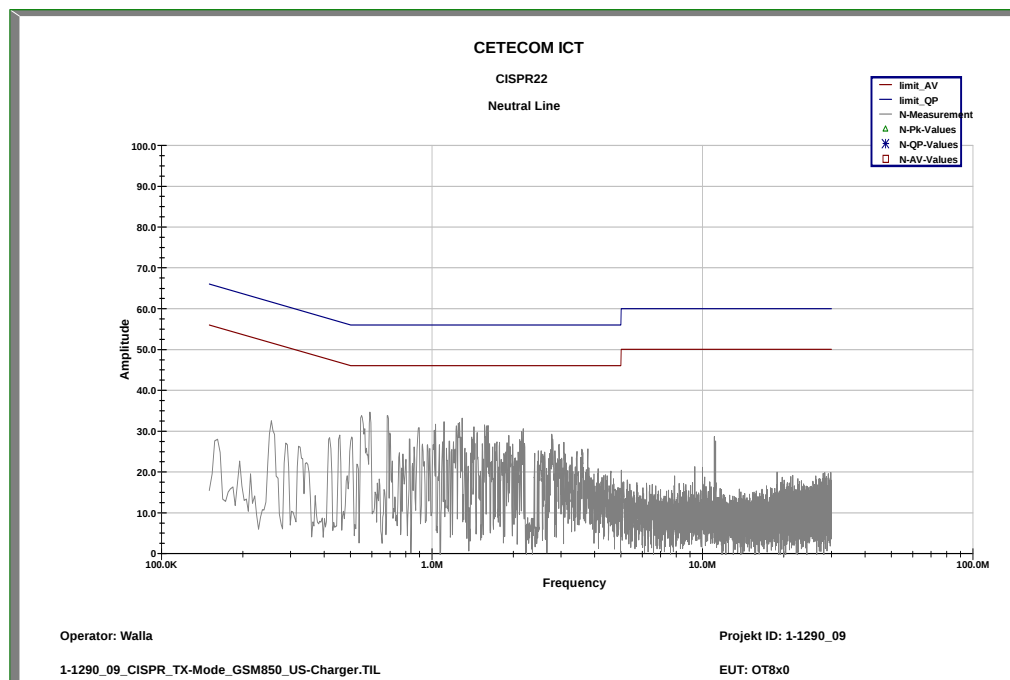


GSM 850, US Charger:

Plot 3: GSM 850 – Phase Line (150 kHz – 30 MHz)

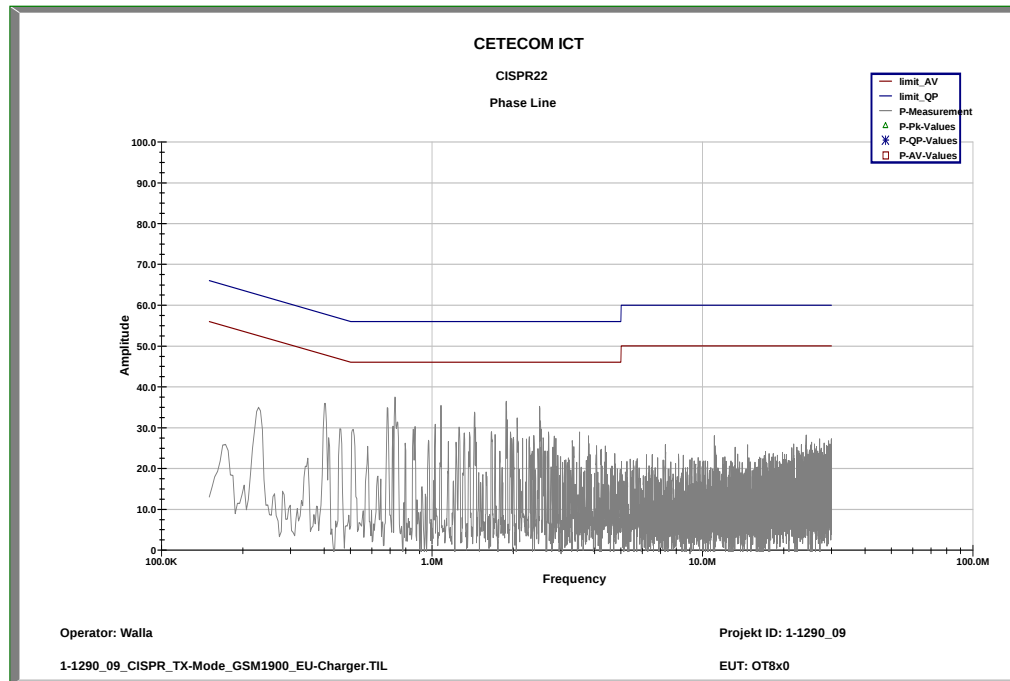


Plot 4: GSM 850 – Neutral Line (150 kHz – 30 MHz)

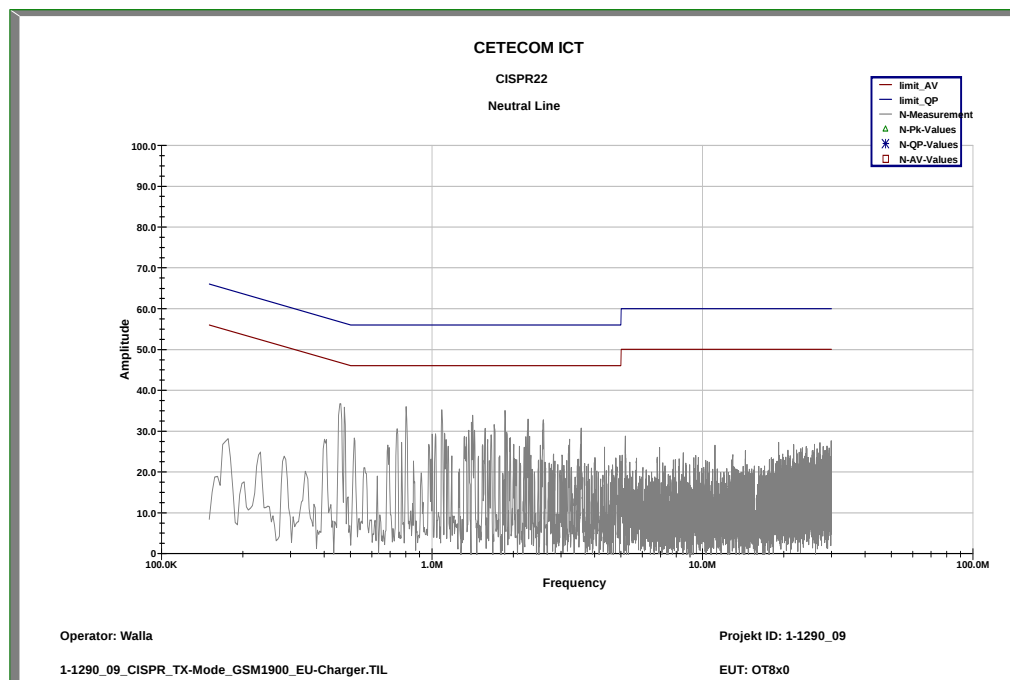


GSM 1900, EU Charger:

Plot 5: GSM 1900 – Phase Line (150 kHz – 30 MHz)

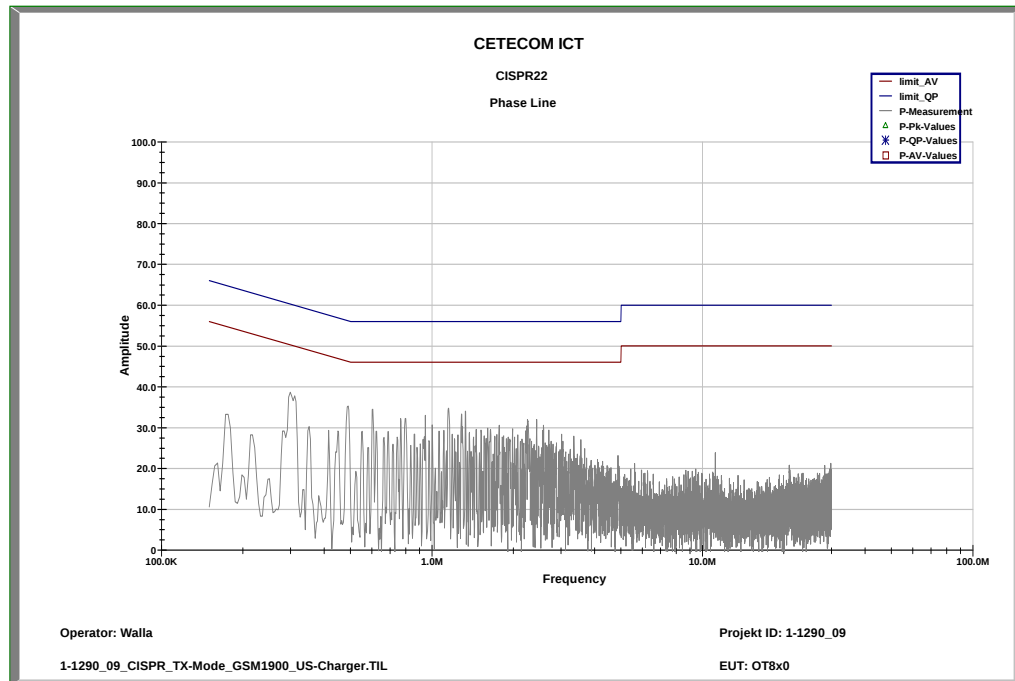


Plot 6: GSM 1900 – Neutral Line (150 kHz – 30 MHz)

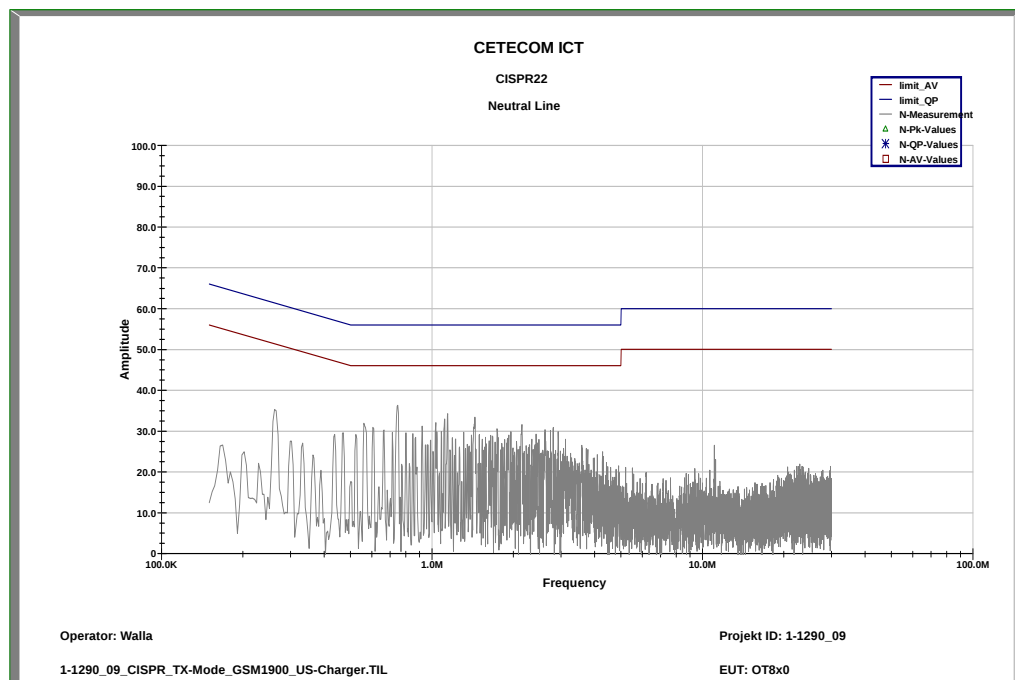


GSM 1900, US Charger:

Plot 7: GSM 1900 – Phase Line (150 kHz – 30 MHz)

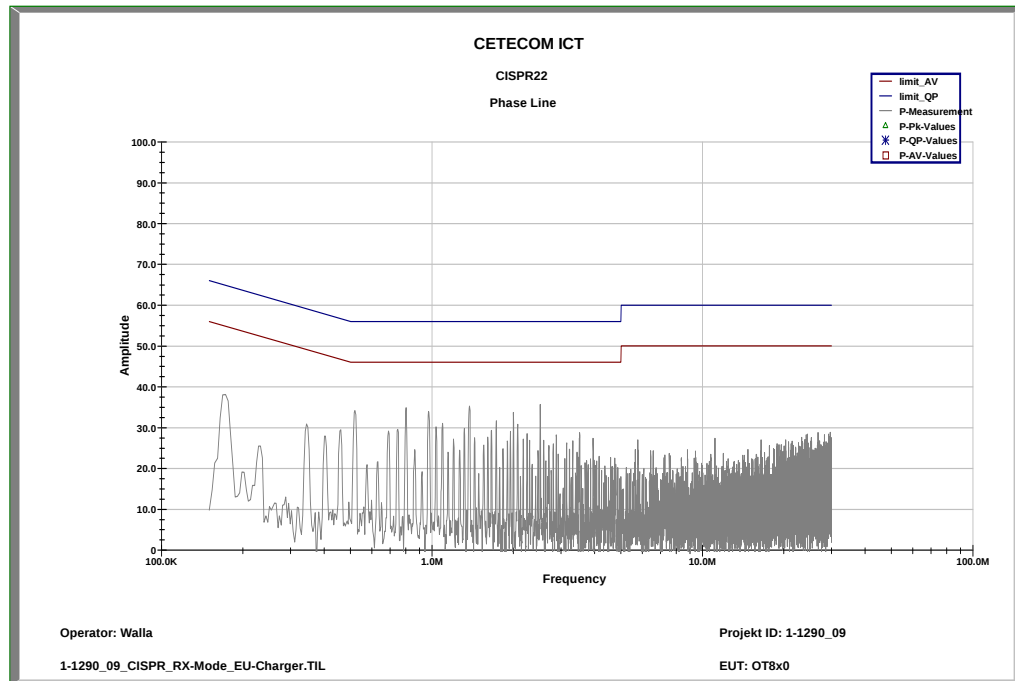


Plot 8: GSM 1900 – Neutral Line (150 kHz – 30 MHz)

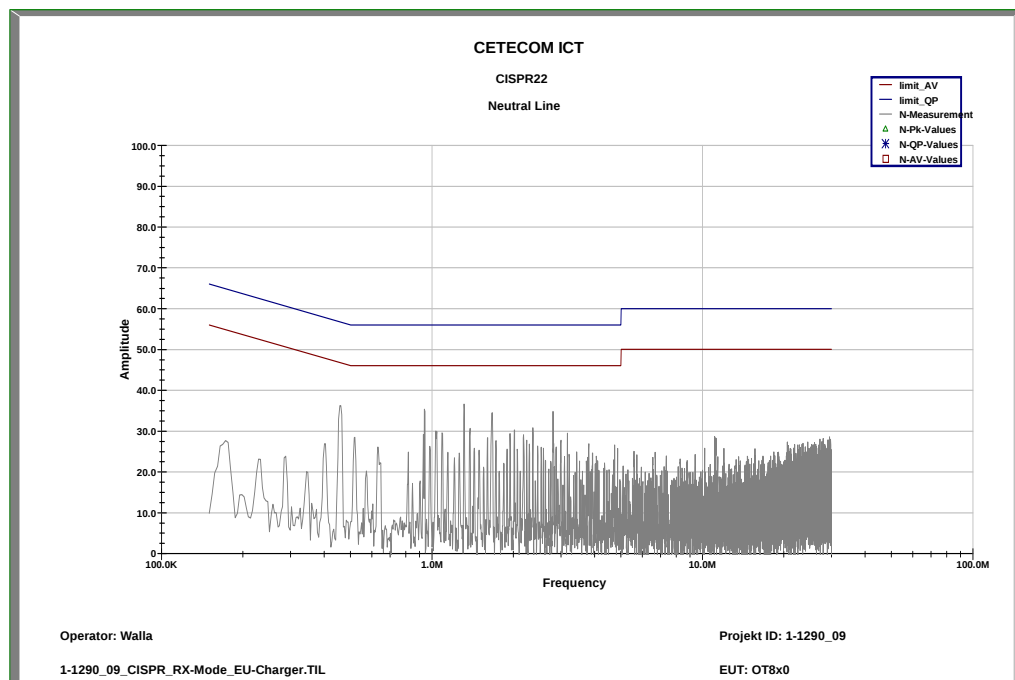


Idle - Mode, EU Charger:

Plot 9: Phase Line (150 kHz – 30 MHz)

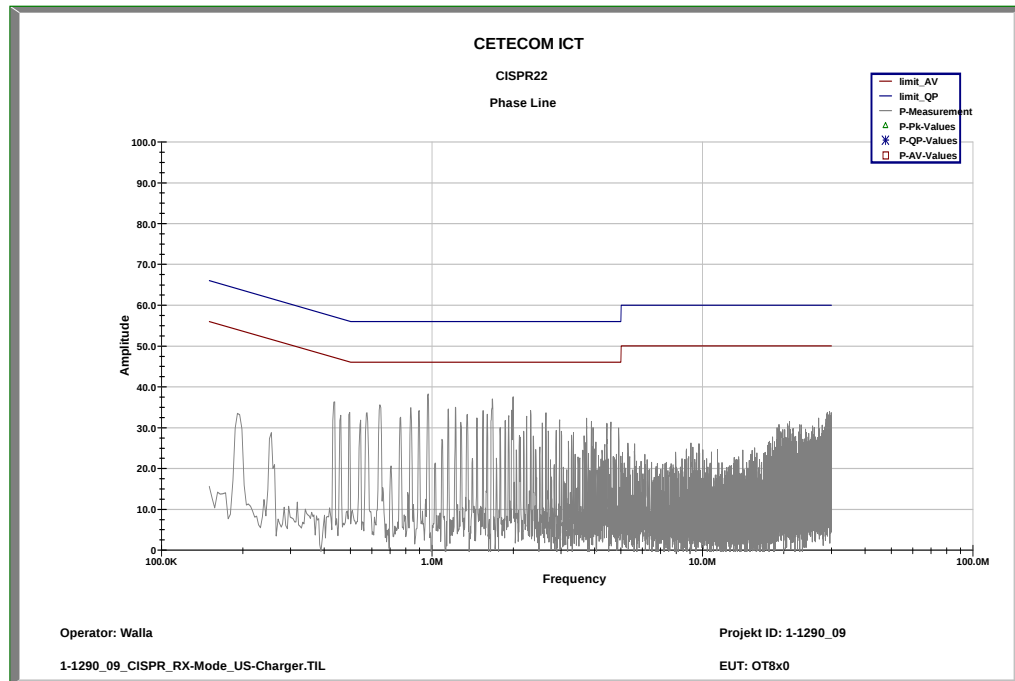


Plot 10: Neutral Line (150 kHz – 30 MHz)

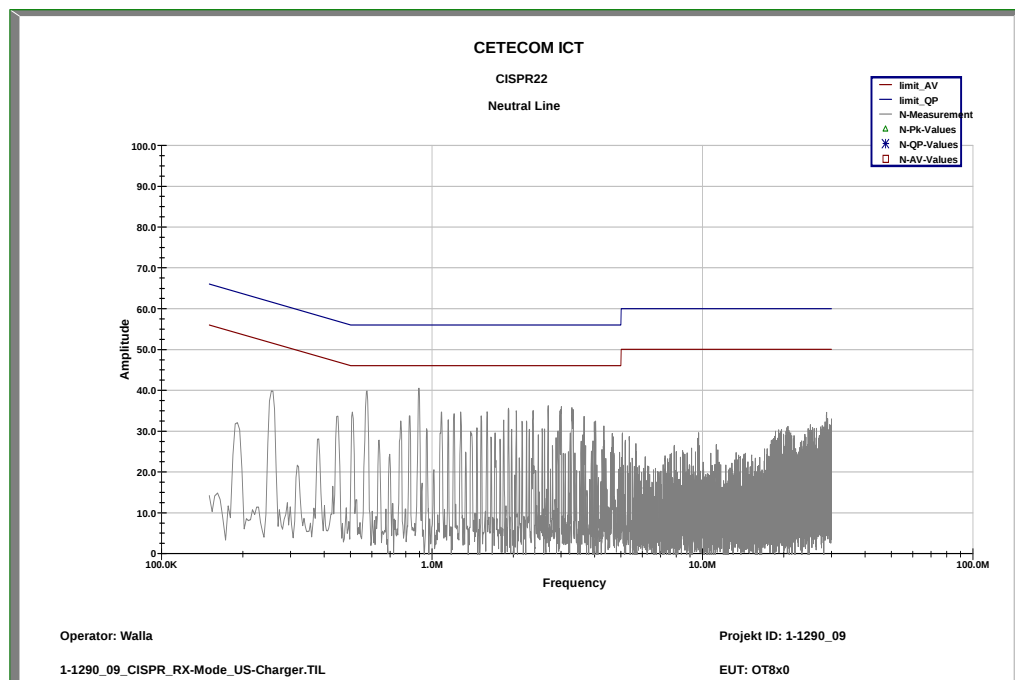


Idle - Mode, US Charger:

Plot 11: Phase Line (150 kHz – 30 MHz)



Plot 12: Neutral Line (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 [dB μ V/m]								
Idle mode			-/-			-/-		
Frequency [MHz]	Detector	Level [dB μ V/m]	Frequency [MHz]	Detector	Level [dB μ V/m]	Frequency [MHz]	Detector	Level [dB μ V/m]
No critical peaks found! Also see table below plot								
Measurement uncertainty			± 3 dB					

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

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

H = Horizontal; V = Vertical

For measurement distance see table below

Limits:

§ 15.109

Frequency (MHz)	Field strength (dB μ V/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: Idle – Mode (30 MHz to 1 GHz)

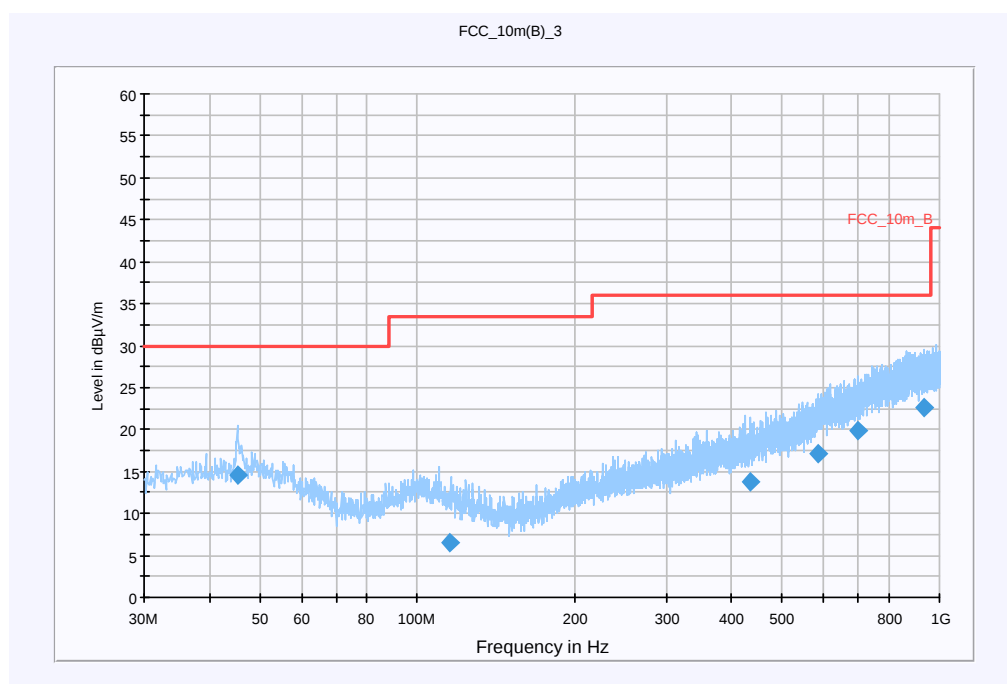
Information

EUT:	Sagem mobile OT8x0
Serial Number:	354797030000031
Test Description:	FCC part 15B @ 10 m
Operating Conditions:	Idle - Mode
Operator Name:	Klos
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 GHz	QuasiPeak	120 kHz	15 s	Receiver

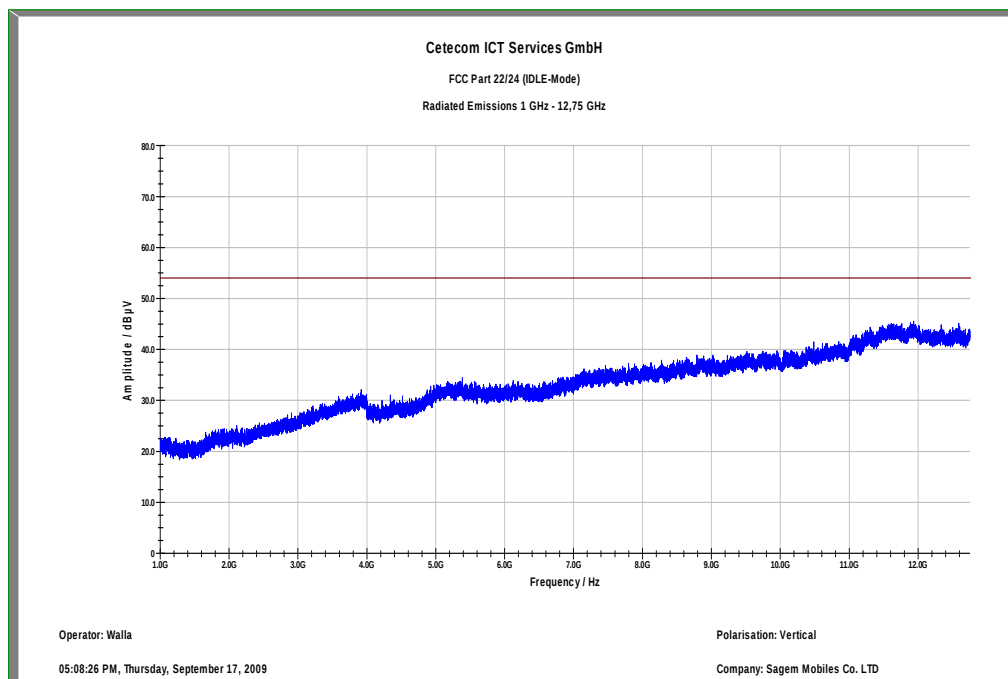


Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time	Bandwidth (kHz)	Antenna height	Polarity	Turntable position	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
45.355800	14.6	15000.000	120.000	220.0	V	151.0	13.4	15.4	30.0
115.508450	6.4	15000.000	120.000	220.0	H	143.0	10.9	27.1	33.5
432.656100	13.8	15000.000	120.000	104.0	H	286.0	17.8	22.2	36.0
583.225350	17.1	15000.000	120.000	98.0	V	240.0	20.9	18.9	36.0
699.946100	19.9	15000.000	120.000	153.0	H	224.0	23.0	16.1	36.0
936.889850	22.7	15000.000	120.000	220.0	V	95.0	25.8	13.3	36.0

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

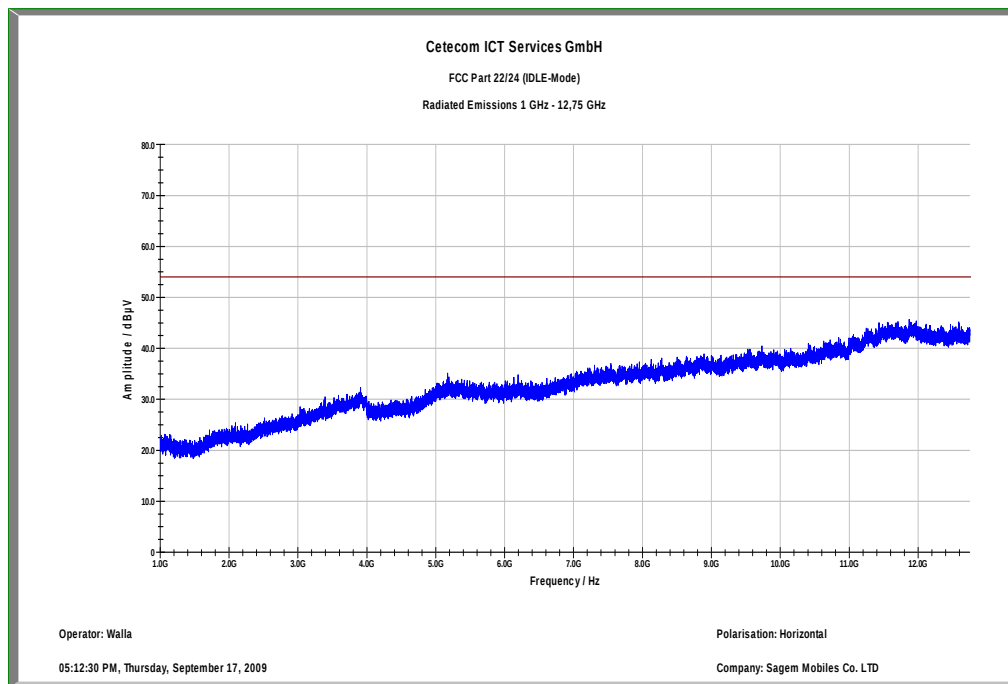
Subrange 1		
Frequency Range:	30 MHz - 1 GHz	
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/0033, FW 4.32	
Signal Path:	without Notch FW 1.0	
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0109)	
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	
EMC 32 Version 8.10.00		

Plot 2: Idle – Mode, antenna vertical (1 MHz - 12 GHz)



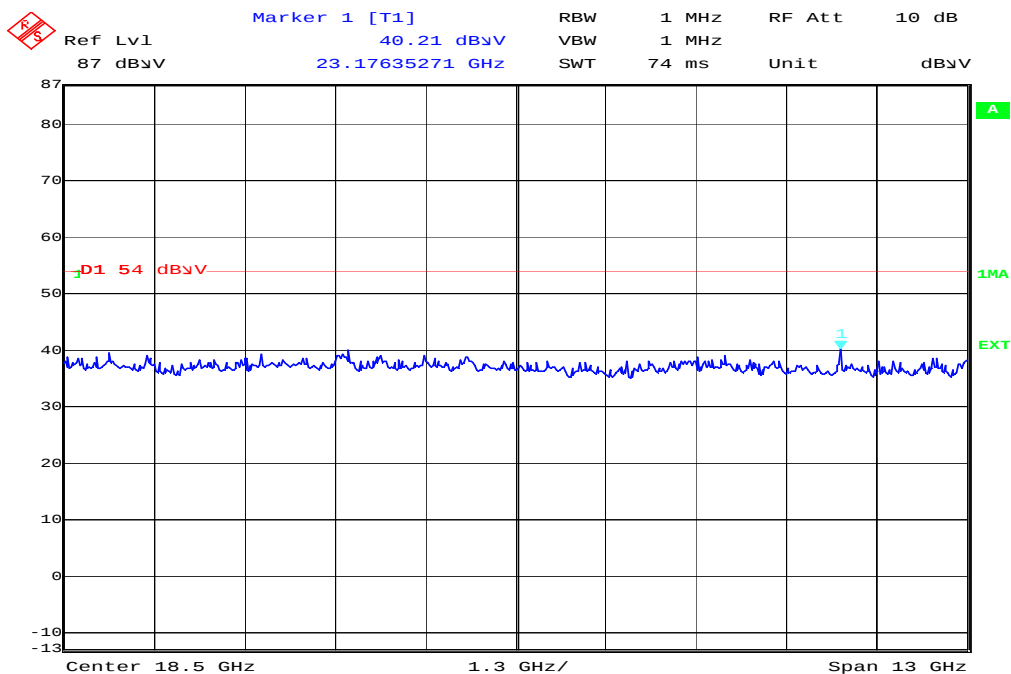
$f \geq 1\text{GHz} : \text{RBW} / \text{VBW } 1\text{ MHz}$

Plot 3 : Idle – Mode, antenna Horizontal (1 MHz - 12 GHz)



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

Plot 4: Idle – Mode (12 GHz - 25 GHz)



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

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.

All reported calibration intervals are calibrations according to the EN/ISO/IEC 17025 standard. These calibrations were performed from an accredited external calibration laboratory.

Additional to these calibrations the laboratory performed comparison measurements with other calibrated systems and performed a weekly chamber inspection.

All used devices are connected with a 10 MHz external reference.

According to the manufacturers' instruction is it possible to establish a calibration interval for the FSP unit of 24 month, if the device has an external 10 MHz reference.

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	PSA-Spektrumanalysator 3 Hz - 26.5 GHz (E4440A)	Agilent	MY48250080	300003812	05.08.2008	24	05.08.2010
5	EMI Preselector 9 kHz - 1 GHz (N9039A)	Agilent	MY48260003	300003825	19.08.2008	24	19.08.2010
6	Microwave Analog Signal Generator (N5183A)	Agilent	MY47420220	300003813	06.08.2008	24	06.08.2010
7	PC	F+W			n.a.		
8	TILE	TILE			n.a.		
9	TRILOG Super Broadband Antenna (VULB9163)	Schwarzbeck	371	300003854	Monthly verification (System cal.)		
10	Double Ridged Antenna 3115	EMCO	3088	300001032	Monthly verification (System cal.)		
11	Active Loop Antenna 6502	EMCO	2210	300001015	Monthly verification (System cal.)		
12	Switch / Control Unit 3488A	HP	2719A15013	300001156	n.a.		
13	Power Supply 6032A	HP	2818A03450	300001040	08.01.2009	36	08.01.2012
14	Busisolator	Kontron		300001056	n.a.		
15	Leitungsteiler 11850C	HP		300000997	Monthly verification (System cal.)		
16	Power attenuator 8325	Byrd	1530	300001595	Monthly verification (System cal.)		
17	Band reject filter WRCG1855/1910	Wainwright	7	300003350	Monthly verification (System cal.)		
18	Band reject filter WRCG2400/2483	Wainwright	11	300003351	Monthly verification (System cal.)		
19	Hochpassfilter WHK1.1/15G-10SS	Wainwright	3	300003255	Monthly verification (System cal.)		
20	Hochpassfilter WHKX2.9/18G-12SS	Wainwright	1	300003492	Monthly verification (System cal.)		
21	Hochpassfilter WHKX7.0/18G-8SS	Wainwright	18	300003789	Monthly verification (System cal.)		
22	Switch / Control Unit 3488A	HP	2605e08770	300001443	n.a.		
23	Trenntrafo RT5A	Grundig	9242	300001263	n.a.		
24	Relais Matrix PSU	R&S	890167/024	300001168	n.a.		
25	Netznachbildung ESH3-Z5	R&S	828576/020	300001210	n.a.		

Anechoic chamber F:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Control Computer	F+W	FW0502032	300003303	-/-	-/-	-/-
2	Trilog Antenna VULB 9163	Schwarzbeck	295	300003787	01.04.2008	24	01.04.2010
3	Amplifier - 0518C-138	Veritech Micro-wave Inc.	-/-	-/-	-/-	-/-	-/-
4	Switch - 3488A	HP		300000368	-/-	-/-	-/-
5	EMI Test receiver - ESCI	R&S	100083	300003312	01.06.2009	24	01.06.2011
6	Turntable Controller - 1061 3M	EMCO	1218	300000661	-/-	-/-	-/-
7	Tower Controller 1051 Controller	EMCO	1262	300000625	-/-	-/-	-/-
8	Tower - 1051	EMCO	1262	300000625	-/-	-/-	-/-
10	Ultra Notch-Filter Rejected band Ch. 62	WRCD	9	-/-	-/-	-/-	-/-

7 Photographs of the Test Set-up

Photo 1:



Photo 2:



Photo 3:



8 Photographs of the EUT

Photo 4:



Photo 5:



Photo 6:



Photo 7:



Photo 8:

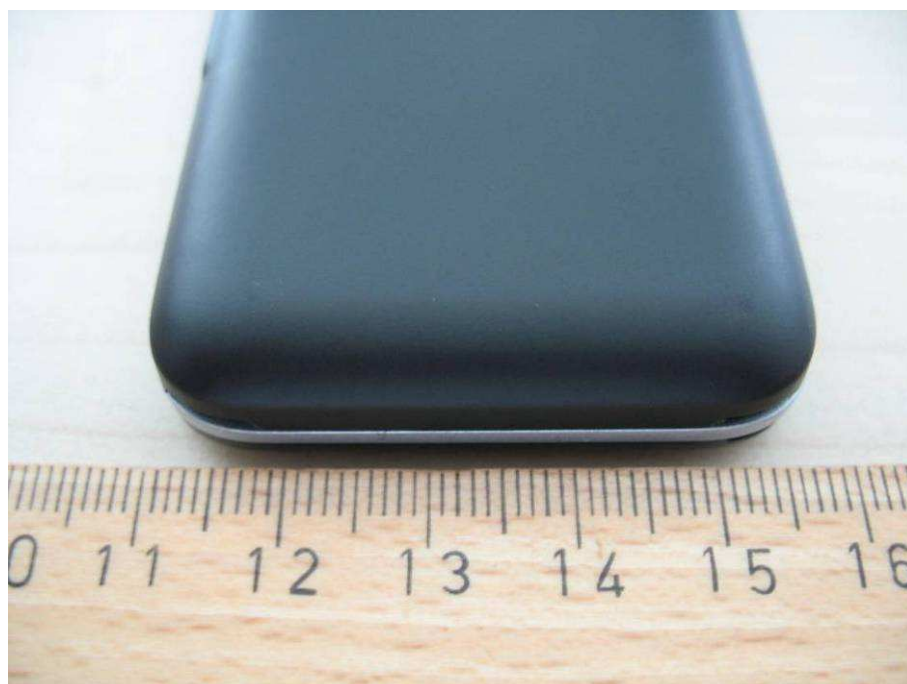


Photo 9:



Photo 10:



Photo 11:



Photo 12:



Photo 13:



Photo 14:



Photo 15:

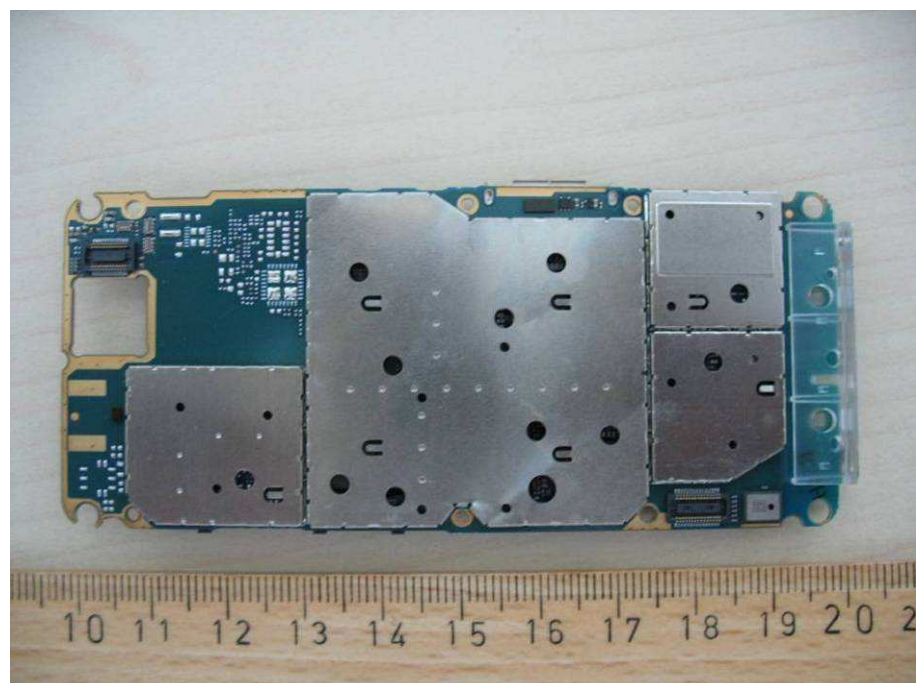


Photo 16:

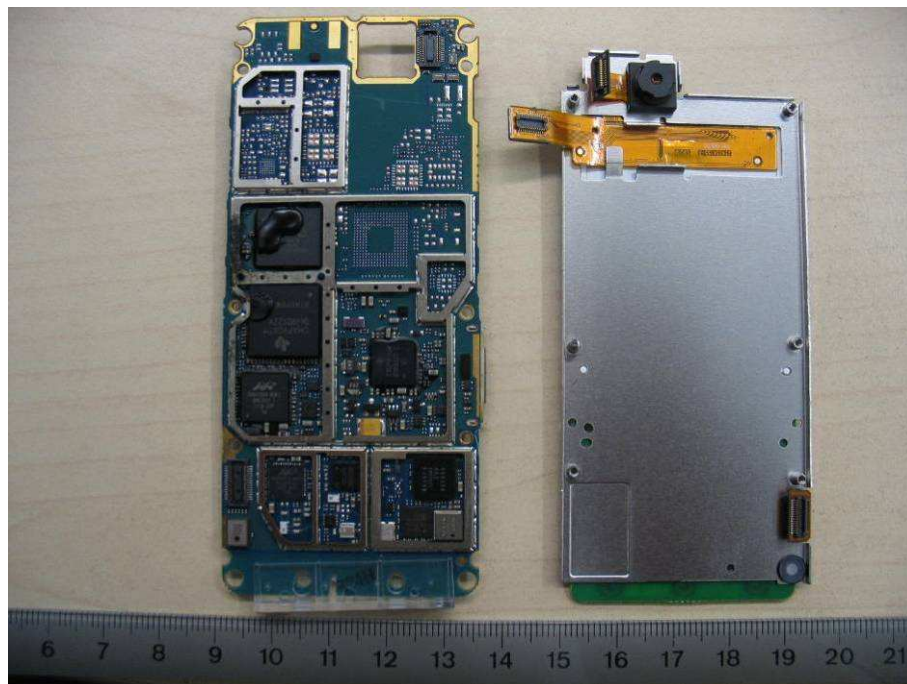


Photo 17:

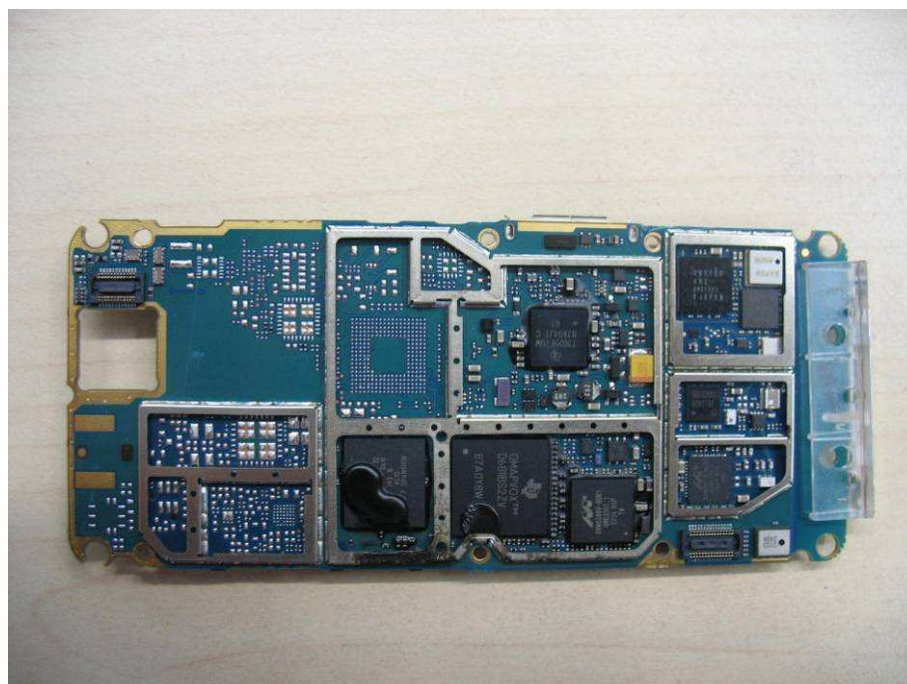


Photo 18:

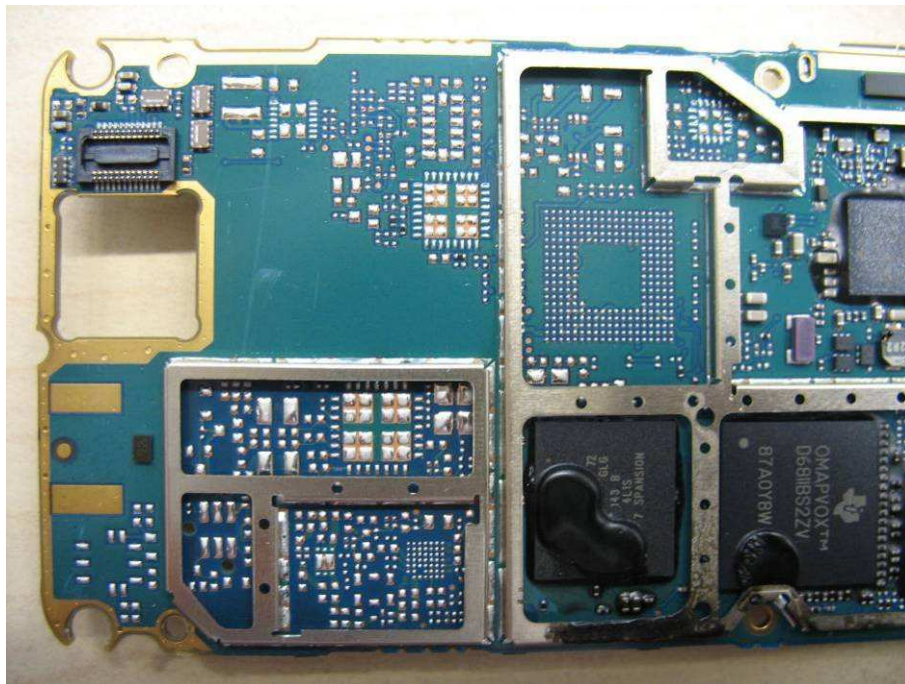


Photo 19:

