



## **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)**

*The Bluetooth word mark and logos are owned by the Bluetooth SIG,  
Inc. and any use of such marks by Cetecom ICT is under license*

**Annex to Test report no. : 2-4883-05-02/08**

**Type identification : FAD-3022019-BV**

**Applicant : Sony Ericsson Mobile Communications AB**

**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 Technical tests .....5**
  - 2.1 Details of manufacturer.....5
  - 2.2 Test item(s) and test configuration.....5
- 3 Summary of Measurement Results and list of all performed test cases .....6**
- 4 Measurements and results .....7**
- 5 Annex A: FCC Part 15 Subpart B .....8**
  - 5.1 Conducted Limits .....8
  - 5.2 Receiver spurious emission radiated (Idle mode) .....11
- 6 Test equipment and ancillaries used for tests..... 15**
- 7 Photographs of the Test Set-up..... 18**
- 8 External Photographs of the Equipment..... 20**
- 9 Internal Photographs of the Equipment ..... 22**

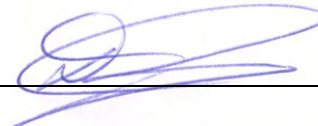
## 1 General information

### 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:

<b>2008-02-14</b>	<b>Detlev Gillmann</b>	
Date	Name	Signature



Technical responsibility for area of testing:

<b>2008-02-14</b>	<b>Stefan Bös</b>	
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

<b>Name:</b>	<b>Sony Ericsson Mobile Communications AB</b>
<b>Street:</b>	<b>Torshamnsgatan 27</b>
<b>Town:</b>	<b>SE – 16494 Kista</b>
<b>Country:</b>	<b>Sweden</b>
<b>Telephone:</b>	<b>+46 (0) 703207056</b>
<b>Fax:</b>	<b>+46 (0) 84043430</b>
<b>Contact:</b>	<b>Mr. Kenth Skoglund</b>
<b>E-mail:</b>	<b>Kenth.skoglund@sonyericsson.com</b>
<b>Telephone:</b>	<b>+46 (0) 703207056</b>

## 1.4 Application details

<b>Date of receipt of order:</b>	<b>2008-01-18</b>
<b>Date of receipt of test item:</b>	<b>2008-02-04</b>
<b>Date of start test:</b>	<b>2008-02-04</b>
<b>Date of end test</b>	<b>2008-02-14</b>
<b>Persons(s) who have been present during the test:</b>	

## 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 FAD-3022019-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

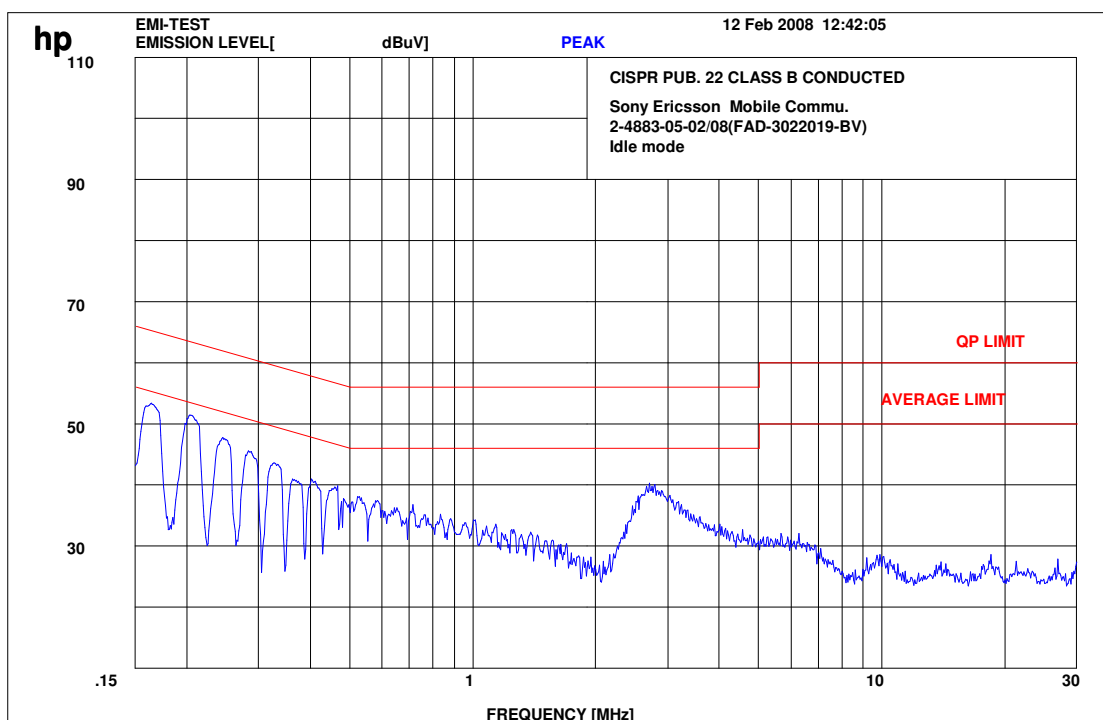
Limits: § 15.107 / 15.207

Frequency of Emission (MHz)	Conducted Limit (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



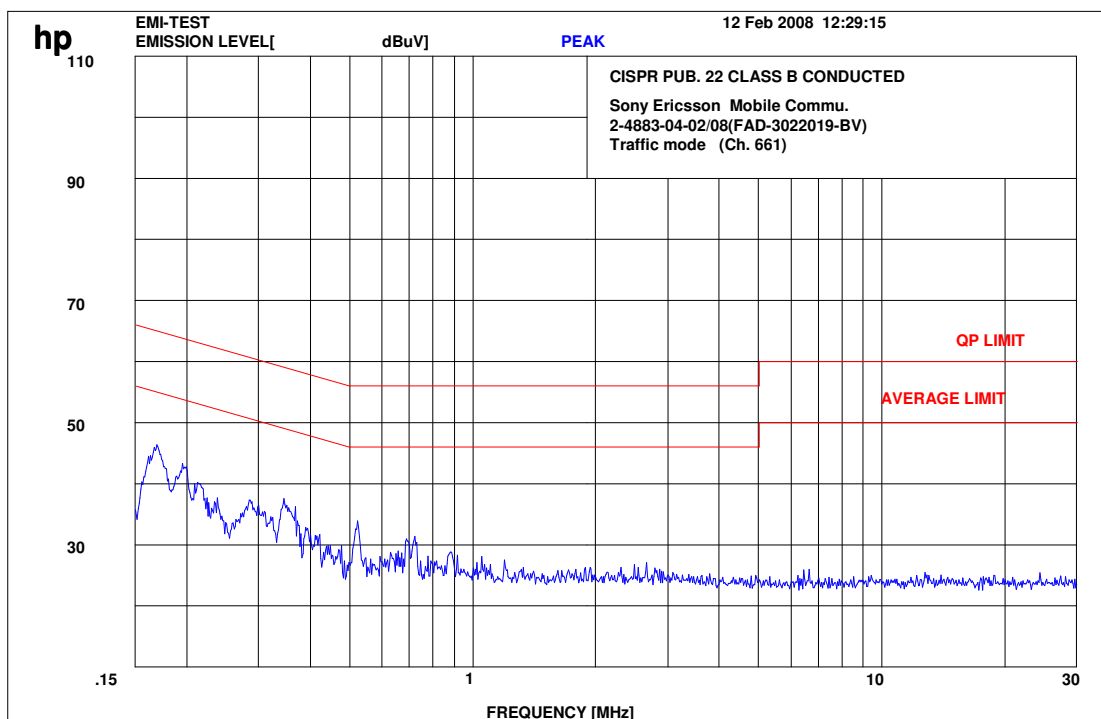
EUT: : AC/DC Standard charger CST - 75  
 (with mobile FAD-3022019-BV)  
 Power AC (measured) : 115 V / 60 Hz  
 Manufacturer: : Sony Ericsson Mobile Communications AB  
 Operating Condition : Idle mode  
 Test Site: : Room 006 (Shielded chamber)  
 Operator: : Bös



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-3022019-BV)  
Power AC (measured) : 115 V / 60 Hz  
Manufacturer: : Sony Ericsson Mobile Communications AB  
Operating Condition : Traffic mode (Ch. 661)  
Test Site: : Room 006 (Shielded chamber)  
Operator: : Bös



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)

## 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								
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			$\pm 3$ 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)**

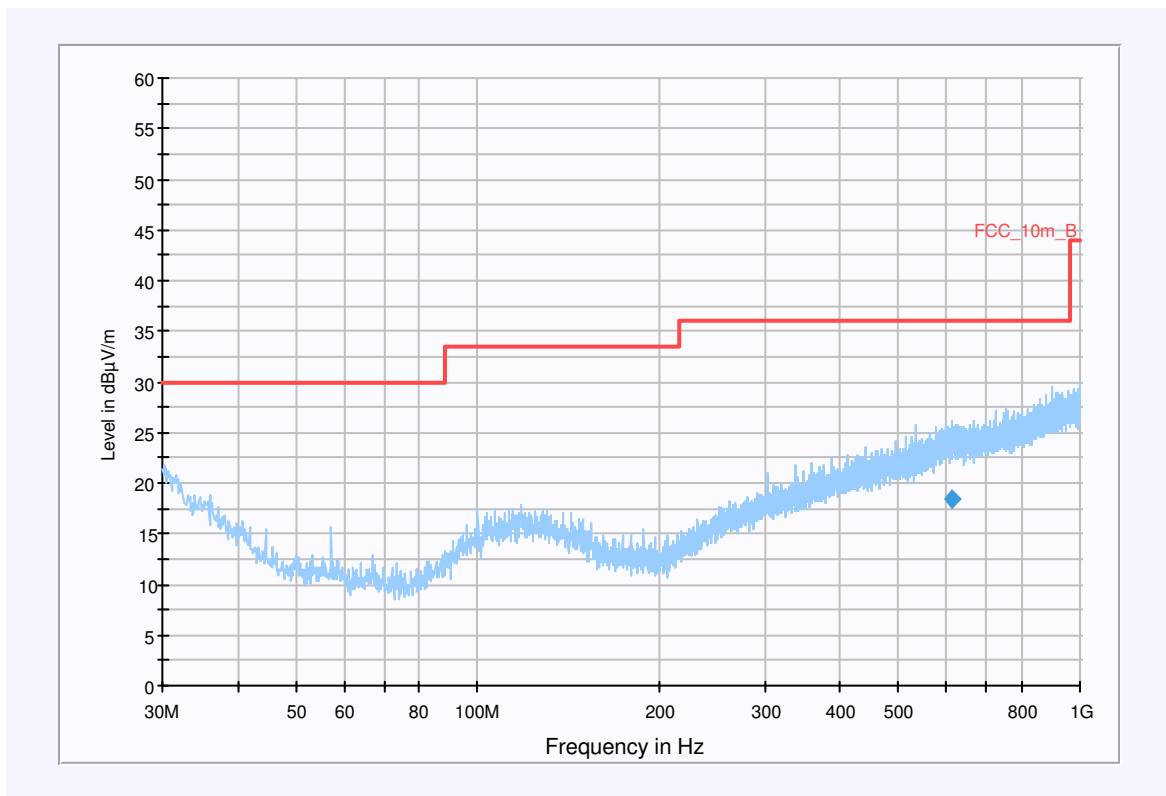
**Information**

EUT: 120-566.1C/1 (FAD-3022019-BV) + CAA 0002002-BV  
 Serial Number: CB5A0M8VR5 + 458B 06W03  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: idle 1900 + charging  
 Operator Name: Hennemann  
 Comment: AC: 115 V / 60 Hz

**Scan Setup: STAN\_Fin [EMI radiated]**

Hardware Setup: EMI radiated\Electric Field (NOS)  
 Level Unit: dB $\mu$ V/m  
**Subrange**                      **Detectors**                      **IF Bandwidth**                      **Meas. Time**                      **Receiver**  
 30MHz - 1GHz                      QuasiPeak                      120kHz                      15s                      Receiver

**FCC\_10m\_FCCLIMIT(B)**



**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V/m)	Comment
612.106950	18.5	15000.000	120.000	293.0	H	271.0	21.6	17.5	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

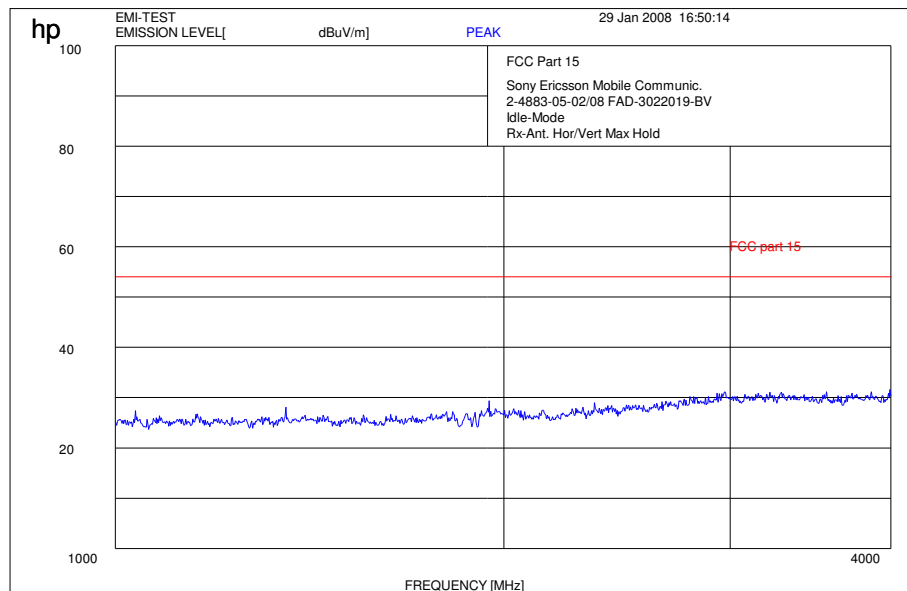
Signal Path: without Notch  
 FW 1.0

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

Antenna Tower: Correction Table: Cabel with switch (1007)  
 Tower [EMCO 2090 Antenna Tower]  
 @ GPIB0 (ADR 8), FW REV 3.12

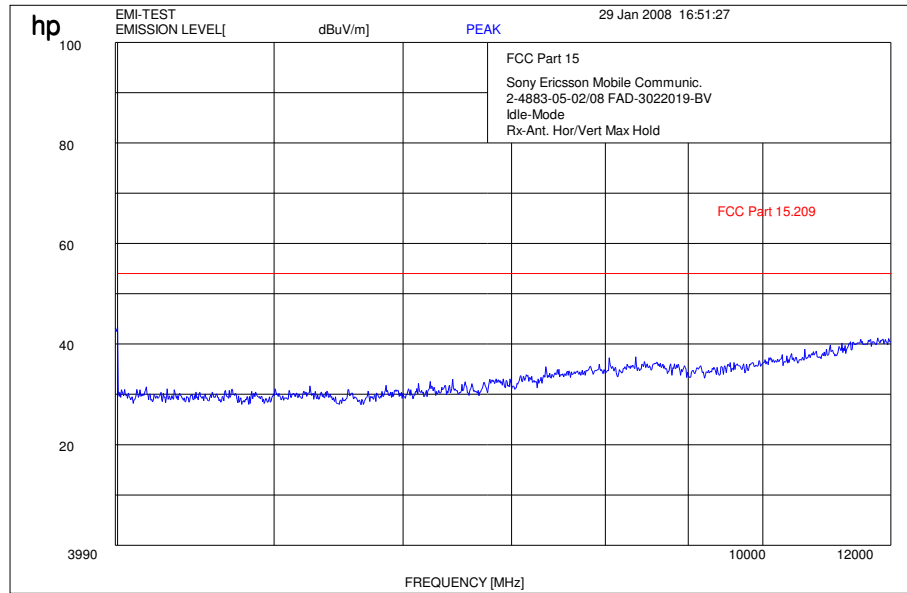
Turntable: Turntable [EMCO Turntable]  
 @ GPIB0 (ADR 9)

**Idle Mode (1 MHz - 4 GHz)**



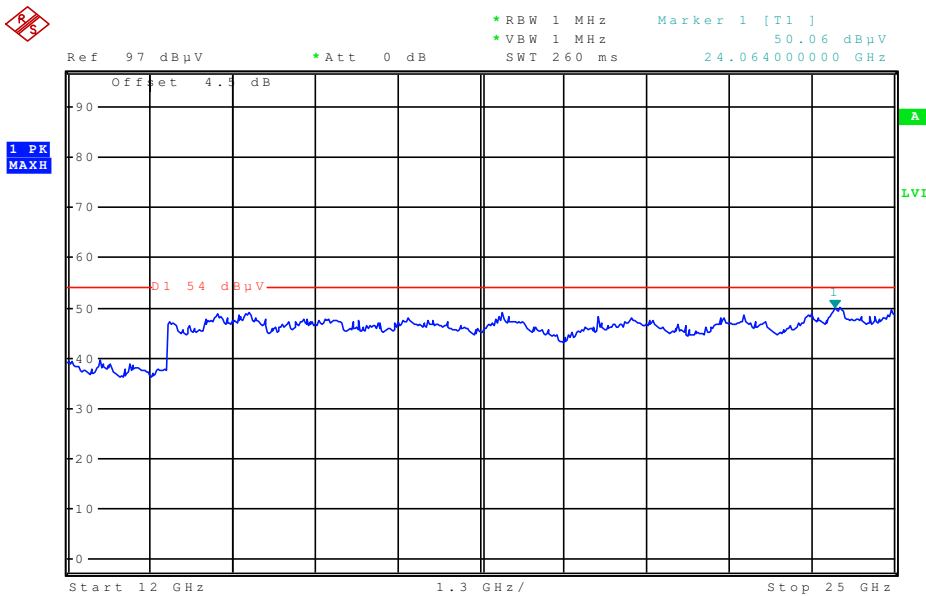
f ≥ 1GHz : RBW / VBW 1 MHz

**Idle Mode (4 GHz – 12.0 GHz)**



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

**Idle Mode (12.0 GHz – 25.0 GHz) valid for all 3 channels**



## 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	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	05.10.2007	24	15.10.2009
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.)		

*Signalling 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 002:*

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	System Controller PSM 12	R&S	835259/007	3000002681-00xx	n.a.		
2	Memory Extension PSM-K10	R&S	To 1	3000002681	n.a.		
3	Operating Software PSM-B2	R&S	To 1	3000002681	n.a.		
4	19" Monitor		22759020-ED	3000002681	n.a.		
5	Mouse		LZE 0095/6639	3000002681	n.a.		
6	Keyboard		G00013834L 461	3000002681	n.a.		
7	Spectrum Analyser FSIQ 26	R&S	835540/018	3000002681-0005	01.08.2006	24	01.08.2008
8	Tracking Generator FSIQ-B10	R&S	835107/015	3000002681	s.No.7		
10	RF-Generator SMIQ03 (B1 Signal)	R&S	835541/056	3000002681-0002	01.08.2006	36	01.08.2009
11	Modulation Coder SMIQ-B20	R&S	To 10	3000002681	s.No.10		
12	Data Generator SMIQ-B11	R&S	To 10	3000002681	s.No.10		
13	RF Rear Connection SMIQ-B19	R&S	To 10	3000002681	s.No.10		
14	Fast CPU SM-B50	R&S	To 10	3000002681	s.No.10		
15	FM Modulator SM-B5	R&S	835676/033	3000002681	s.No.10		
16	RF-Generator SMIQ03 (B2 Signal)	R&S	835541/055	3000002681-0001	01.08.2006	36	01.08.2009
17	Modulation Coder SMIQ-B20	R&S	To 16	3000002681	s.No.16		
18	Data Generator SMIQ-B11	R&S	To 16	3000002681	s.No.16		
19	RF Rear Connection SMIQ-B19	R&S	To 16	3000002681	s.No.16		
20	Fast CPU SM-B50	R&S	To 16	3000002681	s.No.16		
21	FM Modulator SM-B5	R&S	836061/022	3000002681	s.No.16		
22	RF-Generator SMP03 (B3 Signal)	R&S	835133/011	3000002681-0003	01.08.2006	36	01.08.2009
23	Attenuator SMP-B15	R&S	835136/014	3000002681	S.No.22		
24	RF Rear Connection SMP-B19	R&S	834745/007	3000002681	S.No.22		
25	Power Meter NRVD	R&S	835430/044	3000002681-0004	01.08.2006	24	01.08.2008
26	Power Sensor NRVD-Z1	R&S	833894/012	3000002681-0013	01.08.2006	24	01.08.2008
27	Power Sensor NRVD-Z1	R&S	833894/011	3000002681-0010	01.08.2006	24	01.08.2008
28	Rubidium Standard RUB	R&S		3000002681-0009	01.08.2006	24	01.08.2008
29	Switching and Signal Conditioning Unit SSCU	R&S	338864/003	3000002681-0006	01.08.2006	24	01.08.2008



30	Laser Printer HP Deskjet 2100	HP	N/A	3000002681-0011	n.a.		
31	19'' Rack	R&S	1113836300004	3000002681	n.a.		
32	RF-cable set	R&S	N/A	3000002681	n.a.		
33	IEEE-cables	R&S	N/A	3000002681	n.a.		
34	Sampling System FSIQ-B70	R&S	835355/009	3000002681	s.No.7		
35	RSP programmable attenuator	R&S	834500/010	3000002681-0007	01.08.2006	24	01.08.2008
36	Signalling Unit	R&S	838312/011	3000002681	n.a.		
37	NGPE programmable Power Supply for EUT	R&S	192.033.41	3000002681			
38	Climatic box VT 4002	Heraeus Vötsch	58566046820010	300003019	11.05.2007	24	11.05.2009
39	Signaling Unit CMU200	R&S	832221/0055	300002862	12.01.2006	24	12.01.2008
40	Power Splitter 6005-3	Inmet Corp.	none	300002841	23.12.2006	24	23.12.2008
41	SMA Cables SPS-1151-985-SPS	Insulated Wire	different	different	n.a.		
42	CBT32 with EDR Signaling Unit	R&S					
43	Coupling unit	Narda	N/A	--	n.a.		
44	2xSwitch Matrix PSU	R&S	872584/021	300001329	n.a.		
45	RF-cable set	R&S	N/A	different	n.a.		
46	IEEE-cables	R&S	N/A	--	n.a.		

*Anechoic chamber F:*

No.	Instrument/Ancillary	Manufacturer	Type	Serial-No.	Internal identification
<b><u>Radiated emission in chamber F</u></b>					
F-1	Control Computer	F+W		FW0502032	300003303
F-2	Bilog antenna	Chase	CBL 6112A	2110	300000573
F-3a	Amplifier	Veritech Microwave Inc.	0518C-138	- / -	- / -
F-4b	Switch	HP	3488A	- / -	300000368
F-5	EMI Test receiver	R&S	ESCI	100083	300003312
F-6	Turntable Controller	EMCO	1061 3M	1218	300000661
F-7	Tower Controller	EMCO	1051 Controller	1262	300000625
F-8	Tower	EMCO	1051 Tower	1262	300000625
F-9	Ultra Notch-Filter Rejected band Ch. 62	WRCD		9	