



FCC Test Report

FCC Part 15.247 for FHSS systems/ CANADA RSS-210

FOR:

Notebook PC

MODEL #: PCG-4J1L

SONY CORPORATION
6-7-35, KITASHINAGAWA, SHINAGAWA-KU
TOKYO 141-0001
JAPAN

FCC ID: AK8PCG4J1L
IC ID: 409B-PCG4J1L

TEST REPORT #: SONYE_008_06002_15.247BluetoothREV1
Date: 08/25/2006



FCC listed#
101450

IC recognized #
3925

CETECOM Inc.

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CETECOM Inc. is a Delaware Corporation with Corporation number: 2113686

Board of Directors: Dr. Harald Ansorge, Dr. Klaus Matkey, Hans Peter May

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1 Assessment

The following is in compliance with the applicable criteria specified in FCC rules Part 15.247 of the Code of Federal Regulations and in compliance with the applicable criteria specified in Industry Canada rules RSS210.

Company	Description	Model #
SONY CORPORATION	Notebook PC	PCG-4J1L

A handwritten signature in black ink that reads "Michael Grings". The signature is written in a cursive, flowing style.

Michael Grings
Deputy Test Lab Manager

The test results of this test report relate exclusively to the test item specified in Identification of the Equipment under Test. The CETECOM Inc. USA 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 Inc USA.



2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

Company Name:	CETECOM Inc.
Department:	EMC
Address:	411 Dixon Landing Road Milpitas, CA 95035 U.S.A.
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Responsible Test Lab Manager:	Lothar Schmidt
Responsible Project Leader:	Michael Grings
Date of test:	6/19/2006 to 6/22/2006

2.2 Identification of the Client

Applicant's Name:	SONY Corporation
Street Address:	6-7-35, Kitashinagawa, Shinagawa-ku,
City/Zip Code	Tokyo 141-0001
Country	Japan
Contact Person:	Katsunori Tsusui
Phone No.	81-263-72-5696
Fax:	81-263-72-9755
e-mail:	Katsunori.tsusui@jp.sony.com

2.3 Identification of the Manufacturer

Manufacturer's Name:	Sony EMCS Corporation
Manufacturers Address:	5432 Toyoshima, Toyoshima -machi, Minamiazumi-gun
City/Zip Code	Nagano 399-8282,
Country	Japan

3 Equipment under Test (EUT)

3.1 Identification of the Equipment under Test

Marketing Name:	VAIO-VGN-TX
Description:	Notebook PC
Model No:	PCG-4J1L
FCC ID:	AK8PCG4J1L
IC ID:	409B-PCG4J1L
Frequency Range:	2400-2483.5MHz
Type(s) of Modulation:	GFSK
Number of Channels:	79
Antenna Type:	λ/monopole (Chip Antenna)
Output Power:	0.000196 W EIRP@ 2441 MHz

3.2 Identification of Accessory equipment

TYPE	MANUFACTURER.	MODEL
AC ADAPTER	SONY	VGP-AC16V8



4 Subject Of Investigation

All testing was performed on the PCG-4J3 referred to as EUT. The EUT carries a pre-certified Bluetooth module with FCC ID# CWTUGPZ6. This test report contains full radiated testing as per FCC15.247 on the EUT with the pre-certified Bluetooth module. All conducted measurements are covered under *test report# 25JE0028-YK-1*.

During the testing process the EUT was tested on a single channel using PRBS9 payload using DH5 packets, all data in this report shows the worst case between horizontal and vertical polarization for above 1GHz.

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT as specified by requirements listed in FCC rules Part 15.247 of Title 47 of the Code of Federal Regulations and Industry Canada rules RSS210.

5 Measurements

5.1 MAXIMUM PEAK OUTPUT POWER § 15.247 (RADIATED)

5.1.1 LIMIT SUB CLAUSE § 15.247 (b) (1) (2) (3) (4)

Frequency range	RF power output
2400-2483.5 MHz	36dBm EIRP

*limit is based upon antenna gain of less than or equal to 6dBi.

5.1.2 EIRP:

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)		
Frequency (MHz)		2402	2441	2480
T _{nom} (23)°C	V _{nom} VDC	-8.25	-7.08	-7.3
Measurement uncertainty		±0.5dBm		



EIRP (2402 MHz)

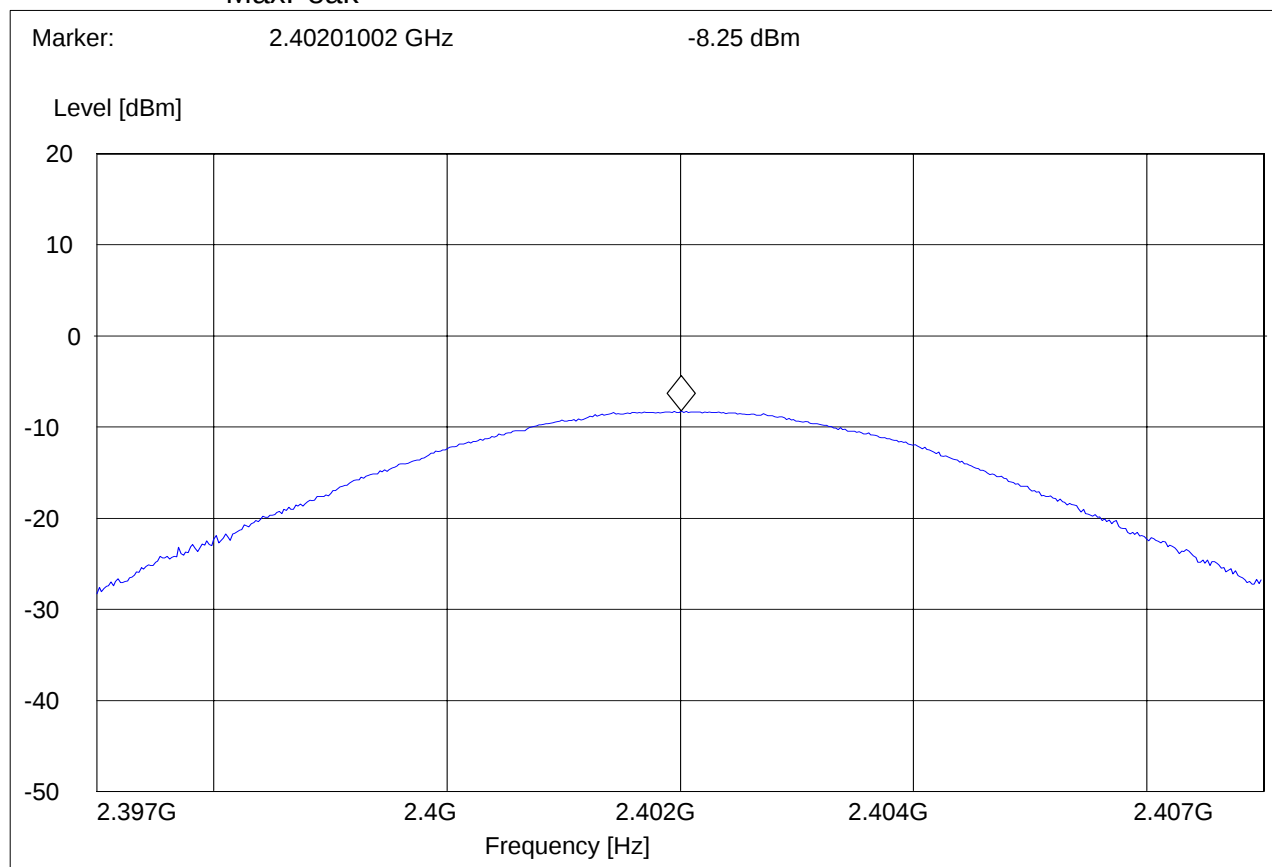
CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: EIRP BT lochannel 2402Mhz 282°

SWEEP TABLE: "EIRP BT low channel"

Short Description:		EIRP Bluetooth channel-2402MHz			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
2.4 GHz	2.4 GHz	MaxPeak	Coupled	3 MHz	DUMMY-DBM

MaxPeak





EIRP (2441 MHz)

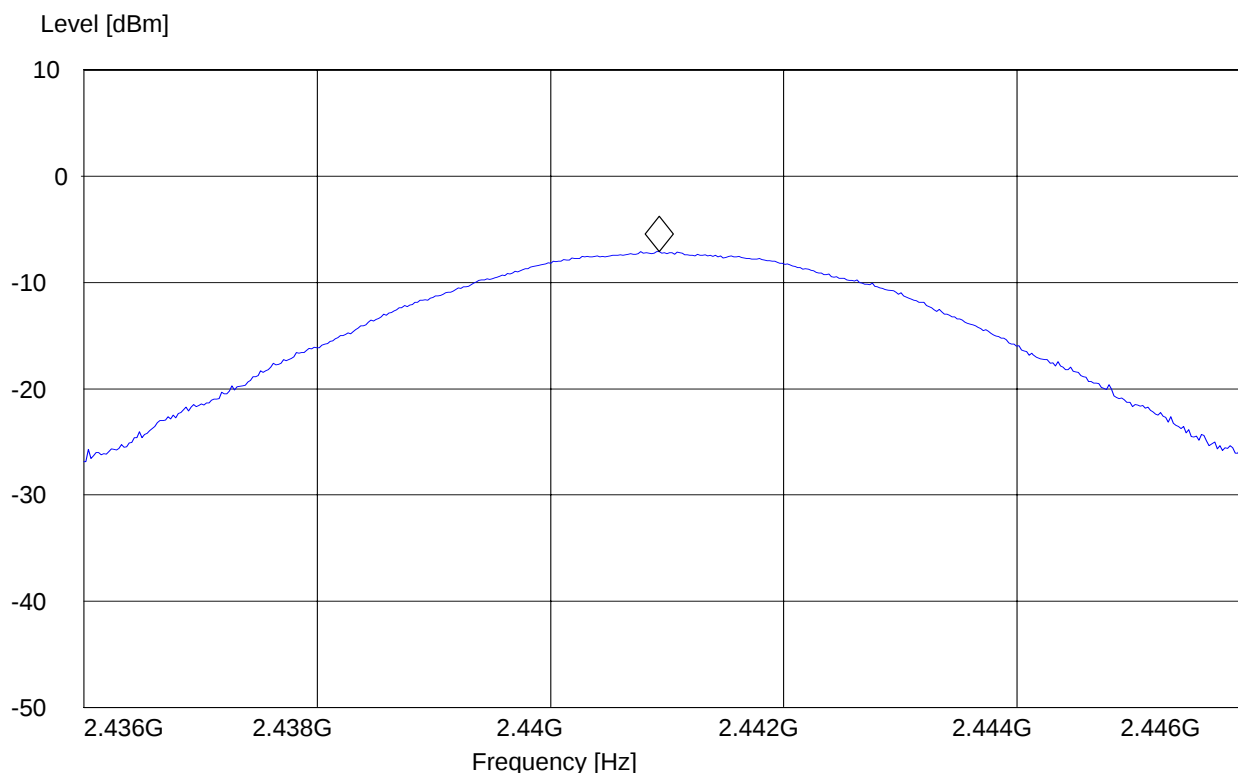
CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: EIRP BT midchannel 2441Mhz, TABLE 282 DEGREES.

SWEEP TABLE: "EIRP BT mid channel"

Short Description:		EIRP Bluetooth channel-2441MHz			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
2.4 GHz	2.4 GHz	MaxPeak	Coupled	3 MHz	DUMMY-DBM

Marker: 2.44092986 GHz -7.08 dBm





EIRP (2480 MHz)

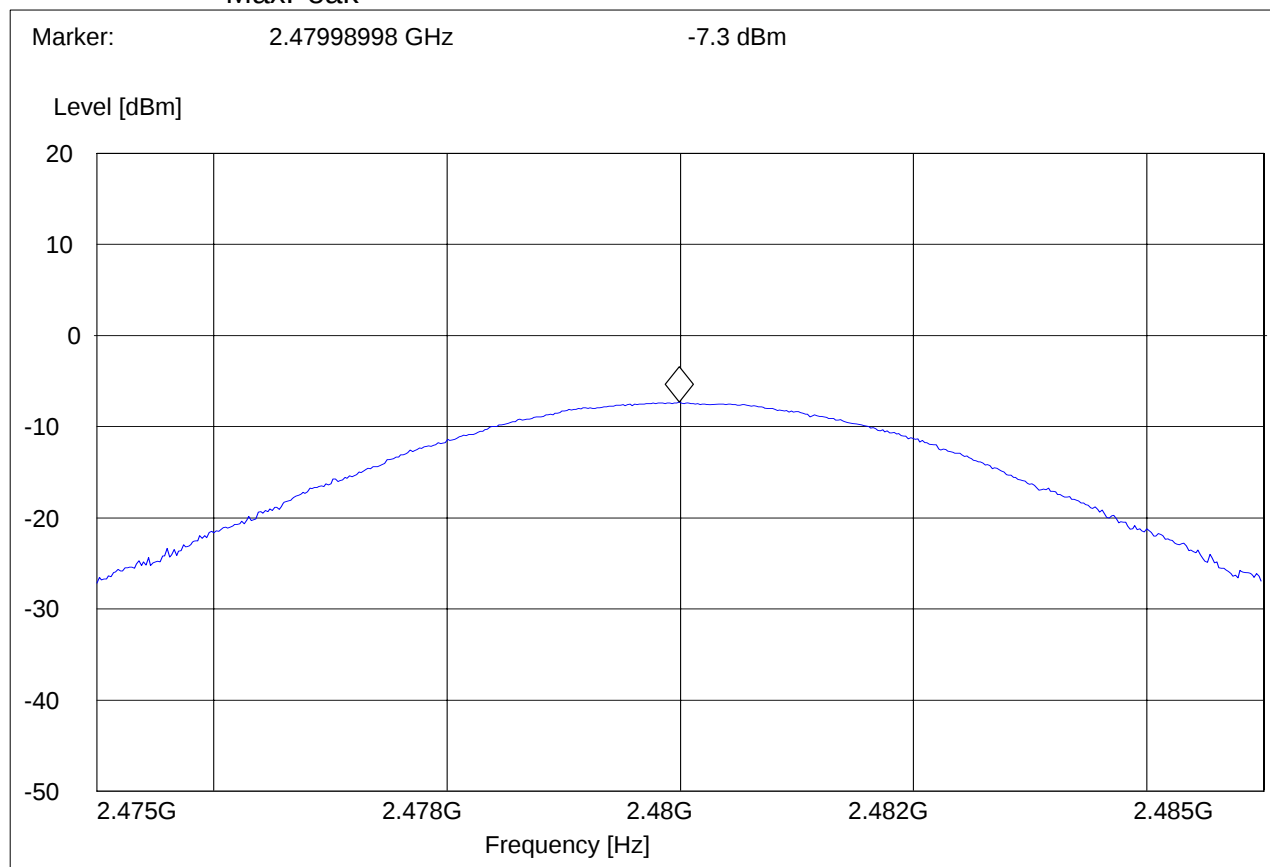
CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode, 2480MHz
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: EIRP BT hi channel 2480Mhz 282°

SWEEP TABLE: "EIRP BT high channel"

Short Description:		EIRP Bluetooth channel-2480MHz			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
2.5 GHz	2.5 GHz	MaxPeak	Coupled	3 MHz	DUMMY-DBM

MaxPeak



5.2 RESTRICTED BAND EDGE COMPLIANCE RADIATED §15.247/15.205

5.2.1 LIMITS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

*PEAK LIMIT= 74dBuV/m

*AVG. LIMIT= 54dBuV/m



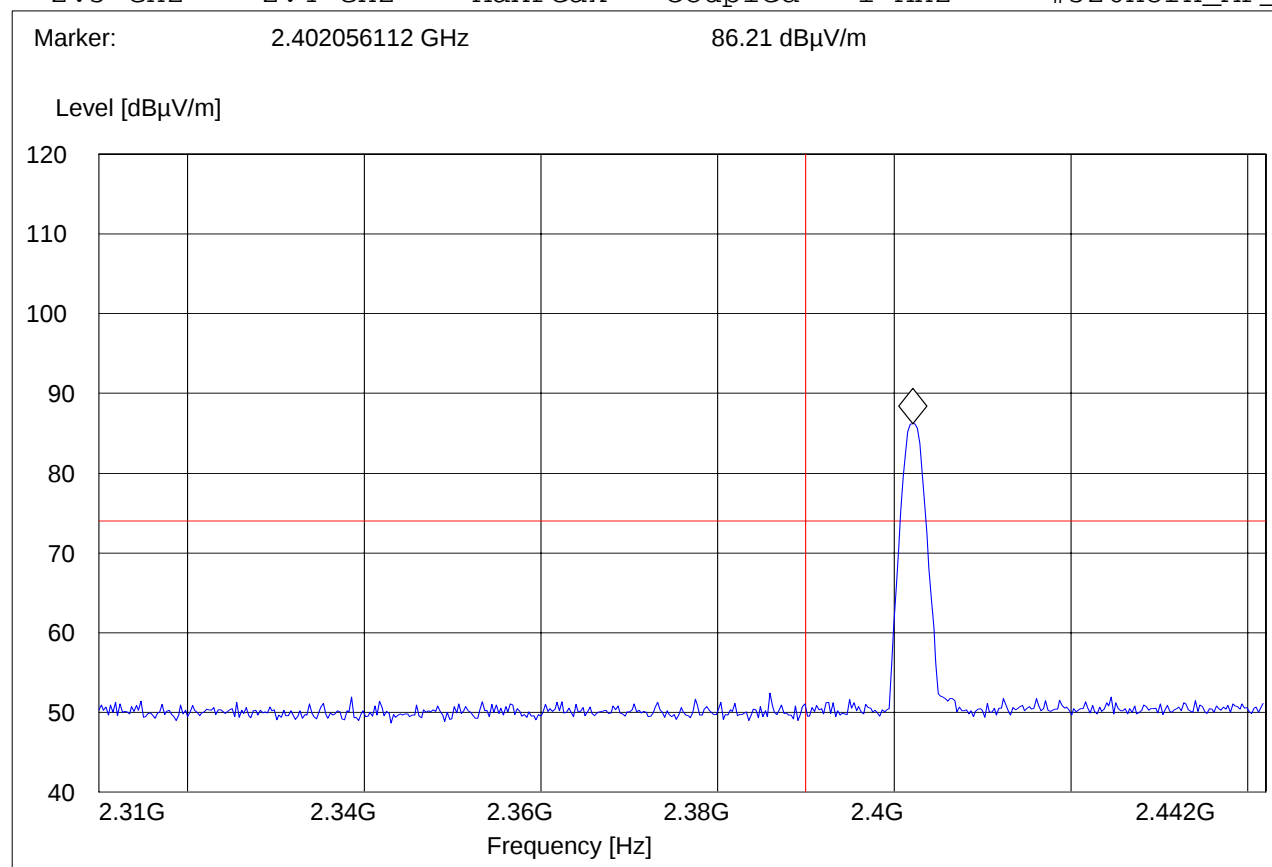
5.2.2 RESULTS (2402MHz) PEAK

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
 Customer: Sony Electronics
 Operating Mode: Bluetooth testmode
 Antenna: V
 EUT: V
 Test Engineer: PETER
 Voltage: AC
 Sweep: FCC15.247 LBE_PK 2402Mhz 219°

SWEEP TABLE: "FCC15.247 LBE_PK"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.3 GHz	2.4 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert





AVG

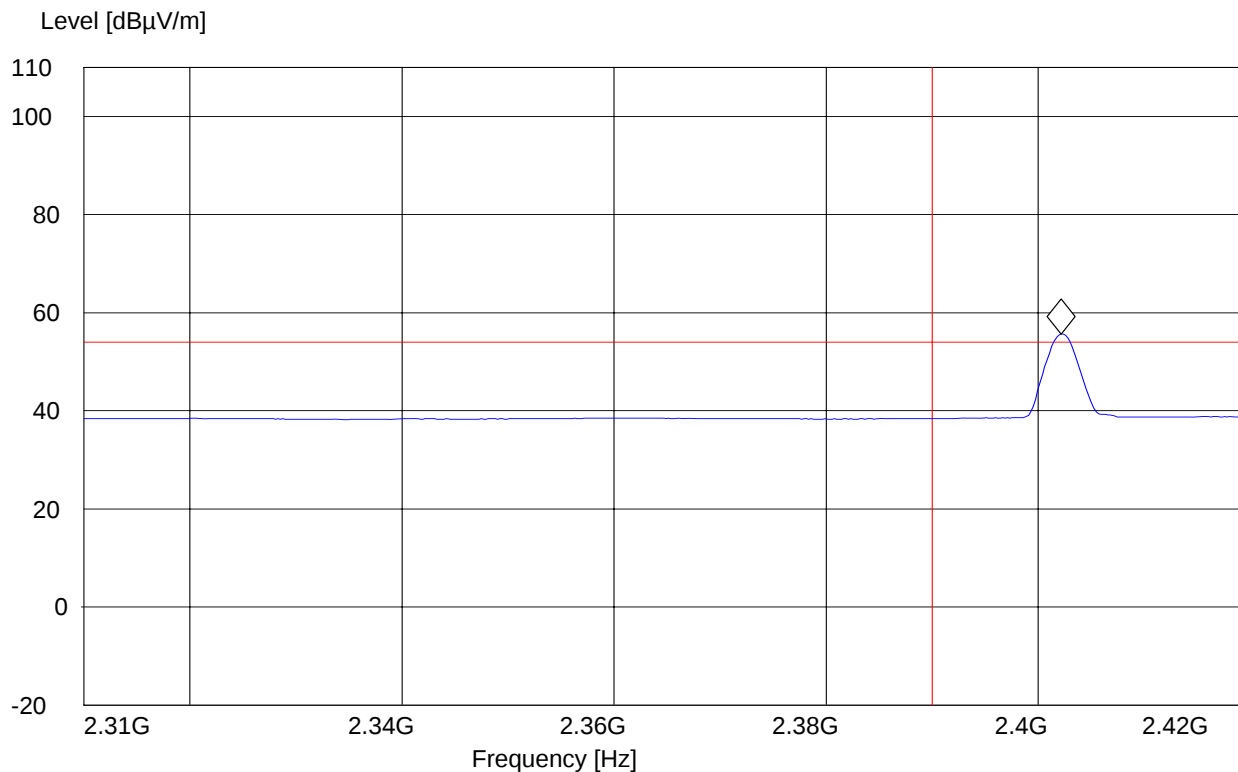
CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: PETER
Voltage: AC
Sweep: FCC15.247 LBE_AVG 2402Mhz 219°

SWEEP TABLE: "FCC15.247 LBE_AVG"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
2.3 GHz	2.4 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.402144289 GHz 55.63 dBμV/m





5.2.3 RESULTS (2480MHz) PEAK

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

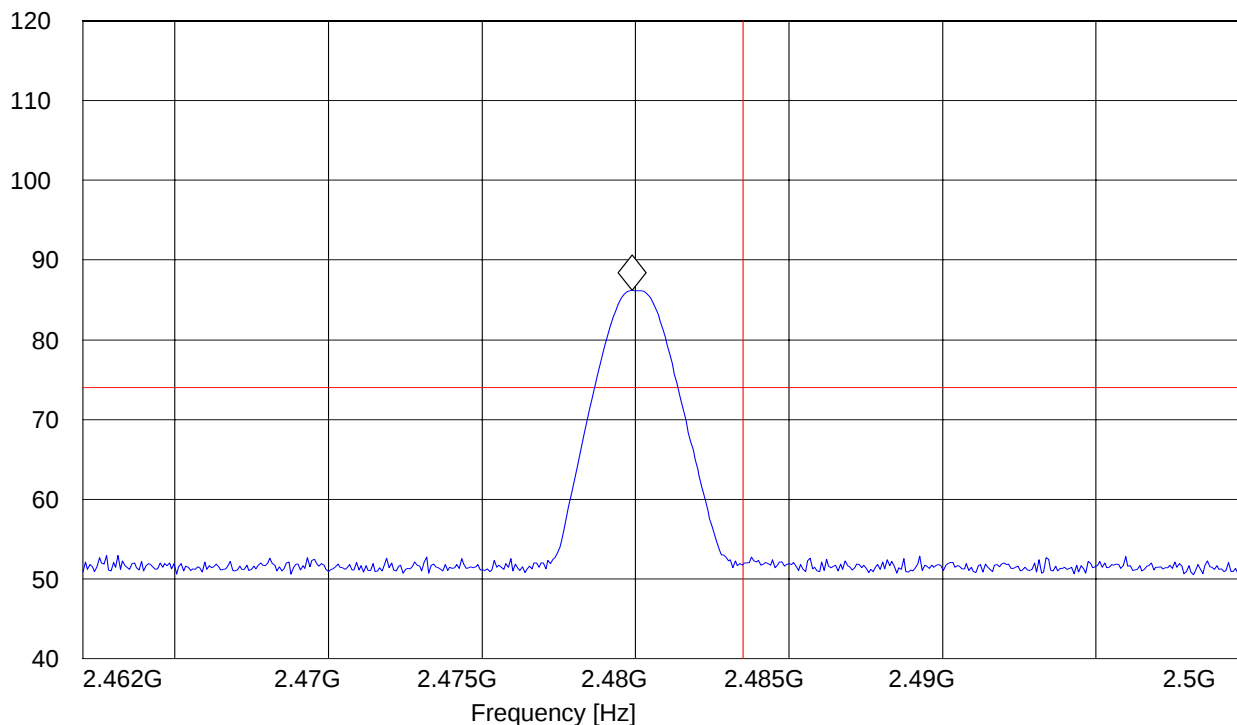
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: PETER
Voltage: AC
Sweep: FCC15.247 HBE_PK 2480Mhz 219°

SWEEP TABLE: "FCC15.247 HBE_PK"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.5 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.479895792 GHz 86.18 dBμV/m

Level [dBμV/m]





AVG

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

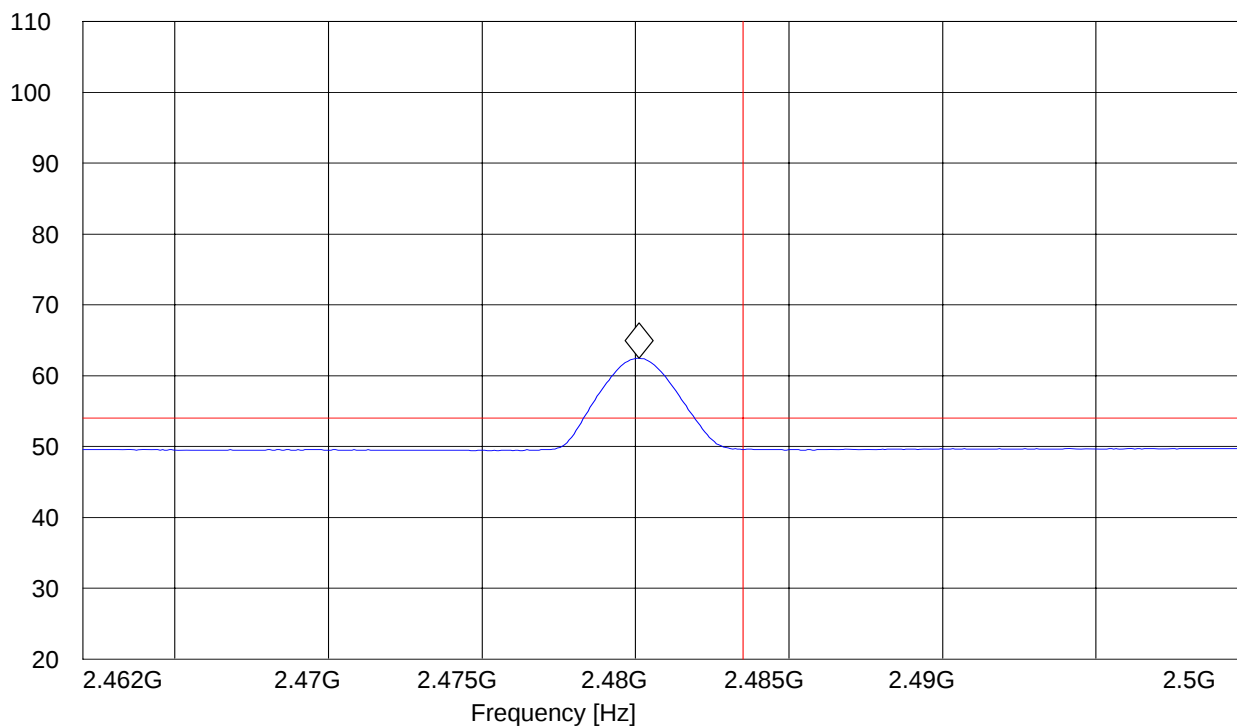
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
 Customer: Sony Electronics
 Operating Mode: Bluetooth testmode
 Antenna: V
 EUT: V
 Test Engineer: PETER
 Voltage: AC
 Sweep: FCC15.247 HBE_AVG 2480Mhz 219°

SWEEP TABLE: "FCC15.247 HBE_AVG"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
2.5 GHz	2.5 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_horz

Marker: 2.480124248 GHz 62.48 dBμV/m

Level [dBμV/m]



5.3 TRANSMITTER SPURIOUS EMISSIONS RADIATED § 15.247/15.205/15.209

5.3.1 LIMITS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

*PEAK LIMIT= 74dBuV/m

*AVG. LIMIT= 54dBuV/m

NOTE:

1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 3 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.

2. All measurements are done in peak mode using an average limit , unless specified with the plots.

Results for the radiated measurements below 30MHz according § 15.33

Frequency	Measured values	Remarks
9KHz – 30MHz	No emissions found, caused by the EUT	This is valid for all the tested channels



5.3.2 RESULTS

30MHz – 1GHz

Antenna: vertical

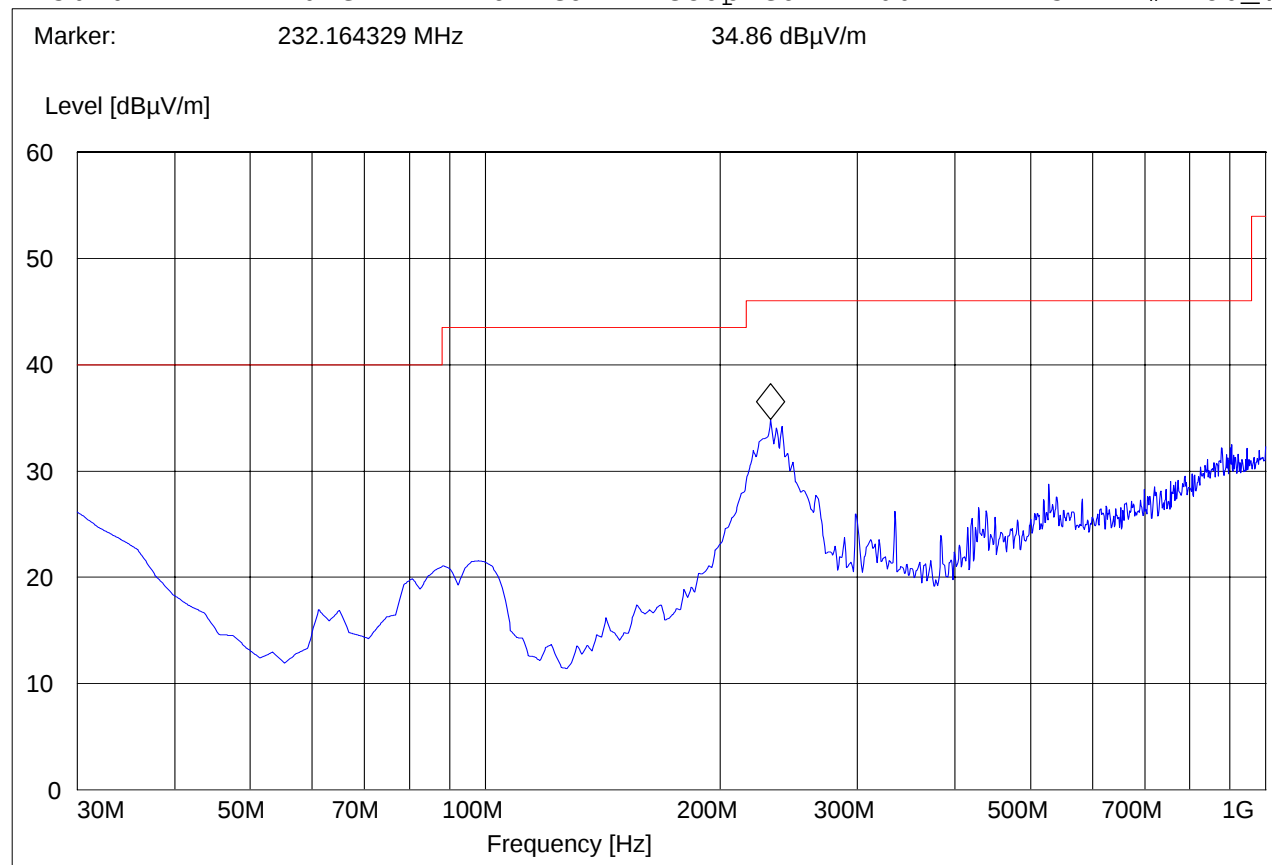
Note: This plot is valid for low, mid, high channels (worst-case plot)

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: PETER
Voltage: AC
Sweep: FCC15.247_30-1G_Ver 2402Mhz 219°

SWEEP TABLE: "FCC15.247_30M-1G_Ver"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Vert





30MHz – 1GHz

Antenna: horizontal

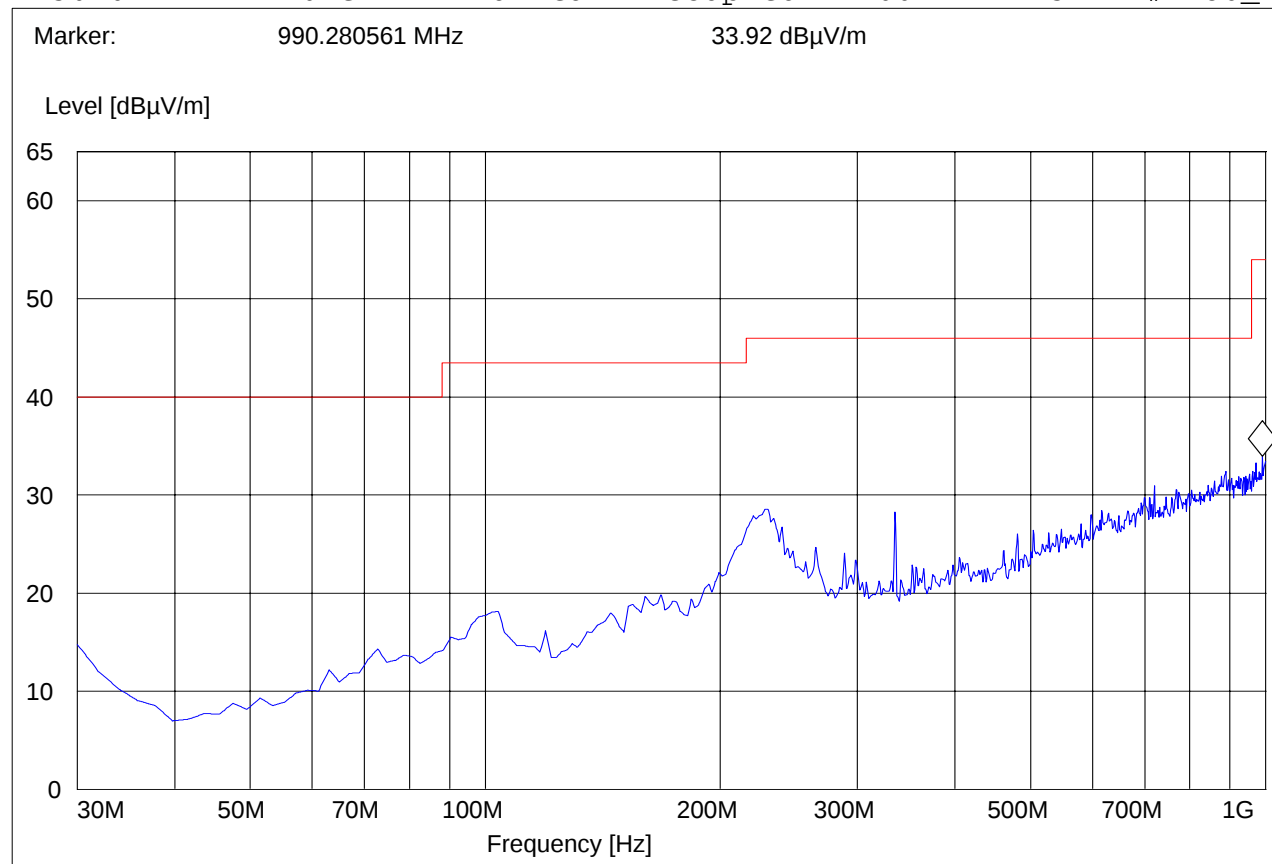
Note: This plot is valid for low, mid, high channels (worst-case plot)

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: H
EUT: V
Test Engineer: PETER
Voltage: AC
Sweep: FCC15.247_30-1G_Hor 2480Mhz 219°

SWEEP TABLE: "FCC15.247_30M-1G_Hor"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Horz





1-3GHz (2402MHz)

Note: The peaks above the limit line is the carrier freq.

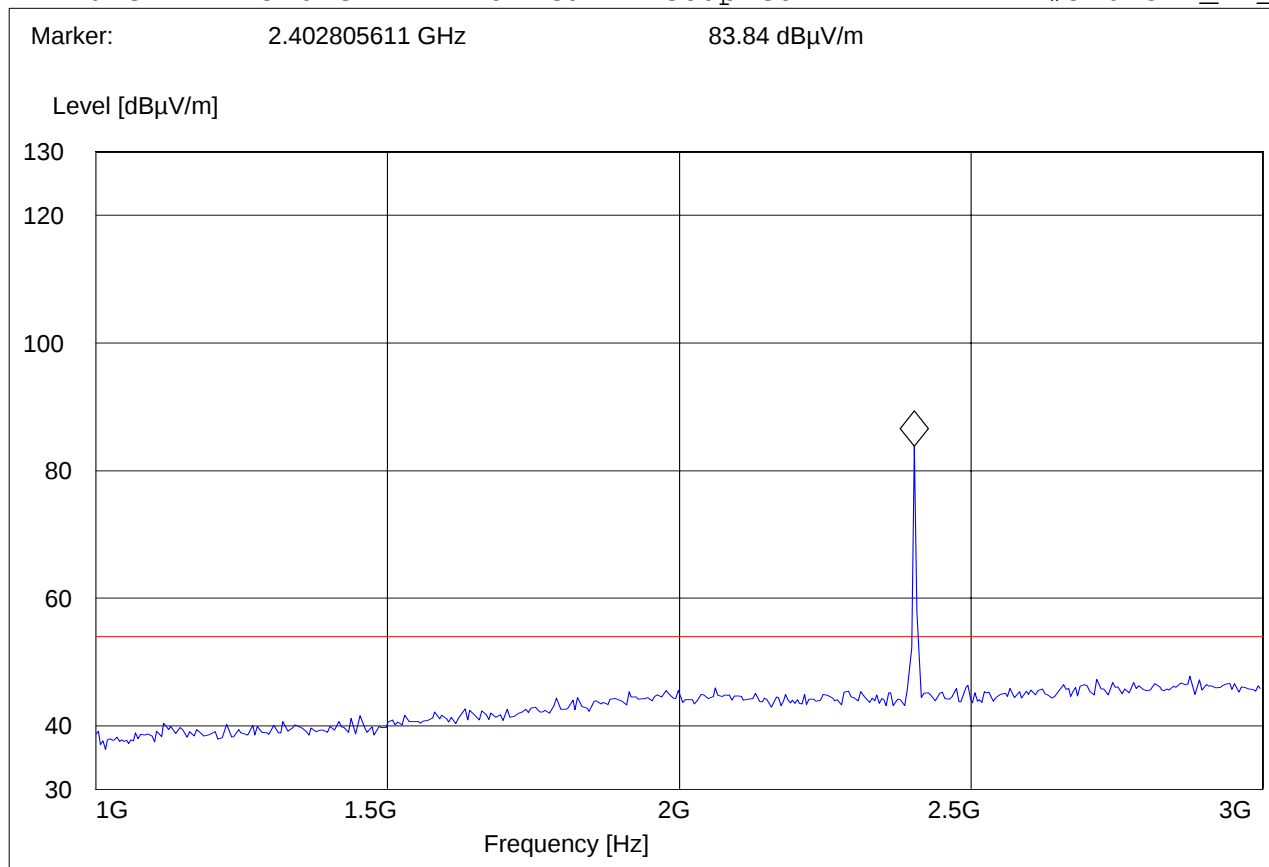
Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: FCC15.247_1-3G 2402Mhz 282°

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert





1-3GHz (2441MHz)

Note: The peaks above the limit line is the carrier freq.

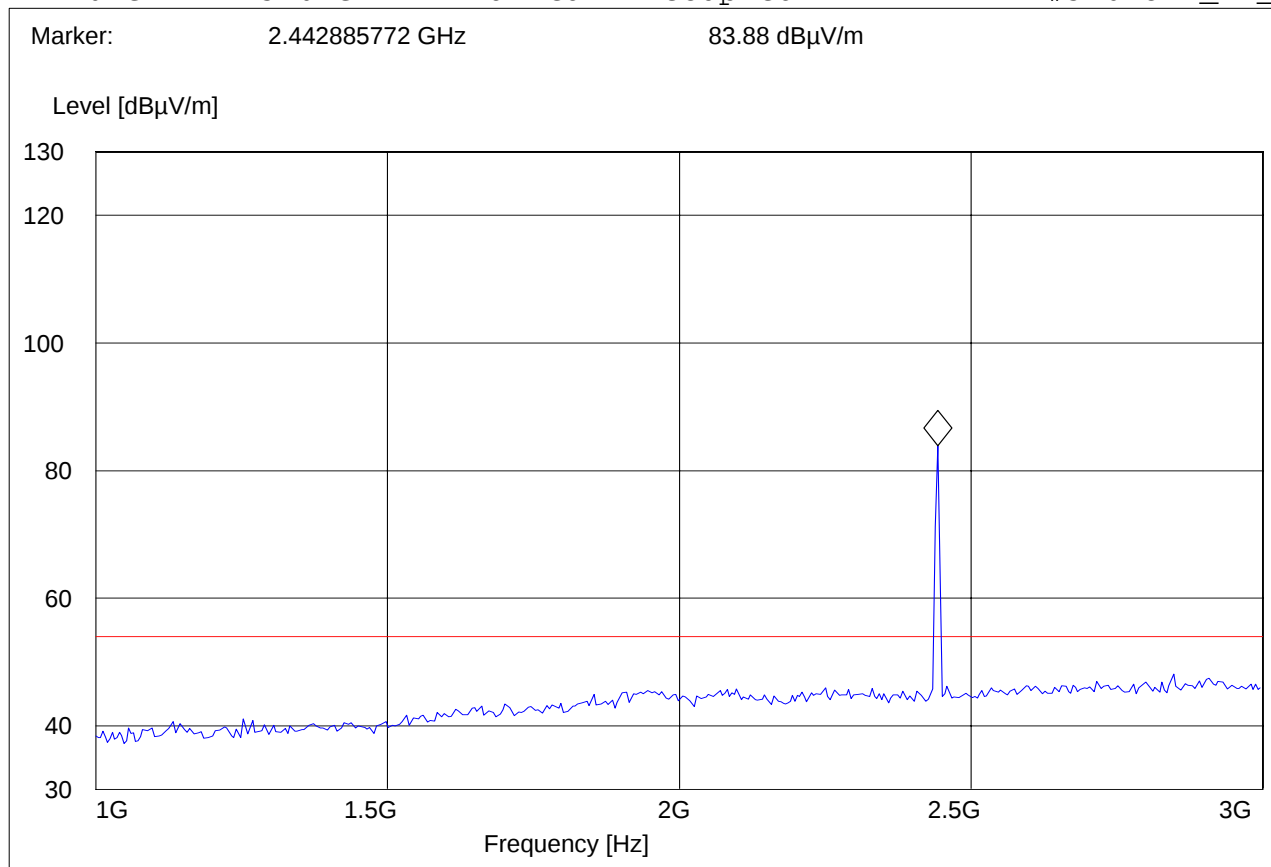
Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: FCC15.247_1-3G 2441Mhz 282°

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert





1-3GHz (2480MHz)

Note: The peaks above the limit line is the carrier freq.

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

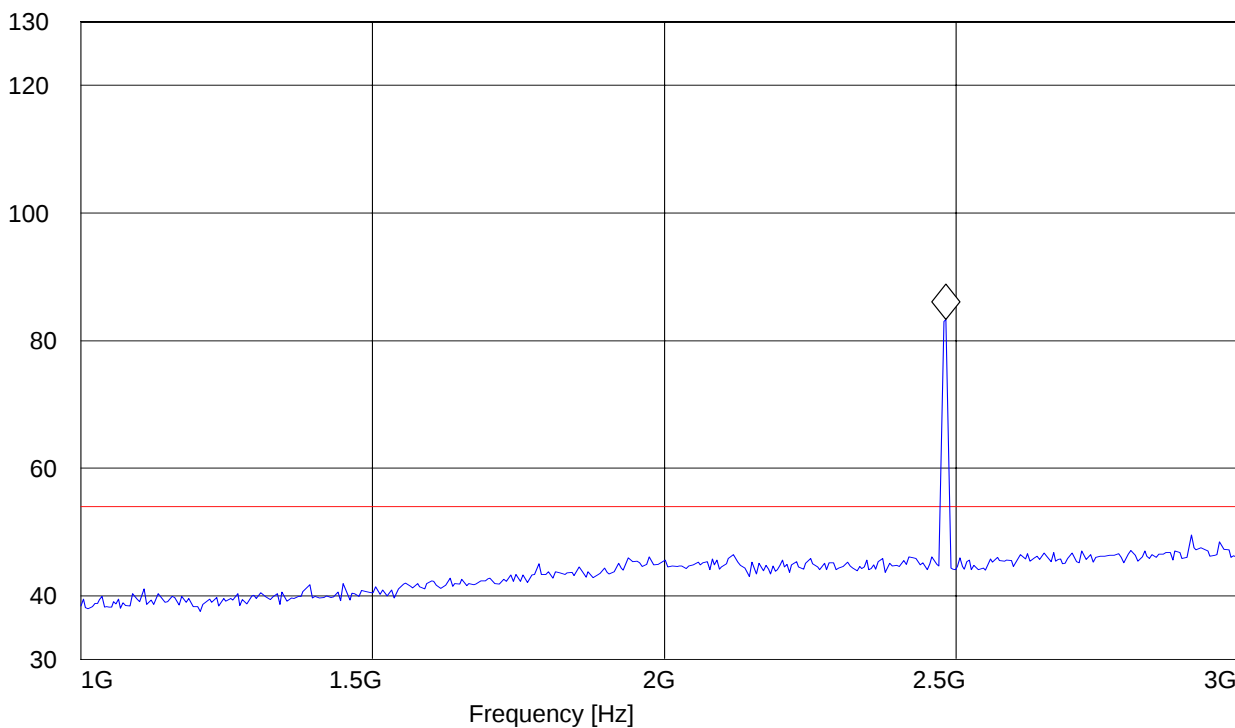
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: FCC15.247_1-3G 2480Mhz 282°

SWEEP TABLE: "FCC15.247_1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 2.482965932 GHz 83.29 dBμV/m

Level [dBμV/m]





3-18GHz (2402MHz)

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

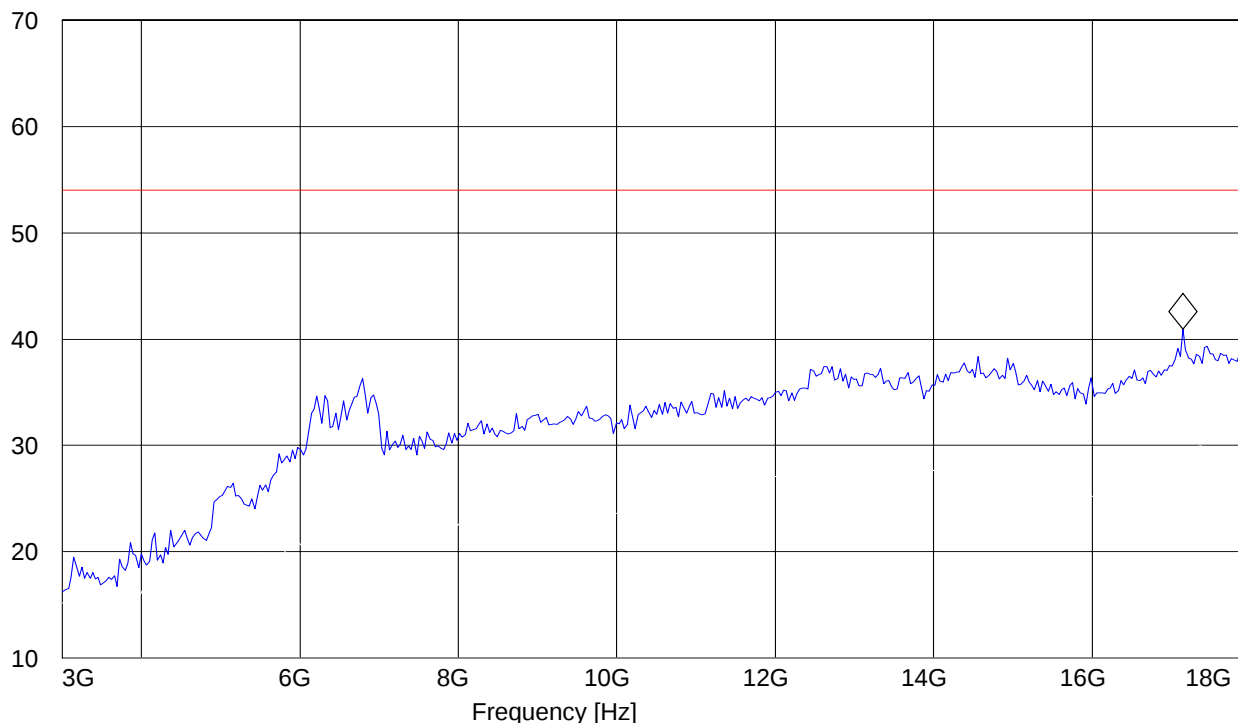
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
 Customer: Sony Electronics
 Operating Mode: Bluetooth testmode
 Antenna: V
 EUT: V
 Test Engineer: ED
 Voltage: AC
 Sweep: FCC15.247_3-18G 2402Mhz 282°

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.148296593 GHz 40.93 dBμV/m

Level [dBμV/m]





3-18GHz (2441MHz)

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

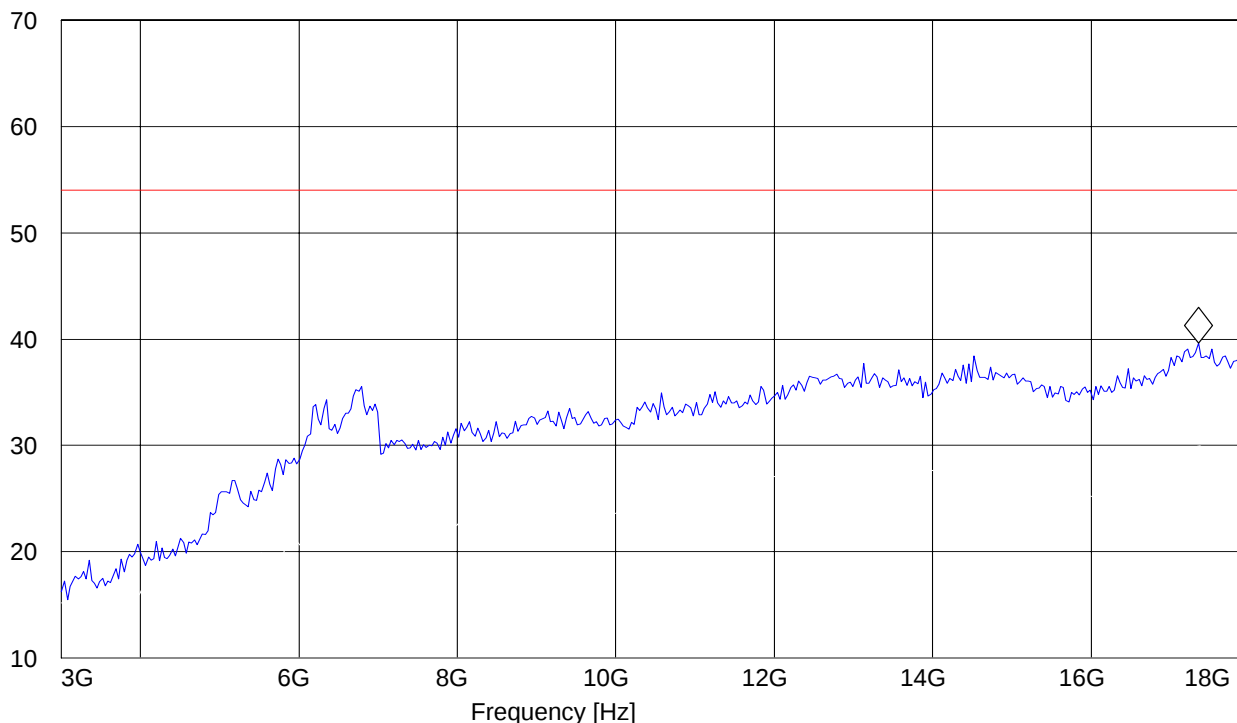
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: FCC15.247_3-18G 2441Mhz 282°

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.352705411 GHz 39.62 dBμV/m

Level [dBμV/m]





3-18GHz (2480MHz)

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

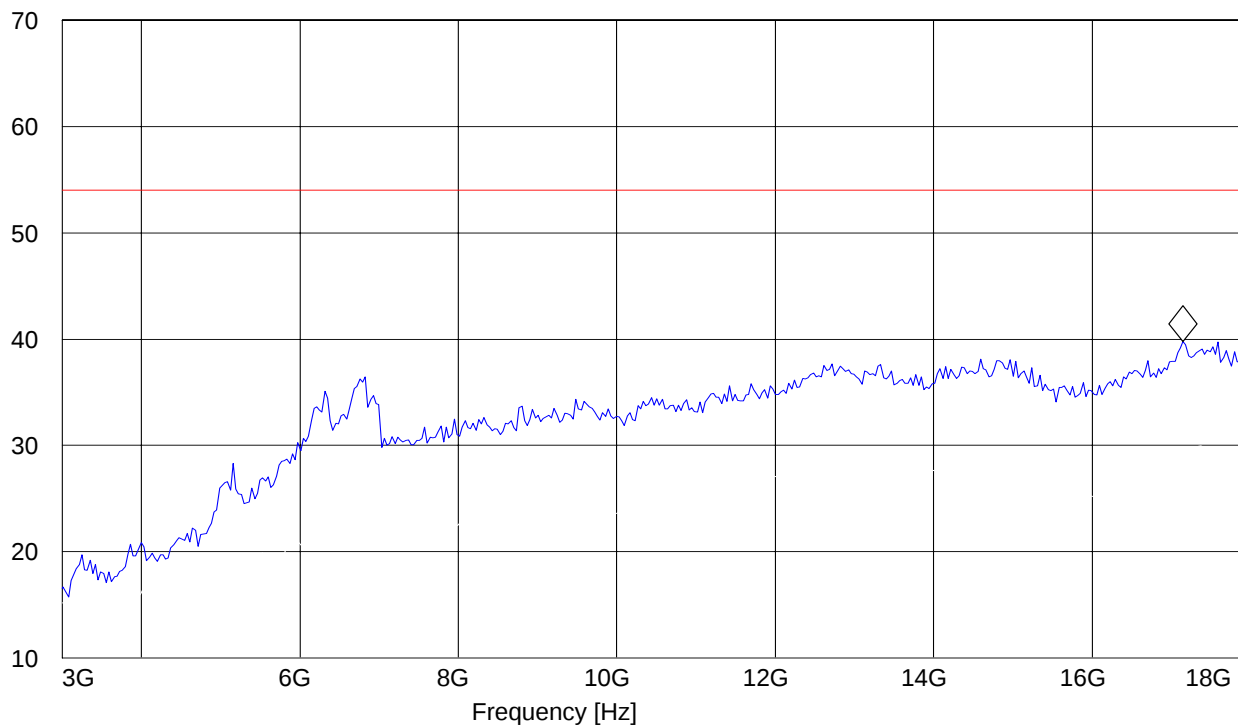
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC
Sweep: FCC15.247_3-18G 2480Mhz 282°

SWEEP TABLE: "FCC15.247_3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 17.148296593 GHz 39.77 dB μ V/m

Level [dB μ V/m]





18-25GHz

Note: This plot is valid for low, mid, high channels (worst-case plot)

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

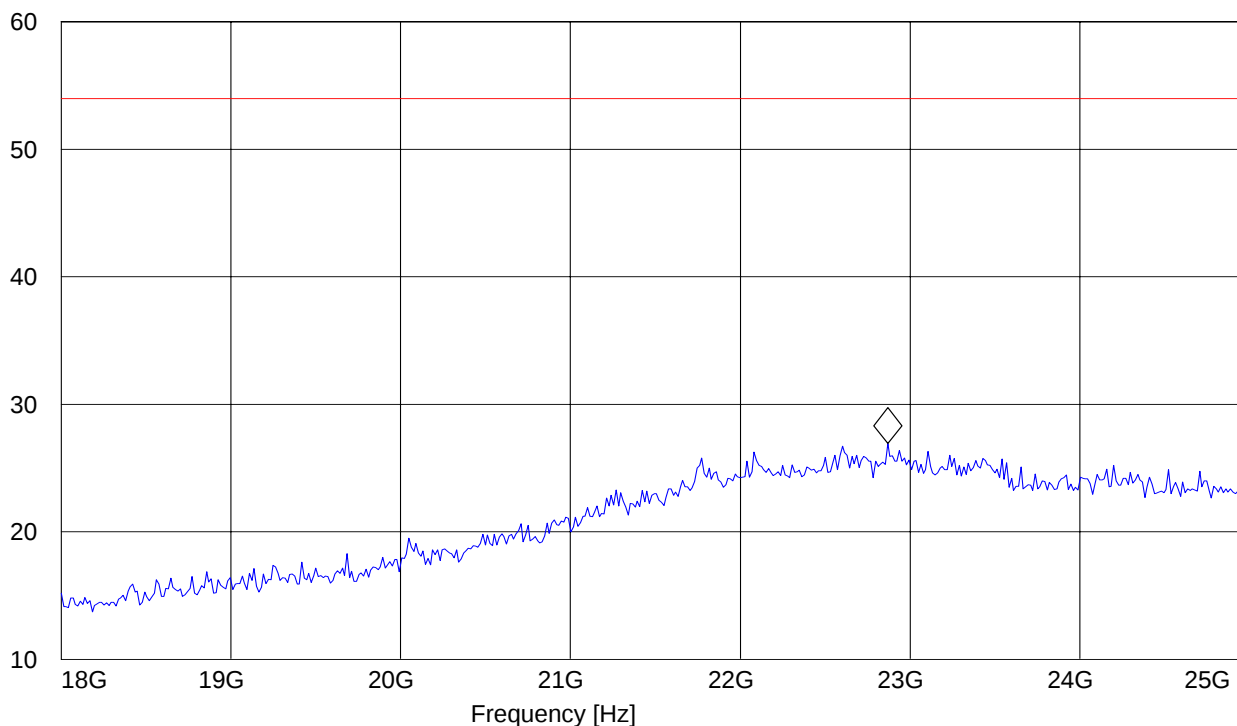
EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Customer: Sony Electronics
Operating Mode: Bluetooth testmode
Antenna: V
EUT: V
Test Engineer: PETER
Voltage: AC
Sweep: FCC15.247_18-26.5G 2402Mhz 282°

SWEEP TABLE: "FCC15.247_18-26.5G"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
18.0 GHz	25.0 GHz	MaxPeak	Coupled	1 MHz	#572 horn AF

Marker: 22.867735471 GHz 26.95 dBμV/m

Level [dBμV/m]



5.4 RECEIVER SPURIOUS RADIATION § 15.209/RSS210

5.4.1 LIMITS

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Measurement distance (m)
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	2400/F (kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

NOTE:

1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 3 and 25 GHz very short cable connections to the antenna was used to minimize the noise level.
2. All measurements are done in peak mode using a quasi peak or average limit , unless specified with the plots.



5.4.2 RESULTS

30MHz – 1GHz

Antenna: horizontal

Note: This plot is valid for all polarizations and low, mid, high channels (worst-case plot)

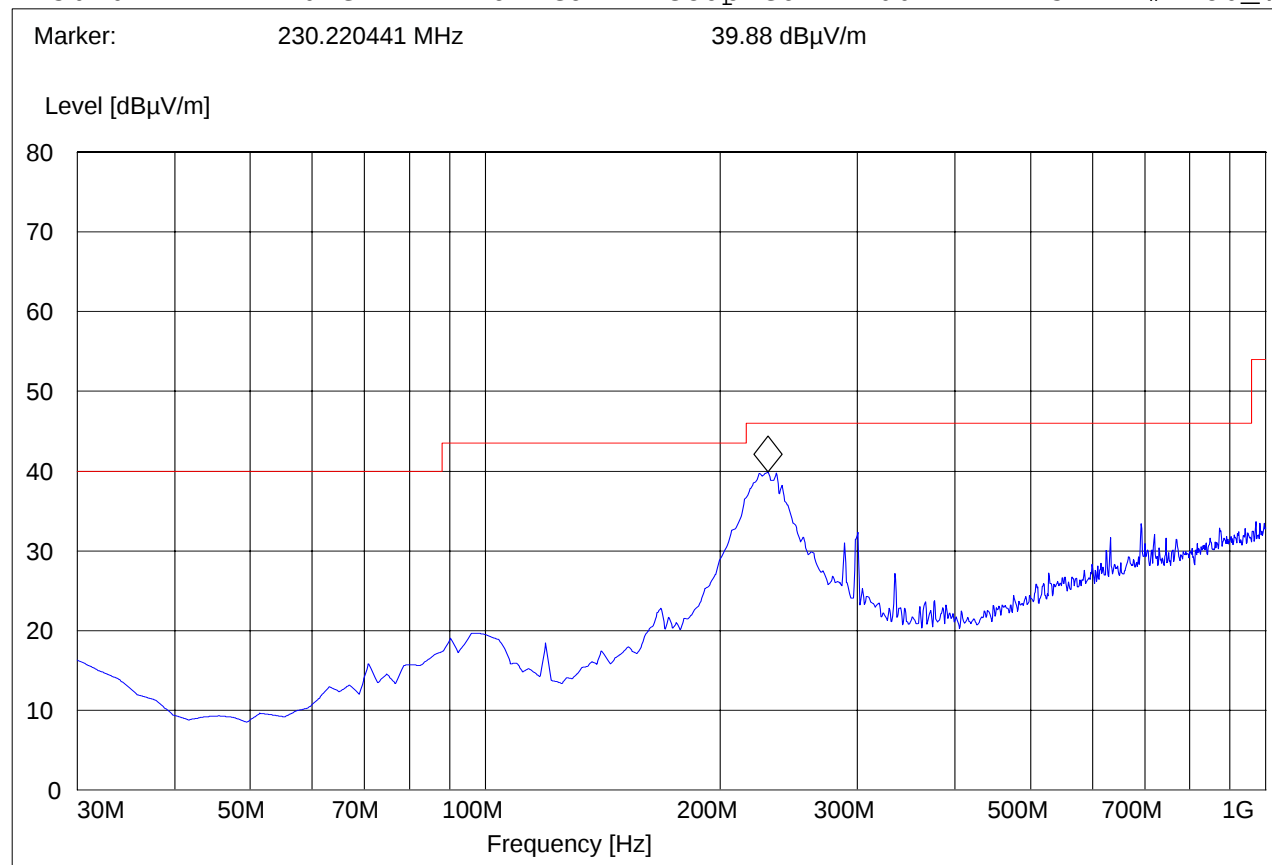
Note: Peak Reading vs. Quasi-peak limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #2 ESN: 5B101BC3
Customer: Sony Electronics
Operating Mode: BT, RX 2402MHz TABLE 280°, ANT 100CM
Antenna: H
EUT: V
Test Engineer: PETER
Voltage: AC ADAPTOR
Sweep: CANADA RE_30M-1G_HOR

SWEEP TABLE: "CANADA RE_30M-1G_Hor"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	3141-#1186_Vert





1-3GHz

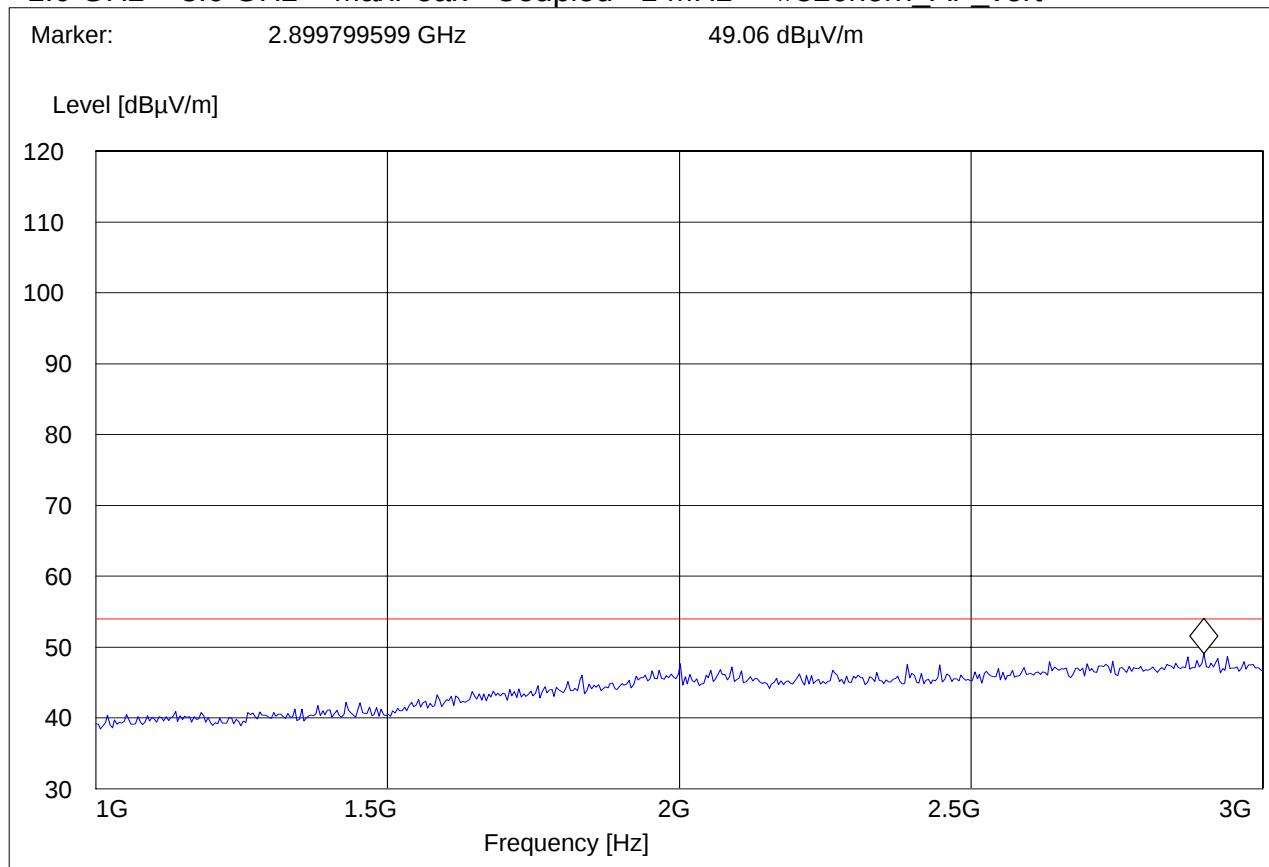
Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #2 ESN: 5B101BC3
Customer: Sony Electronics
Operating Mode: BT, TX 2402MHz TABLE 280°
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC ADAPTOR
Sweep: CANADA RE_1-3G

SWEEP TABLE: "CANADA RE 1-3G"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
1.0 GHz	3.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert





3-18GHz

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

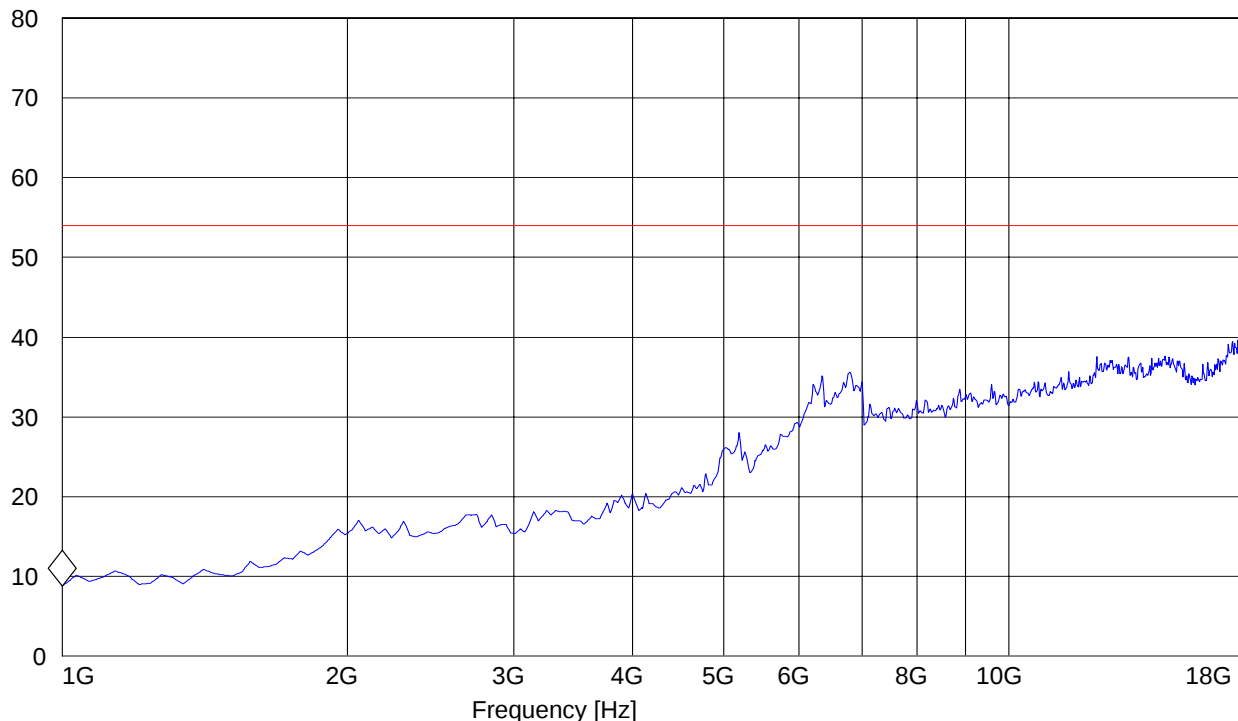
EUT / Description: Vaio laptop "F" series unit #2 ESN: 5B101BC3
 Customer: Sony Electronics
 Operating Mode: BT, TX 2402MHz TABLE 280°
 Antenna: V
 EUT: V
 Test Engineer: ED
 Voltage: AC ADAPTOR
 Sweep: CANADA RE_3-18G

SWEEP TABLE: "CANADA RE_3-18G"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
1.0 GHz	18.0 GHz	MaxPeak	Coupled	1 MHz	#326horn_AF_vert

Marker: 1 GHz 8.82 dBμV/m

Level [dBμV/m]





18-25GHz

Note: Peak Reading vs. Average limit

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

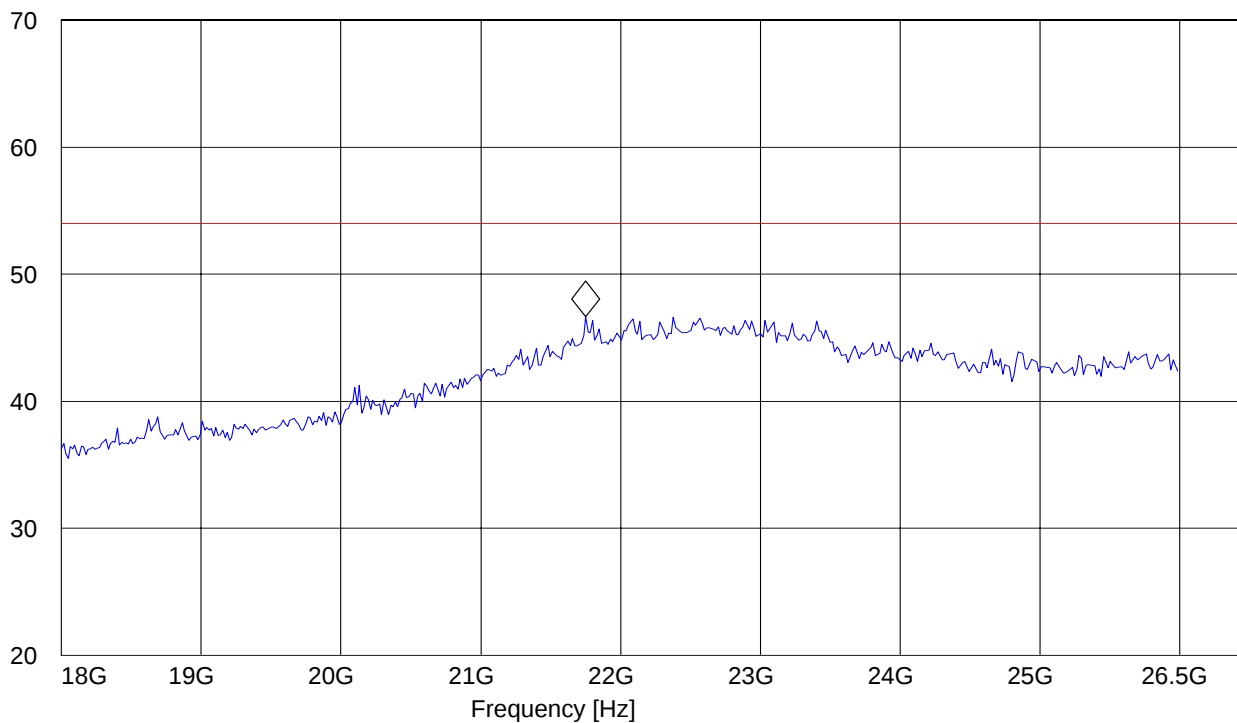
EUT / Description: Vaio laptop "F" series unit #2 ESN: 5B101BC3
Customer: Sony Electronics
Operating Mode: BT, TX 2402MHz TABLE 280°
Antenna: V
EUT: V
Test Engineer: ED
Voltage: AC ADAPTOR
Sweep: CANADA RE_18-26.5G

SWEEP TABLE: "CANADA RE_18-26.5G"

Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
18.0 GHz	26.0 GHz	MaxPeak	Coupled	1 MHz	3160 Horn 18-26.5G

Marker: 21.751503006 GHz 46.64 dBμV/m

Level [dBμV/m]





5.5 AC POWER LINE CONDUCTED EMISSIONS § 15.107/207

5.5.1 LIMITS

Technical specification: 15.107 / 15.207 (Revised as of August 20, 2002)

Limit

Frequency of Emission (MHz)	Conducted Limit (dB μ 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 logarithm of the frequency		

ANALYZER SETTINGS: RBW = 10KHz

VBW = 10KHz



5.5.2 RESULTS

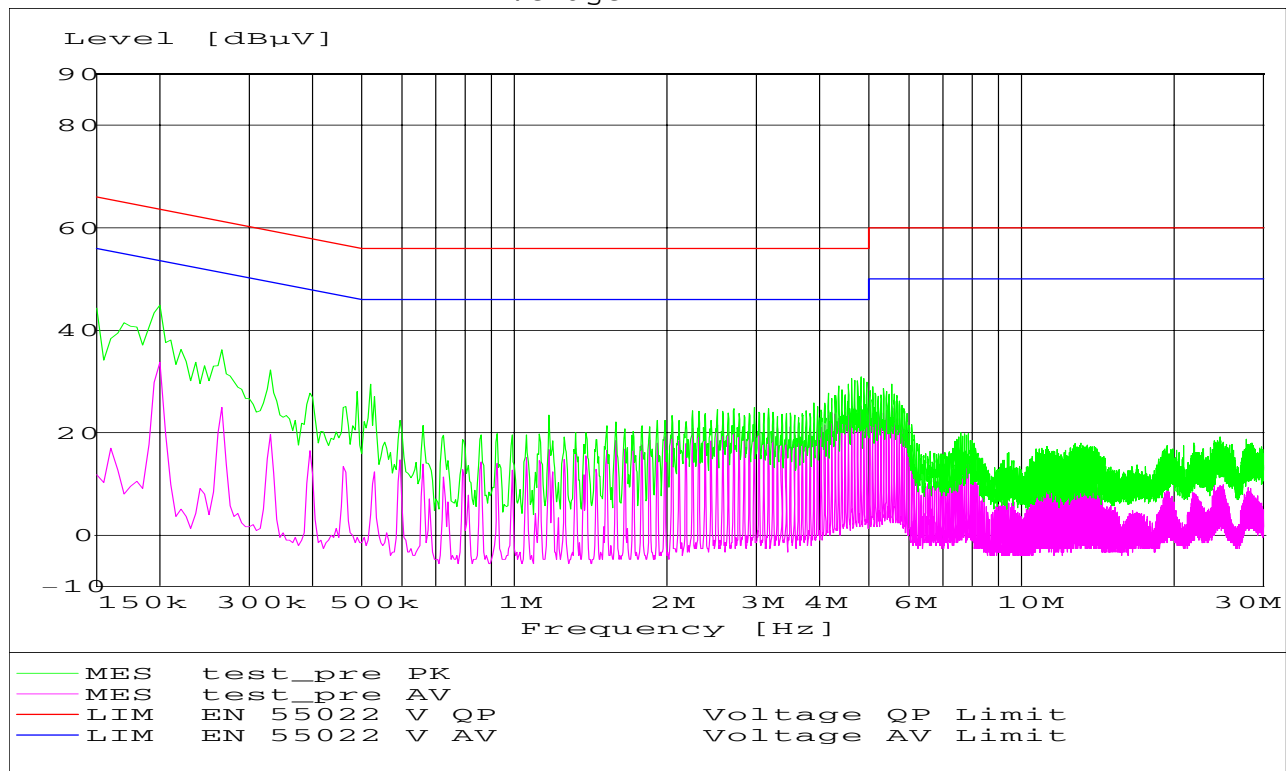
LISN

CETECOM Inc., 411 Dixon Landing Road, Milpitas CA 95035, USA

EUT / Description: Vaio laptop "F" series unit #1 ESN: 5B101BA6
Manufacturer: Sony Electronics
Test Engineer: Ed
Phase: L & N
Comment: EN55022
AC/DC adapter at 110V

SWEEP TABLE: "EN 55022 Voltage"

Short Description:		EN 55022 Voltage			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
150.0 kHz	30.0 MHz	MaxPeak	Coupled	9 kHz	None
Average					



5.6 TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Cal Due	Interval
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2007	1 year
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	100017	August 2007	1 year
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011	May 2007	1 year
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02	May 2007	1 year
05	Biconilog Antenna	3141	EMCO	0005-1186	June 2007	1 year
06	Horn Antenna (1-18GHz)	SAS-200/571	AH Systems	325	June 2007	1 year
07	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240	June 2007	1 year
08	Power Splitter	11667B	Hewlett Packard	645348	n/a	n/a
09	Climatic Chamber	VT4004	Voltsch	G1115	May 2007	1 year
10	High Pass Filter	5HC2700	Trilithic Inc.	9926013	n/a	n/a
11	High Pass Filter	4HC1600	Trilithic Inc.	9922307	n/a	n/a
12	Pre-Amplifier	JS4-00102600	Miteq	00616	May 2007	1 year
13	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807	May 2007	1 year
14	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008	May 2007	1 year
15	Universal Radio Comm. Tester	CMU 200	Rohde & Schwarz	832221/06	May 2007	1 year
16	LISN	ESH3-Z5	Rohde & Schwarz	836679/003	May 2007	1 year
17	Loop Antenna	6512	EMCO	00049838	July 2007	2 years

5.7 BLOCK DIAGRAMS

Radiated Testing

ANECHOIC CHAMBER

