

CETECOM ICT Services GmbH

Radio Satellite Communication

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RSC11

issue test report consist of 36 Pages

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Accredited by the
German Accreditation Council
DAR-Registration Number
TTI-P-G 166/98



Independent ETSI
compliance test house



Accredited Bluetooth Test Facility (BQTF)

Test report no.: 3_3398-01-06/02

Addendum to report no.: 3_3095-01-04/02

FCC Part 24: OT1x9

FCC ID: M9HOT1X9P52

CETECOM – ICT Services GmbH

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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 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.

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

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Telefax : + 49 681 598 - 9075

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Internet : www.cetecom.de

Accredited testing laboratory

DAR-registration number : TTI-P-G-166/98-30

Accredited Bluetooth™ Test Facility (BQTF)

BLUETOOTH™ is a trademark owned by Bluetooth SIG, Inc. and licensed to CETECOM

1.3 Details of applicant

Name : SAGEM SA
Street : 2-4 rue de Petit Albi
City : F-95800 Cergy Saint Christophe
Country : France
Telephone : +33 -1 -3073-7277
Telefax : +33 -1 -3425-7416
Contact : Mr. Jean Marquet
Telephone : +33 -1 -3073-3737

1.4 Application details

Date of receipt of application : 18.12.2002
Date of receipt of test item : 18.12.2002
Date of test : 19.12.2002 and 07.01.2003
Re-issued : -

1.5 Test item

Type of equipment : **Dual Band GSM Mobile Phone (PCS 900/1900 MHz)**
Type designation : OT 1x9 tested with: Data Cable 23810002-9, 2SL OT M42 Kit and AC/DC Adapter Model: 18 690 932-4
Manufacturer : Applicant
Street :
City :
Country :
Serial number : IMEI 350833.82.001178.0
Additional informations: :
Frequency : 1850 – 1910 MHz
Type of modulation : 300KGXW
Number of channels : 300
Antenna : Integral antenna and socket with SMA coax connection
Power supply : 3.6V Ni-MH accu
Output power : 31.54 dBm Peak , ERP : 28.9 dBm (Burst); EIRP:31.0 dBm (Burst)
Type of equipment : Temperature range : -30°C - +60°C
FCC – ID : M9HOT1X9P52
Hardware : V210x
Software : D 3,5C

1.6 Test standards:

FCC Part 24
FCC Part 15

2 Technical test

For Part 24/22 we use the substitution method (TIA/EIA 603).

2.1 Summary of test results

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

FINAL VERDICT: PASS

Technical responsibility for area of testing :

2003-01-07 RSC 8411 Berg M.

Date

Section

Name

Signature



Technical responsibility for area of testing :

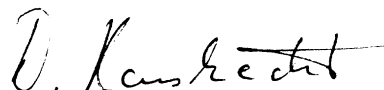
2003-01-07 RSC8412 Hausknecht D.

Date

Section

Name

Signature



2.2 Test report

TEST REPORT

Addendum to report no. : 3_3398-01-06/02

Remarks:

The measurement was requested by the applicant because of a new antenna at the original mobile. Radiated output power was measured on three channels.

Due to the fact that the measured output power was not higher than the output power measured for the original mobile, the radiated spurious emissions were only measured on one channel in the mid of the band.

We used the channel 661 for testing and suppressed the carrier to improve the dynamic range of the measuring equipment.

Test was performed with the data cable box and charger unit connected to the mobile and with the mobile standalone battery-powered.

TEST REPORT REFERENCE

LIST OF MEASUREMENTS

PARAMETER TO BE MEASURED Paragraph		PAGE
POWER OUTPUT	SUBCLAUSE § 24.232	7
EMISSIONS LIMITS	§24.238	9
TEST SITE		31
PHOTOGRAPHS OF THE EQUIPMENT		36

POWER OUTPUT**SUBCLAUSE § 24.232****Summary:**

This paragraph contains both average , peak output powers and EIRP measurements for the mobile station.

In all cases, the peak output power is within the required mask (this mask is specified in the JTC standards, TIA PN3389 Vol. 1 Chap 7, and is no FCC requirement).

Method of Measurements:

The mobile was set up for the max. output power with pseudo random data modulation.

The power was measured with R&S Spectrum Analyzer FSIQ 26 (peak and average)

This measurements were done at 3 frequencies, 1850,2 MHz, 1880,0 MHz and 1909,8 MHz (bottom, middle and top of operational frequency range)

Peak power and Average power was measured with a calibrated Signal Analyzer (FSIQ from R&S). Peak power : max Power of the Signal measured with 3 MHz ResBW and 3 MHz VBW. Average power is the integrated Power over Time from the modulated GSM Signal in the burst.

Limits:

Power Step	Nominal Peak Output Power (dBm)	Tolerance (dB)
0	+30	± 2

Power Measurements:**Conducted:**

not performed

Frequency (MHz)	Power Step	Peak Output Power (dBm)	Burst Average Output Power (dBm)
1850.2	0		
1880.0	0		
1909.8	0		
Measurement uncertainty		±0.5 dB	

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

EIRP Measurements

Description: This is the test for the maximum radiated power from the phone.

Rule Part 24.232(b) specifies that "Mobile/portable stations are limited to 2 watts e.i.r.p. peak power..." and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage."

Method of Measurement:

1. In an anechoic antenna test chamber, a half-wave dipole antenna for the frequency band of interest is placed at the reference center of the chamber. An RF Signal source for the frequency band of interest is connected to the dipole with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A known (measured) power (Pin) is applied to the input of the dipole, and the power received (Pr) at the chamber's probe antenna is recorded.
2. A "reference path loss" is established as $Pin + 2.1 - Pr$.
3. The EUT is substituted for the dipole at the reference centre of the chamber. The EUT is put into CW test mode and a scan is performed to obtain the radiation pattern.
4. From the radiation pattern, the co-ordinates where the maximum antenna gain occurs is identified.
5. The EUT is then put into pulse mode at its maximum power level (Power Step 0).
6. "Gated mode" power measurements are performed with the receiving antenna placed at the co-ordinates determined in Step 3 to determine the output power as defined in FCC Rule 24.232 (b) and (c). The "reference path loss" from Step 1 is added to this result.
7. This value is EIRP since the measurement is calibrated using a half-wave dipole antenna of known gain (2.1 dBi) and known input power (Pin).
8. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.1 \text{ dBi}$.

Limits:

Power Step	Burst Average EIRP (dBm)
0	<33

Power Measurements:

Radiated:

Frequency (MHz)	Power Step	BURST AVERAGE (dBm)		MODULATION AVERAGE (dBm)	
		EIRP	ERP	EIRP	ERP
1850.2	0	30.9	28.8	21.9	19.8
1880.0	0	30.7	28.6	21.7	19.6
1909.8	0	31.0	28.9	22.0	19.9
Measurement uncertainty		±3 dB			

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

EMISSIONS LIMITS**§24.238****Measurement Procedure:**

The following steps outline the procedure used to measure the radiated emissions from the mobile station. The site is constructed in accordance with ANSI C63.4 – 1992 requirements and is recognised by the FCC to be in compliance for a 3 and a10 meter site. The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier that can be as high as 1910 MHz. This was rounded up to 20 GHz. The resolution bandwidth is set as outlined in Part 24.238. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the USPCS band.

The final open field emission test procedure is as follows:

- a) The test item was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna.
- b) The antenna output was terminated in a 50 ohm load.
- c) A double ridged waveguide antenna was placed on an adjustable height antenna mast 3 meters from the test item for emission measurements.
- d) Detected emissions were maximized at each frequency by rotating the test item and adjusting the receive antenna height and polarization. The maximum meter reading was recorded. The radiated emission measurements of the harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1 MHz bandwidth. If the harmonic could not be detected above the noise floor, the ambient level was recorded. The equivalent power into a dipole antenna was calculated from the field intensity levels measured at 3 meters using the equation shown below:

$$P_g = E^2 4\pi d^2 / 120\pi = E^2 d^2 / 30$$

where : P = power in watts
 g = arithmetic gain of transmitting antenna over isotropic radiator.
 E = maximum field strength in volts/meter
 d = measurement distance in meter

Using a dipole gain of 1.67 or 2.2 dB and a test distance of 3 meters, this equation reduces to:

$$P(\text{dBm}) = E(\text{dBuV/m}) - 97.2\text{dB}$$

Measurement Limit:

Sec. 24.238 Emission Limits.

(a) On any frequency outside a licensee's frequency block (e.g. A, D, B, etc.) within the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least $43 + 10\log(P)$ dB. The specification that emissions shall be attenuated below the transmitter power (P) by at least $43 + 10\log(P)$ dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.

Measurement Results:

Radiated emissions measurements were made only at the upper, center, and lower carrier frequencies of the USPCS band (1850.2 MHz, 1879.8 MHz and 1909.8 MHz). It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the USPCS band into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

RESULTS OF OPEN FIELD RADIATED TEST FOR FCC-24:

All measurements were done in horizontal and vertical polarization, the plots shows the worst case.

As can be seen from this data, the emissions from the test item were within the specification limit.

RESULTS OF OPEN FIELD RADIATED TEST FOR FCC-24:

EMISSION LIMITATIONS					
f (MHz)		amplitude of emission (dBm)	limit max. allowed emmission power (dBm)	actual attenuation below frequency of operation (dBc)	results
CH 661					
1880.0		30.7	-13.0 (43.7 dBc)		carrier
no	peak	found			
Idle mode					
no	peak	found			
Measurement uncertainty		± 0.5dB			

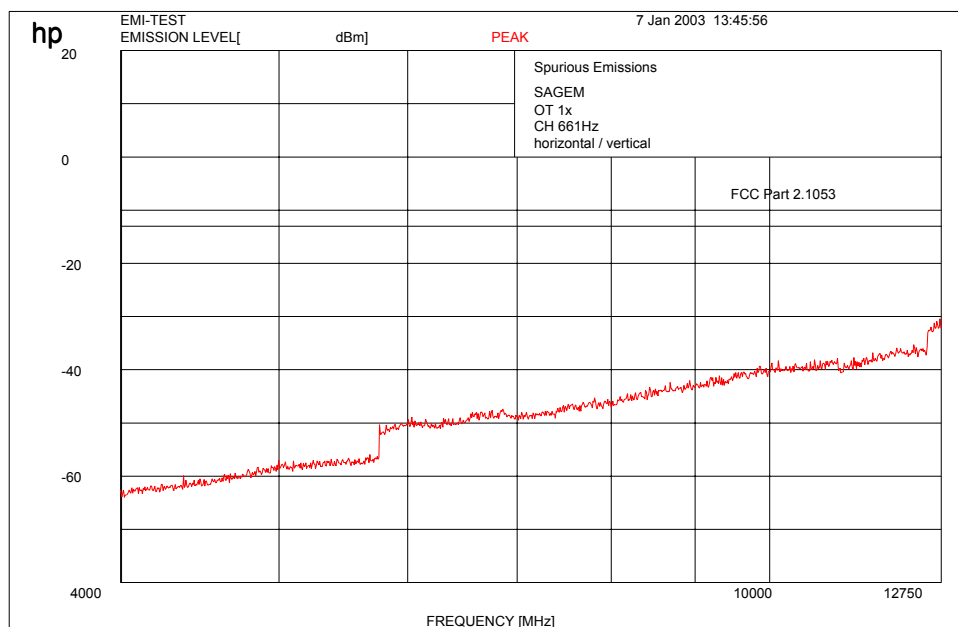
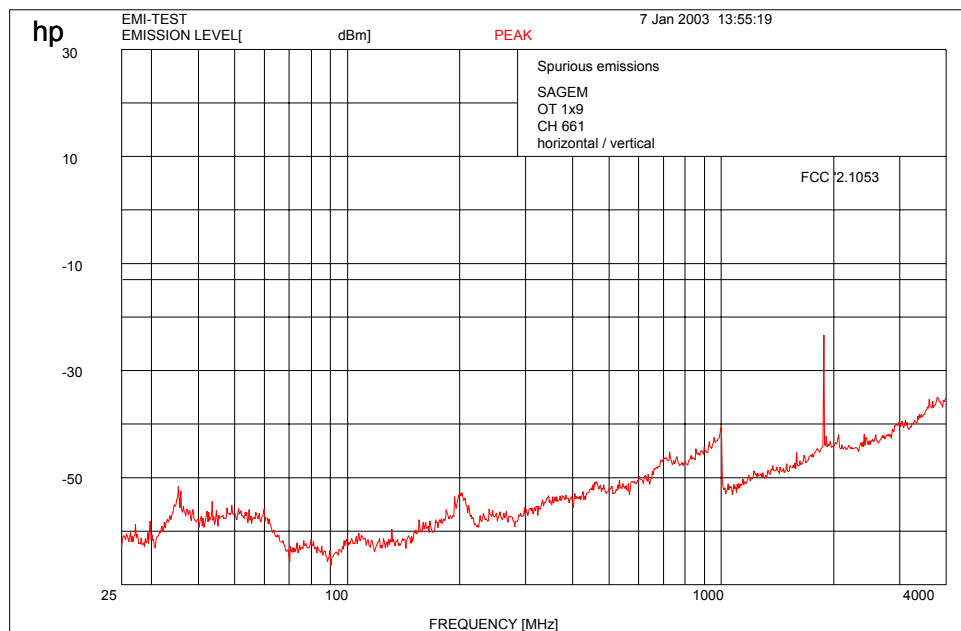
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)

17 – 24,64

EMISSIONS LIMITS

§24.238

All measurements were done in horizontal and vertical polarization, the plots shows the worst case.
CH 661 30 MHz to 12 GHz



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

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

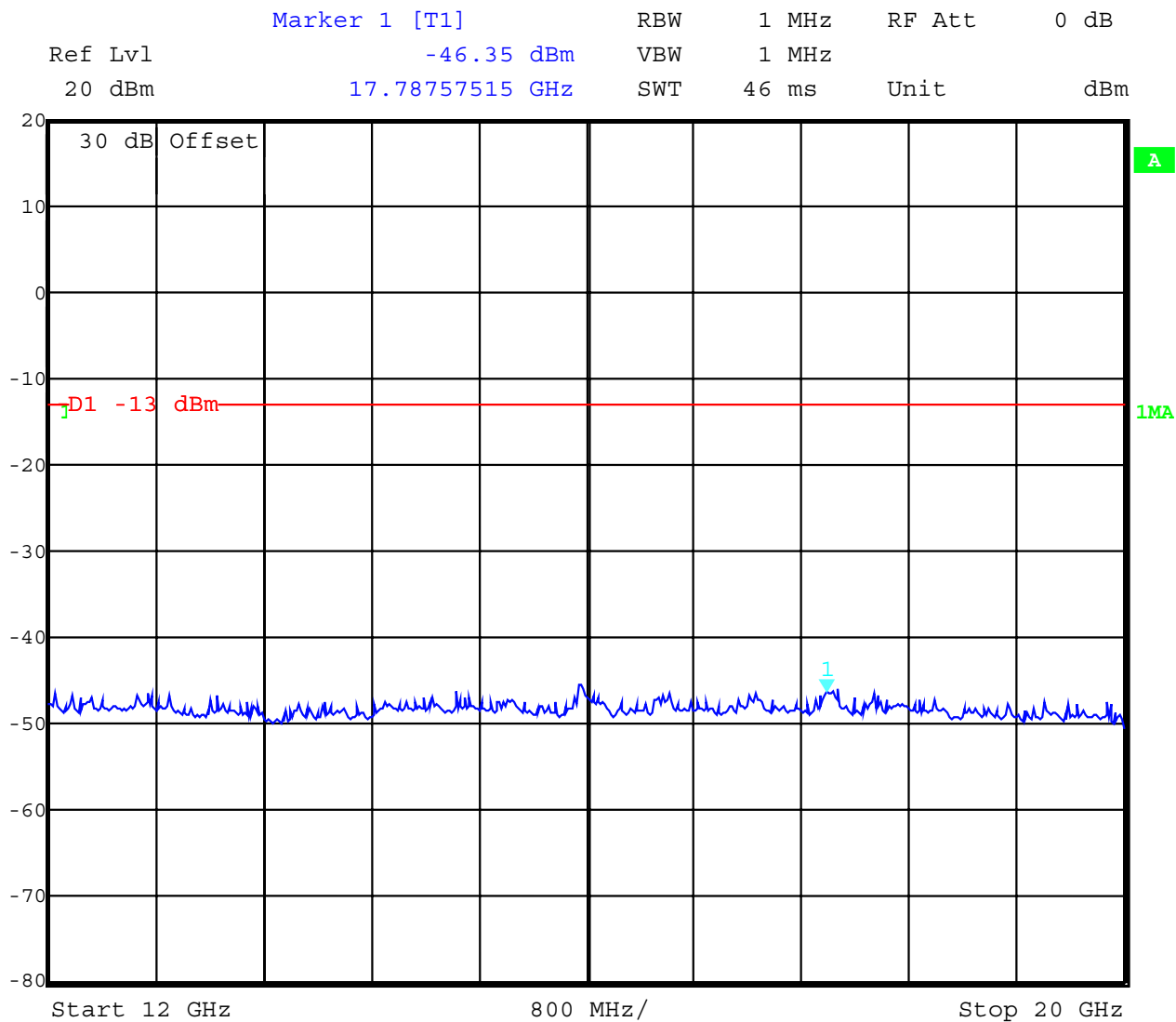
Peak at 1880 MHz shows the carrier frequency suppressed by narrow band rejection filter

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

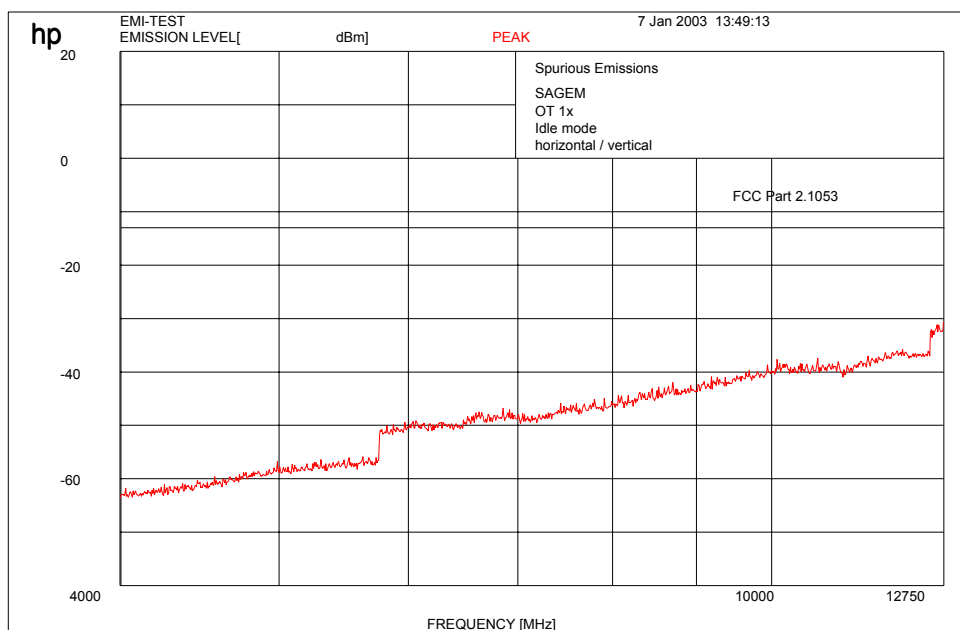
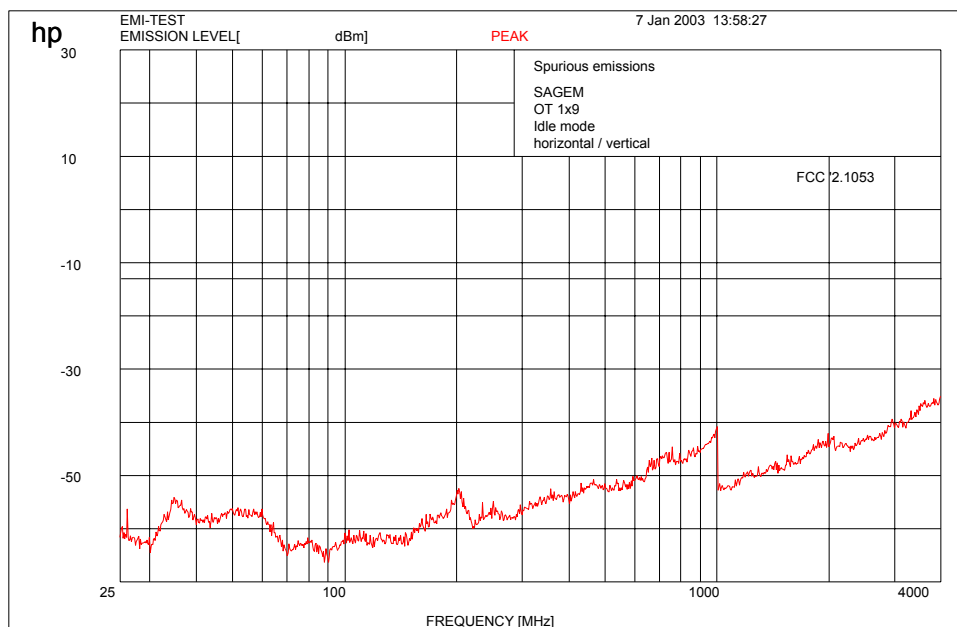
CH 661 up to 20 GHz



Date: 07.JAN.2003 13:49:37

Idle mode

30 MHz to 12 GHz



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

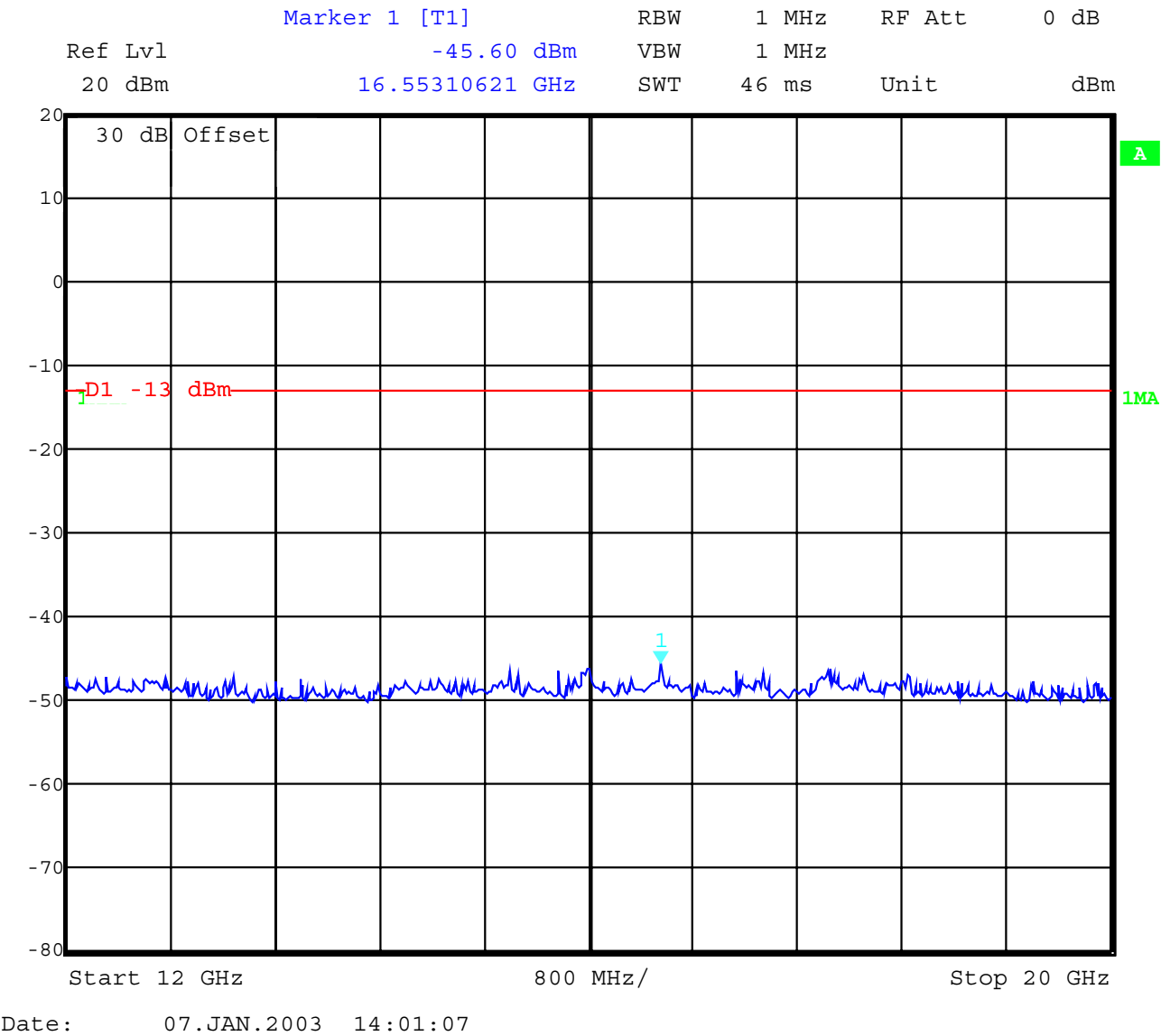
$f \geq 1 \text{ GHz}$: RBW/VBW 1 MHz

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

Idle mode up to 20 GHz



Additional measurements for the ANCILLARY EQUIPMENT

PART 15.109

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 conform with specifications ANSI C63.2-1987 clause 15 and ANSI C63.4-1992 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 setups 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 C63-4-1992 clause 4.2.

Antennas are conform with ANSI C63.2-1996 item 15.

9 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

As can be seen from this data, the emissions from the test item were within the specification limit.

Channel 661 standalone battery powered, traffic mode

No	EMISSION	SPEC LIMIT	MEASUREMENTS			POL	SITE		CORR FACTOR	COMMENTS
	FREQUENCY MHz		ABS	dLIM dB	MODE		HGT cm	AZM deg		
1	3772.1	54.0	23.1	-30.9	AV	V	97	360	N/T	
2	5643.3	54.0	19.2	-34.8	AV	V	97	360	N/T	

Channel 661 standalone battery powered, idle mode

No	EMISSION	SPEC	MEASUREMENTS			SITE		CORR	COMMENTS	
	FREQUENCY	LIMIT	ABS	dLIM	MODE	POL	HGT	AZM		FACTOR
	MHz	dBuV		dB			cm	deg		dB
1	No peaks found									

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

Channel 661 with charger and data cables, traffic mode

No	EMISSION	SPEC LIMIT	MEASUREMENTS			POL	SITE		CORR FACTOR	COMMENTS
	FREQUENCY MHz		ABS	dLIM dB	MODE		HGT cm	AZM deg		
1	31.2	40.0	32.6	-7.4	QP	V	97	360	N/T	
2	308.8	46.0	28.4	-7.6	QP	V	97	360	N/T	
3	3772.1	54.0	28.6	-25.4	AV	V	97	360	N/T	
4	5643.3	54.0	19.2	-34.8	AV	V	97	360	N/T	

Channel 661 with charger and data cables, idle mode

No	EMISSION	SPEC LIMIT	MEASUREMENTS			POL	SITE		CORR FACTOR	COMMENTS
	FREQUENCY MHz		ABS	dLIM dB	MODE		HGT cm	AZM deg		
1	32.4	40.0	32.6	-7.6	QP	V	97	360	N/T	
2	348.9	46.0	24.6	-20.6	QP	V	97	360	N/T	

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

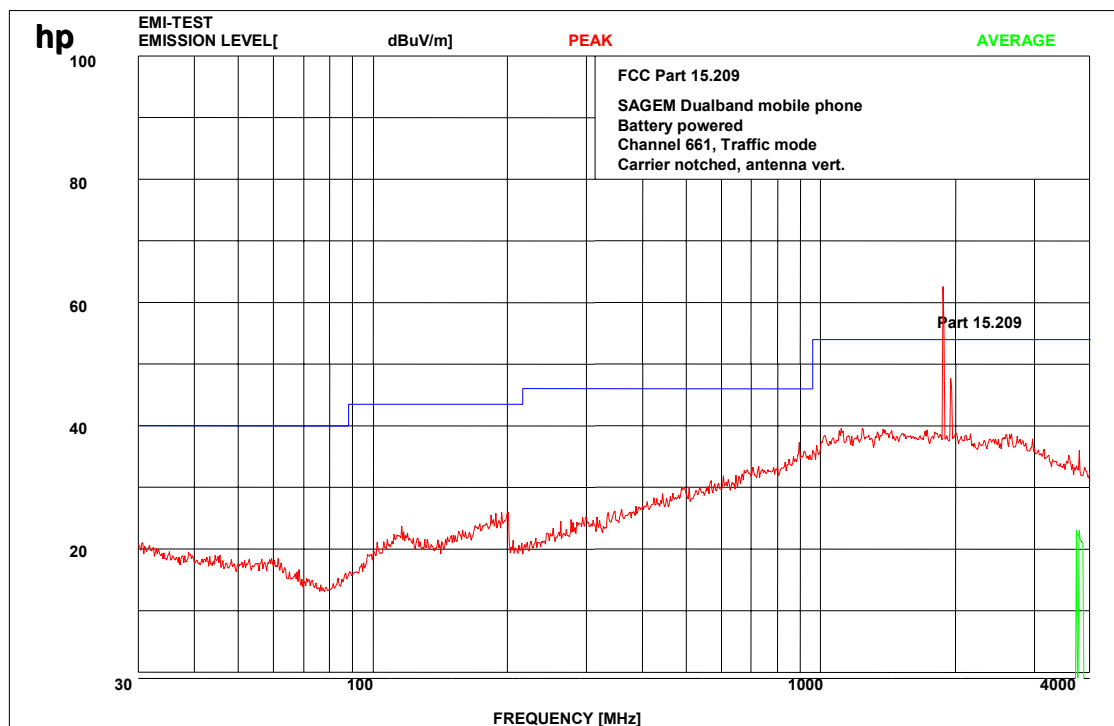
(for reference numbers see test equipment listing)

17 – 24,64

All measurements were done in horizontal and vertical polarization, the plots shows the worst case.

Channel 661 (up to 4 GHz)

Battery powered, traffic mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

Peak at 1880 MHz shows the carrier frequency suppressed by narrow band rejection filter

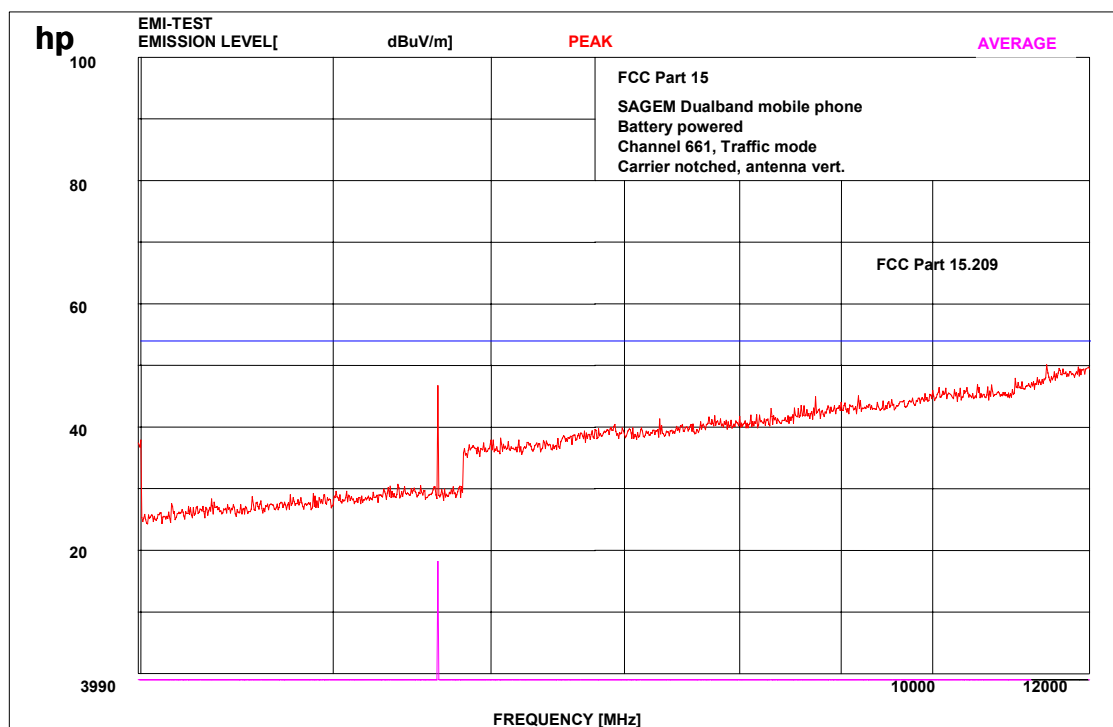
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

Channel 661 : 4 – 12 GHz

Battery powered, traffic mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

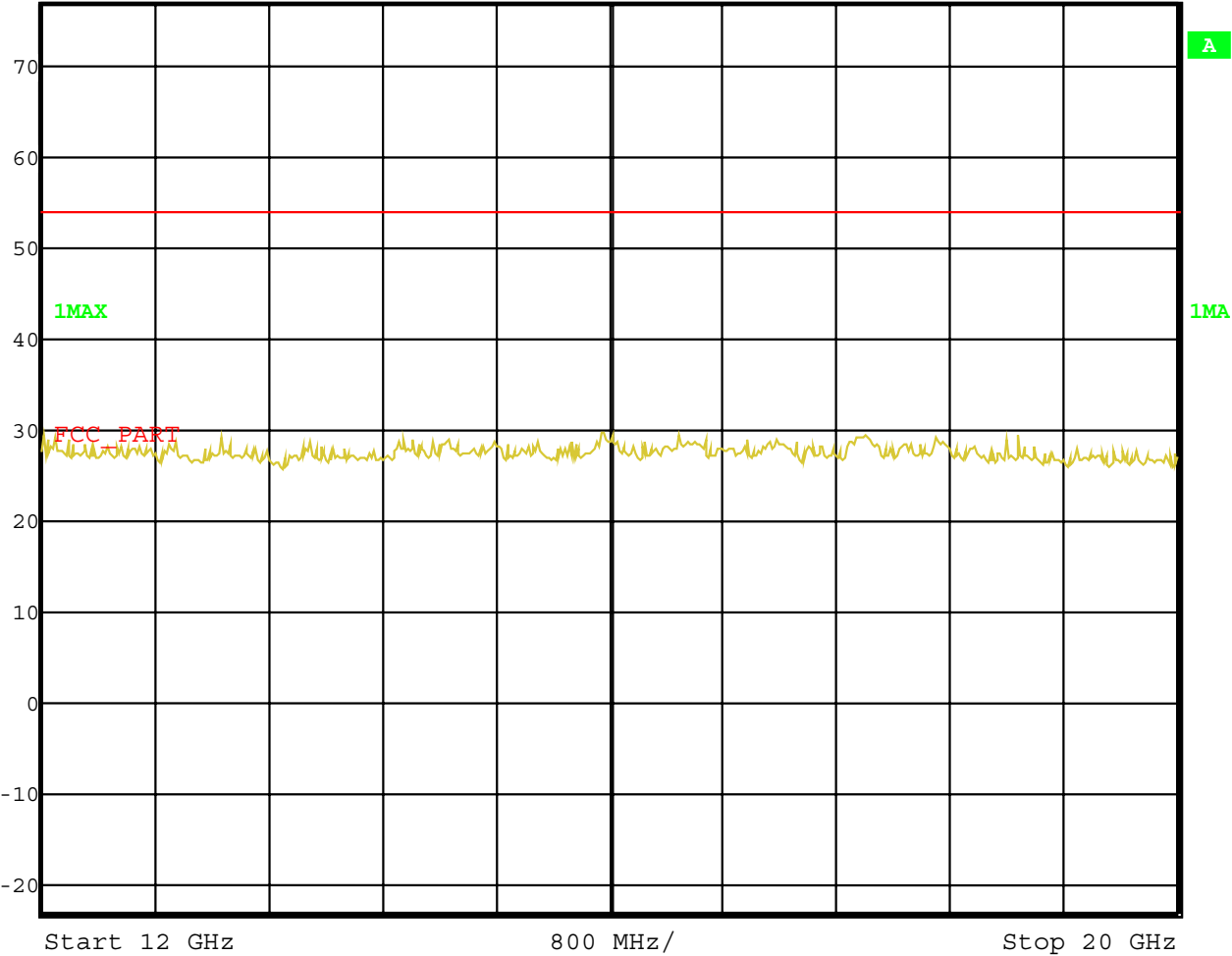
(for reference numbers see test equipment listing)

17 – 24,64

Channel 661 : 12 – 20 GHz

Battery powered, traffic mode

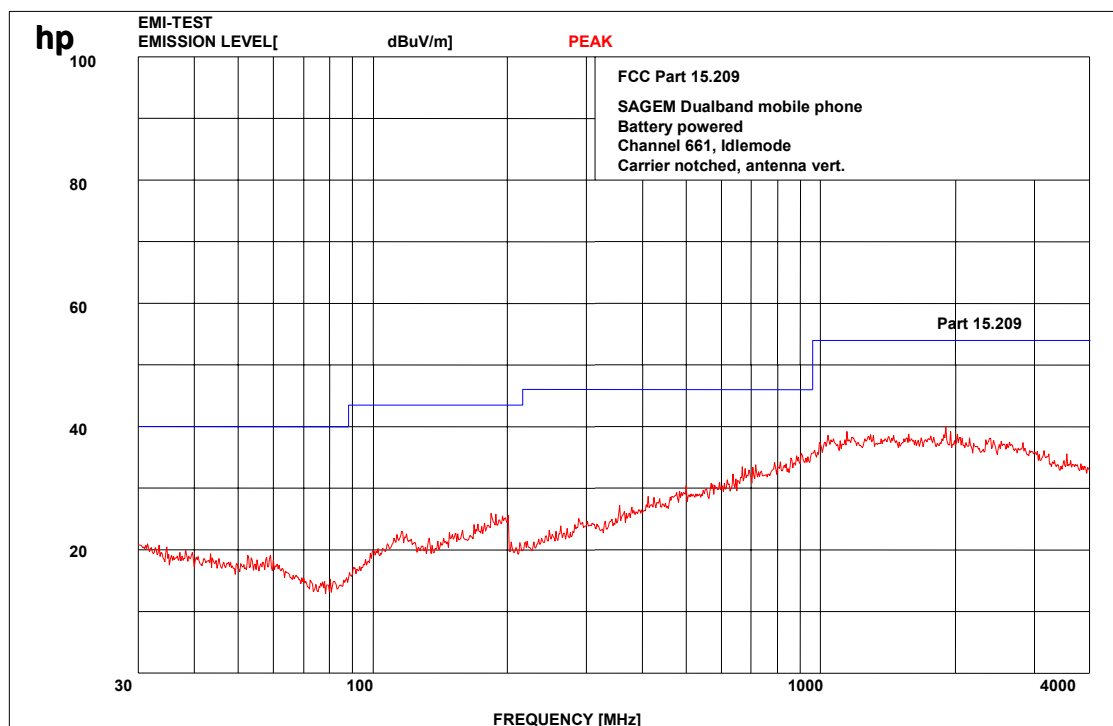
	Ref Lvl	RBW	1 MHz	RF Att	0 dB
	77 dBµV	VBW	1 MHz		
		SWT	46 ms	Unit	dBµV



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 – 24,64

Channel 661 (up to 4 GHz)

Battery powered, idle mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

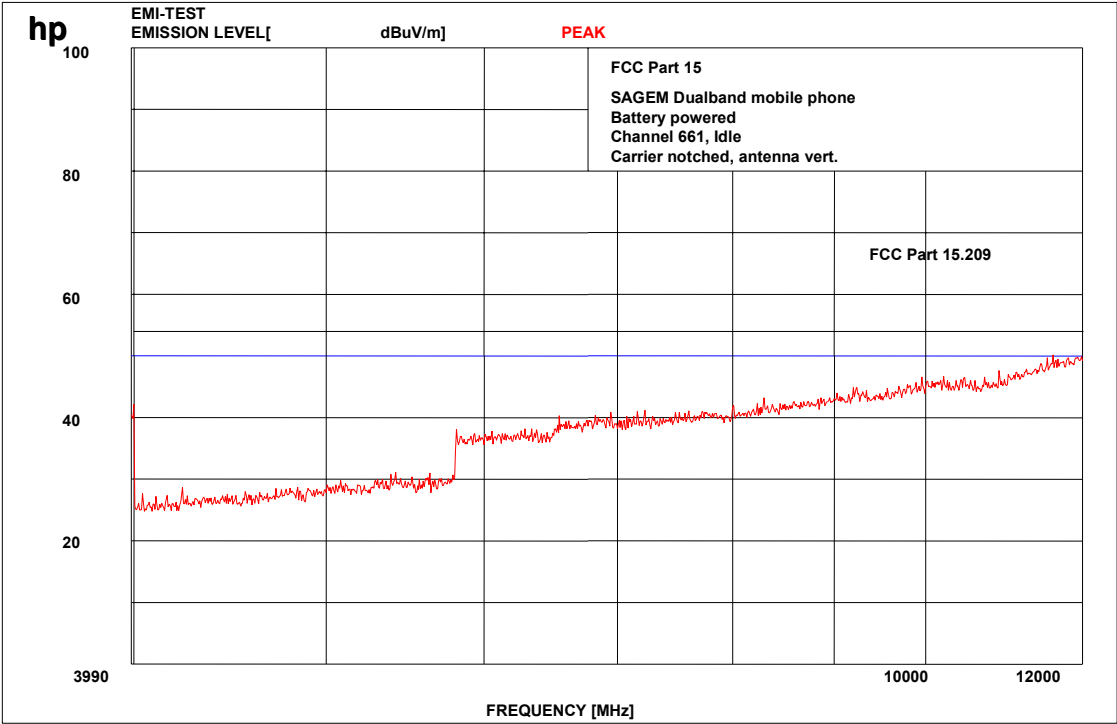
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

Channel 661 (4 to 12 GHz)

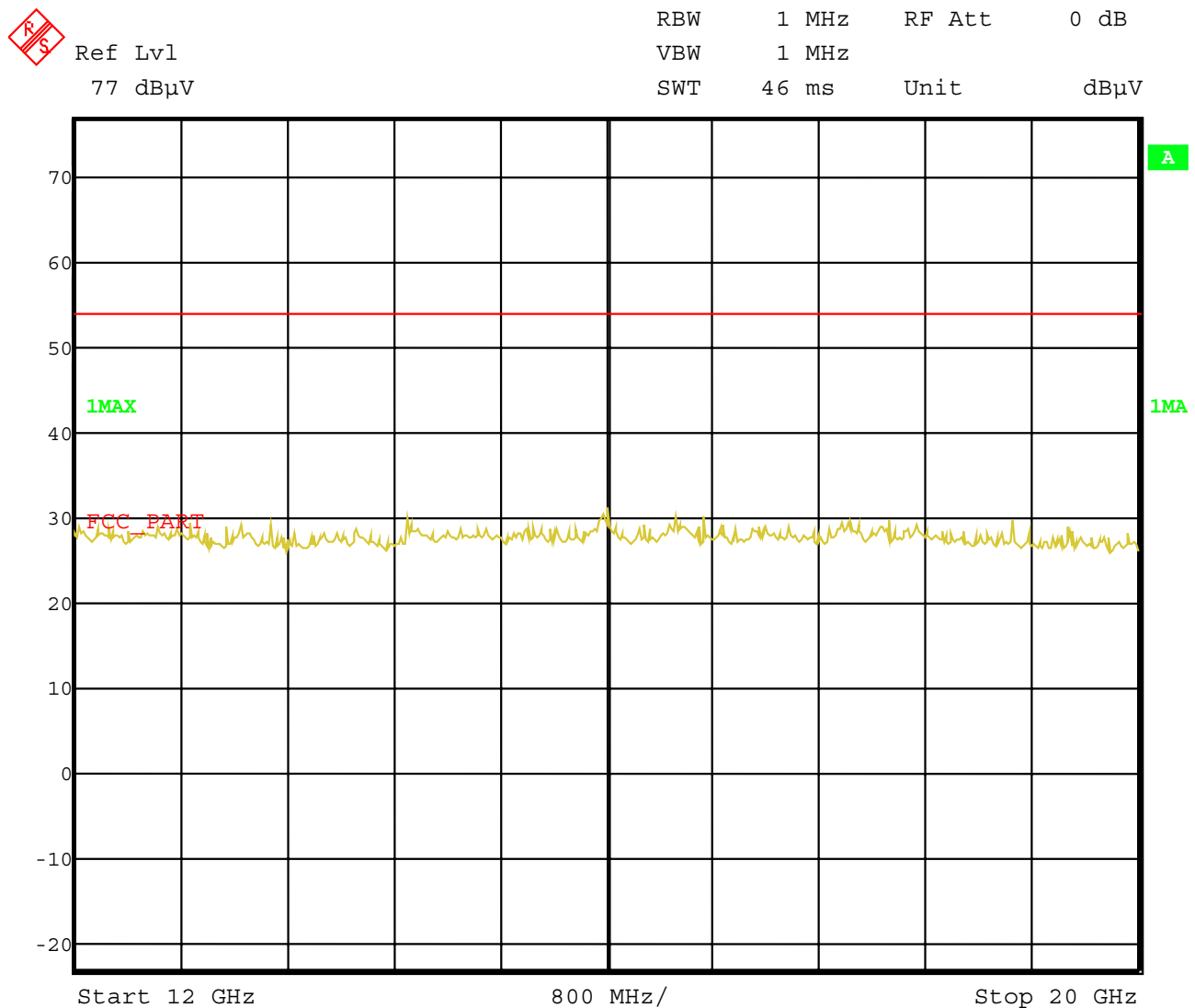
Battery powered, idle mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

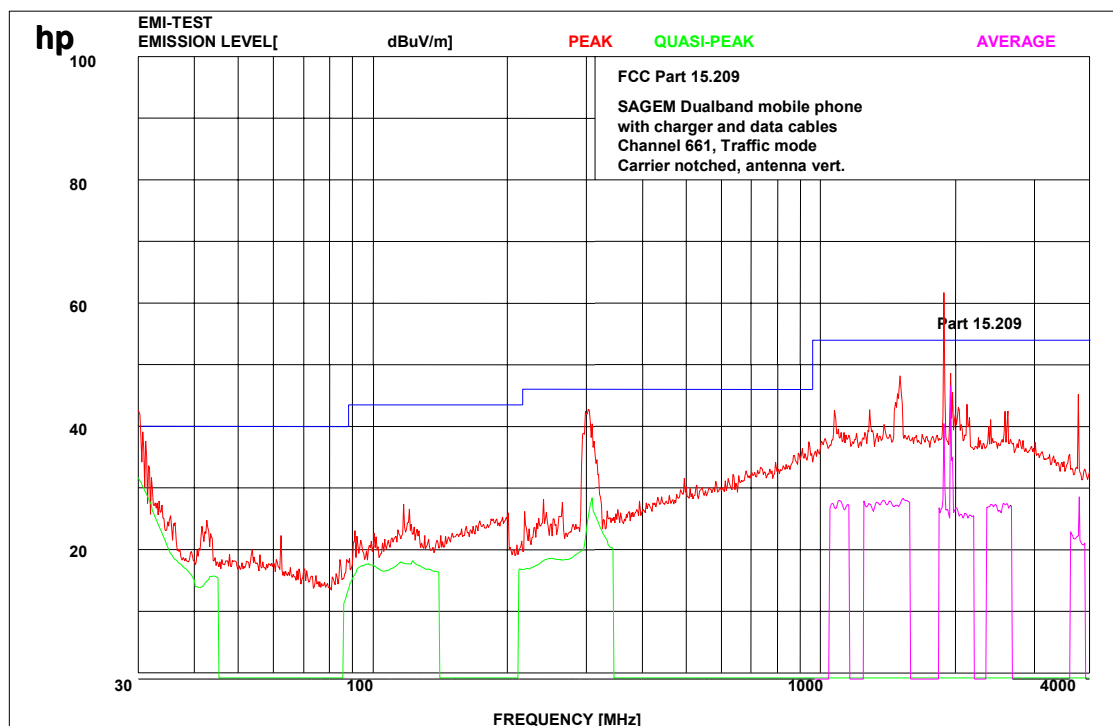
Battery powered, idle mode



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 – 24,64

Channel 661 (up to 4 GHz)

With charger and data cables, traffic mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

Peak at 1880 MHz shows the carrier frequency suppressed by narrow band rejection filter

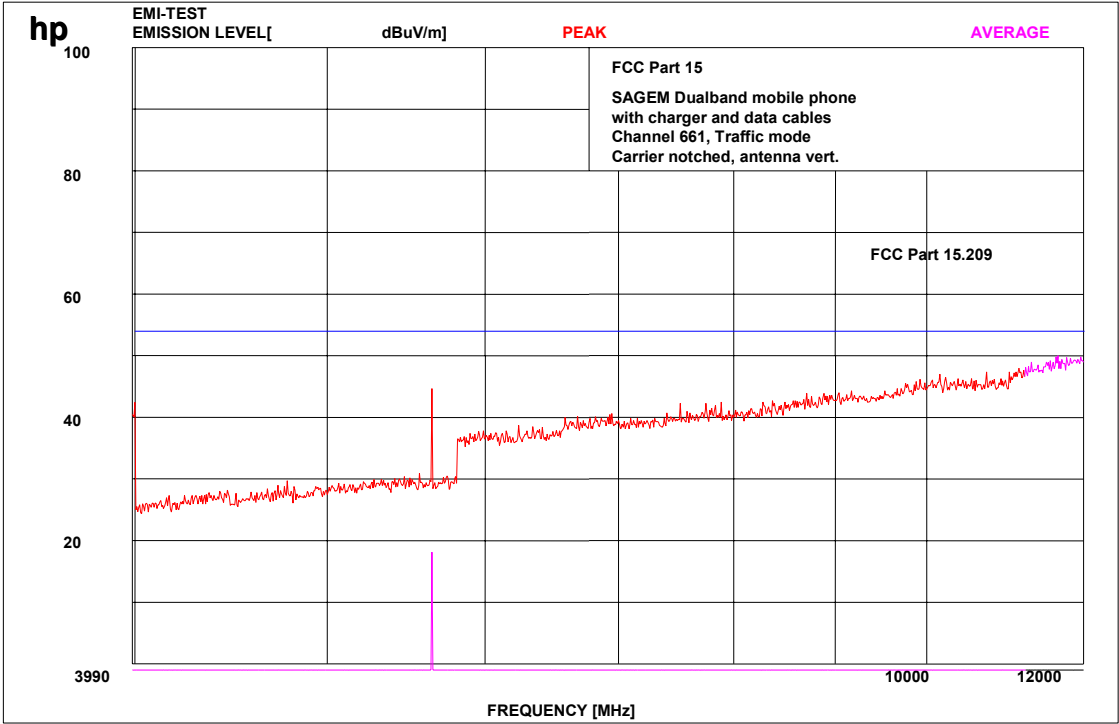
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

Channel 661 (4 to 12 GHz)

With charger and data cables, traffic mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

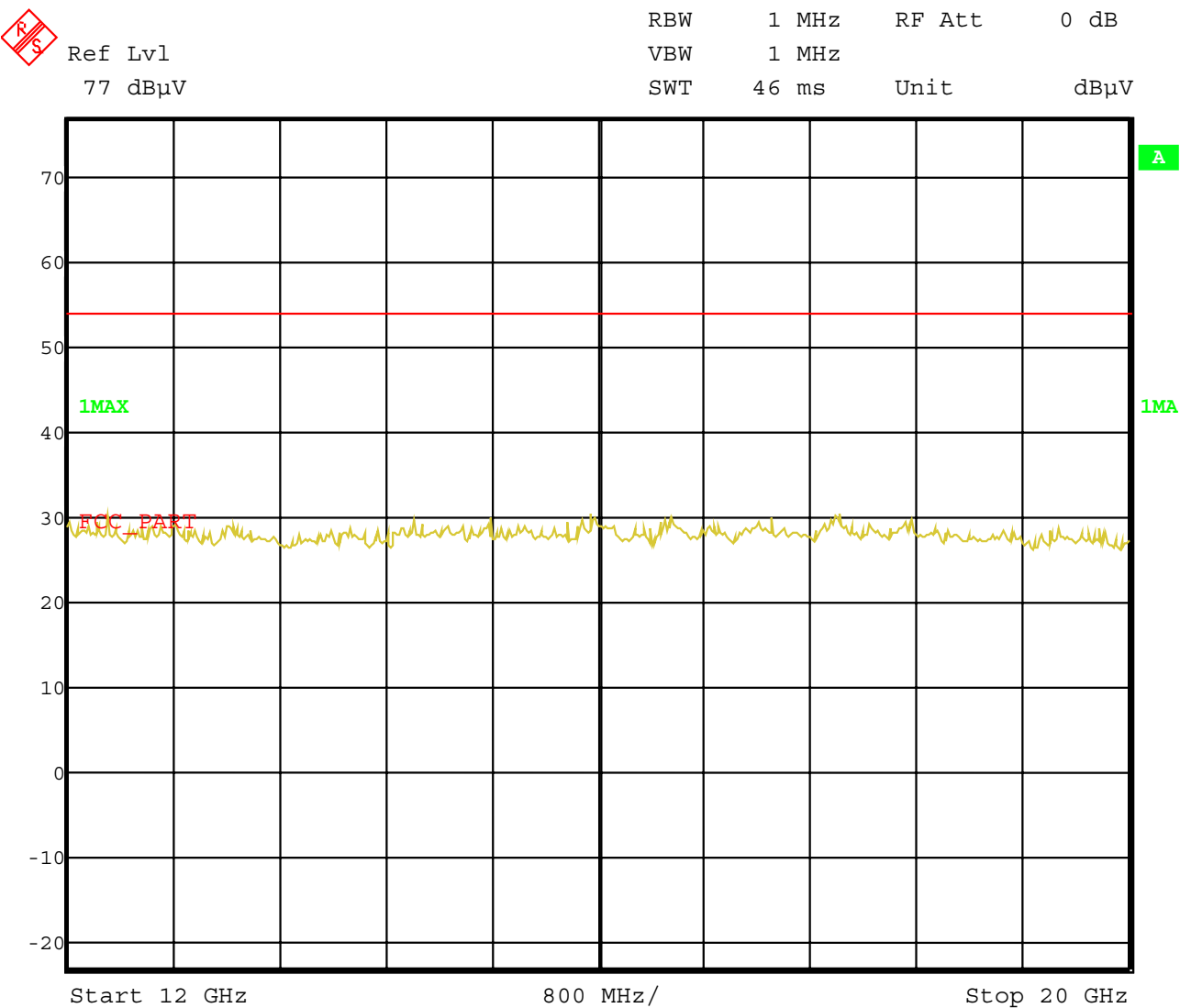
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

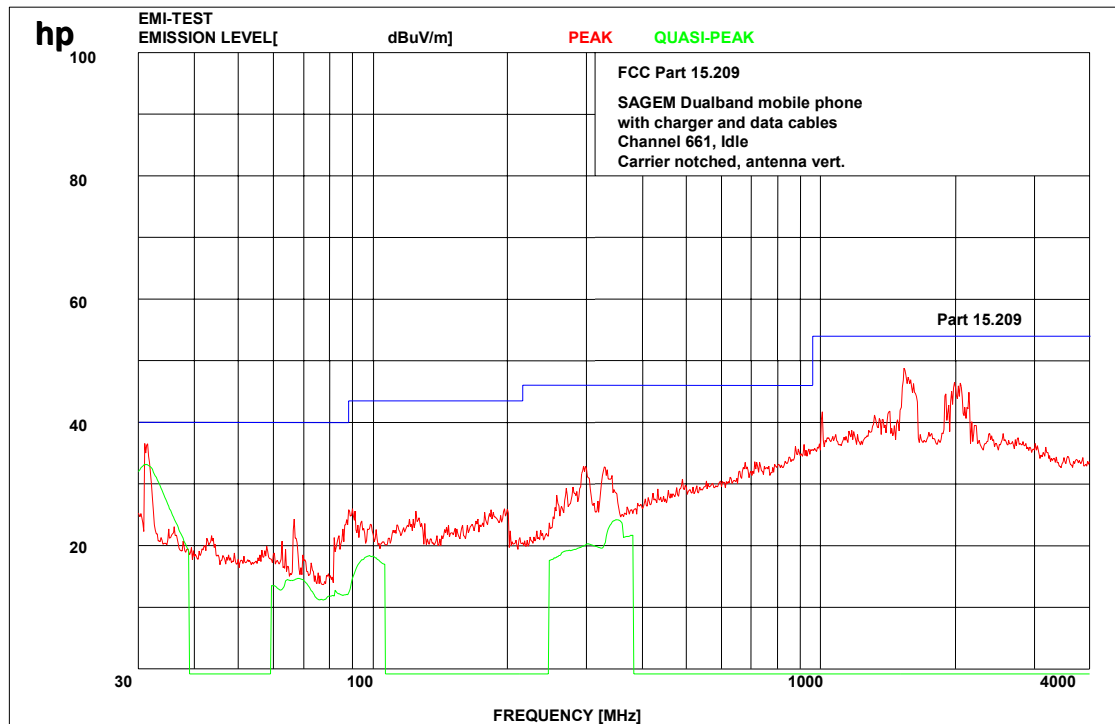
Channel 661 (12 to 20 GHz)

With charger and data cables, traffic mode



Channel 661 (up to 4 GHz)

With charger and data cables, idle mode



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

$f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

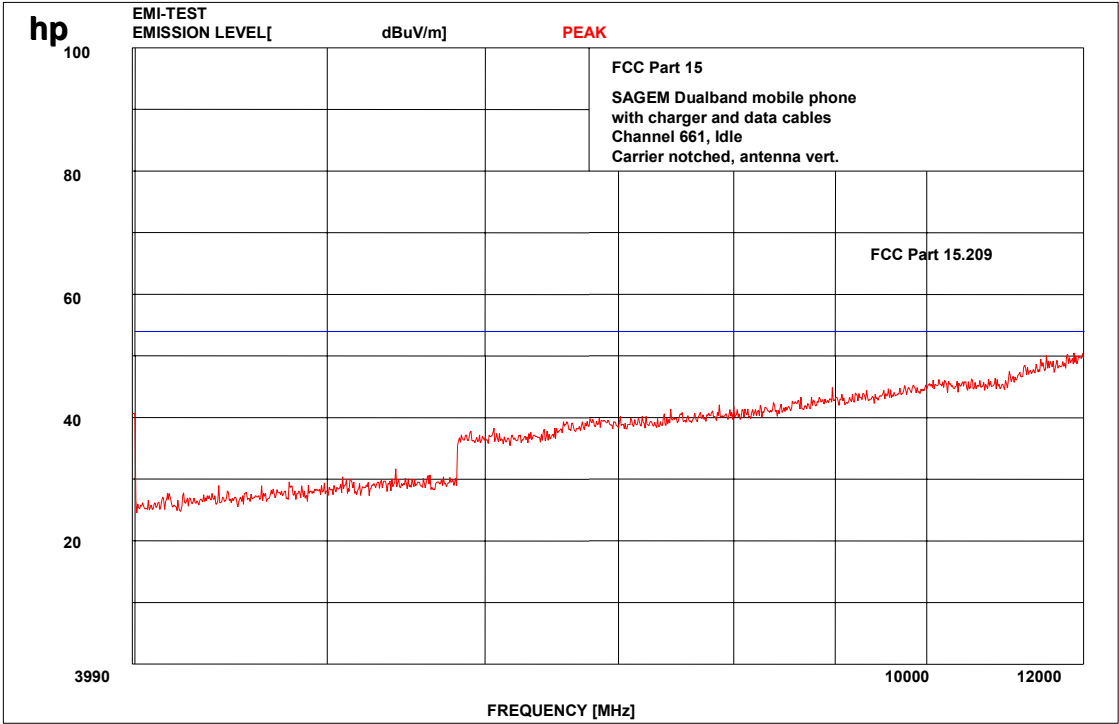
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED

(for reference numbers see test equipment listing)

17 – 24,64

Channel 661 (4 to 12 GHz)

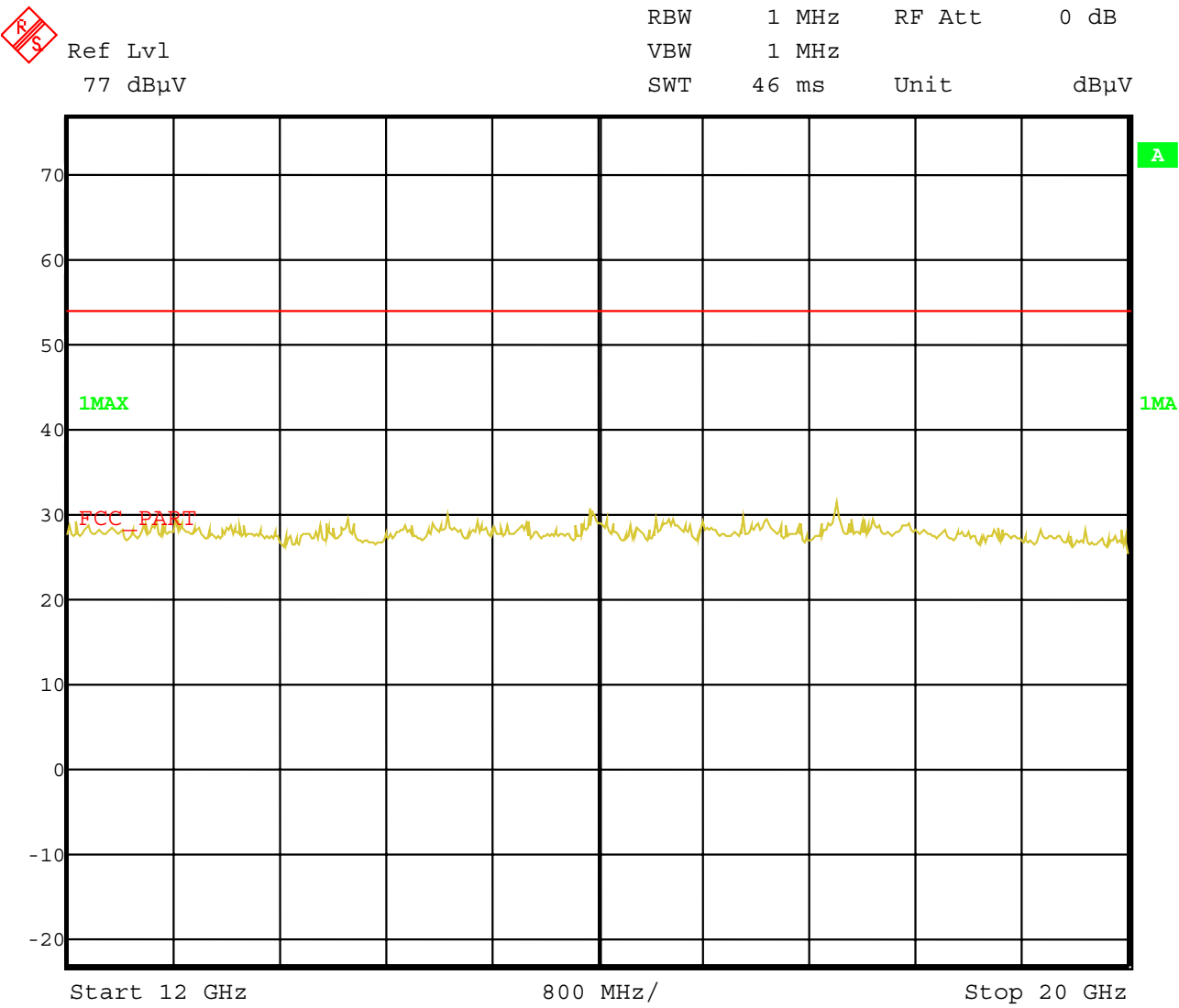
With charger and data cables, idle mode



$f < 1 \text{ GHz}$: RBW/VBW: 100 kHz $f \geq 1 \text{ GHz}$: RBW 1 MHz /VBW: 10 Hz (Average)

Channel 661 (12 to 20 GHz)

With charger and data cables, idle mode



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)

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.

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
01	Spectrum Analyzer	8566 A	Hewlett-Packard	1925A00257
02	Analyzer Display	8566 A	Hewlett-Packard	1925A00860
03	Oscilloscope	7633	Tektronix	230054
04	Radio Communication Analyzer	CMTA 54	Rohde & Schwarz	894 043/010
05	System Power Supply	6038 A	Hewlett-Packard	2848A07027
06	Signal Generator	8111 A	Hewlett-Packard	2215G00867
07	Signal Generator	8662 A	Hewlett-Packard	2224A01012
08	Function Generator	AFGU	Rohde & Schwarz	862 480/032
09	Regulating Transformer	MPL	Erfi	91350
10	LISN	NNLA 8120	Schwarzbeck	8120331
11	Relay-Matrix	PSU	Rohde & Schwarz	893 285/020
12	Power-Meter	436 A	Hewlett-Packard	2101A12378
13	Power-Sensor	8484 A	Hewlett-Packard	2237A10156
14	Power-Sensor	8482 A	Hewlett-Packard	2237A00616
15	Modulation Meter	9008	Racal-Dana	2647
16	Frequency Counter	5340 A	Hewlett-Packard	1532A03899
17	Anechoic Chamber	---	MWB	87400/002
18	Spectrum Analyzer	85660 B	Hewlett-Packard	2747A05306
19	Analyzer Display	85662 A	Hewlett-Packard	2816A16541
20	Quasi Peak Adapter	85650 A	Hewlett-Packard	2811A01131
21	RF-Preselector	85685 A	Hewlett-Packard	2833A00768
22	Biconical Antenna	3104	Emco	3758
23	Log. Per. Antenna	3146	Emco	2130
24	Double Ridged Horn	3115	Emco	3088
25	EMI-Testreceiver	ESAI	Rohde & Schwarz	863 180/013
26	EMI-Analyzer-Display	ESAI-D	Rohde & Schwarz	862 771/008
27	Biconical Antenna	HK 116	Rohde & Schwarz	888 945/013
28	Log. Per. Antenna	HL 223	Rohde & Schwarz	825 584/002
29	Relay-Switch-Unit	RSU	Rohde & Schwarz	375 339/002
30	Highpass	HM985955	FSY Microwave	001
31	Amplifier	P42-GA29	Tron-Tech	B 23602
32	Anechoic Chamber		Frankonia	
33	Control Computer	PSM 7	Rohde & Schwarz	834 621/004
34	EMI Test Receiver	ESMI	Rohde & Schwarz	827 063/010
35	EMI Test Receiver	Display	Rohde & Schwarz	829 808/010

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.

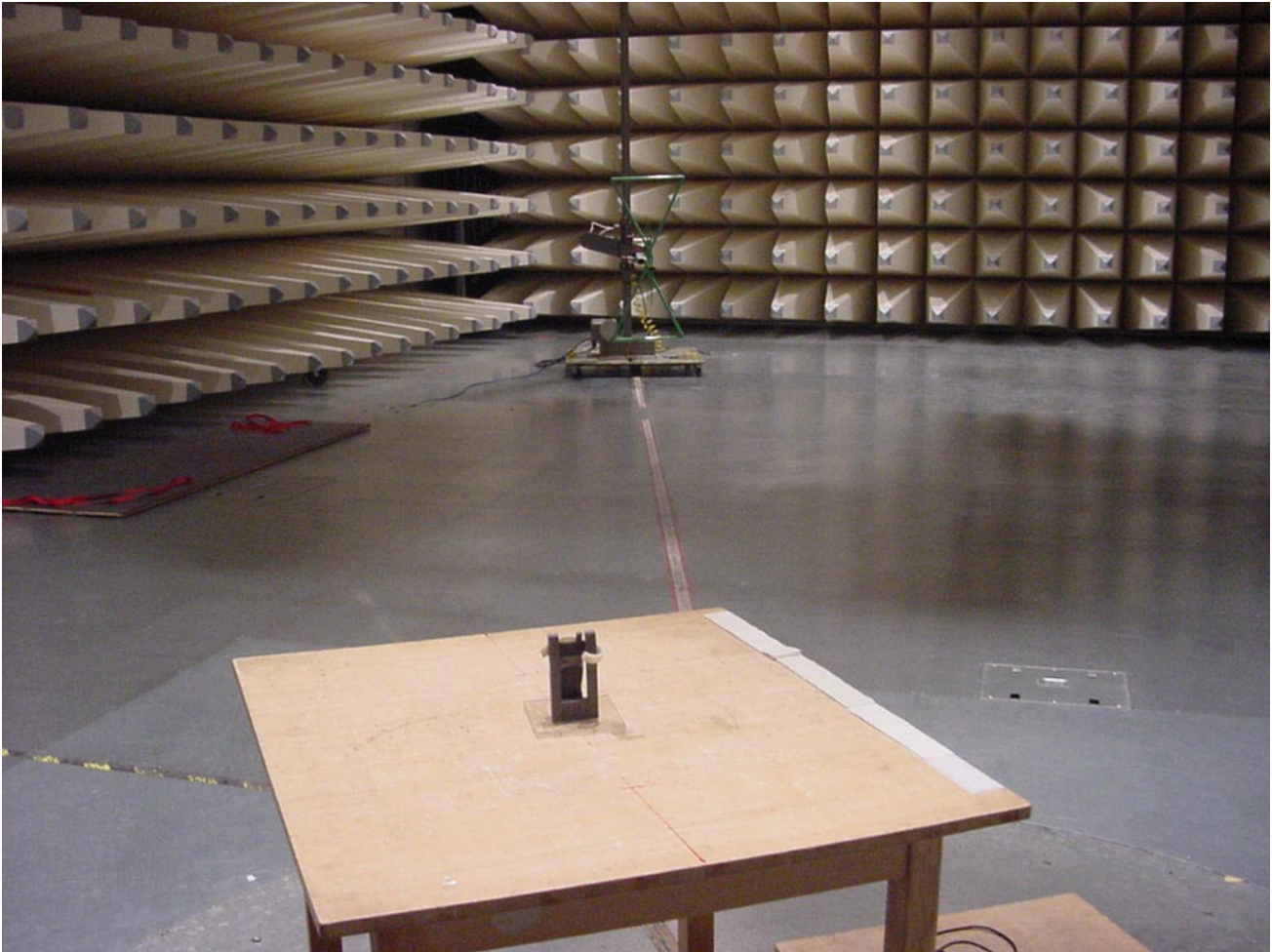
No	Instrument/Ancillary	Type	Manufacturer	Serial No.
36	Control Computer	HD 100	Deisel	100/322/93
37	Relay Matrix	PSN	Rohde & Schwarz	829 065/003
38	Control Unit	GB 016 A2	Rohde & Schwarz	344 122/008
39	Relay Switch Unit	RSU	Rohde & Schwarz	316 790/001
40	Power Supply	6032A	Hewlett Packard	2846A04063
41	Spectrum Monitor	EZM	Rohde & Schwarz	883 720/006
42	Measuring Receiver	ESH 3	Rohde & Schwarz	890 174/002
43	Measuring Receiver	ESVP	Rohde & Schwarz	891 752/005
44	Bicon Ant. 20-300MHz	HK 116	Rohde & Schwarz	833 162/011
45	Logper Ant. 0.3-1 GHz	HL 223	Rohde & Schwarz	832 914/010
46	Amplifier 0.1-4 GHz	AFS4	Miteq Inc.	206461
47	Logper Ant. 1-18 GHz	HL 024 A2	Rohde & Schwarz	342 662/002
48	Polarisation Network	HL 024 Z1	Rohde & Schwarz	341 570/002
49	Double Ridged Horn Antenna 1-26.5 GHz	3115	EMCO	9107-3696
50	Microw. Sys. Amplifier 0.5- 26.5 GHz	8317A	Hewlett Packard	3123A00105
51	Audio Analyzer	UPD	Rohde & Schwarz	1030.7500.04
52	Controler	PSM 7	Rohde & Schwarz	883 086/026
53	DC V-Network	ESH3-Z6	Rohde & Schwarz	861 406/005
54	DC V-Network	ESH3-Z6	Rohde & Schwarz	893 689/012
55	AC 2 Phase V-Network	ESH3-Z5	Rohde & Schwarz	861 189/014
56	AC 2 Phase V-Network	ESH3-Z5	Rohde & Schwarz	894 981/019
57	AC-3 Phase V-Network	ESH2-Z5	Rohde & Schwarz	882 394/007
58	Power Supply	6032A	Rohde & Schwarz	2933A05441
59	RF-Test Receiver	ESVP.52	Rohde & Schwarz	881 487/021
60	Spectrum Monitor	EZM	Rohde & Schwarz	883 086/026
61	RF-Test Receiver	ESH3	Rohde & Schwarz	881 515/002
62	Relay Matrix	PSU	Rohde & Schwarz	882 943/029
63	Relay Matrix	PSU	Rohde & Schwarz	828 628/007
64	Spectrum Analyzer	FSIQ 26	Rohde & Schwarz	119.6001.27
65	Spectrum Analyzer	HP 8565E	Hewlett Packard	3473A00773
66				
67				
68				

Test site

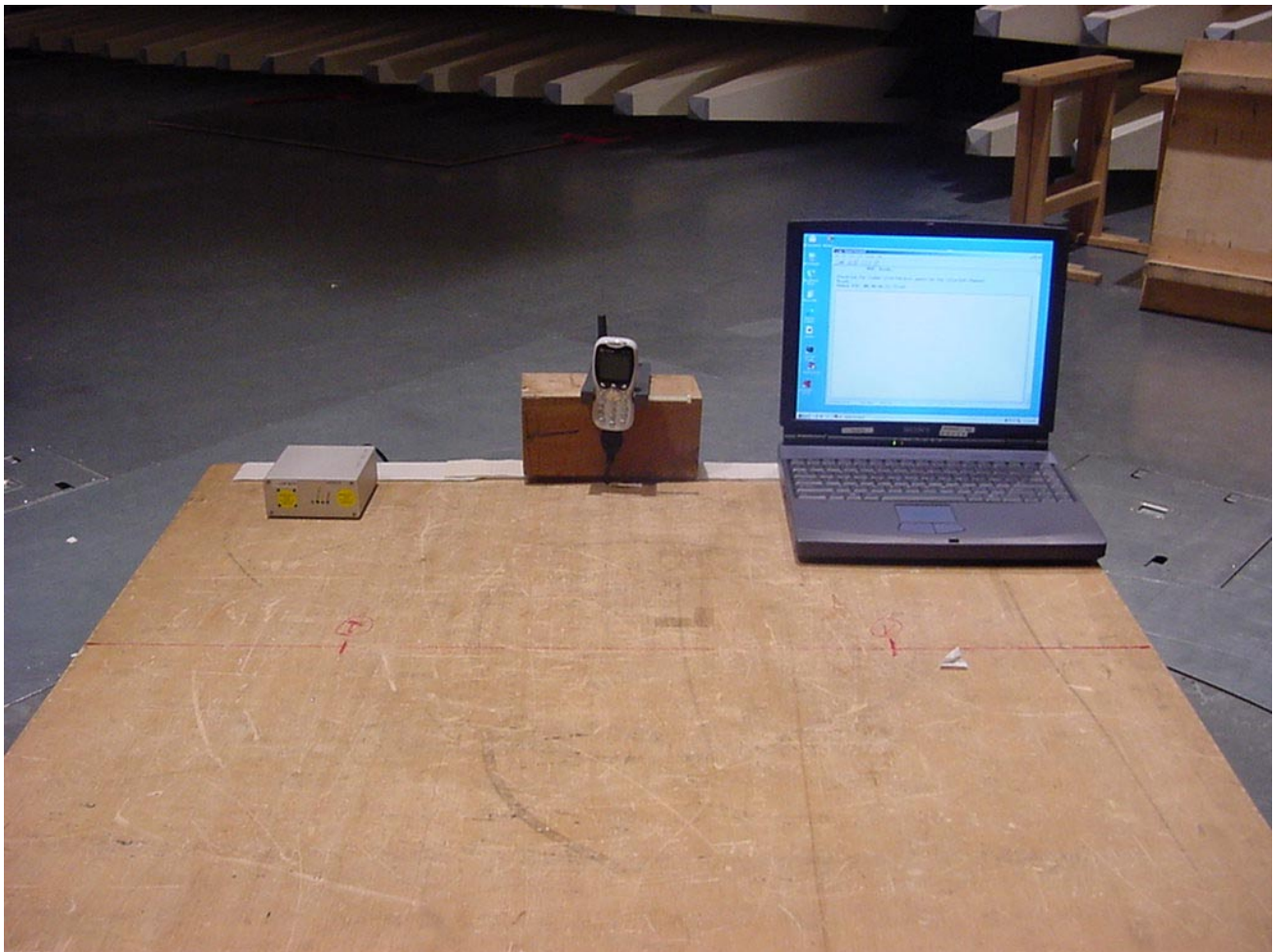
RADIATED EMISSIONS



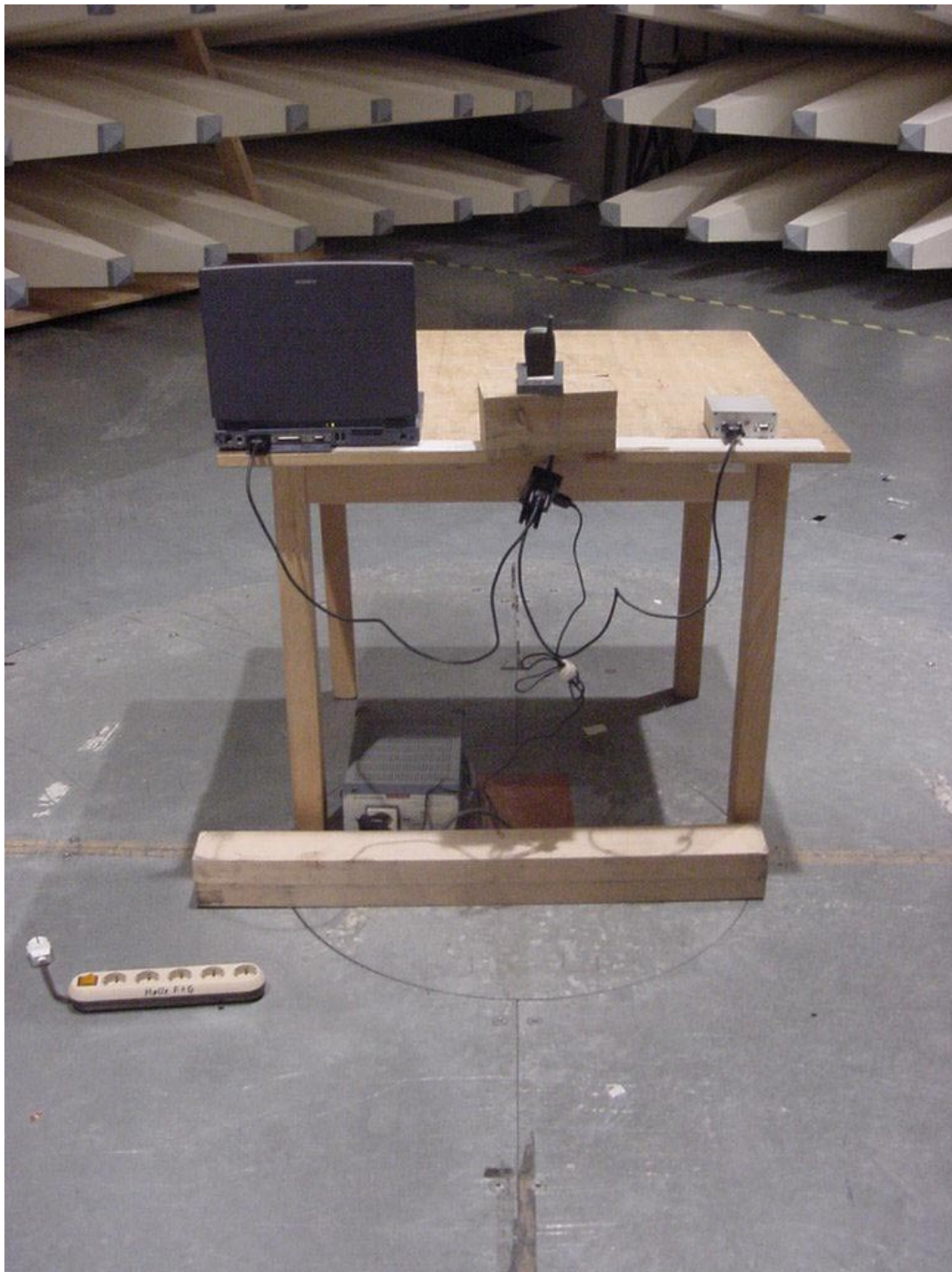
Test site RADIATED EMISSIONS



Test site RADIATED EMISSIONS



Test site RADIATED EMISSIONS



Test site RADIATED EMISSIONS



Photographs of the equipment

Photograph no.: 1

