

EMI TEST REPORT

Test Report No. : 22GE0004-YW-1

Applicant: Sony Corporation

Type of Equipment: Notebook Personal Computer
(Wireless LAN built in PC)

Model No.: PCG-9D1R

FCC ID: AK8PCG9D1R

Test standard: FCC Part15 Subpart C, Section 15.247
*Except FCC 15.247(e) Processing Gain

Test Result: Complied

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The results in this report apply only to the sample tested.

Date of test: March 11 and 12, 2002 **Issued date:** March 20, 2002

Tested by: 

Naoki Sakamoto
Group Leader of EMC section

Approved by: 

Kazutoyo Nakanishi
Site Operation Manager of EMC section

A-pex International Co., Ltd.

YOKOWA LAB.

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1 GENERAL INFORMATION

APPLICANT : Sony Corporation

ADDRESS : 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo
141-0001 Japan
TEL : 81-3-5795-8716
FAX : 81-3-5795-8981

REGULATION(S) : FCC Part15 Subpart C, Section 15.247
*Except FCC 15.247(e) Processing Gain

MODEL NUMBER : PCG-9D1R

SERIAL NUMBER : 2230DVT1 0000057
(Conducted Antenna Port Emission test)
2230DVT1 0000067
(Conducted AC Mains and Radiated Emission test)

KIND OF EQUIPMENT : Notebook Personal Computer (Wireless LAN built in PC)

TESTED DATE : March 11 and 12, 2002

RECEIPT DATE OF SAMPLE : March 11, 2002

REPORT FILE NUMBER : 22GE0004-YW-1

TEST SITE : A-PEX Yokowa No.3 Open Test Sites

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Test report
FCC ID : AK8PCG9D1R
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Issued date : March 20, 2002

1.1 Tested Methodology

The measurement was performed according to the procedures in ANSI C63.4(1992).

1.2 Test Facility

The open area site measurement facilities used to collect the radiated data are located at 108, Yokowa-cho, Ise-shi, Mie-ken, 516-1106 Japan.

These sites have been fully described in reports submitted to the FCC office.

No.1 and No.3 test site has filed to the FCC on September 12, 2000 as number: 90412 and is accepted by Industry Canada on May 01, 2001 as number IC2973-3.

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2 PRODUCT DESCRIPTION

Sony Corporation, Model PCG-9D1R (referred to as the EUT in this report) is a Notebook Personal Computer. The specification is as following :

LAN Module

Frequency characteristics : 2412MHz through 2462MHz
No. of channels / channel spacing : 11 channels / 5MHz channel spacing
Modulation : DSSS:Direct sequence spread spectrum.(IEEE 802.11b)
Antenna type : Half wavelength type capacitance coupled antenna
Antenna Gain : 2.14dBi (Peak)

*FccPart15.31(e)

The host device PCG-9D1R provide the LAN Module with stable power supply (DC:3.3V), and the LAN Module complies power supply regulation.

*FccPart15.203 Antenna requirement

Wireless LAN Module and its antenna comply with this requirement since they are built in host device PCG-9D1R when they are put up for sale and they are used with a particular antenna connector.

2.1 Test System Details

Model	FCC ID	Description
(1) Sony Corporation M/N: PCG-9D1R S/N: 2230DVT1 0000057 (Conducted Antenna Port Emission test) 2230DVT1 0000067 (Conducted AC Mains and Radiated Emission test)	AK8PCG9D1R	Notebook Personal Computer (Wireless LAN built in PC)
*FccPart15 Subpart B Class B Digital Device	DOC	
(2) Sony Corporation M/N: PCGA-AC19V4 (Conducted Antenna Port Emission test) PCGA-AC16V3 (Conducted AC Mains and Radiated Emission test) S/N: 0203 A 0000234 (Conducted Antenna Port Emission test) 0151 A 0000310 (Conducted AC Mains and Radiated Emission test)	DOC	AC Adapter

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3 SYSTEM TEST CONFIGURATION

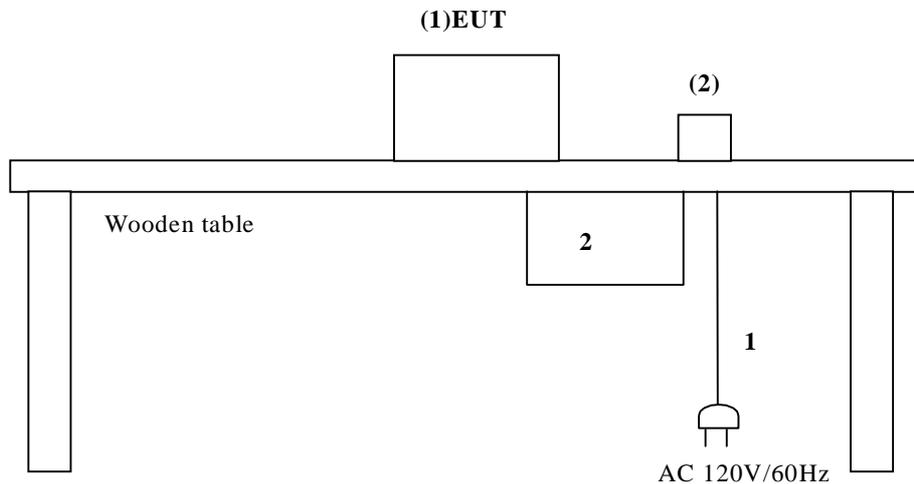
3.1 Justification

The system was configured in typical fashion (as a customer would normally use it) for testing.

Test mode : Transmitting mode (11Mbps)
 Performed the test about channels 1(low), 6(mid) and 11(high) among 11 channels of all
 Carrier frequencies.
 *Antenna on the top of display is the Auxiliary antenna and is basically for receiving only.
 Thus, the product was tested with the main antenna on the left side of display transmitting.

Receiving mode

3.2 Configuration of Tested System



* Cabling was taken into consideration and test data was taken under worst case conditions.

List of cables used

No.	Name	Length (m)	Shield	Remark
1	AC Power Cable	0.8	N	Polyvinyl chloride
2	DC Power Cable	1.8	N	Polyvinyl chloride

4 Measurement Uncertainty

Conducted Emission Test

The measurement uncertainty (with a 95% confidence level) for this test was ± 2.0 dB.

The data listed in this test report has enough margin, more than 2.0dB.

Radiated Emission Test

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ± 4.4 dB.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ± 4.8 dB.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ± 5.8 dB.

The data listed in this test report has enough margin, more than site margin.

5 SUMMARY OF TESTS

5.1 §15.207 Conducted Emissions

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushes with rear of tabletop. All other surfaces of tabletop was at least 80cm from any other grounded conducting surface. I/O cables and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, were individually connected through a LISN to the input power source. All unused 50 connectors of the LISN were resistively terminated in 50 when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT on a shielded room. The EUT was connected to a Line Impedance Stabilization Network (LISN).

An overview sweep with peak detection has been performed.

The measurements have been performed with a CISPR quasi-peak detector (IF BW 10kHz).

(Measurement range: 450kHz to 30MHz)

Test data : APPENDIX A1 to A6
Photographs of test setup : Page 11(1)
Test result : Pass
Test instruments : LS-04, SA-04, TR-05, CC-3SC

5.2 § 15.247(a)(2) 6dB Bandwidth (Antenna Port Conducted)

Test Procedure

The minimum 6dB bandwidth was measured with a spectrum analyzer connected to the antenna port.

1. 2412MHz(Low) : 9.90MHz > 500kHz
2. 2437MHz(Mid) : 8.80MHz > 500kHz
3. 2462MHz(High) : 8.34MHz > 500kHz

Test data : APPENDIX A7
Test result : Pass
Test instruments : SA-06

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5.3 § 15.247(b) Maximum Peak Out Put Power (Antenna Port Conducted)

Test Procedure

The Maximum Peak Output power was measured with a power meter connected to the antenna port.

* Antenna Gain dose not exceed 6dBi.

Test data : APPENDIX A8
Test result : Pass
Test instruments : PS-01, PM-01, SA-06

5.4 § 15.247(c) Out of Band Emissions (Radiated)

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged 40cm height to the ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

The Radiated Electric Field Strength intensity has been measured on an open test site with a ground plane and at a distance of 3m.

The measuring antenna height was varied between 1 to 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization.

Radiated Spurious emissions

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement. The result was also satisfied the general limits specified in Sec.15.209(a).

Measurement range : 30MHz to 1000MHz CISPR QP Detector, IF BW 120kHz

: 1GHz to 26GHz PK and AV Detector

Test data : APPENDIX A9 to A12 (30- 1000MHz)
: APPENDIX A13 to A16 (1- 26GHz: Transmitting, 1- 10GHz: Receiving)
: APPENDIX A17 to A20 (2390MHz/2483.5MHz: Restricted band Charts)
Photographs of test setup : Page12(2)
Test result : Pass
Test instruments : AF-01, AF-04, AT-06, AT-21, BA-03, LA-06, HA-01, SA-04, SA-06, TR-06, CC-3ORC, CC-C10, CC-C13, YOATS-03

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Test report
FCC ID : AK8PCG9D1R
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5.5 § 15.247(c) Out of Band Emissions (Antenna Port Conducted)

Test Procedure

The Out of Band Emissions (Conducted) was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX A21 to A31
Test result : Pass
Test instruments : SA-06

5.6 § 15.247(d) Power Density (Antenna Port Conducted)

Test Procedure

The Power Density was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX A32 to A33
Test result : Pass
Test instruments : SA-06

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Photographs of test setup(1)



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Test report
FCC ID : AK8PCG9D1R
Our reference : 22GE0004-YW-1
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Photographs of test setup(2)



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APPENDIX

Test Data

- | | |
|---|-------------------|
| 1. Conducted Emission (6.1) | <u>A1 to A6</u> |
| 2. 6dB Bandwidth (Antenna Port Conducted) (6.2) | <u>A7</u> |
| 3. Maximum peak output power (Antenna Port Conducted) (6.3) | <u>A8</u> |
| 4. Out of band emissions (Radiated) (6.4) | <u>A9 to A20</u> |
| 5. Out of band emissions (Antenna Port Conducted) (6.5) | <u>A21 to A31</u> |
| 6. Power density (Antenna Port Conducted) (6.6) | <u>A32 to A33</u> |

Test Instruments

A34

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DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2412MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Phase : Single Phase
Temperature : 22 °C
Humidity : 33 %
Regulation : FCC Part15.207

Engineer : Naoki Sakamoto

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV					QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1.	0.5113	34.9	-	34.9	-	0.1	0.0	0.1	0.0	35.1	-	48.0	0.0	12.9	-
2.	1.7907	29.7	-	28.3	-	0.1	0.0	0.1	0.0	29.9	-	48.0	0.0	18.1	-
3.	4.7341	33.4	-	31.7	-	0.2	0.0	0.2	0.0	33.8	-	48.0	0.0	14.2	-
4.	5.0546	31.1	-	31.1	-	0.3	0.0	0.2	0.0	31.6	-	48.0	0.0	16.4	-
5.	9.5329	27.7	-	27.2	-	0.4	0.0	0.3	0.0	28.4	-	48.0	0.0	19.6	-
6.	11.7080	21.2	-	20.9	-	0.5	0.0	0.3	0.0	22.0	-	48.0	0.0	26.0	-
7.	26.4873	17.1	-	17.7	-	0.9	0.0	0.5	0.0	19.1	-	48.0	0.0	28.9	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

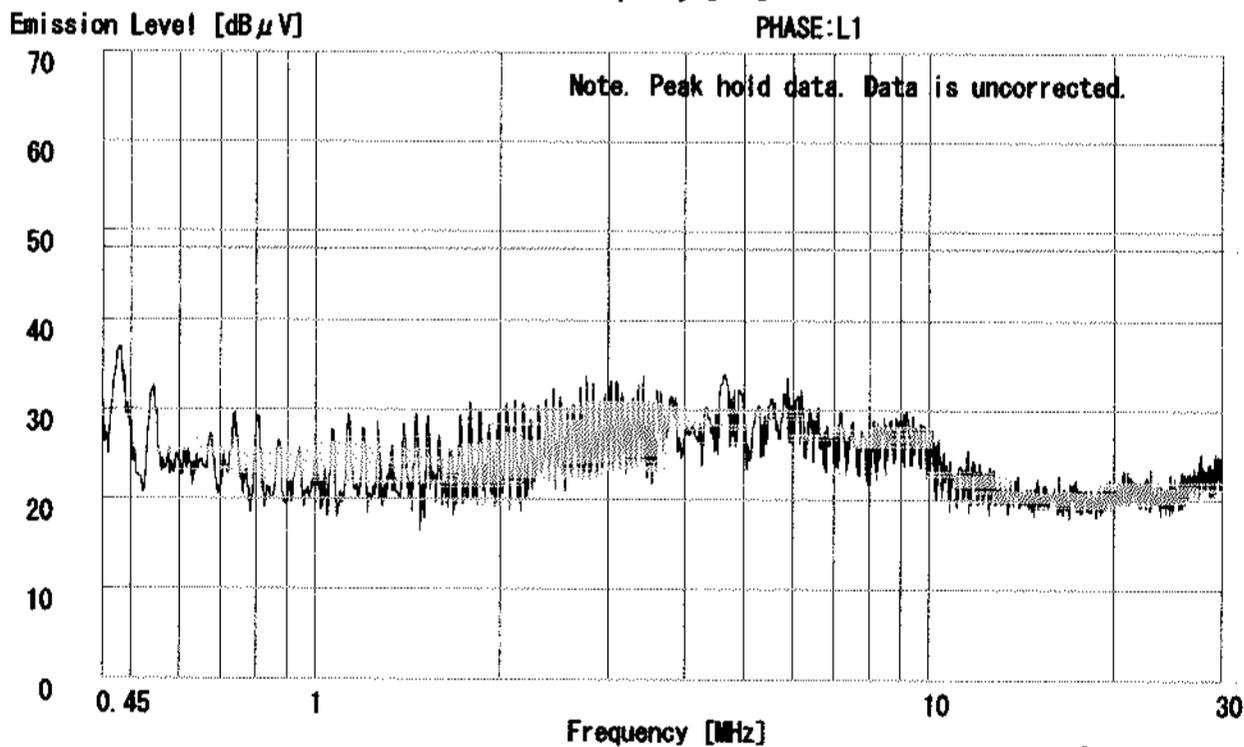
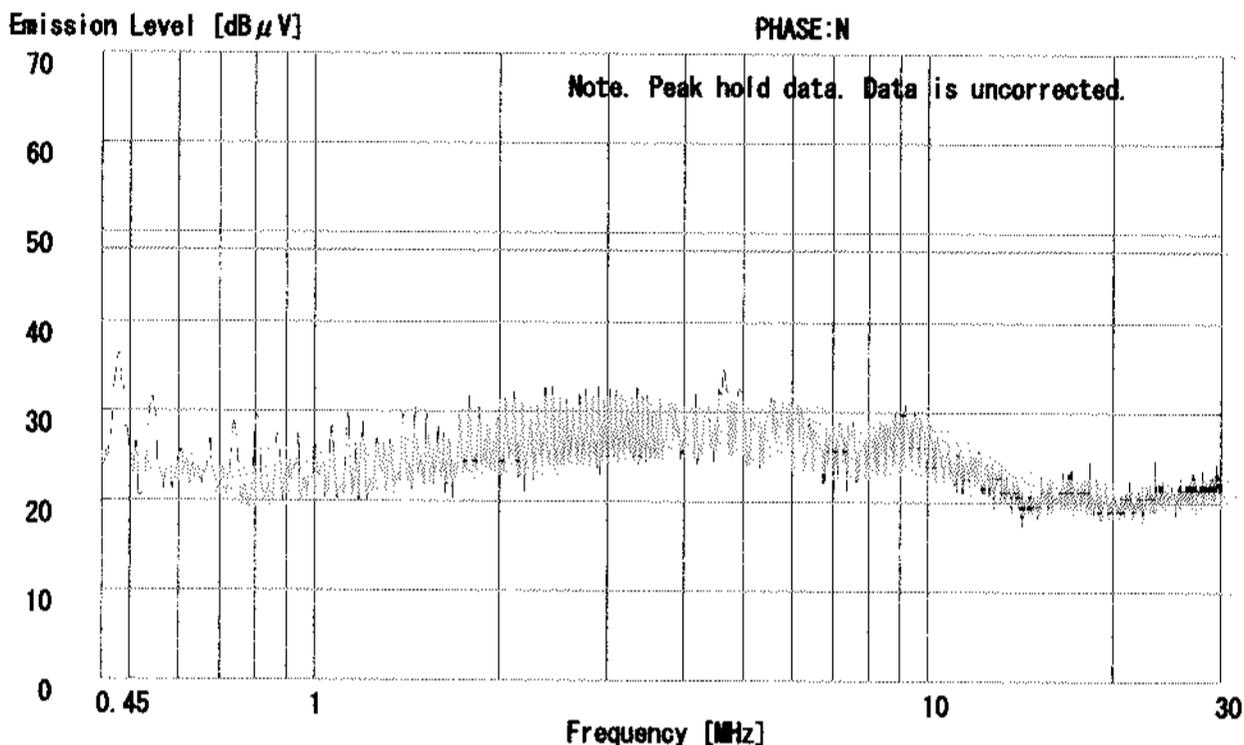
All other spurious emissions were less than 20dB for the limit.

DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2412MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Phase : Single Phase
Temperature : 22 °C
Humidity : 33 %
Regulation 1 : FCC Part15. 207
Regulation 2 : None

Engineer : Naoki Sakamoto

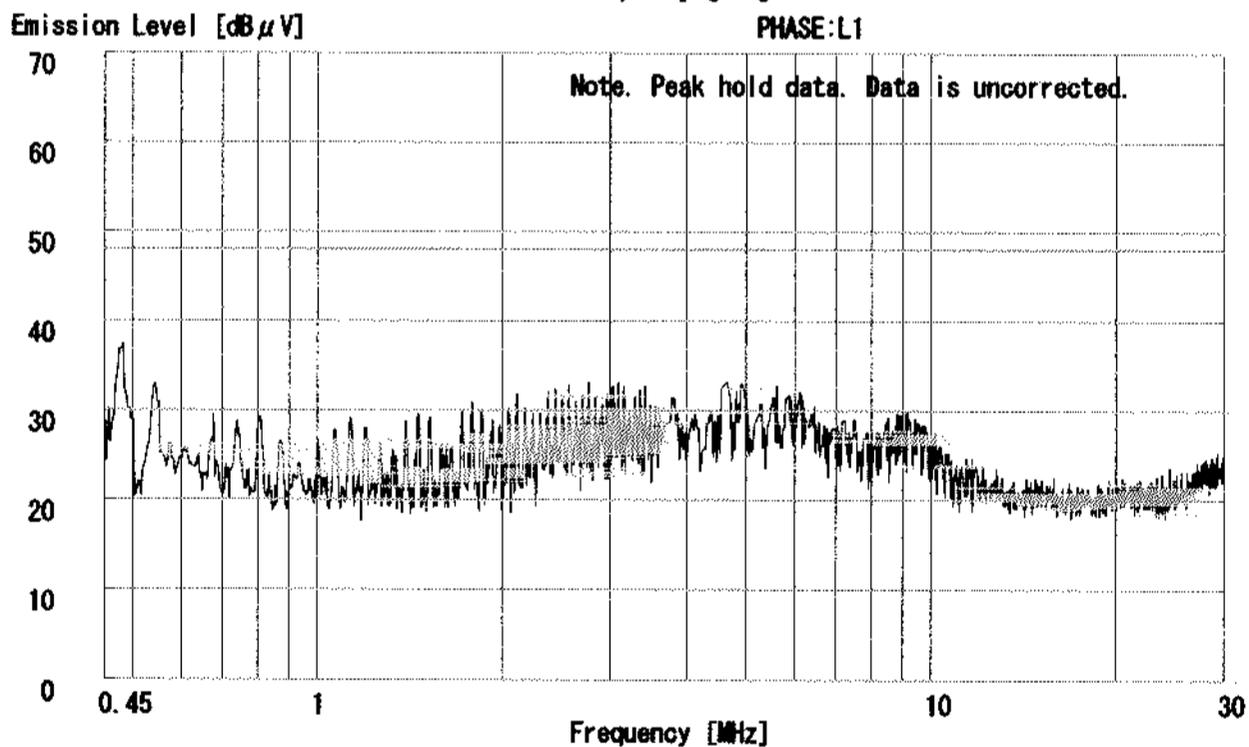
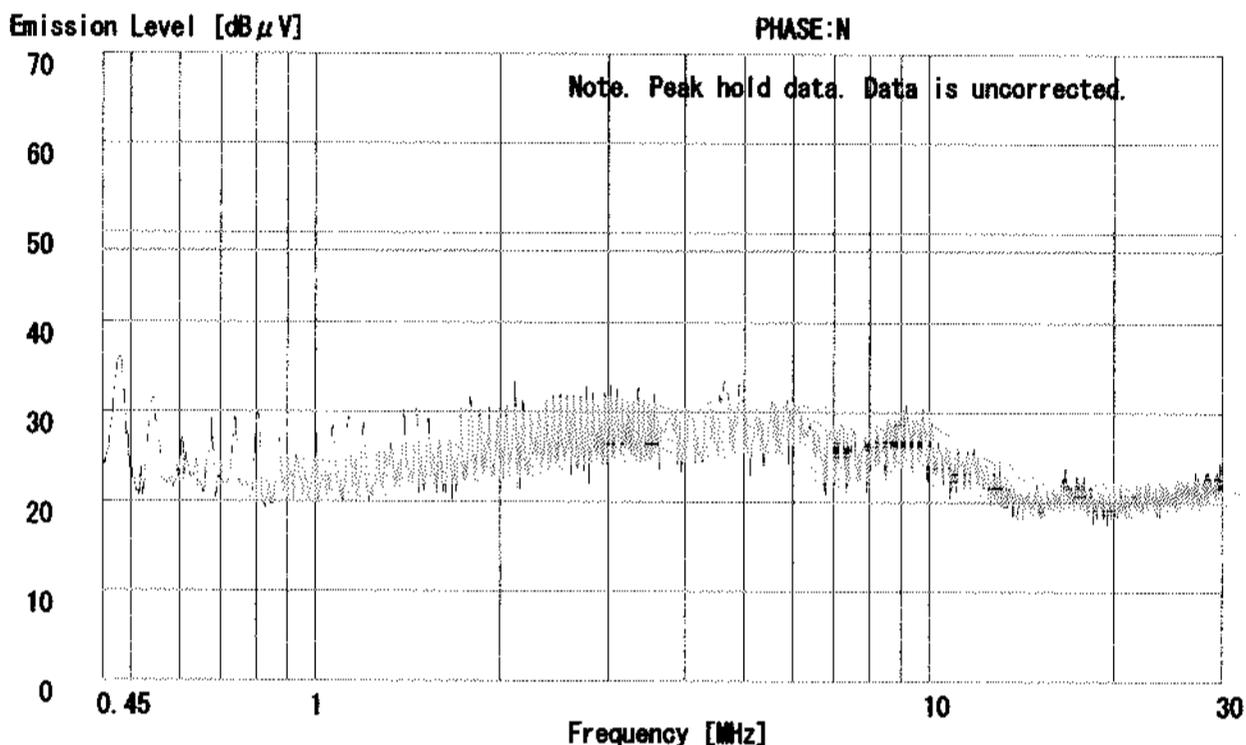


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2437MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Phase : Single Phase
Temperature : 22 °C
Humidity : 33 %
Regulation 1 : FCC Part15. 207
Regulation 2 : None

Engineer : Naoki Sakamoto



DATA OF CONDUCTION TEST CHART

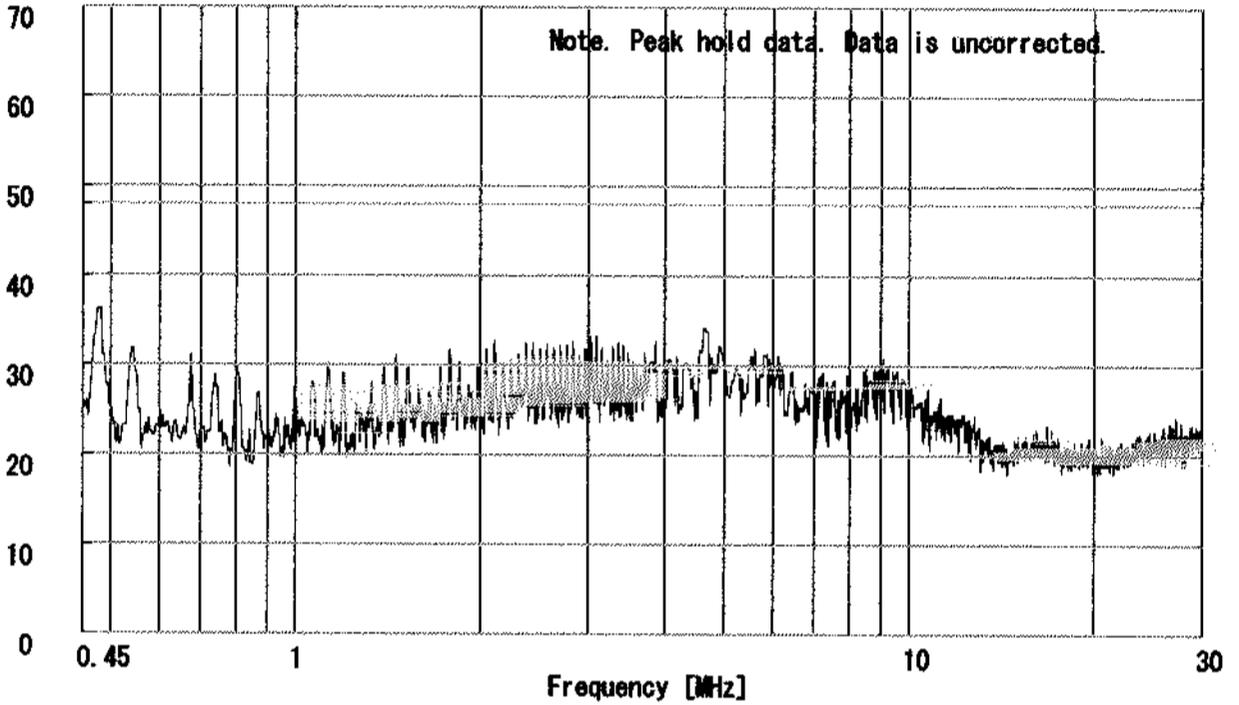
A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2462MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Phase : Single Phase
Temperature : 22 °C
Humidity : 33 %
Regulation 1 : FCC Part15.207
Regulation 2 : None

Engineer : Naoki Sakamoto

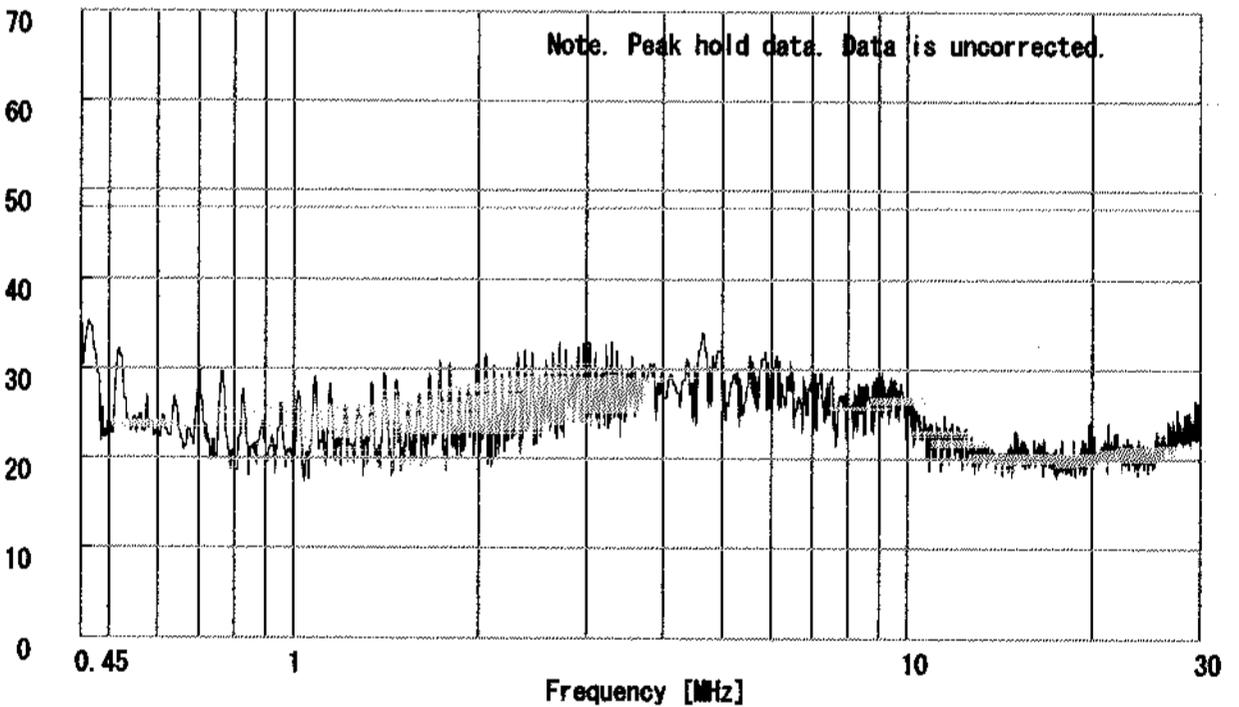
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1

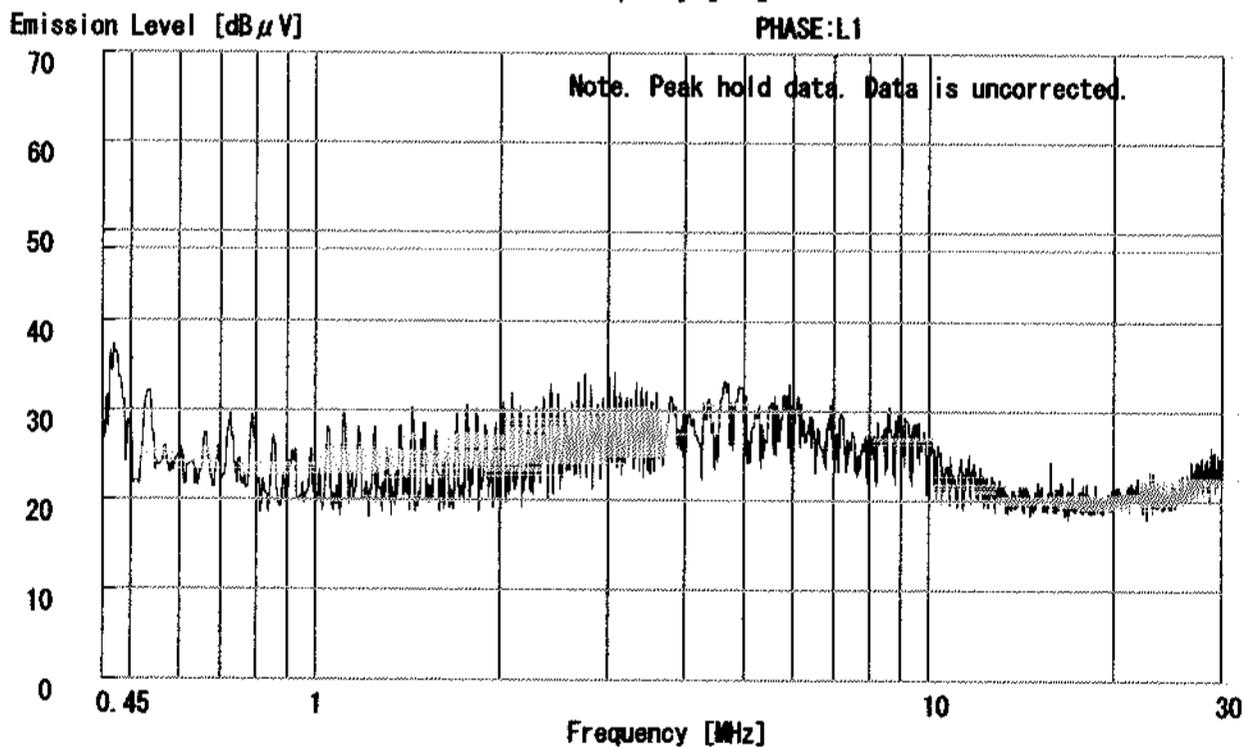
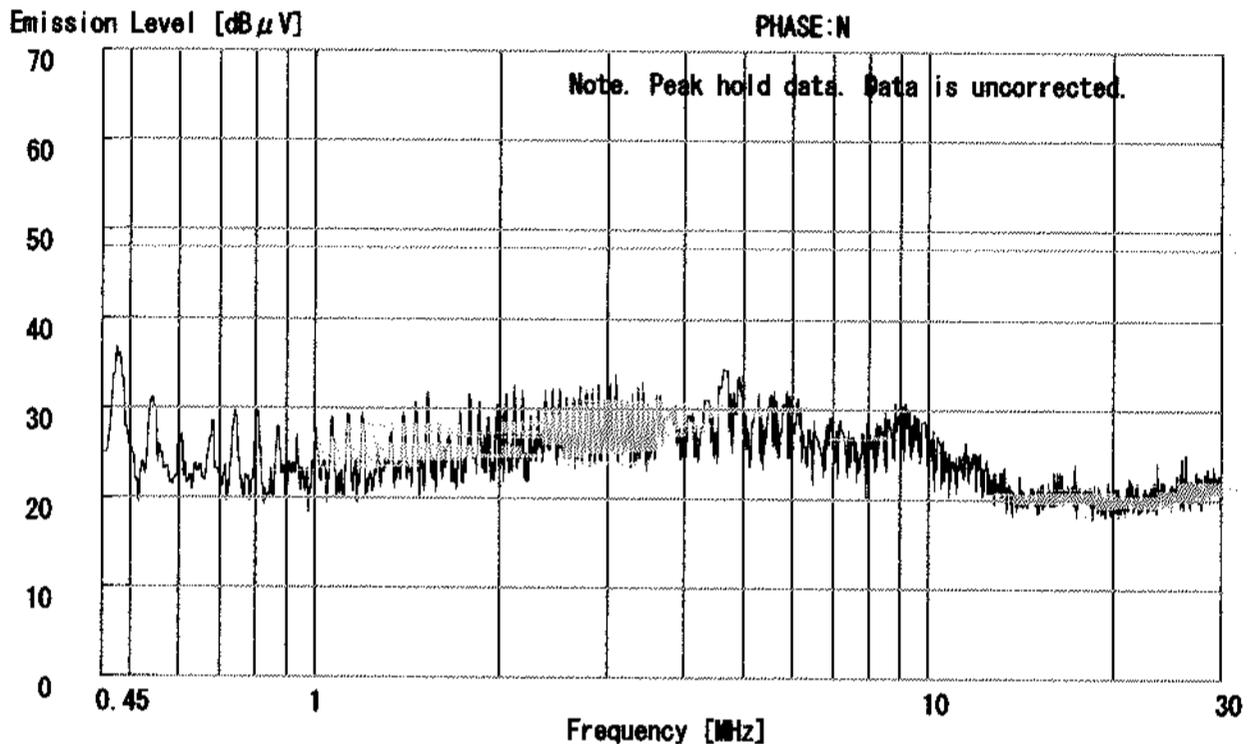


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Receiving
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Phase : Single Phase
Temperature : 22 °C
Humidity : 33 %
Regulation 1 : FCC Part15.207
Regulation 2 : None

Engineer : Naoki Sakamoto

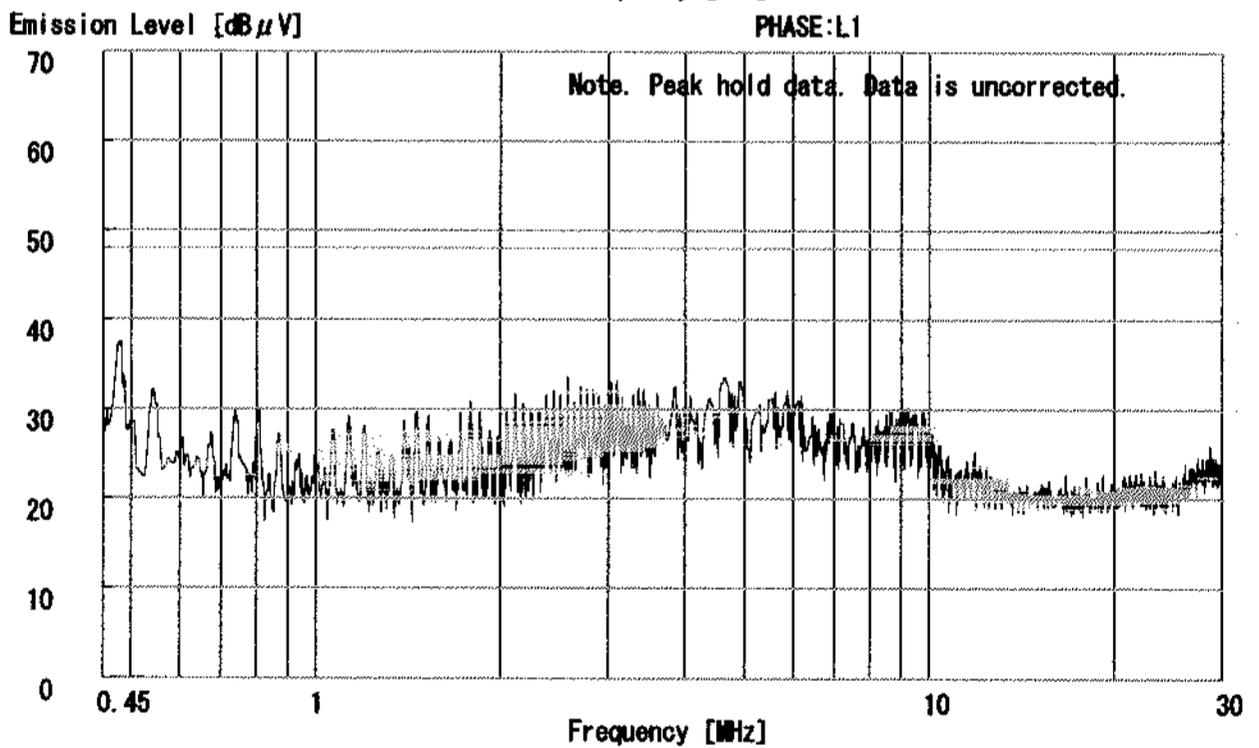
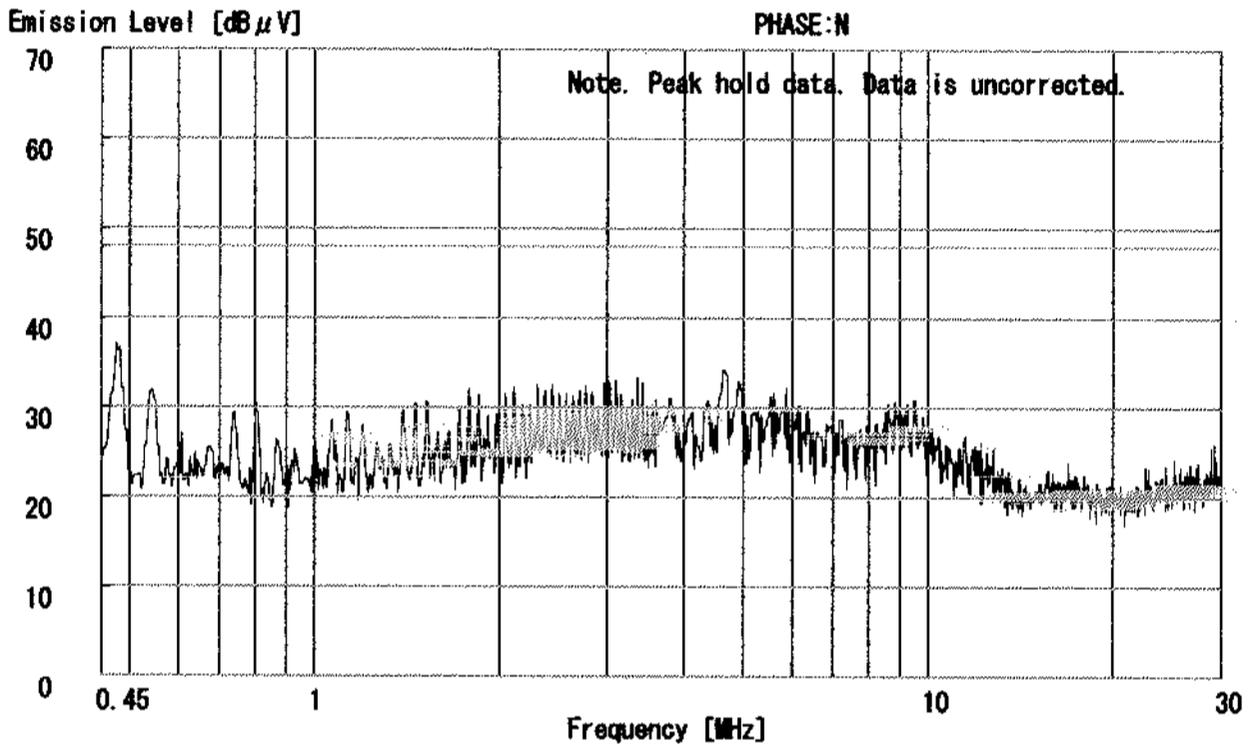


DATA OF CONDUCTION TEST CHART

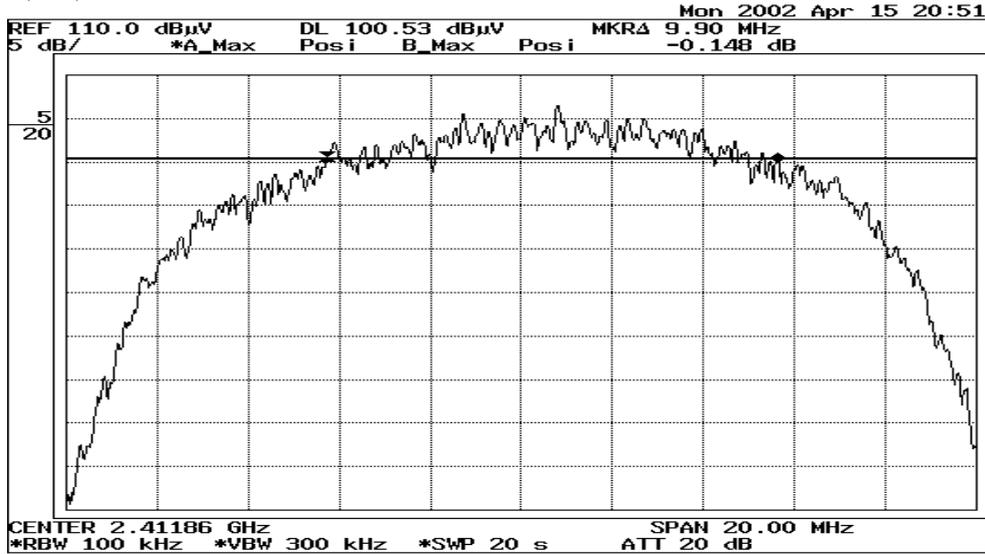
A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Standby
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Phase : Single Phase
Temperature : 22 °C
Humidity : 33 %
Regulation 1 : FCC Part15.207
Regulation 2 : None

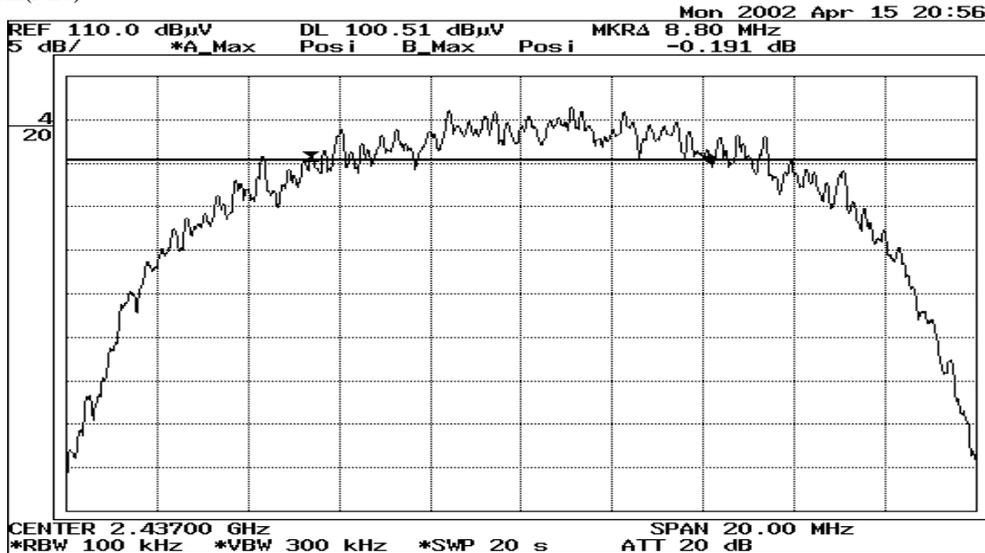
Engineer : Naoki Sakamoto



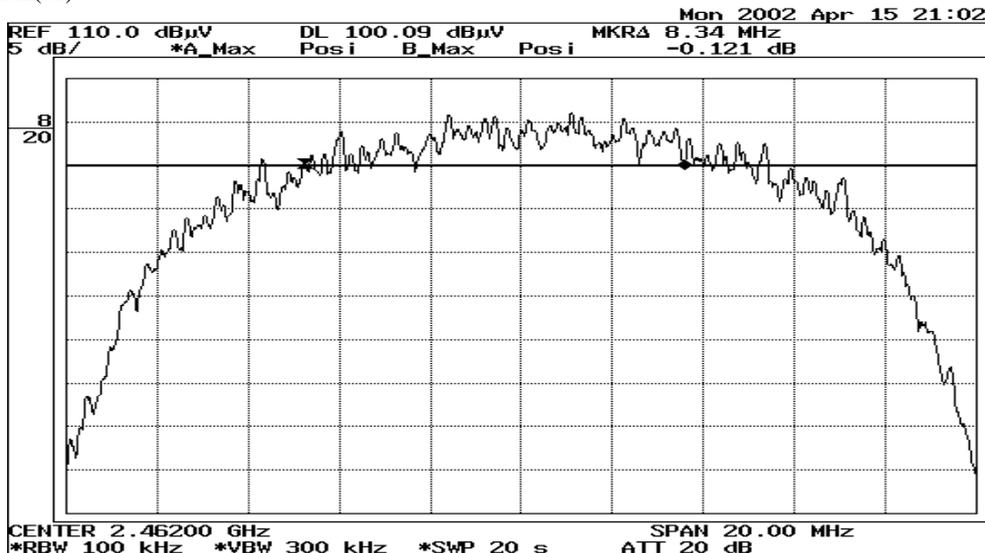
1. Ch1: 2412MHz(Low)



2. Ch6: 2437MHz(Mid)



3. Ch11: 2462MHz(Hi)



Peak Out Put Power(Antenna Port Conducted)

Revised Date :April 17,2002

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SONY Corporation
EQUIPMENT : Notebook Personal Computer
MODEL : PCG-9D1R
S/N : 2230DVT1 0000057
FCC ID : AK8PCG9D1R
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22GE0004-YW-1
REGULATION : Fcc Part15SubpartC 247(b)(1)
DATE : 2002/3/12
Temp./Humi. : 23deg.C / 30%



ENGINEER : Naoki Sakamoto

CH	FREQ [GHz]	PM Reading [dBm]	Limit (1W) [dBm]	MARGIN [dB]
Low	2.41200	8.6	30.0	21.4
Mid	2.43700	9.5	30.0	20.5
High	2.46200	9.0	30.0	21.0

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2412MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Test Distance : 3 m
Temperature : 26 °C
Humidity : 35 %
Regulation : Fcc 15C § 15.209(a)

Engineer : Naoki Sakamoto

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER	HOR [dB]	VER		
1.	40.73	BB	27.5	36.6	14.2	28.1	1.2	6.0	20.8	29.9	40.0	19.2	10.1	
2.	96.00	BB	37.2	41.1	9.2	27.9	1.9	5.9	26.3	30.2	43.5	17.2	13.3	
3.	100.01	BB	33.4	35.6	10.1	27.9	1.9	5.9	23.4	25.6	43.5	20.1	17.9	
4.	112.00	BB	31.3	32.1	12.0	27.9	2.0	5.9	23.3	24.1	43.5	20.2	19.4	
5.	436.71	BB	32.7	38.6	16.4	27.6	4.5	5.9	31.9	37.8	46.0	14.1	8.2	
6.	546.01	BB	31.2	32.0	18.4	27.5	5.0	5.8	32.9	33.7	46.0	13.1	12.3	
7.	600.71	BB	31.9	34.2	18.8	27.3	5.2	5.8	34.4	36.7	46.0	11.6	9.3	
8.	729.37	BB	29.0	32.8	20.8	26.9	5.8	5.8	34.5	38.3	46.0	11.5	7.7	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

All other spurious emissions were less than 20dB for the limit.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2437MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Test Distance : 3 m
Temperature : 26 °C
Humidity : 35 %
Regulation : Fcc 15C § 15.209(a)

Engineer : Naoki Sakamoto

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]	VER [dB]		
1.	40.75	BB	26.6	36.2	14.2	28.1	1.2	6.0	19.9	29.5	40.0	20.1	10.5	
2.	96.00	BB	36.9	40.9	9.2	27.9	1.9	5.9	26.0	30.0	43.5	17.5	13.5	
3.	100.01	BB	32.0	34.6	10.1	27.9	1.9	5.9	22.0	24.6	43.5	21.5	18.9	
4.	436.70	BB	32.5	37.9	16.4	27.6	4.5	5.9	31.7	37.1	46.0	14.3	8.9	
5.	546.01	BB	28.6	35.1	18.4	27.5	5.0	5.8	30.3	36.8	46.0	15.7	9.2	
6.	600.71	BB	31.7	34.1	18.8	27.3	5.2	5.8	34.2	36.6	46.0	11.8	9.4	
7.	729.35	BB	28.5	32.7	20.8	26.9	5.8	5.8	34.0	38.2	46.0	12.0	7.8	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

All other spurious emissions were less than 20dB for the limit.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Transmitting (2462MHz)
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Test Distance : 3 m
Temperature : 26 °C
Humidity : 35 %
Regulation : Fcc 15C § 15. 209 (a)

Engineer : Naoki Sakamoto

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]	HOR [dB]	VER [dB]		
1.	40.72	BB	26.3	36.0	14.2	28.1	1.2	6.0	19.6	29.3	40.0	20.4	10.7	
2.	96.00	BB	34.8	39.9	9.2	27.9	1.9	5.9	23.9	29.0	43.5	19.6	14.5	
3.	100.01	BB	31.8	34.4	10.1	27.9	1.9	5.9	21.8	24.4	43.5	21.7	19.1	
4.	436.77	BB	30.3	38.1	16.4	27.6	4.5	5.9	29.5	37.3	46.0	16.5	8.7	
5.	546.02	BB	29.1	35.3	18.4	27.5	5.0	5.8	30.8	37.0	46.0	15.2	9.0	
6.	600.72	BB	31.2	34.6	18.8	27.3	5.2	5.8	33.7	37.1	46.0	12.3	8.9	
7.	729.35	BB	29.0	33.1	20.8	26.9	5.8	5.8	34.5	38.6	46.0	11.5	7.4	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

All other spurious emissions were less than 20dB for the limit.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22GE0004-YW-1

Applicant : SONY Corp.
Kind of Equipment : Notebook Personal Computer
Model No. : PCG-9D1R
Serial No. :
Power : AC120V/60Hz
Mode : Receiving
Remarks : FCC ID: AK8PCG9D1R
Date : 3/11/2002
Test Distance : 3 m
Temperature : 26 °C
Humidity : 35 %
Regulation : Fcc 15C § 15. 209(a)

Engineer : Naoki Sakamoto

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]	HOR [dB]	VER [dB]		
1.	40.73	BB	25.4	35.6	14.2	28.1	1.2	6.0	18.7	28.9	40.0	21.3	11.1	
2.	96.01	BB	31.5	32.3	9.2	27.9	1.9	5.9	20.6	21.4	43.5	22.9	22.1	
3.	100.01	BB	30.7	33.3	10.1	27.9	1.9	5.9	20.7	23.3	43.5	22.8	20.2	
4.	436.70	BB	32.5	38.2	16.4	27.6	4.5	5.9	31.7	37.4	46.0	14.3	8.6	
5.	546.02	BB	31.0	34.8	18.4	27.5	5.0	5.8	32.7	36.5	46.0	13.3	9.5	
6.	600.71	BB	31.1	34.7	18.8	27.3	5.2	5.8	33.6	37.2	46.0	12.4	8.8	
7.	729.34	BB	28.0	33.5	20.8	26.9	5.8	5.8	33.5	39.0	46.0	12.5	7.0	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

All other spurious emissions were less than 20dB for the limit.
ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SONY Corporation
EQUIPMENT : Notebook Personal Computer
MODEL : PCG-9D1R
S/N : 2230DVT1 0000067
FCC ID : AK8PCG9D1R
POWER : AC120V/60Hz
Mode : Transmitting (ch1: 2412MHz / 11Mbps)

REPORT NO : 22GE0004-YW-1
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 1m(10-26GHz)/3m(1-10GHz)
DATE : 2002/3/11
Temperature : 25degrees centigrade
Humidity : 41%

ENGINEER : Naoki Sakamoto

PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

No.	FREQ [GHz]	S/A READING [dBuV]		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT [dBuV/m]		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	52.5	55.0	25.2	39.0	1.5	0.0	10.0	50.2	52.7	74.0	23.8	21.3
2	2.03770	49.1	50.9	30.5	38.0	2.5	0.0	9.9	54.0	55.8	74.0	20.1	18.2
3	2.39000	45.5	45.1	31.3	38.0	2.8	0.0	10.0	51.6	51.2	74.0	22.4	22.8
4	4.82400	42.7	43.4	35.4	38.0	4.2	1.1	0.0	45.4	46.1	74.0	28.6	27.9
5	7.23600	43.2	43.8	39.1	38.2	5.7	0.5	0.0	50.3	50.9	74.0	23.7	23.1
6	9.64800	44.5	44.5	39.2	38.5	6.2	0.5	0.0	51.9	51.9	74.0	22.1	22.2
Test distance 1.0meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass - Dfac													
7	12.06000	43.6	43.6	43.5	38.5	7.5	0.5	0.0	47.1	47.1	74.0	26.9	26.9
8	14.47283	44.0	43.1	42.2	38.5	8.0	0.6	0.0	46.8	45.9	74.0	27.2	28.1
9	16.88484	45.5	45.8	43.8	38.5	8.1	0.6	0.0	50.0	50.3	74.0	24.0	23.7
10	19.29685	45.8	45.4	37.5	38.5	8.8	1.1	0.0	45.2	44.8	74.0	28.8	29.2
11	21.70885	46.9	46.4	38.2	38.5	10.0	0.5	0.0	47.6	47.1	74.0	26.4	26.9
12	24.12085	46.5	46.0	38.6	38.5	12.6	0.7	0.0	50.4	49.9	74.0	23.6	24.1

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING [dBuV]		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT [dBuV/m]		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	37.9	38.8	25.2	39.0	1.5	0.0	10.0	35.6	36.5	54.0	18.4	17.5
2	2.03770	43.8	46.4	30.5	38.0	2.5	0.0	9.9	48.7	51.3	54.0	5.3	2.7
3	2.39000	34.7	34.6	31.3	38.0	2.8	0.0	10.0	40.8	40.7	54.0	13.2	13.3
4	4.82400	31.5	32.3	35.4	38.0	4.2	1.1	0.0	34.2	35.0	54.0	19.8	19.0
5	7.23600	32.3	32.6	39.1	38.2	5.7	0.5	0.0	39.4	39.7	54.0	14.6	14.3
6	9.64800	33.8	33.4	39.2	38.5	6.2	0.5	0.0	41.2	40.8	54.0	12.8	13.2
Test distance 1.0meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass - Dfac													
7	12.06000	33.0	32.7	43.5	38.5	7.5	0.5	0.0	36.5	36.2	54.0	17.5	17.8
8	14.47200	33.0	32.6	42.2	38.5	8.0	0.6	0.0	35.8	35.4	54.0	18.2	18.6
9	16.88400	34.4	34.5	43.8	38.5	8.1	0.6	0.0	38.9	39.0	54.0	15.1	15.0
10	19.29600	34.8	34.4	37.5	38.5	8.8	1.1	0.0	34.2	33.8	54.0	19.8	20.2
11	21.70800	35.8	35.2	38.2	38.5	10.0	0.5	0.0	36.5	35.9	54.0	17.6	18.1
12	24.12000	35.2	34.9	38.6	38.5	12.6	0.7	0.0	39.1	38.8	54.0	14.9	15.2

Test Distance 1.0m : Distance Factor(Dfac) = $20\log(3/1) = 9.5$ dB

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SONY Corporation
EQUIPMENT : Notebook Personal Computer
MODEL : PCG-9D1R
S/N : 2230DVT1 0000067
FCC ID : AK8PCG9D1R
POWER : AC120V/60Hz
Mode : Transmitting (ch6: 2437MHz / 11Mbps)

REPORT NO : 22GE0004-YW-1
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 1m(10-26GHz)/3m(1-10GHz)
DATE : 2002/3/11
Temperature : 25degrees centigrade
Humidity : 41%

ENGINEER : Naoki Sakamoto

PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	53.9	54.1	25.2	39.0	1.5	0.0	10.0	51.6	51.8	74.0	22.4	22.2
2	2.06275	50.3	50.0	30.5	38.0	2.5	0.0	9.9	55.2	54.9	74.0	18.8	19.1
4	4.87400	43.1	43.7	35.6	37.9	4.2	1.1	0.0	46.1	46.7	74.0	27.9	27.3
5	7.31100	43.6	44.1	39.2	38.2	5.7	0.5	0.0	50.8	51.3	74.0	23.2	22.7
6	9.74800	44.4	44.6	39.2	38.5	6.2	0.5	0.0	51.8	52.0	74.0	22.2	22.0
Test distance 1.0meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass - Dfac													
7	12.18500	44.7	44.5	43.4	38.5	7.5	0.5	0.0	48.1	47.9	74.0	25.9	26.1
8	14.62200	43.3	43.4	42.6	38.5	8.0	0.5	0.0	46.4	46.5	74.0	27.6	27.5
9	17.05900	44.1	44.6	43.8	38.5	8.1	0.6	0.0	48.6	49.1	74.0	25.4	24.9
10	19.49600	45.7	46.2	37.4	38.5	9.3	1.3	0.0	45.7	46.2	74.0	28.3	27.8
11	21.93300	45.6	46.1	38.2	38.5	9.6	0.3	0.0	45.7	46.2	74.0	28.3	27.8
12	24.37000	46.7	46.5	38.8	38.5	12.5	0.8	0.0	50.8	50.6	74.0	23.2	23.4

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	38.4	38.8	25.2	39.0	1.5	0.0	10.0	36.1	36.5	54.0	17.9	17.5
2	2.06275	45.7	46.5	30.5	38.0	2.5	0.0	9.9	50.6	51.4	54.0	3.4	2.6
4	4.87400	32.3	31.6	35.6	37.9	4.2	1.1	0.0	35.3	34.6	54.0	18.7	19.4
5	7.31100	32.8	32.6	39.2	38.2	5.7	0.5	0.0	40.0	39.8	54.0	14.0	14.2
6	9.74800	33.8	33.8	39.2	38.5	6.2	0.5	0.0	41.2	41.2	54.0	12.8	12.8
Test distance 1.0meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass - Dfac													
7	12.18500	33.2	33.2	43.4	38.5	7.5	0.5	0.0	36.6	36.6	54.0	17.4	17.4
8	14.62200	32.5	33.0	42.6	38.5	8.0	0.5	0.0	35.6	36.1	54.0	18.4	17.9
9	17.05900	33.8	33.9	43.8	38.5	8.1	0.6	0.0	38.3	38.4	54.0	15.7	15.6
10	19.49600	34.1	34.3	37.4	38.5	9.3	1.3	0.0	34.1	34.3	54.0	19.9	19.7
11	21.93300	35.0	35.3	38.2	38.5	9.6	0.3	0.0	35.1	35.4	54.0	18.9	18.6
12	24.37000	36.1	36.2	38.8	38.5	12.5	0.8	0.0	40.2	40.3	54.0	13.8	13.7

Test Distance 1.0m : Distance Factor(Dfac) = $20\log(3/1) = 9.5$ dB

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SONY Corporation
EQUIPMENT : Notebook Personal Computer
MODEL : PCG-9D1R
S/N : 2230DVT1 0000067
FCC ID : AK8PCG9D1R
POWER : AC120V/60Hz
Mode : Transmitting (ch1: 2462MHz / 11Mbps)

REPORT NO : 22GE0004-YW-1
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 1m(10-26GHz)/3m(1-10GHz)
DATE : 2002/3/11
Temperature : 25degrees centigrade
Humidity : 41%

ENGINEER : Naoki Sakamoto

PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	52.0	55.2	25.2	39.0	1.5	0.0	10.0	49.7	52.9	74.0	24.3	21.1
2	2.08784	49.1	50.0	30.5	38.0	2.5	0.0	9.9	54.0	54.9	74.0	20.0	19.1
3	2.48350	44.3	45.8	31.6	38.0	2.9	0.0	10.0	50.8	52.3	74.0	23.2	21.7
4	4.92600	43.3	41.8	35.8	37.9	4.3	1.1	0.0	46.6	45.1	74.0	27.5	28.9
5	7.38654	44.5	44.4	39.2	38.3	5.8	0.5	0.0	51.7	51.6	74.0	22.3	22.4
6	9.84830	44.4	44.9	39.2	38.5	6.2	0.5	0.0	51.8	52.3	74.0	22.2	21.7
Test distance 1.0meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass - Dfac													
7	12.31000	44.8	43.9	43.3	38.5	7.4	0.5	0.0	48.0	47.1	74.0	26.0	26.9
8	14.77200	44.1	43.2	42.9	38.5	8.1	0.5	0.0	47.6	46.7	74.0	26.4	27.3
9	17.23400	45.6	44.7	43.9	38.5	8.2	0.6	0.0	50.3	49.4	74.0	23.7	24.6
10	19.69600	45.6	45.8	37.5	38.5	9.9	1.5	0.0	46.5	46.7	74.0	27.5	27.3
11	22.15800	45.2	45.4	38.2	38.5	9.6	0.3	0.0	45.3	45.5	74.0	28.7	28.5
12	24.62000	46.9	46.4	38.8	38.5	12.5	0.9	0.0	51.1	50.6	74.0	22.9	23.4

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	37.6	39.0	25.2	39.0	1.5	0.0	10.0	35.3	36.7	54.0	18.7	17.3
2	2.08784	44.4	46.4	30.5	38.0	2.5	0.0	9.9	49.3	51.3	54.0	4.7	2.7
3	2.48350	34.2	35.3	31.6	38.0	2.9	0.0	10.0	40.7	41.8	54.0	13.3	12.2
4	4.92600	32.2	30.9	35.8	37.9	4.3	1.1	0.0	35.5	34.2	54.0	18.5	19.8
5	7.38654	32.7	32.8	39.2	38.3	5.8	0.5	0.0	39.9	40.0	54.0	14.1	14.0
6	9.84830	33.9	34.0	39.2	38.5	6.2	0.5	0.0	41.3	41.4	54.0	12.7	12.6
Test distance 1.0meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass - Dfac													
7	12.31000	33.4	33.3	43.3	38.5	7.4	0.5	0.0	36.6	36.5	54.0	17.4	17.5
8	14.77200	32.5	32.4	42.9	38.5	8.1	0.5	0.0	36.0	35.9	54.0	18.0	18.1
9	17.23400	34.2	34.0	43.9	38.5	8.2	0.6	0.0	38.9	38.7	54.0	15.1	15.3
10	19.69600	35.3	35.1	37.5	38.5	9.9	1.5	0.0	36.2	36.0	54.0	17.8	18.0
11	22.15800	34.7	34.6	38.2	38.5	9.6	0.3	0.0	34.8	34.7	54.0	19.2	19.3
12	24.62000	36.2	36.1	38.8	38.5	12.5	0.9	0.0	40.4	40.3	54.0	13.6	13.7

Test Distance 1.0m : Distance Factor(Dfac) = $20\log(3/1.0) = 9.5$ dB

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 10GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SONY Corporation
EQUIPMENT : Notebook Personal Computer
MODEL : PCG-9D1R
S/N : 2230DVT1 0000067
FCC ID : AK8PCG9D1R
POWER : AC120V/60Hz
Mode : Receiving

REPORT NO : 22GE0004-YW-1
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 3m
DATE : 2002/3/11
Temperature : 25degrees centigrade
Humidity : 41%


ENGINEER : Naoki Sakamoto

PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER						HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	51.7	56.4	25.2	39.0	1.5	0.0	10.0	49.4	54.1	74.0	24.6	19.9
2	2.06270	48.2	49.5	30.5	38.0	2.5	0.0	9.9	53.1	54.4	74.0	20.9	19.6

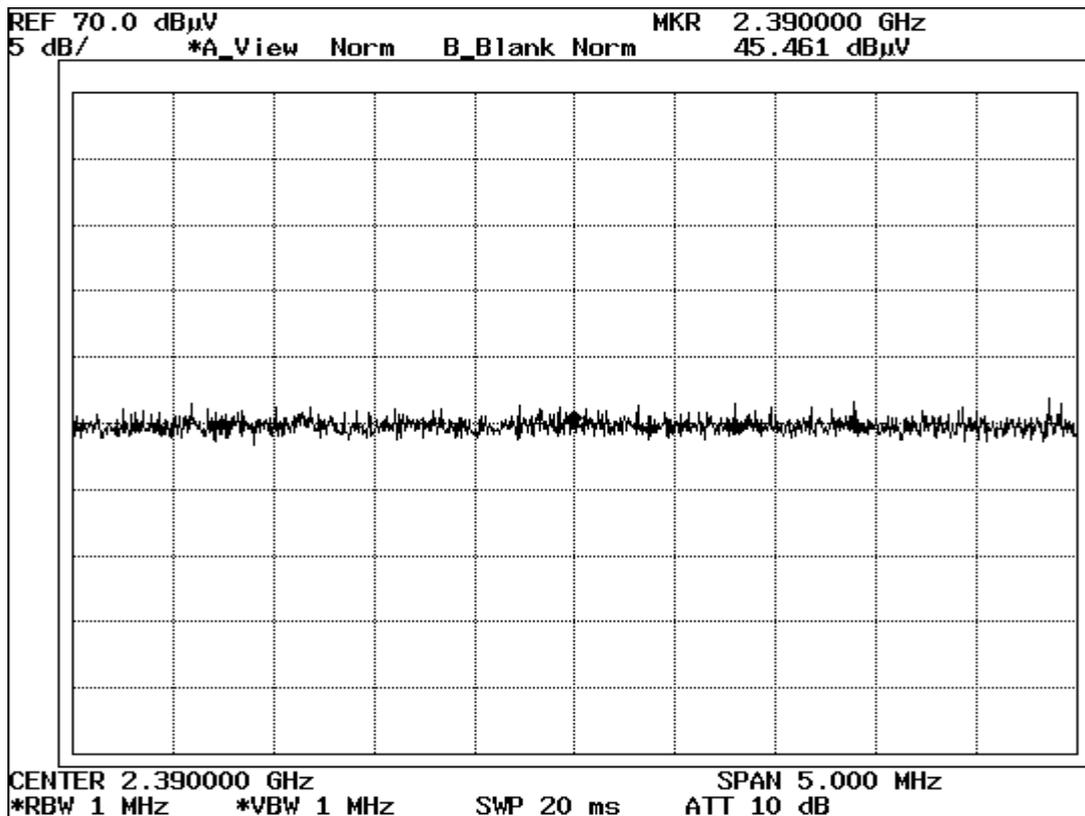
AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	ATTEN [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER						HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).													
1	1.09366	37.5	39.1	25.2	39.0	1.5	0.0	10.0	35.2	36.8	54.0	18.8	17.2
2	2.06270	42.2	45.1	30.5	38.0	2.5	0.0	9.9	47.1	50.0	54.0	6.9	4.0

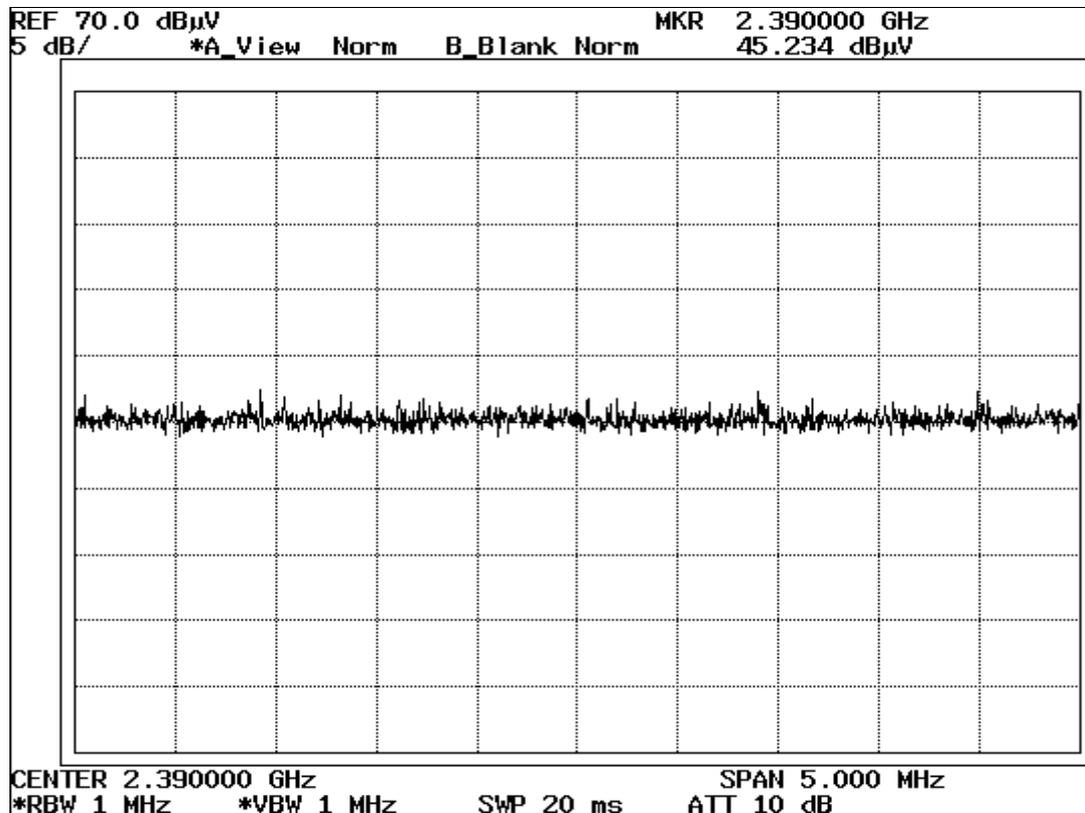
2.39GHz(Ch1)

PK Detector

1. Horizontal



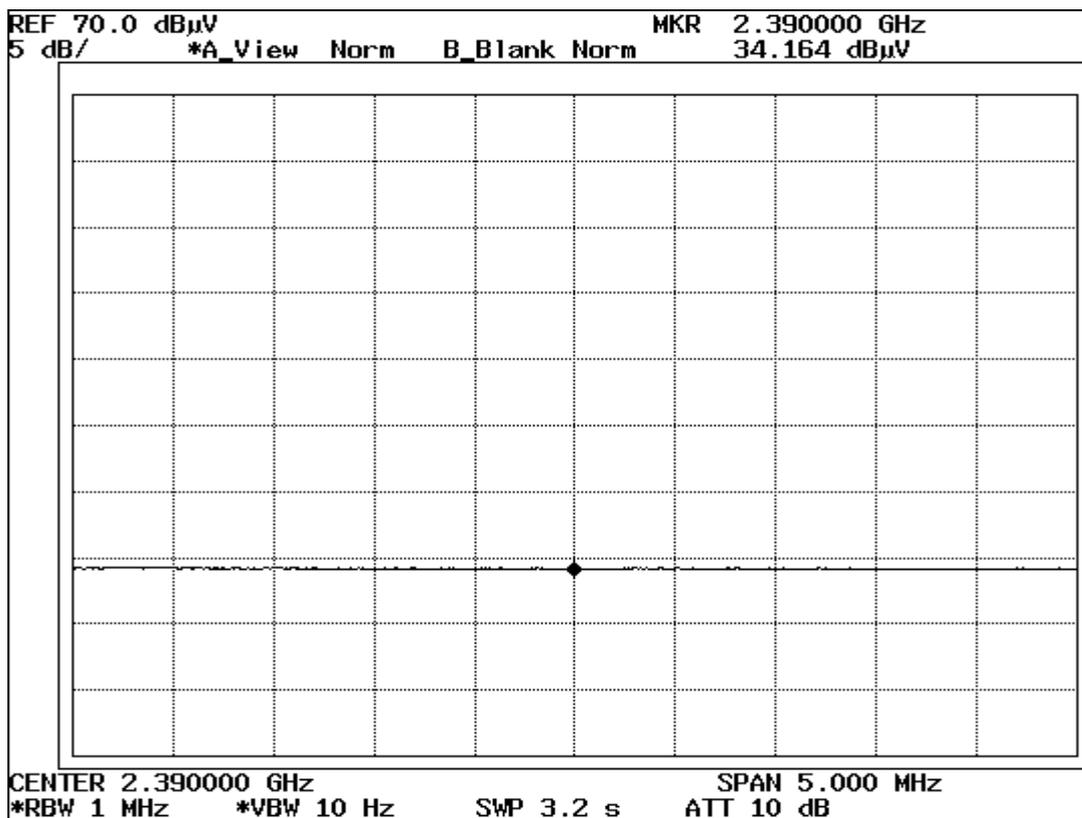
2. Vertical



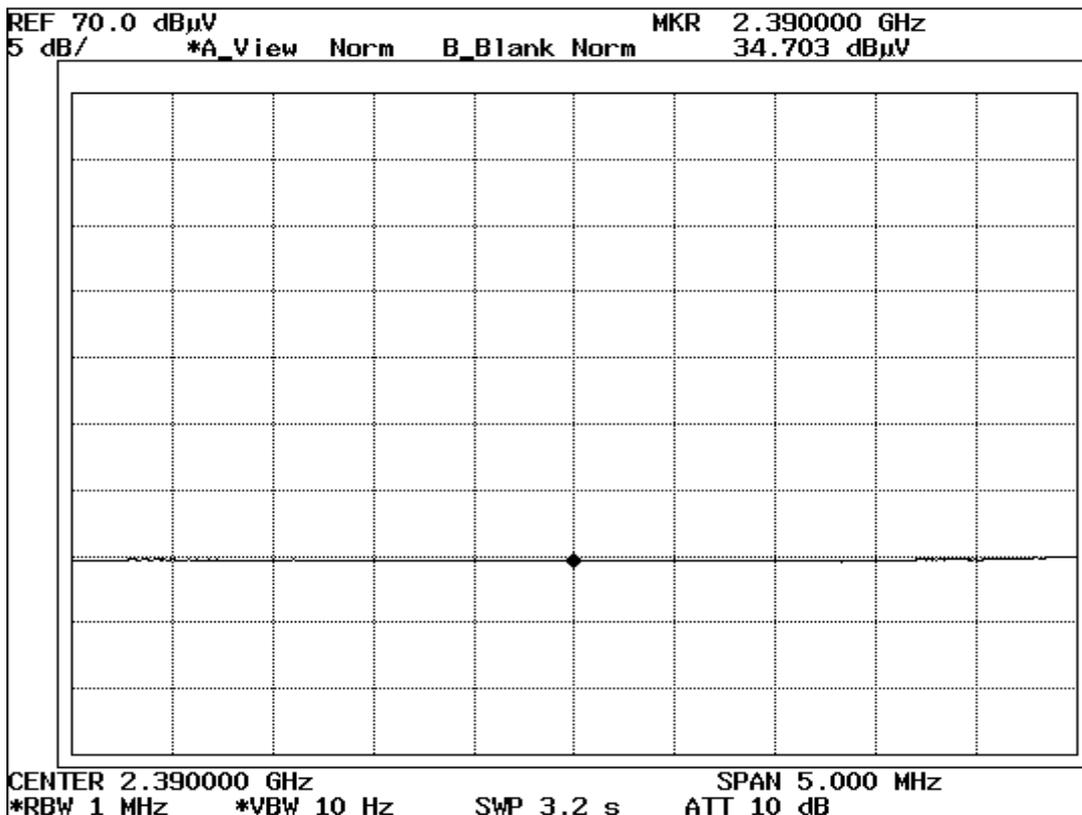
2.39GHz(Ch1)

AV Detector

1. Horizontal



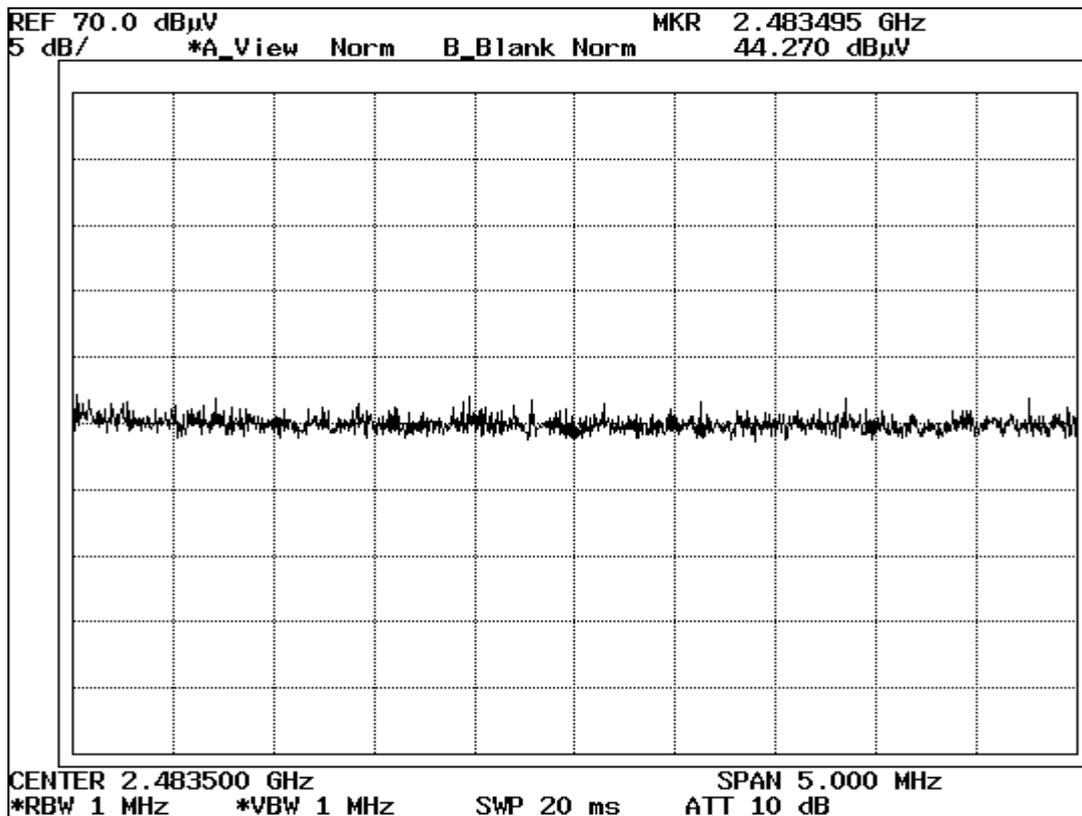
2. Vertical



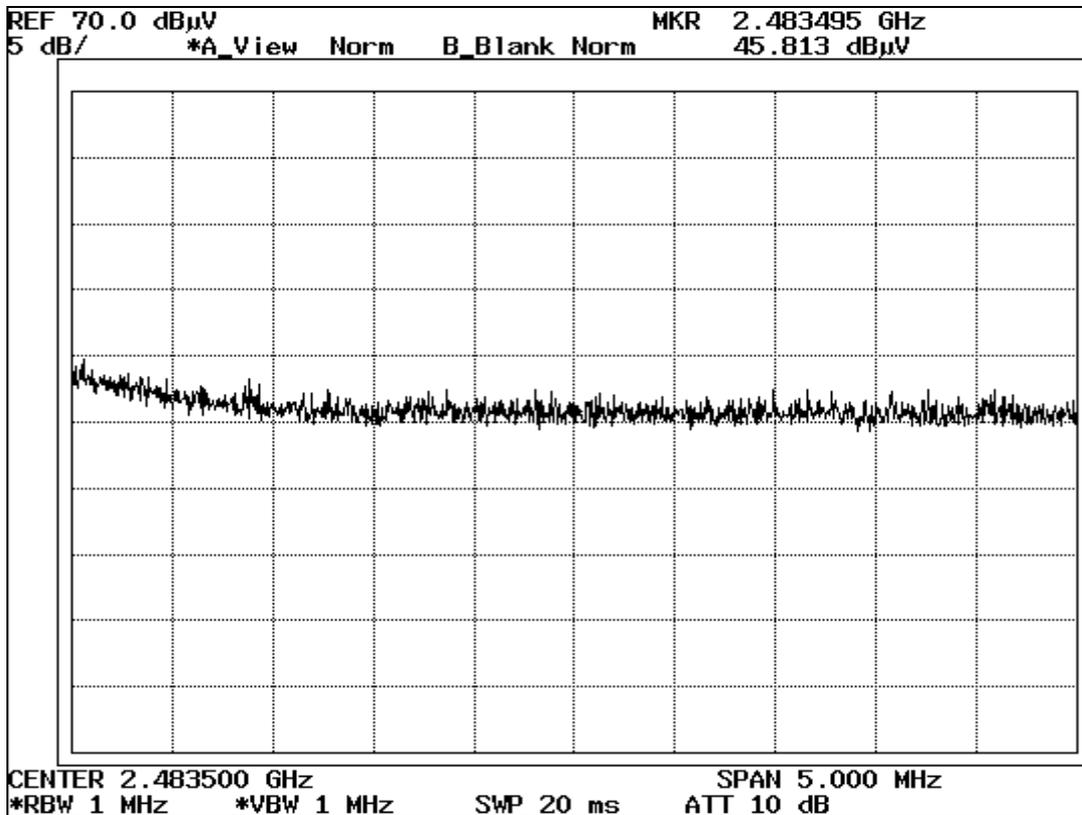
2.4835GHz(Ch11)

PK Detector

1. Horizontal



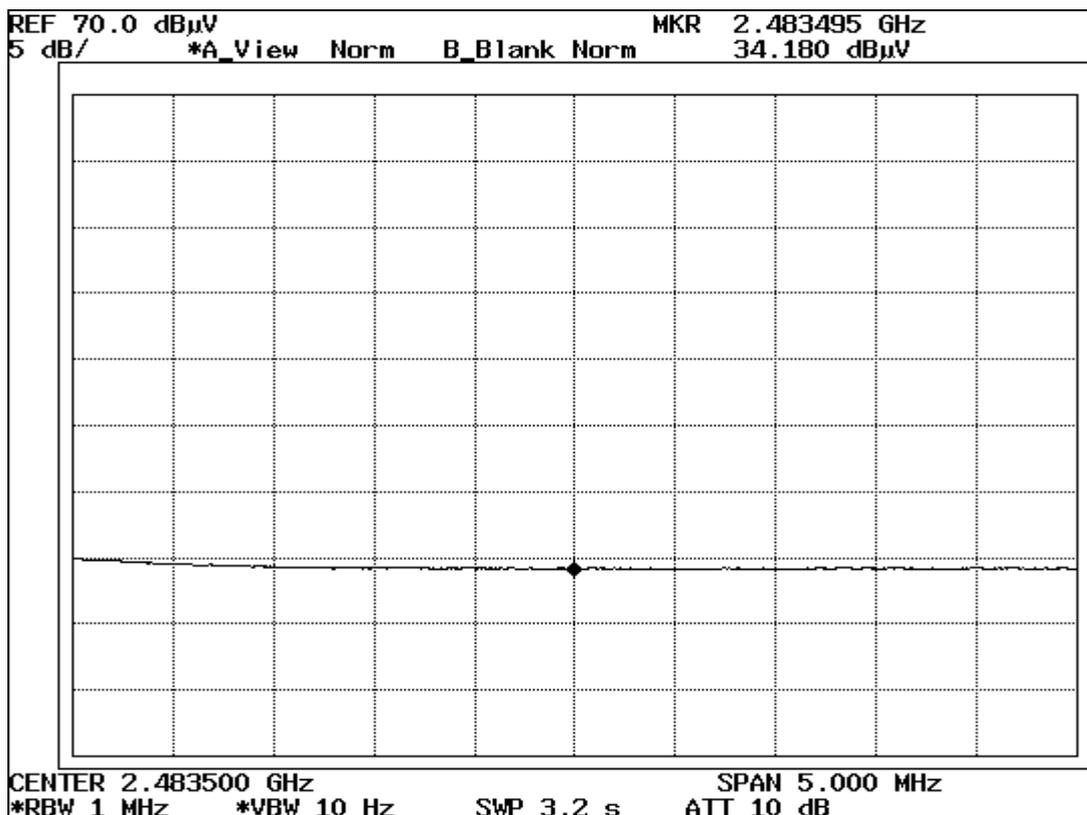
2. Vertical



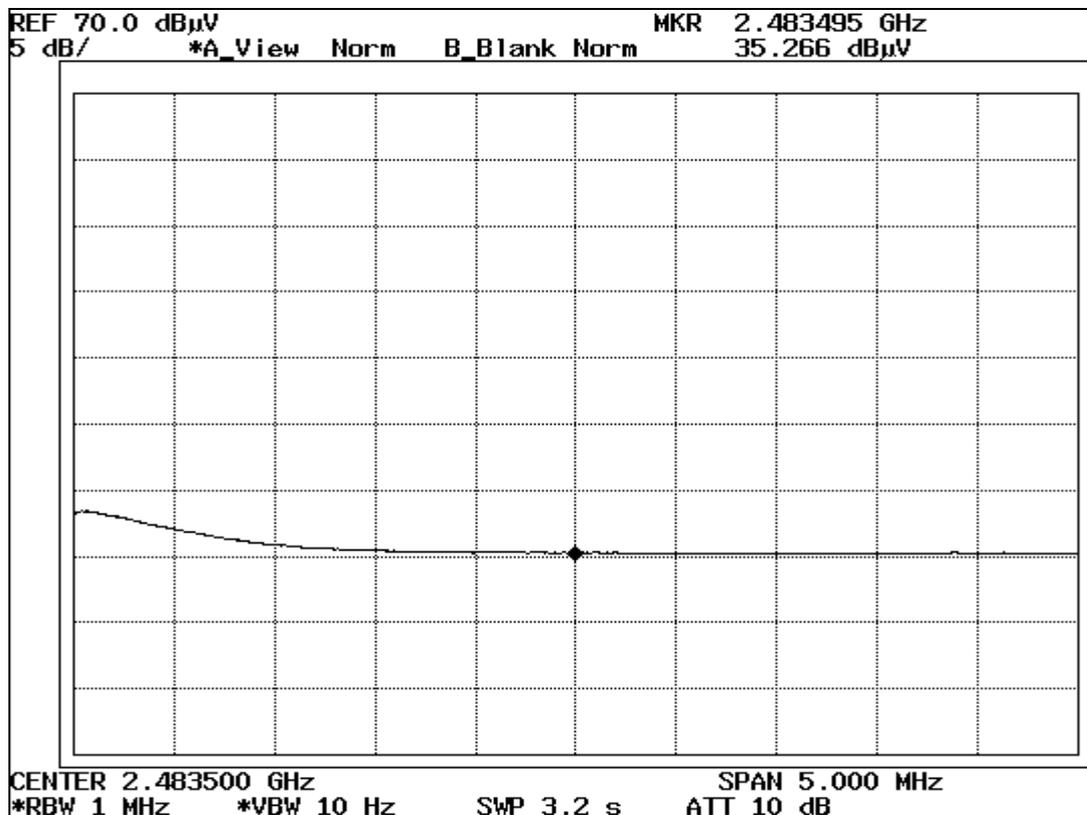
2.4835GHz(Ch11)

AV Detector

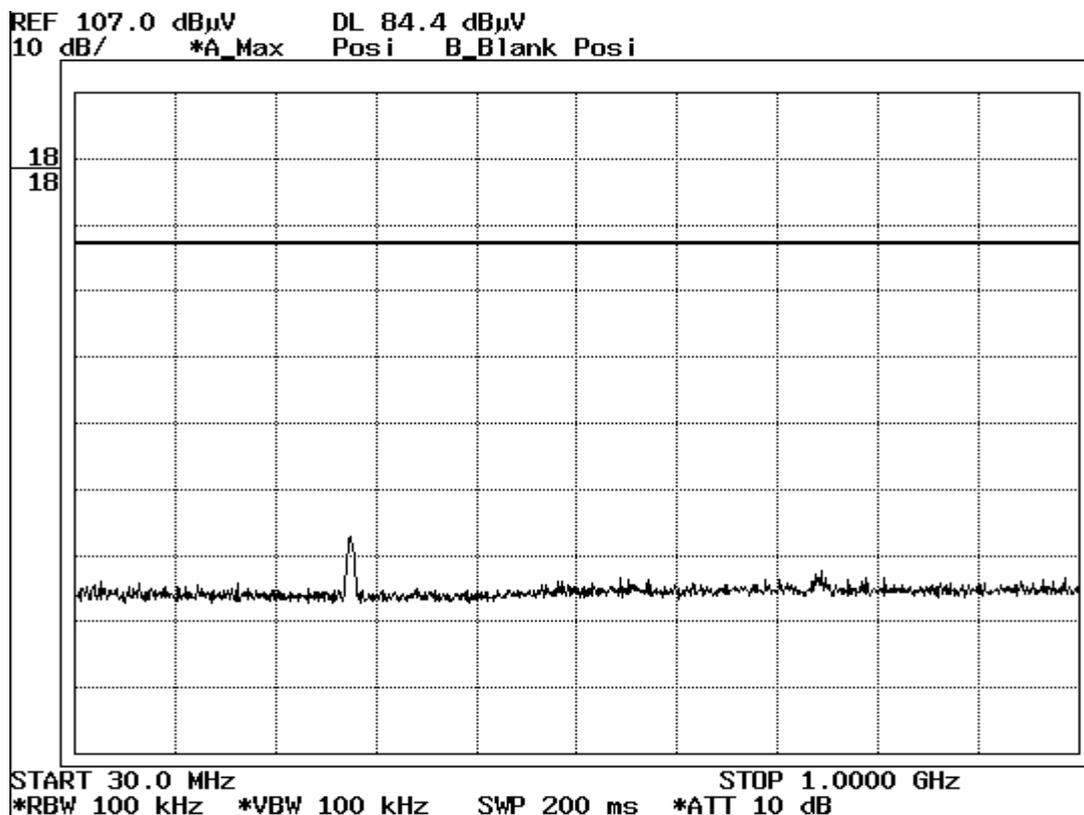
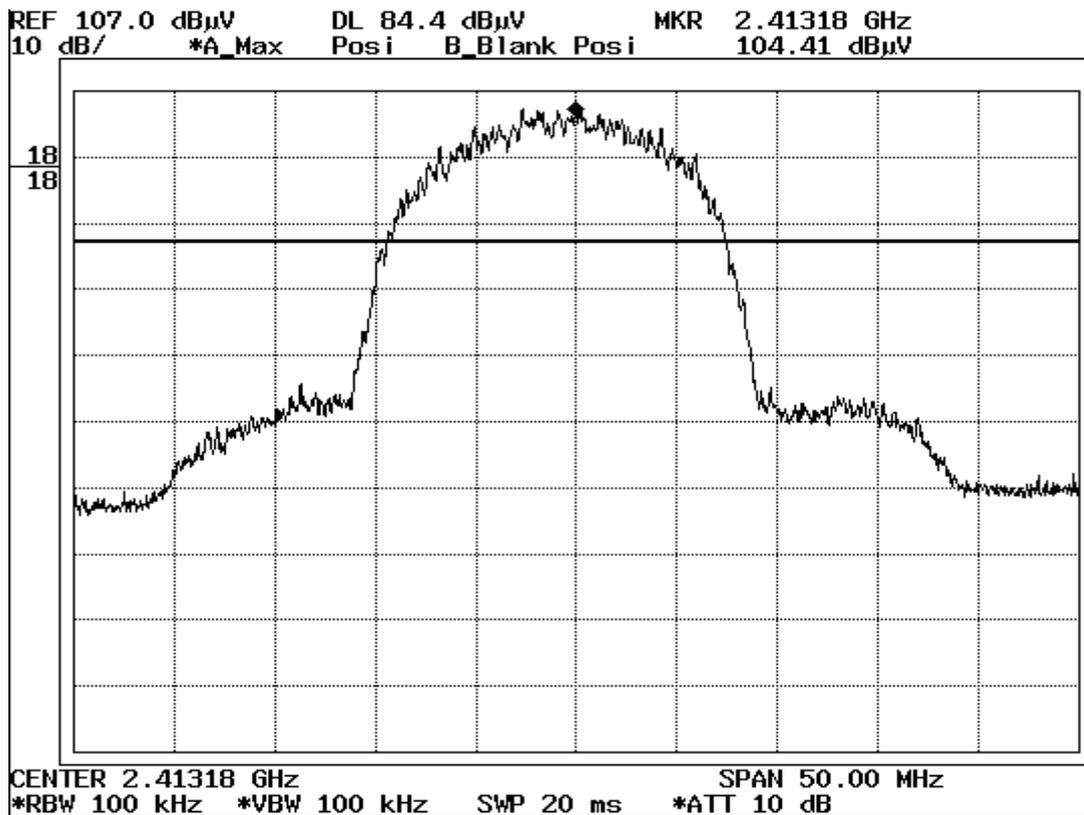
1. Horizontal

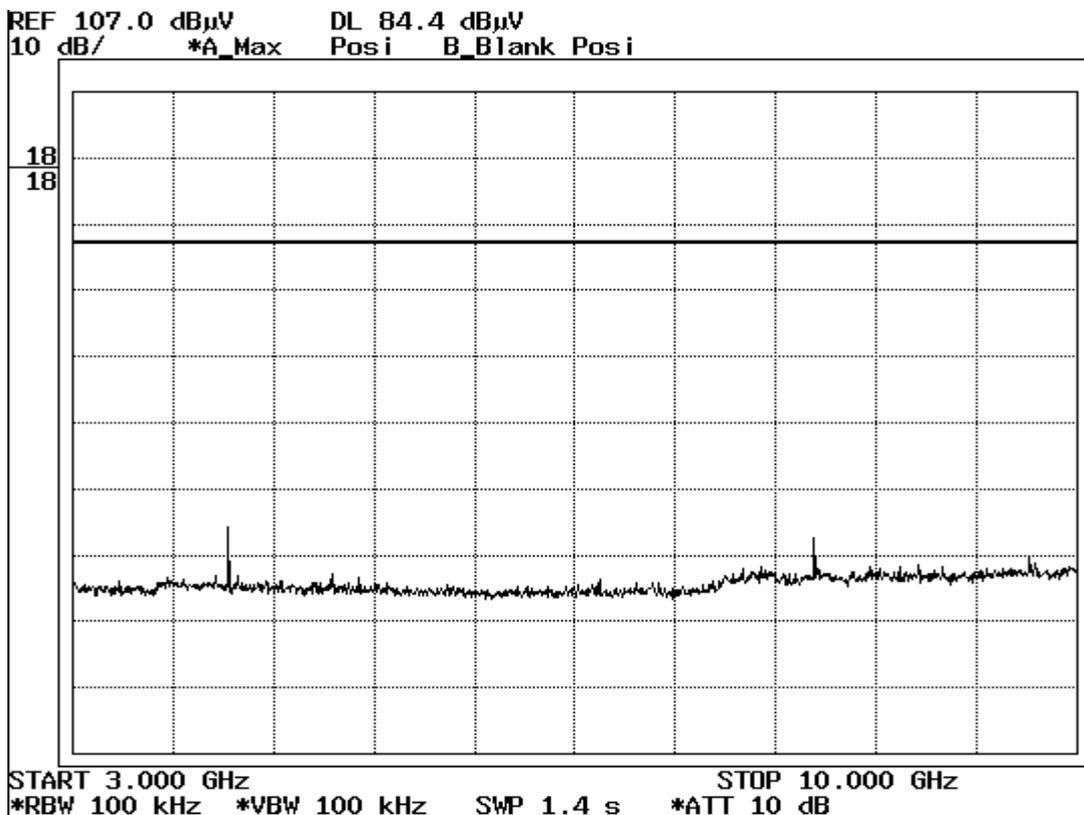
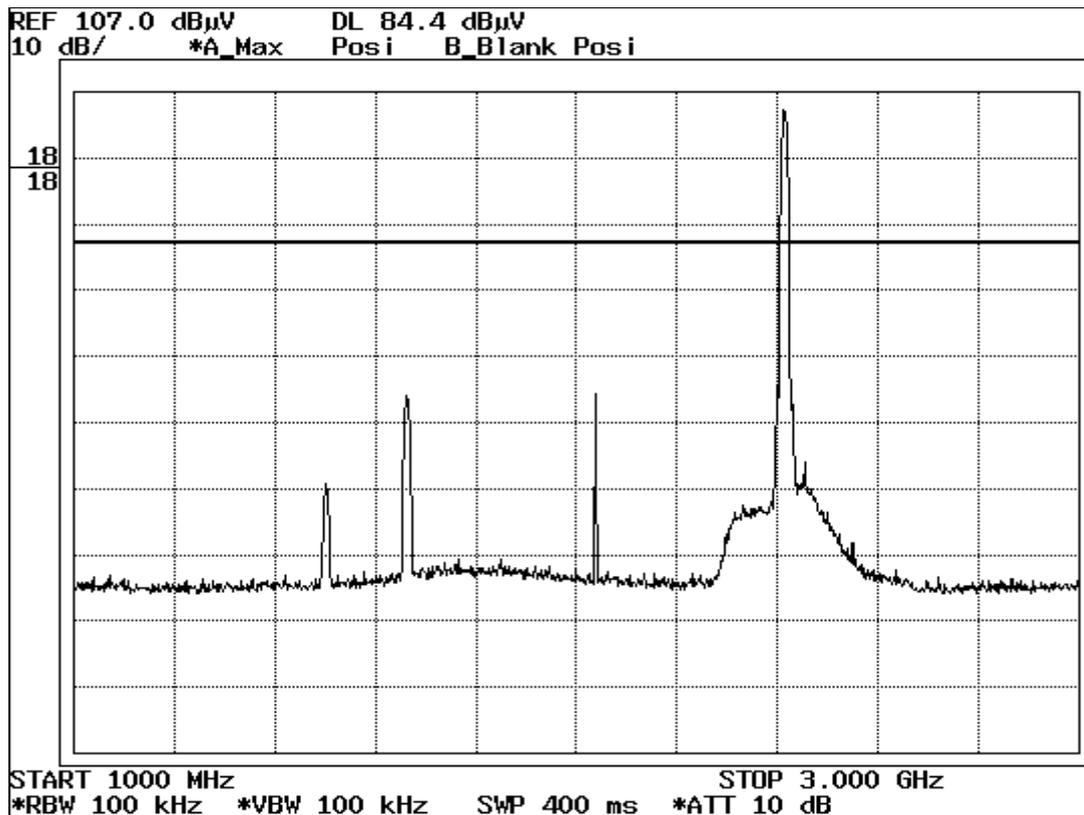


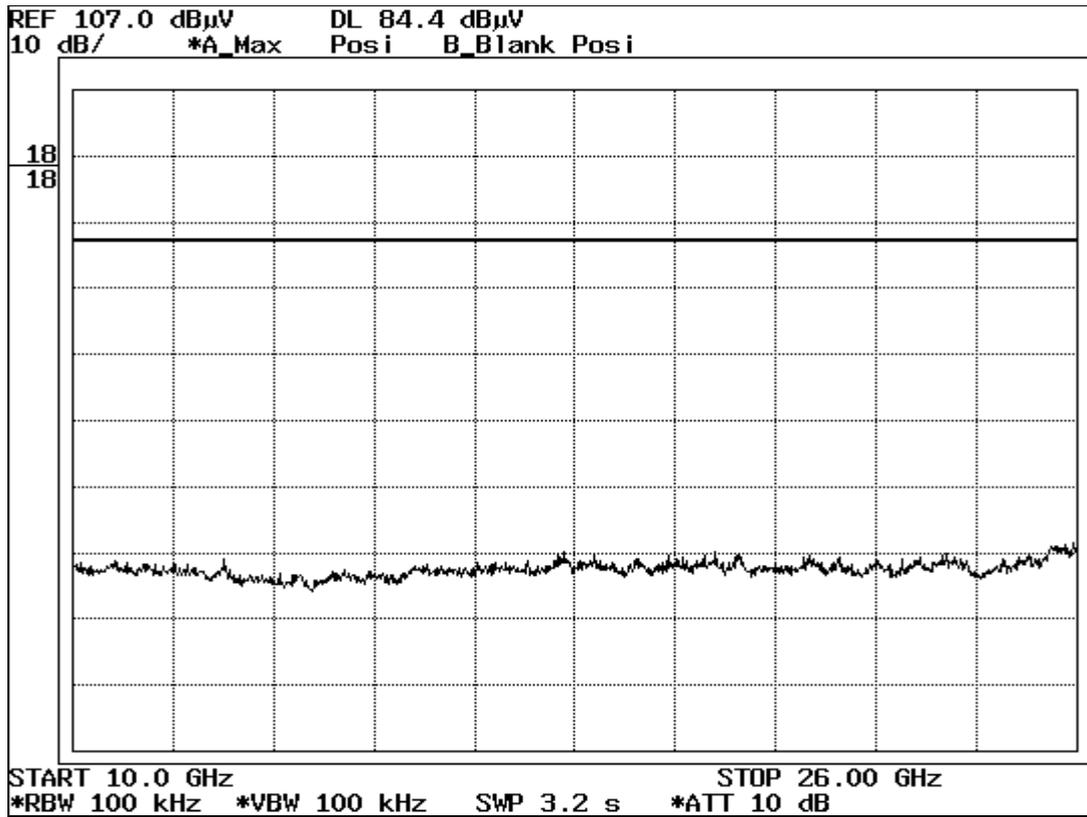
2. Vertical



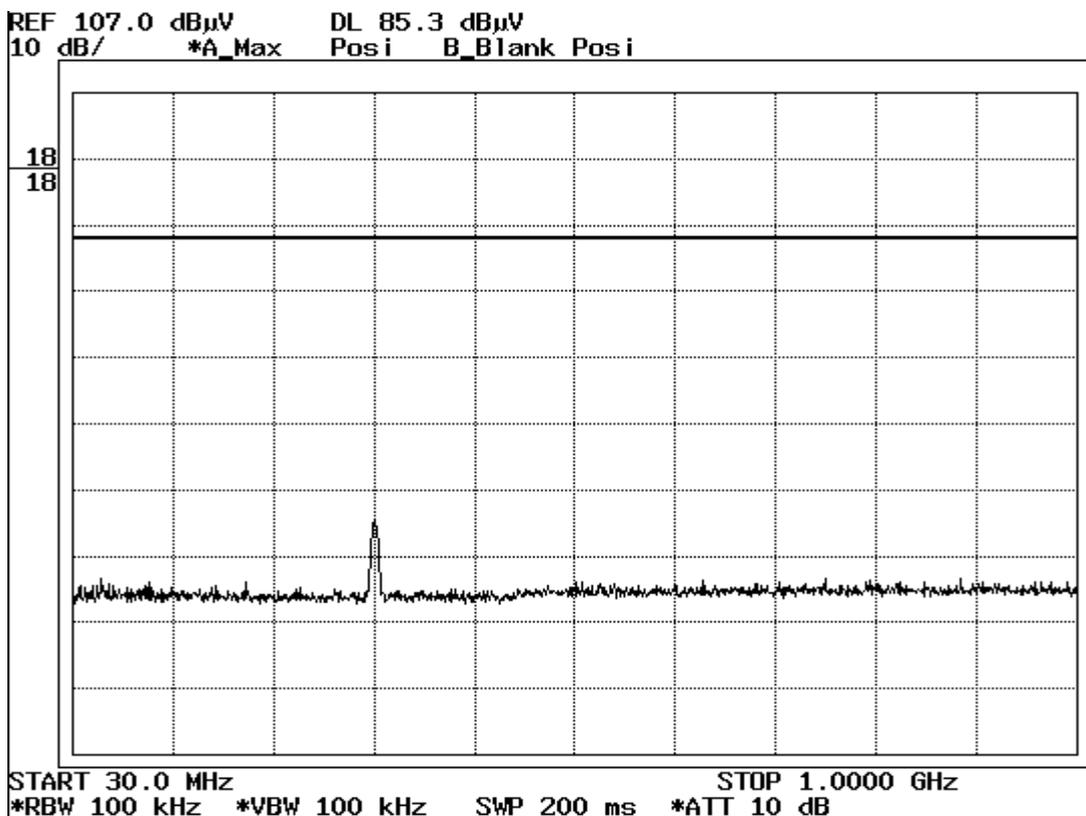
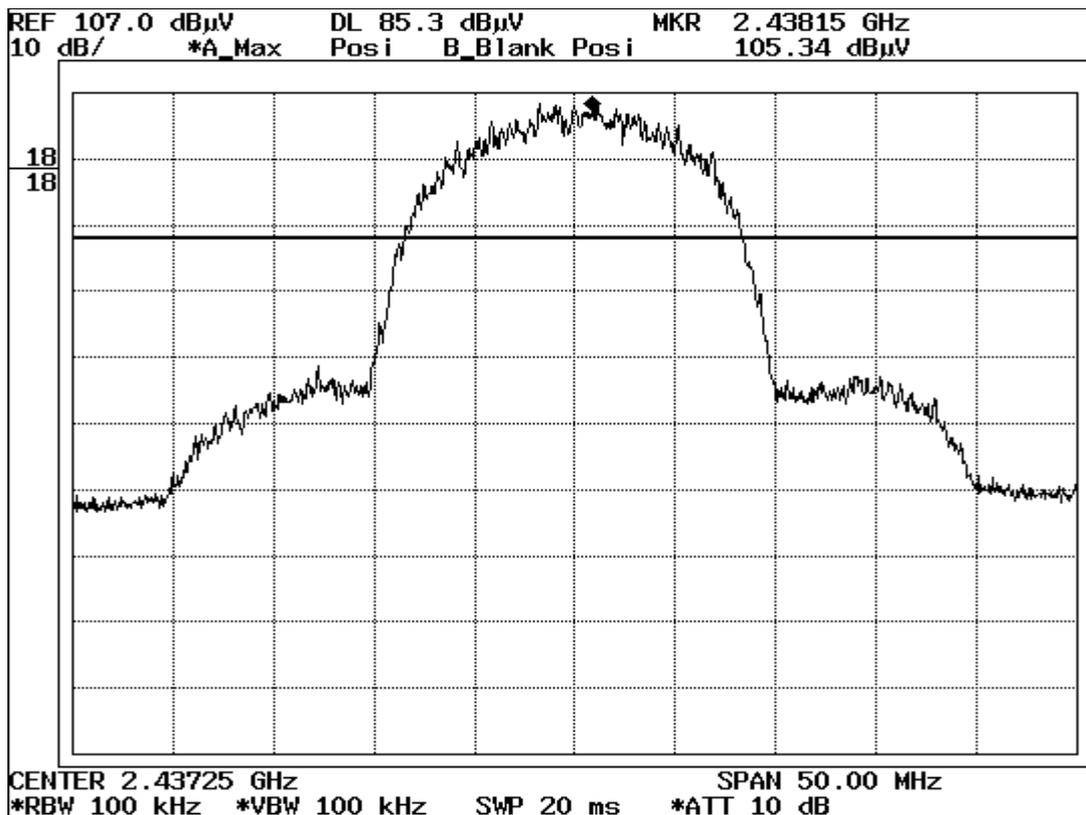
Ch1: 2412MHz(Low)

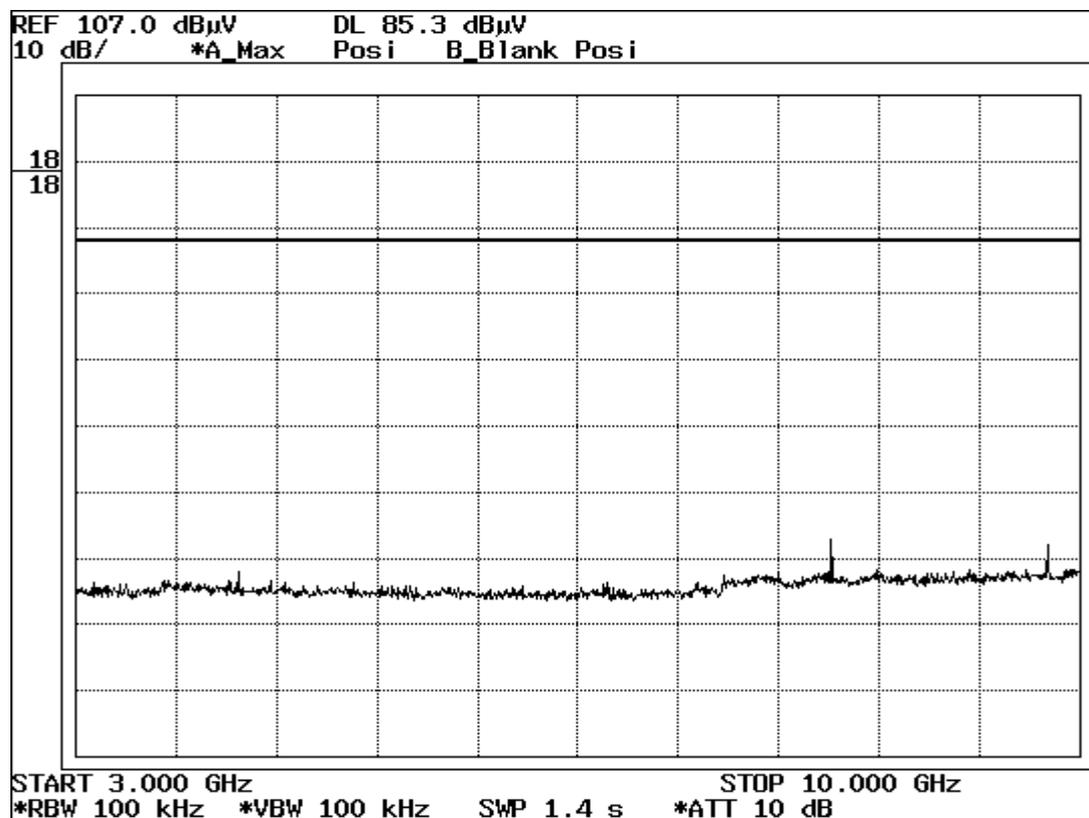
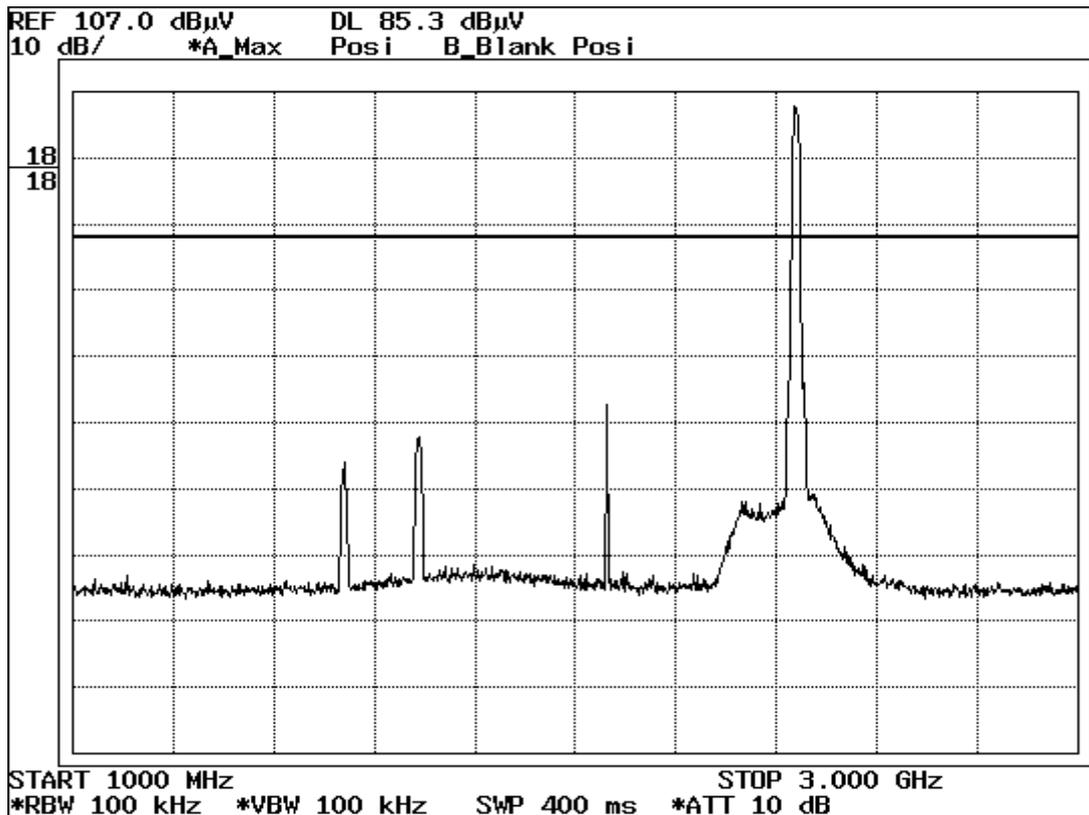


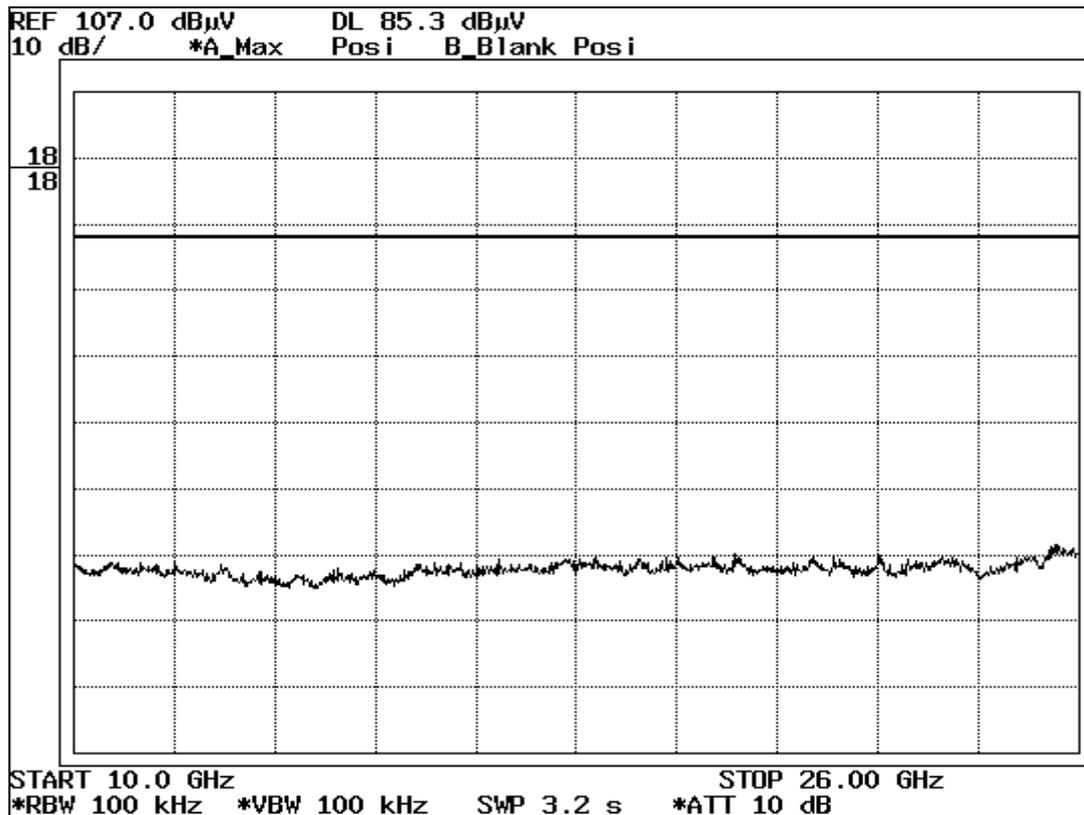




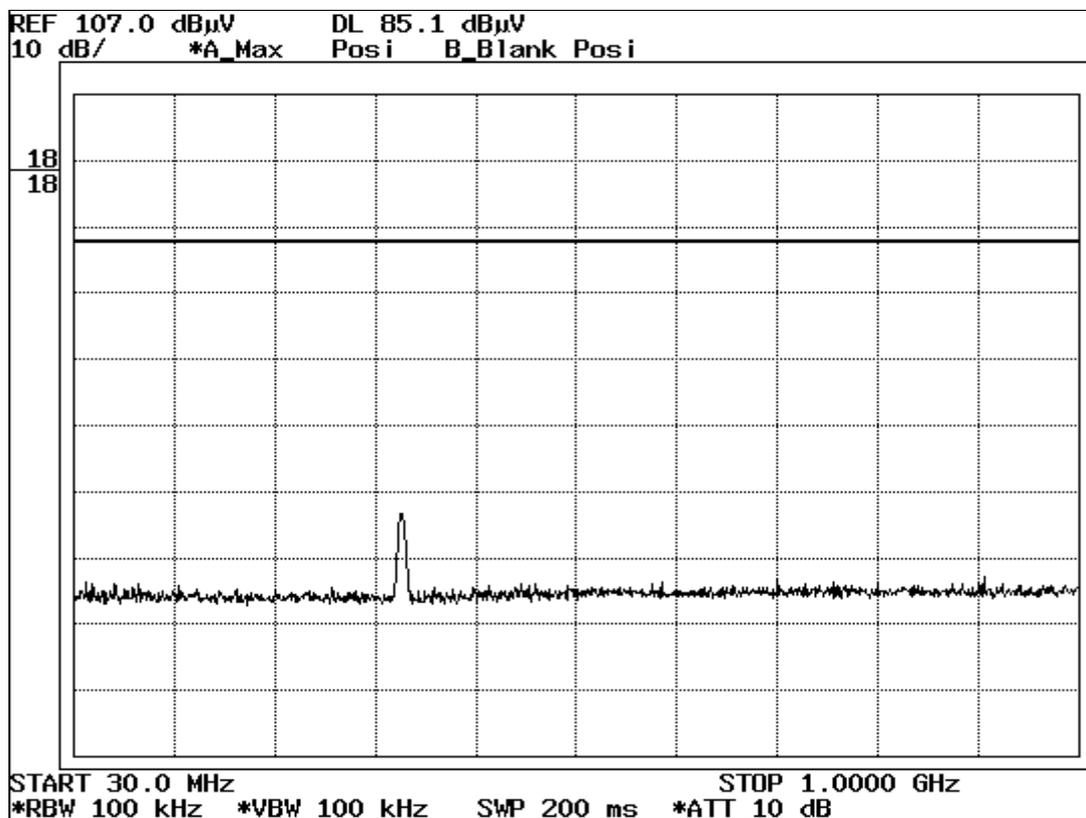
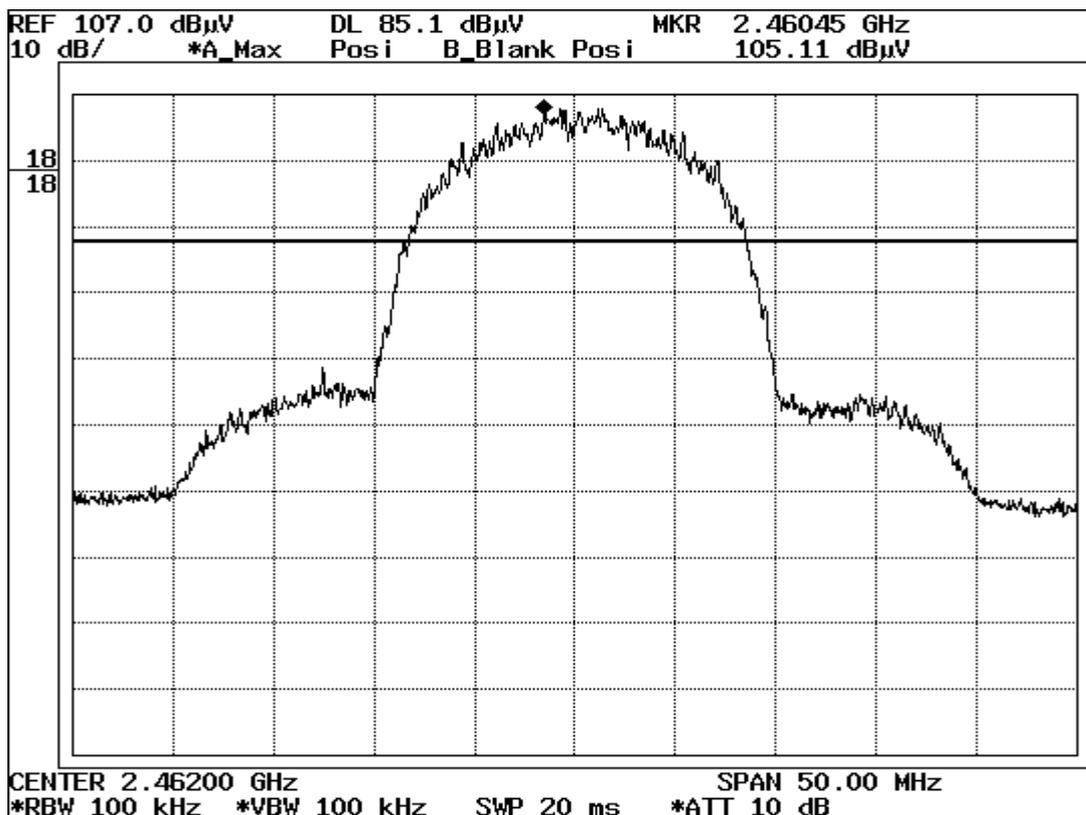
Ch6: 2437MHz(Mid)

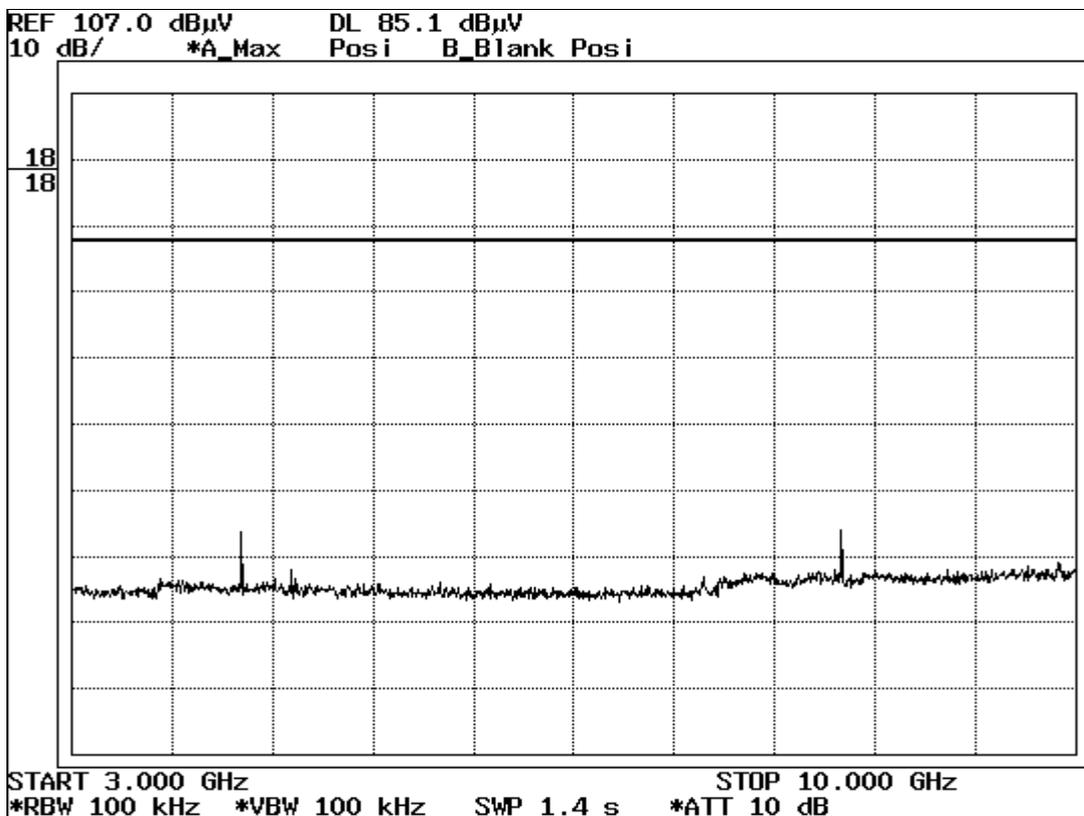
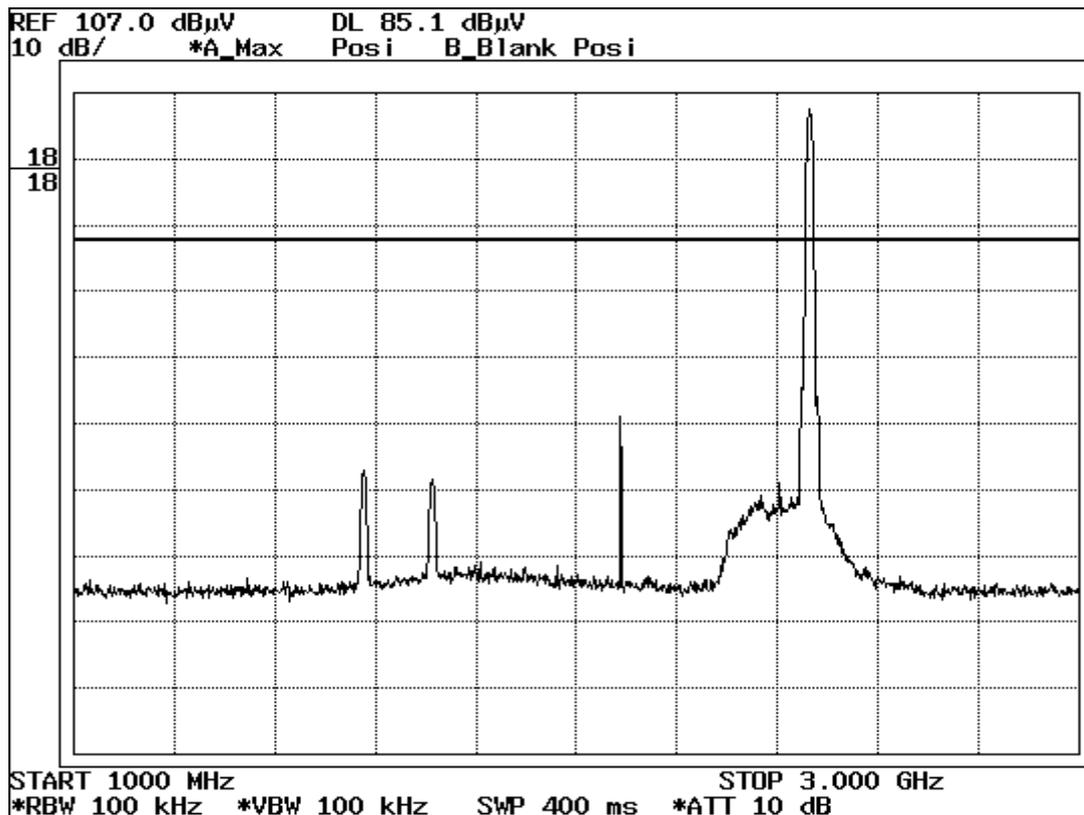


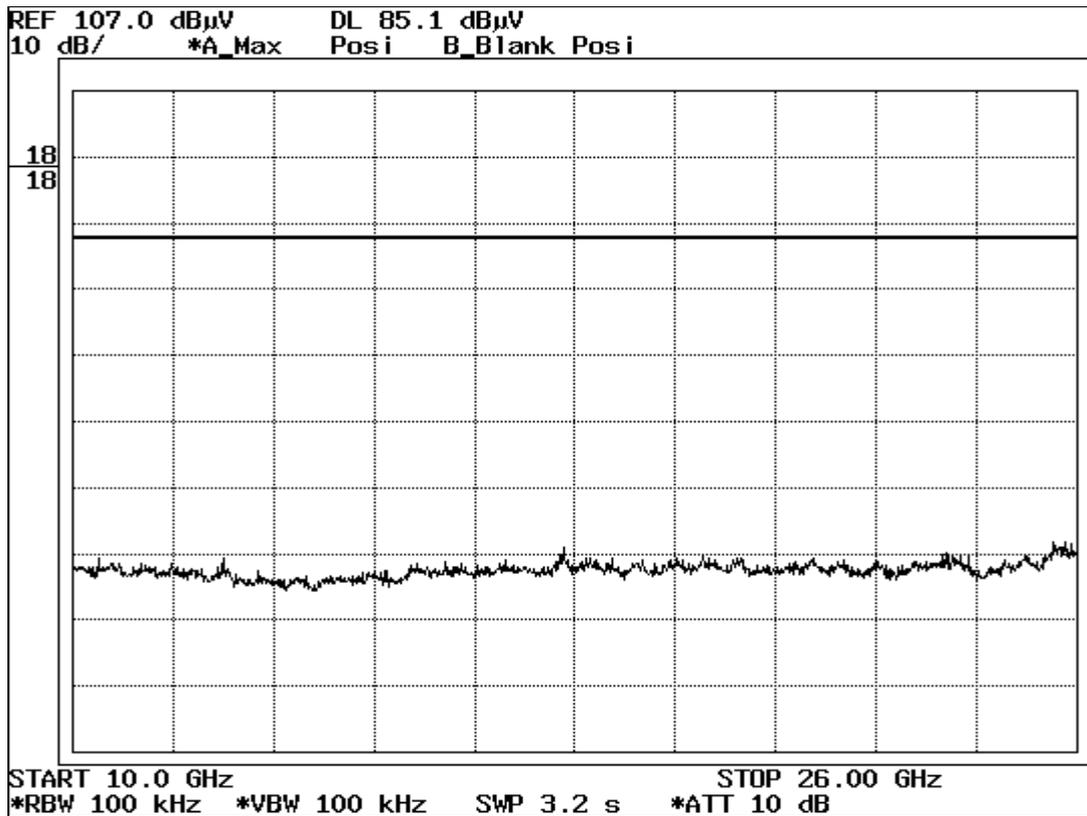




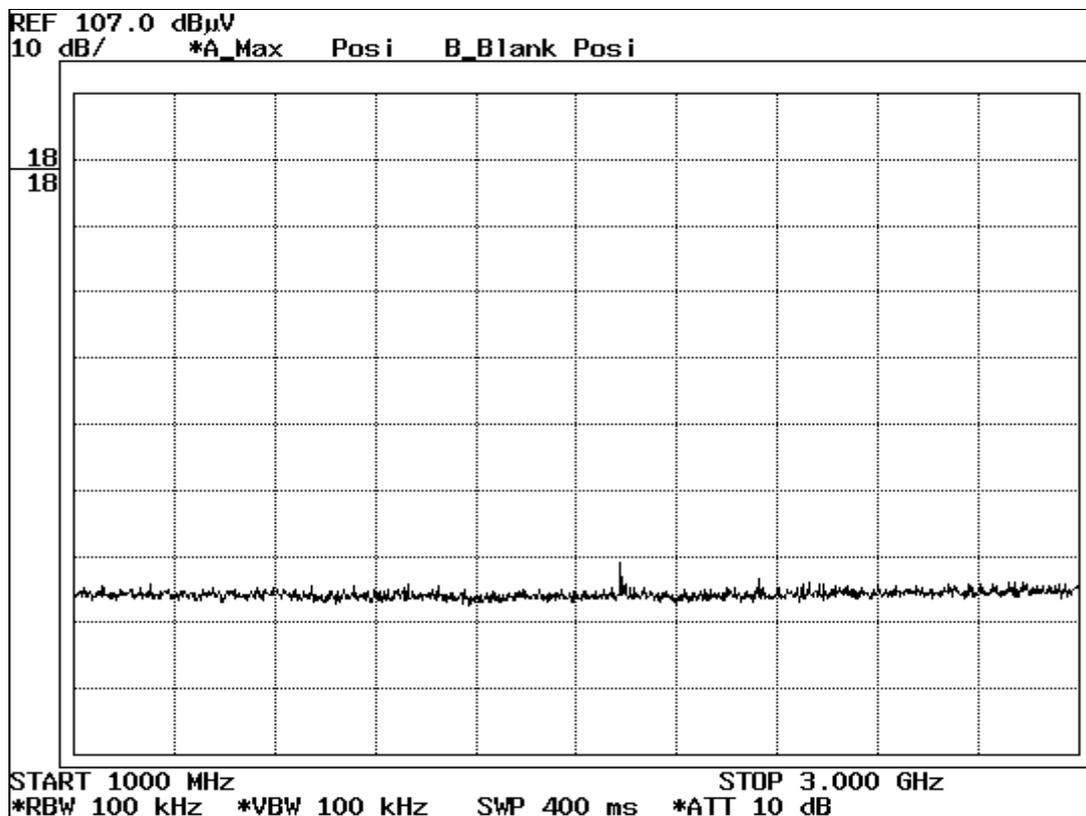
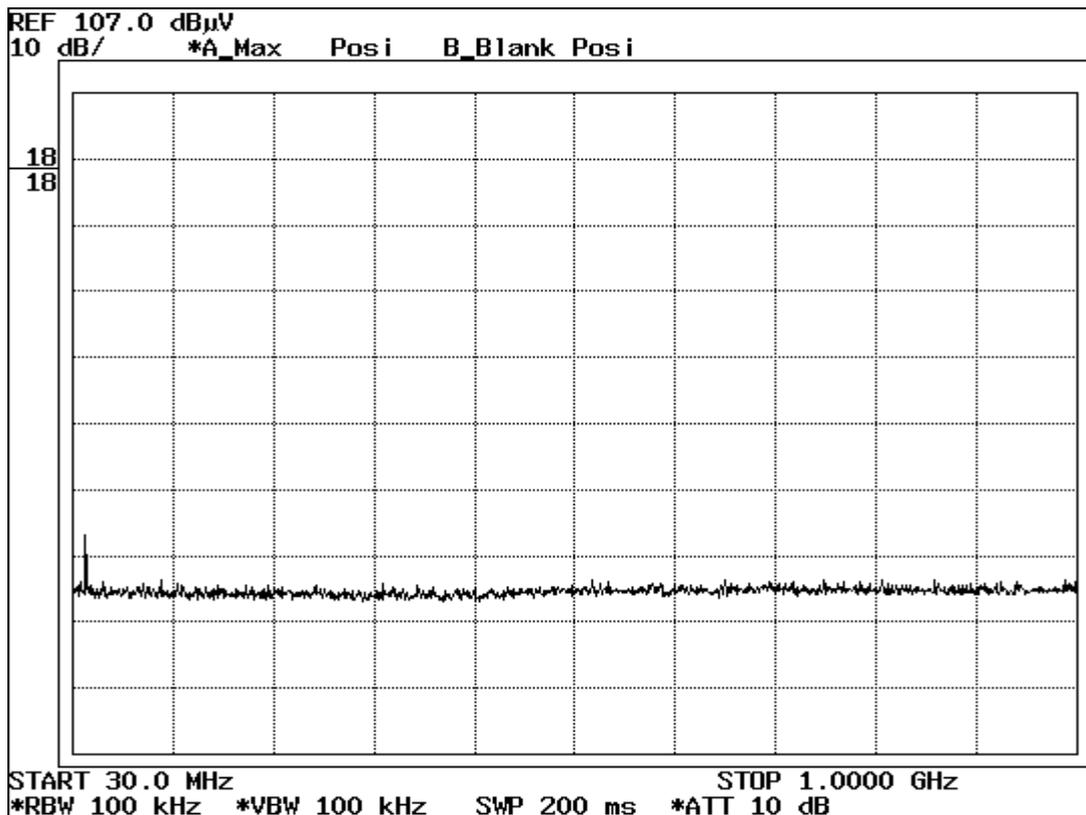
Ch11: 2462MHz(High)

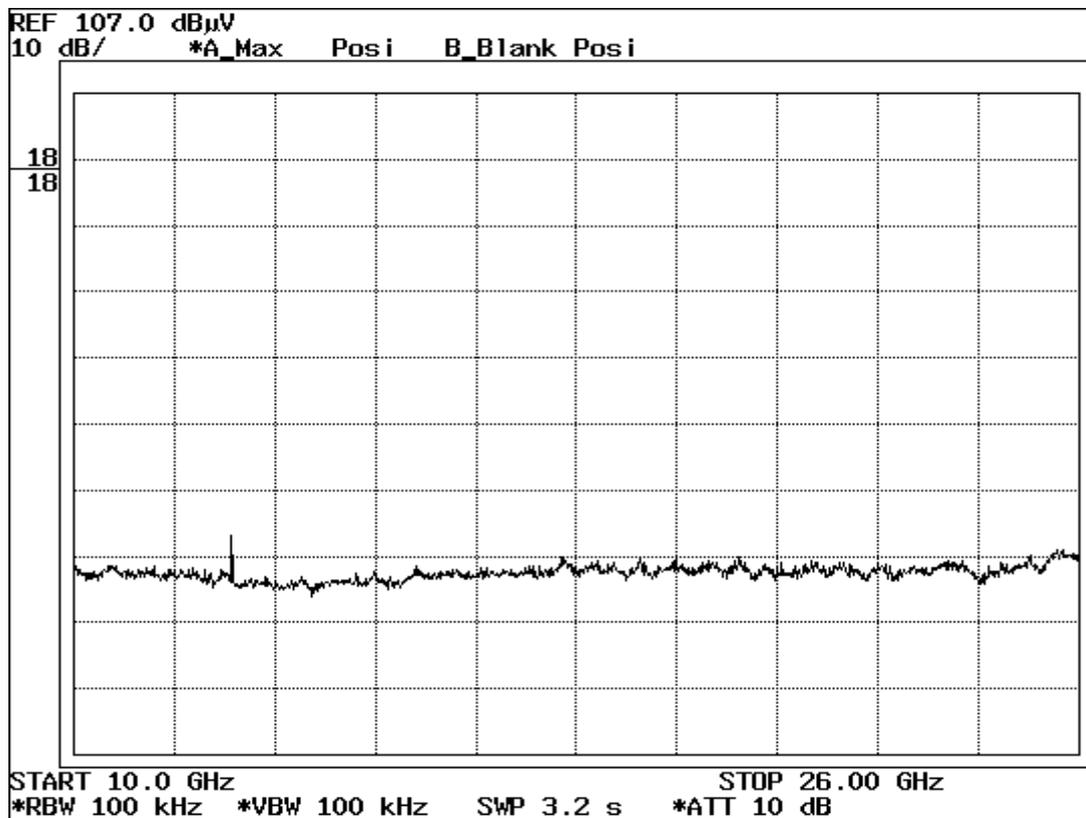
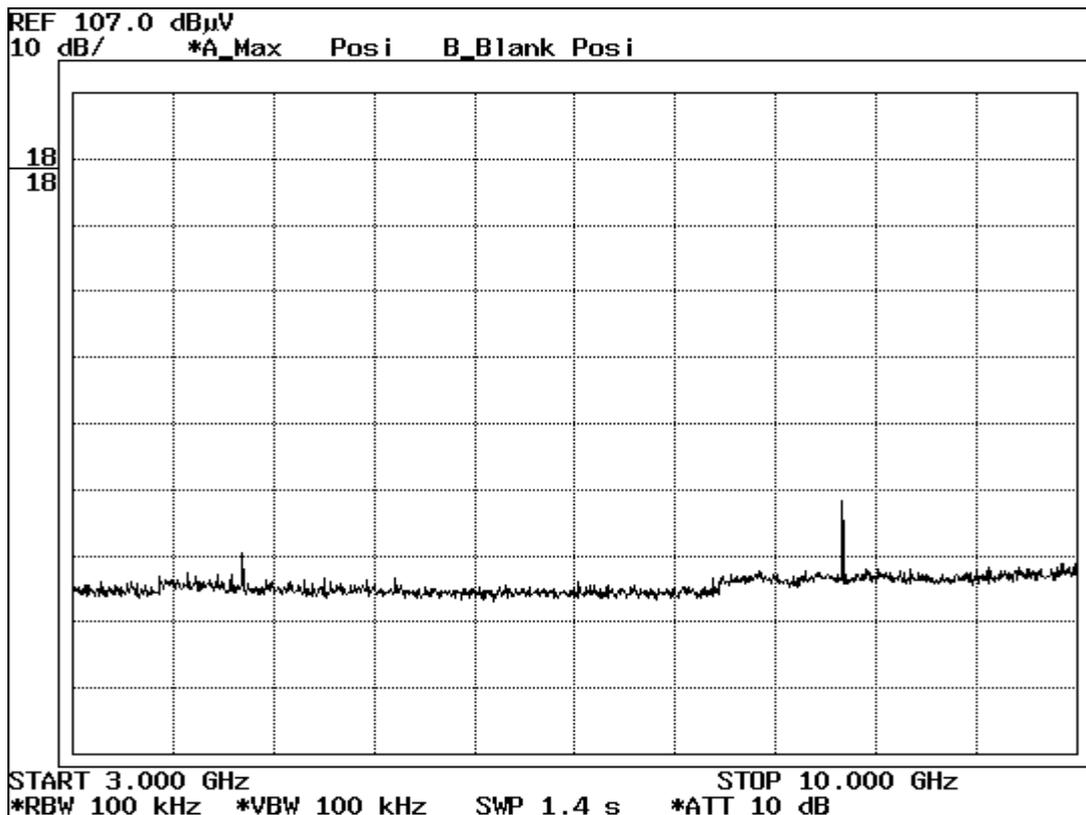






Receiving





Power Density(Antenna Port Conducted)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

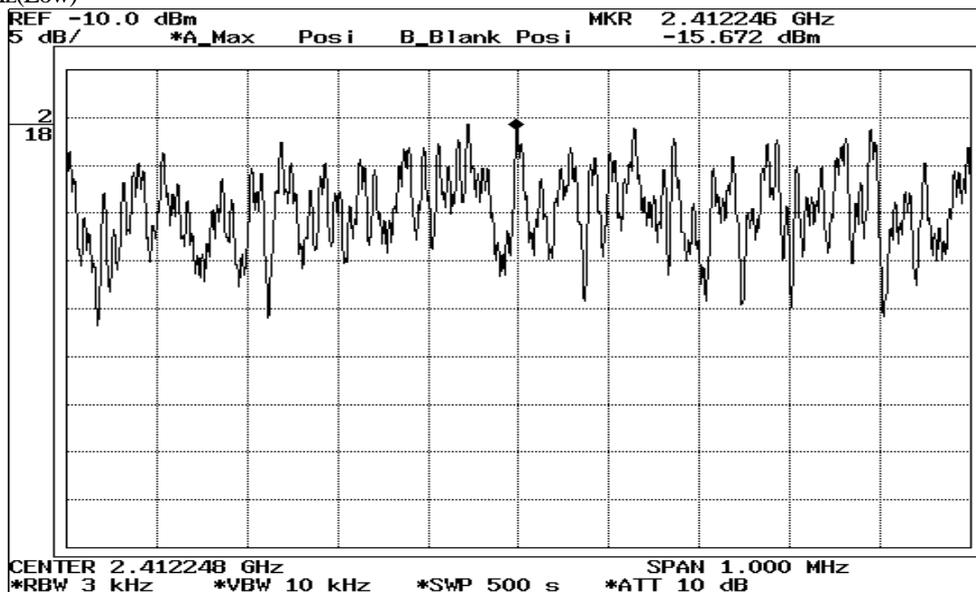
COMPANY : SONY Corporation
EQUIPMENT : Notebook Personal Computer
MODEL : PCG-9D1R
S/N : 2230DVT1 0000057
FCC ID : AK8PCG9D1R
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22GE0004-YW-1
REGULATION : Fcc Part15SubpartC 247 (d)
DATE : 2002/3/12
Temp./Humi. : 23deg.C / 30%

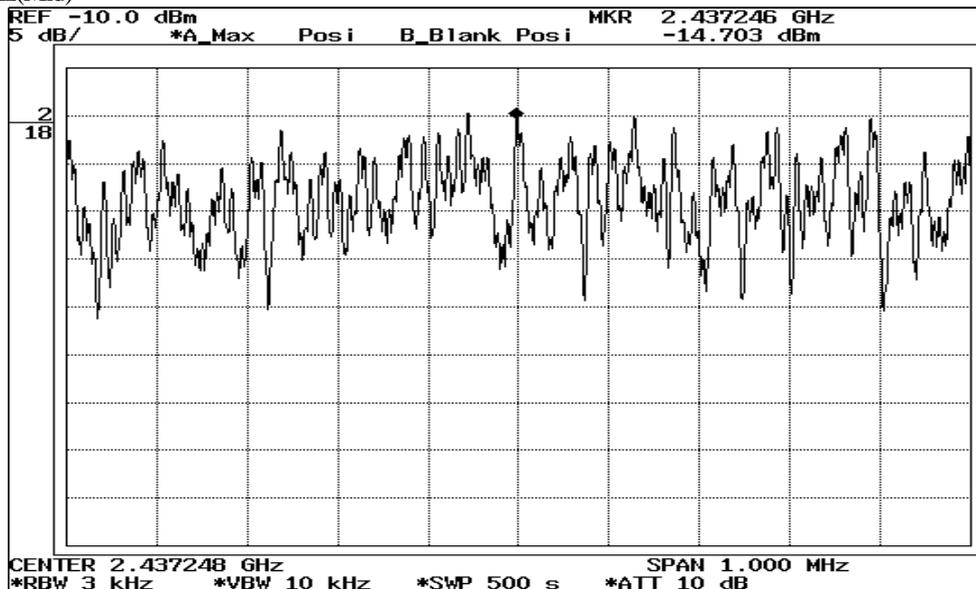

ENGINEER : Naoki Sakamoto

CH	FREQ [GHz]	S/A Reading [dBm]	Limit [dBm]	Margin [dB]
Low	2.4130	-15.7	8.0	23.7
Mid	2.4380	-14.7	8.0	22.7
High	2.4630	-15.1	8.0	23.1

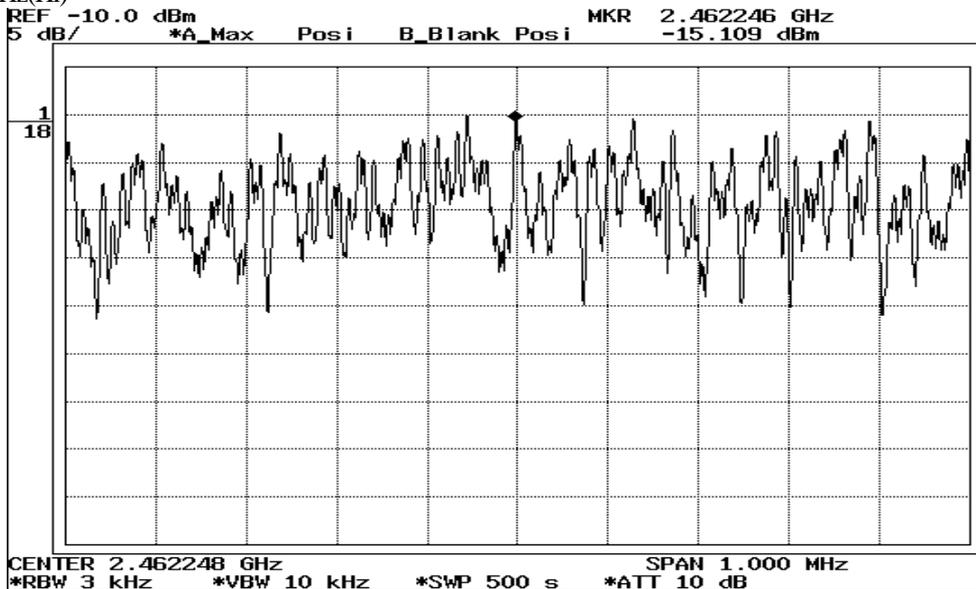
1. Ch1: 2412MHz(Low)



2. Ch6: 2437MHz(Mid)



3. Ch11: 2462MHz(Hi)



Test Report No : 22GE0004-YW-1

APPENDIX Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No.	Test Item	Calibration Date & Interval (max. 12)
AF-01	Pre Amplifier	Hewlett Packard	8447D	RE	2001/03/31 * 12
AF-04	Pre Amplifier	Hewlett Packard	8449B	RE	2001/11/03 * 12
AT-06	Attenuator	Anritsu	MP721B	RE	2001/03/31 * 12
AT-21	Attenuator	Hirose Electric	ATT-110	RE	2001/12/04 * 12
BA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2001/05/01 * 12
LA-06	Logperiodic Antenna	Schwarzbeck	UHALP9108-A	RE	2001/05/01 * 12
HA-01	Horn Antenna	A.H.Systems	SAS-200/571	RE	2001/05/20 * 12
SA-04	Spectrum Analyzer	Hewlett Packard	8567A	RE / CE	2001/03/31 * 12
SA-06	Spectrum Analyzer	Advantest	R3273	RE / CE	2001/11/20 * 12
TR-05	Test Receiver	Rohde & Schwarz	ESHS10	CE	2001/08/24 * 12
TR-06	Test Receiver	Rohde & Schwarz	ESVS10	RE	2001/11/22 * 12
LS-04	LISN	Rohde & Schwarz	ESH3-Z5	CE (EUT)	2001/11/06 * 12
CC-30RC	Yokowa No.3 open coaxial(0.01-1000MHz)	A-PEX	CC-31,CC-32,C C-33,CC-34,CC -35,CC-36,CC-3 7,SW-31,SW-32	RE	2001/03/31 * 12
CC-35C	Yokowa No.3 shield coaxial(0.01-30MHz)	A-PEX	CC-35,CC-36,C C-37,CC-38,SW -31,SW-32	CE	2001/03/31 * 12
CC-C10	Microwave Cable	Storm	421-014(7m)	RE	2001/12/22 * 12
CC-C13	Microwave Cable	Suhner	SUCOFLEX	RE	2002/01/13 * 12
YOATS-03	Open Test Site	JSE	10m	RE	2001/05/01 * 12
PM-01	Power Meter	Hewlett Packard	EPM-442A	CE	2001/05/29 * 12
PS-01	Power sensor	Hewlett Packard	ECP-E18A	CE	2001/05/29 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 CE: Conducted emission,
 RE: Radiated emission,