



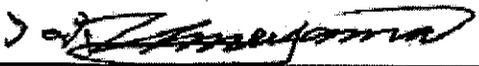
## EMI TEST REPORT

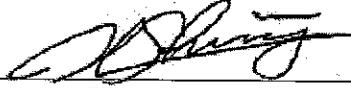
Test Report No. : 24DE0026-HO-1

Applicant : Sony Corp.  
Type of Equipment : Notebook Personal Computer  
Model No. : PCG-4A1L  
Test standard : FCC Part 15 Subpart C  
Section 15.207, Section 15.247  
FCC ID : AK8PCG4A1L  
Test Result : Complied

1. This test report shall not be reproduced in full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this report are traceable to the national or international standards.
5. This test report does not constitute an endorsement by NIST/NVLAP or U.S. Government.

Date of test : November 18, 19, 21, December 8, and 9, 2003

Tested by :   
Hiroka Umeyama  
EMC Service

Approved by :   
Hironobu Shimoji  
Group Leader of EMC Service

UL Apex Co., Ltd.

Head Office EMC Lab.

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<b>CONTENTS</b>	<b>PAGE</b>
<b>SECTION 1: Client information</b> .....	<b>3</b>
<b>SECTION 2: Equipment under test (E.U.T.)</b> .....	<b>3</b>
<b>SECTION 3: Test specification, procedures &amp; results</b> .....	<b>5</b>
<b>SECTION 4: Operation of E.U.T. during testing</b> .....	<b>7</b>
<b>SECTION 5: Conducted Emission, Section 15.207</b> .....	<b>9</b>
<b>SECTION 6: 6dB Bandwidth, Section 15.247(a)(2)</b> .....	<b>9</b>
<b>SECTION 7: Maximum Peak Output Power, Section 15.247(b)(3)</b> .....	<b>9</b>
<b>SECTION 8: Out of Band Emission, Section 15.247 (c)</b> .....	<b>10</b>
<b>SECTION 9: Peak Power Density, Section 15.247 (c)</b> .....	<b>10</b>
<b>APPENDIX 1: Photographs of test setup</b> .....	<b>11</b>
<b>Conducted Emission</b> .....	<b>11</b>
<b>Spurious Emission (Radiated)</b> .....	<b>12</b>
<b>APPENDIX 2: Test instruments</b> .....	<b>13</b>
<b>APPENDIX 3: Data of EMI test</b> .....	<b>14</b>
<b>Conducted Emission</b> .....	<b>14</b>
<b>6dB Bandwidth (Conducted)</b> .....	<b>22</b>
<b>Maximum Peak OutPut Power (Conducted)</b> .....	<b>25</b>
<b>Out of Band Emission : Radiated Emission</b> .....	<b>28</b>
<b>Out of Band Emission : Conducted</b> .....	<b>46</b>
<b>Out of Band Emission : Restricted Band Edges (Conducted)</b> .....	<b>52</b>
<b>Power Density (Conducted)</b> .....	<b>53</b>
<b>99% Occupied Bandwidth</b> .....	<b>56</b>

## **SECTION 1: Client information**

Company Name : Sony Corp.  
Brand name : SONY  
Address : 6-7-35, Kita-Shinagawa, Shinagawa-ku, Tokyo, 141-0001 Japan  
Telephone Number : +81-3-5795-8033  
Facsimile Number : +81-3-5795-8346  
Contact Person : Kaoru Ichimura

## **SECTION 2: Equipment under test (E.U.T.)**

### **2.1 Identification of E.U.T.**

Type of Equipment : Notebook Personal Computer  
Model No. : PCG-4A1L  
Serial No. : 1200009  
Country of Manufacture : JAPAN  
Rating : AC100 - 240V (AC Adaptor)  
Receipt Date of Sample : November 18, 2003  
Condition of EUT : Engineering prototype

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## 2.2 Product Description

Sony Corp., Model No: PCG-4A1L is the Notebook computer with IEEE 802.11g RF module.

Equipment Type	:	Transceiver
Frequency operation	:	2412-2462MHz ISM band
Type of modulation	:	OFDM and DSSS
Bandwidth	:	2412MHz to 2462MHz
Channel spacing	:	5MHz
Channel number	:	11
Antenna fixed method	:	Internal
Antenna Type	:	lambda/4-Monopole Antenna
Antenna connector Type	:	CFL connector (Hirose)
Antenna Gain	:	Right: -4.9dBi(Main antenna)/ Left: -5.0dBi (Sub antenna): (Included with cable loss)
Transmit Power	:	Max 802.11b mode 17.2 dBm Max 802.11g mode 16.3 dBm
Mode of Operation	:	(Duplex) Half Duplex
Other Clock Frequency	:	10MHz, 12.288MHz, 14.318MHz, 24.576MHz, 25MHz, 27MHz, 33.33MHz, 44MHz, 48MHz, 65MHz, 66.6MHz, 100MHz, 1GHz
ITU code	:	20M0P7D
Power Supply	:	DC3.1V - 3.46V
Temperature of operation	:	0 deg. C. to +55 deg. C.
Power & Signal Cable Length	:	≤ 3m

### FCC 15.31 (e)

This EUT provides stable voltage(DC3.3V) constantly to RF Module regardless of input voltage. Therefore, this EUT complies with the requirement.

### \*FCC Part 15.203 Antenna requirement

The standard type of antenna connector is applied; however, the EUT complies this requirement since this radio equipment is for professional installation.

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**SECTION 3: Test specification, procedures & results**

**3.1 Test Specification**

Test Specification : FCC Part15 Subpart C  
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators  
Section 15.207 Conducted limits  
Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz

**3.2 Procedures and results**

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	Conducted emission	ANSI C63.4:2001	Section 15.207	-	N/A	8.8dB 0.1512MHz (L1) 0.1504MHz (N)	Complied
2	6dB Bandwidth	ANSI C63.4:2001	Section 15.247(a)(2)	Conducted	N/A	-	Complied
3	Maximum Peak Output Power	ANSI C63.4:2001	Section 15.247(b)(3)	Conducted	N/A	-	Complied
4	Out of Band Emission	ANSI C63.4:2001	Section 15.247 (c)	Conducted/ Radiated	N/A	1.6dB 6432.0MHz Vertical	Complied
5	Restricted Band Edges	ANSI C63.4:2001	Section 15.247 (c)	Conducted	N/A	-	Complied
6	Power Density	ANSI C63.4:2001	Section 15.247 (d)	Conducted	N/A	-	Complied

Note: UL Apex's EMI Work Procedures No.QPM05.

\*These tests were also referred to "Guidance on Measurement for Digital Transmission Systems Section15.247."

**3.3 Addition to standards**

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS210(issue 5) + Amendment	RSS210(issue 5) + Amendment	Conducted	N/A	N/A	N/A

**3.4 Confirmation**

UL Apex Co., Ltd. hereby confirms that E.U.T., in the configuration tested, complies with the specifications FCC Part 15 Subpart C Section 15.207 and 15.247.

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### 3.5 Uncertainty

#### Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is  $\pm 1.3$ dB.  
The data listed in this test report has enough margin.

#### Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is  $\pm 4.5$ dB(3m).  
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is  $\pm 5.2$ dB(3m).  
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is  $\pm 6.6$ dB.  
The result is within Head Office EMC lab's uncertainty.

#### Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test is  $\pm 3.0$ dB.  
The data listed in this test report has enough margin.

### 3.6 Test Location

UL Apex Co., Ltd. Head Office EMC Lab.

No.1 semi anechoic chamber.

No.2 semi anechoic chamber.

No.3 Measurement room.

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No.1 semi anechoic chamber has been fully described in a report submitted to FCC office, and listed on February 01, 2002. (Registration number: No.1:313583 Industry Canada: No.1: IC4247)

No.2 semi anechoic chamber has been fully described in a report submitted to FCC office, and listed on June 05, 2002. (Registration number: No.2:846015 Industry Canada: No.2: IC4247-2)

\*NVLAP Lab. code: 200572-0

### 3.7 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

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## SECTION 4: Operation of E.U.T. during testing

### 4.1 Operating Modes

The EUT exercise programs used during radiated and conducted tests were designed to exercise the various system components in a manner similar to typical use.

Test mode : Transmitting (IEEE 802.11b) Burst Frame mode DSSS(CCK, QPSK, 11Mbps)  
Low channel : 2412MHz  
Middle channel : 2437MHz  
High channel : 2462MHz

Test mode : Transmitting (IEEE 802.11g) Burst Frame mode OFDM(64QAM, 54Mbps)  
Low channel : 2412MHz  
Middle channel : 2437MHz  
High channel : 2462MHz

Justification: The system was configured in max mode (as a customer would normally use it) for testing.

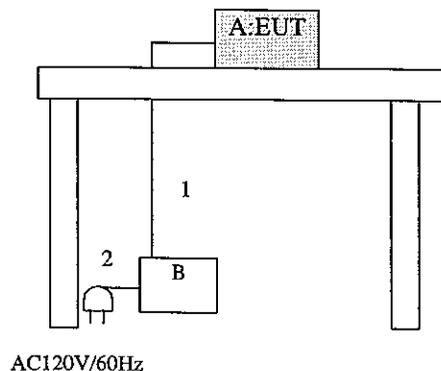
The EUT was tested in all three orthogonal planes in order to determine worst case emissions. Channels at 2412MHz, 2437MHz and 2462MHz were tested and investigated from 30MHz to 26GHz Data for all three channels are presented in this report.

The EUT has an ability to provide some different modulation and data rates. Some of these modulation and data rates did not change in the spectrum envelopes of the EUT at conducted Measurement with the antenna terminal.

Therefore, the results of the final measurements were the IEEE 802.11b DSSS(CCK, QPSK, 11Mbps) and IEEE 802.11g OFDM(64QAM, 54Mbps) modulation as the highest data rate.

\*The test was performed with the Main Antenna which has the higher Antenna gain (since the both main and sub antenna are the same type and set up symmetrically).

### 4.2 Configuration and peripherals



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

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**Description of EUT and Support equipment**

No.	Item	Model number	Serial number	Manufacturer	FCC ID	Remark
A	Notebook Personal Computer	PCG-4A1L	1200009	Sony Corp.	AK8PCG4A1L	EUT
B	AC Adaptor	PCGA-16V6	0432227	Sony Corp.	-	-

**List of cables used**

No.	Name	Length (m)	Shield	Backshell Material
1	DC cable	2.0	N	Polyvinyl chloride
2	AC cable	0.8	N	Polyvinyl chloride

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## **SECTION 5: Conducted Emission, Section 15.207**

### **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 flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from LISN and excess AC cable was 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, was individually connected through a LISN to the input power source. All unused 50ohm connectors of the LISN were resistively terminated in 50ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT on a reference ground plane 7.0 x 6.0m in No.1 semi Anechoic Chamber.

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 9 kHz).

Measurement range: 0.15-30MHz

Test data : APPENDIX 3  
Test result : Pass

## **SECTION 6: 6dB Bandwidth, Section 15.247(a)(2)**

### **Test Procedure**

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

Test data : APPENDIX 3  
Test result : Pass

## **SECTION 7: Maximum Peak Output Power, Section 15.247(b)(3)**

### **Test Procedure**

The Maximum Peak Output Power was measured with a Power Meter and a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3  
Test result : Pass

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## **SECTION 8: Out of Band Emission, Section 15.247 (c)**

### **[Conducted] Test Procedure**

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

Test data : APPENDIX 3  
Test result : Pass

### **[Radiated] Test Procedure**

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The Radiated Electric Field Strength intensity has been measured in No.1 semi anechoic chamber (19.2x11.2x7.7m) with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz). 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. 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 section 15.209(a).

Test data : APPENDIX 3  
Test result : Pass

## **SECTION 9: Peak Power Density, Section 15.247 (c)**

### **[Conducted] Test Procedure**

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

Test data : APPENDIX 3  
Test result : Pass

**APPENDIX 1: Photographs of test setup**

**Conducted Emission**

**Front**

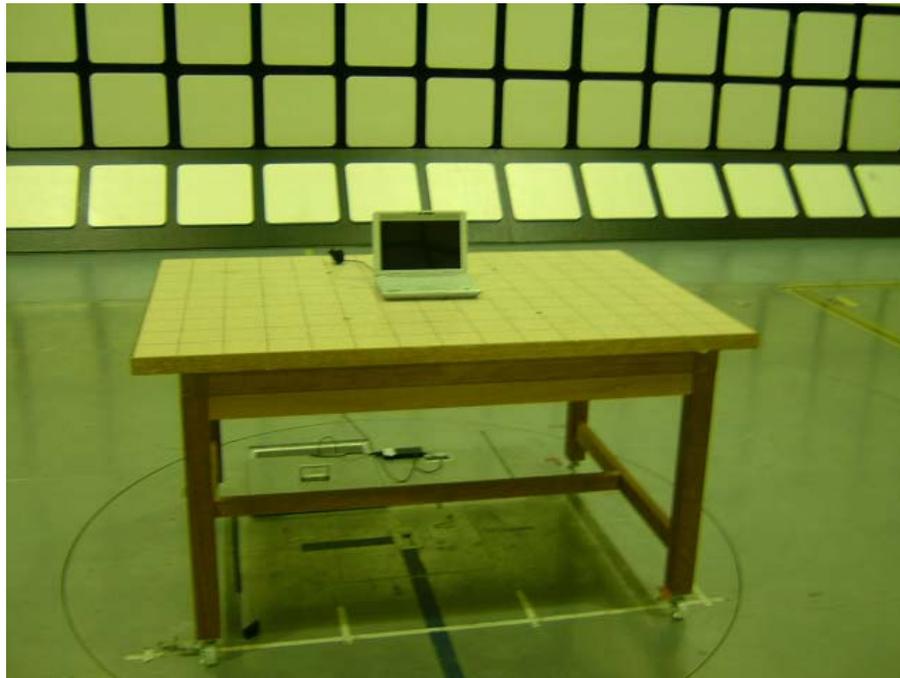


**Rear**

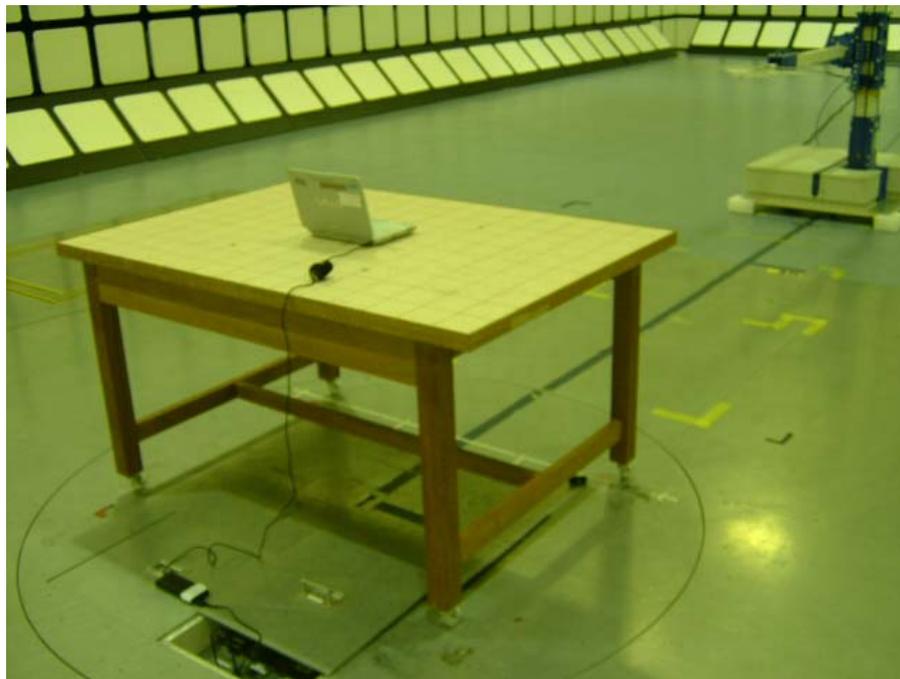


### Spurious Emission (Radiated)

Front



Rear



## APPENDIX 2: Test instruments

### EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	1,4	2002/12/28 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	1,4	2003/11/12 * 12
MCC-05	Microwave Cable	Storm	421-011	2,3,4,5,6,7	2003/01/14 * 12
MCC-06	Microwave Cable	Storm	421-011	4	2003/01/14 * 12
MCC-11	Microwave coaxial cable	Suhner	SUCOFLEX 104	4	2003/03/27 * 12
MPA-01	Pre Amplifier	Agilent	8449B	4	2003/02/08 * 12
MBF-01	SHF Bandpass Filter	M-City	5GHz BPF	4	2003/04/24 * 12
MBF-02	SHF Bandpass Filter	M-City	8GHz BPF	4	2003/04/24 * 12
MBF-03	SHF Bandpass Filter	M-City	13GHz BPF	4	2003/04/24 * 12
MAT-21	Attenuator	HIROSE ELECTRIC CO.,LTD.	AT-120	3	2003/02/03 * 12
MAT-22	Attenuator	Orient Microwave	BX10-0476- 00	2,7	2003/03/31 * 12
MRENT-06	Spectrum Analyzer	Advantest	R3273	2,3,5,6,7	2003/10/31 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	4	2003/04/11 * 12
MCC-04	Microwave Cable	Storm	421-011	4	2003/01/14 * 12
MCC-24	Microwave Cable	Storm	-	4	2003/04/30 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	4	2003/01/11 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	4	2003/01/11 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/ TSJ	-	1	2002/12/19 * 12
MPL-01	Pulse Limiter	Rohde & Schwarz	ESH3Z2	1	2003/01/07 * 12
MPM-01	Power Meter	Agilent	E4417A	3	2003/11/12 * 12
MPSE-03	Power sensor	Agilent	E9327A	3	2003/11/03 * 12
MRENT-07	Spectrum Analyzer	Advantest	R3273	4	2003/10/31 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	1	2003/11/10 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

#### Test Item:

- 1: Conducted emission
- 2: 6dB Bandwidth
- 3: Maximum Peak Output Power
- 4: Radiated emission
- 5: Out of Band Emission(Conducted)
- 6: Peak Power Density
- 7: 99% OBW

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**APPENDIX 3: Data of EMI test**

**Conducted Emission**

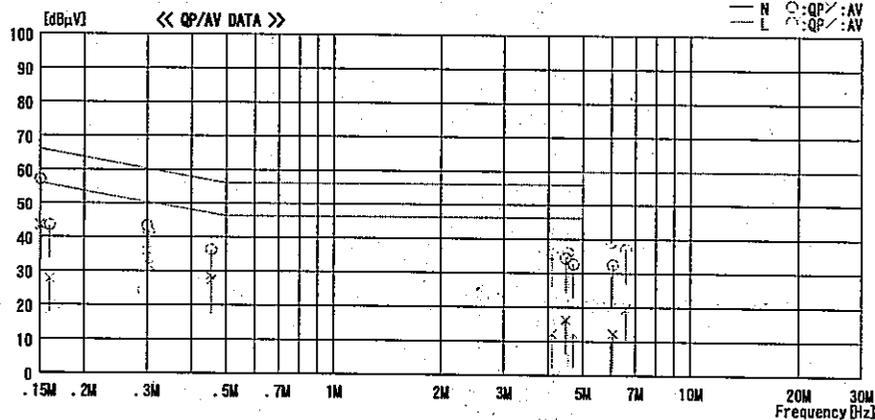
**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 21:36:58

Applicant : Sony Corporation  
 Kind of EUT : Notebook Personal Computer  
 Model No. : PCG-4A1L  
 Serial No. : 1200009  
 Report No. : 24DE0026-HO  
 Power : AC120V/60Hz  
 Temp/C/Humi% : 27 / 43  
 Operator : Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.207 (QP)  
 FCC15C §15.207 (AV)



NO	FREQ [MHz]	READING		C.F	RESULT		LIMIT		MARGIN		PHASE
		QP [dBμV]	AV [dBμV]		QP [dBμV]	AV [dBμV]	QP [dBμV]	AV [dBμV]	QP [dB]	AV [dB]	
1	0.1500	47.3	33.7	9.8	57.1	43.5	66.0	56.0	8.9	12.5	N
2	0.1800	33.6	17.9	9.8	43.4	27.7	65.5	55.5	22.1	27.8	N
3	0.3001	33.2	25.8	10.1	43.3	35.9	60.2	50.2	16.9	14.3	N
4	0.4539	25.8	16.9	10.4	36.2	27.3	56.8	46.8	20.6	19.5	N
5	4.4760	23.4	5.2	11.1	34.5	16.3	56.0	46.0	21.5	29.7	N
6	4.7090	21.5	1.0	11.2	32.7	12.2	56.0	46.0	23.3	33.8	N
7	6.0676	21.4	1.3	11.1	32.5	12.4	60.0	50.0	27.5	37.6	N
8	0.1512	47.3	33.3	9.8	57.1	43.1	65.9	55.9	8.8	12.8	L
9	0.3038	31.4	21.5	10.1	41.5	31.6	60.1	50.1	18.6	18.5	L
10	0.4520	25.8	18.2	10.4	36.2	28.6	56.8	46.8	20.6	18.2	L
11	4.0998	24.6	1.0	11.1	35.7	12.1	56.0	46.0	20.3	33.9	L
12	4.5519	24.9	0.9	11.2	36.1	12.1	56.0	46.0	19.8	33.9	L
13	6.0095	28.0	8.9	11.1	39.1	20.0	60.0	50.0	20.9	30.0	L
14	6.5988	25.9	8.4	11.2	37.1	19.6	60.0	50.0	22.9	30.4	L

CHART:WITHOUT FACTOR. Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits. MLS-02

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**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 21:50:52

Applicant	: Sony Corporation	Report No.	: 24DE0026-HO
Kind of EUT	: Notebook Personal Computer	Power	: AC120V/60Hz
Model No.	: PCG-4A1L	Temp°C/Humi%	: 27 / 43
Serial No.	: 1200009	Operator	: Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch1:2412MHz)

LIMIT : FCC15C §15.207 (QP)  
 FCC15C §15.207 (AV)

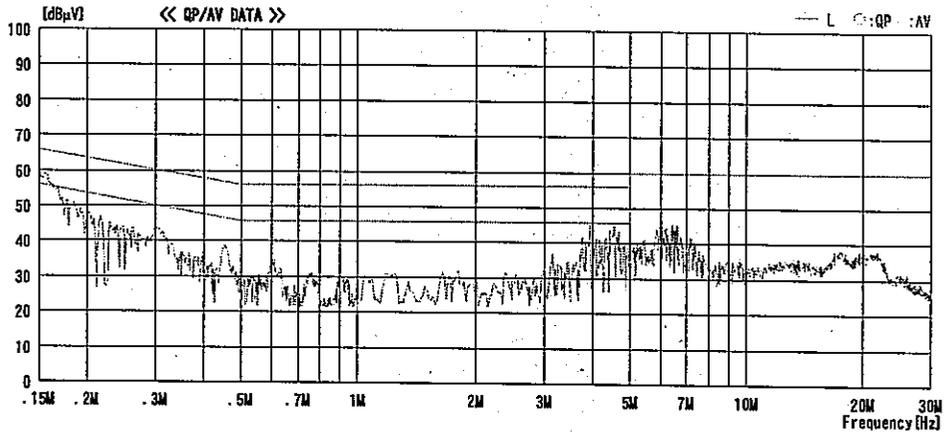
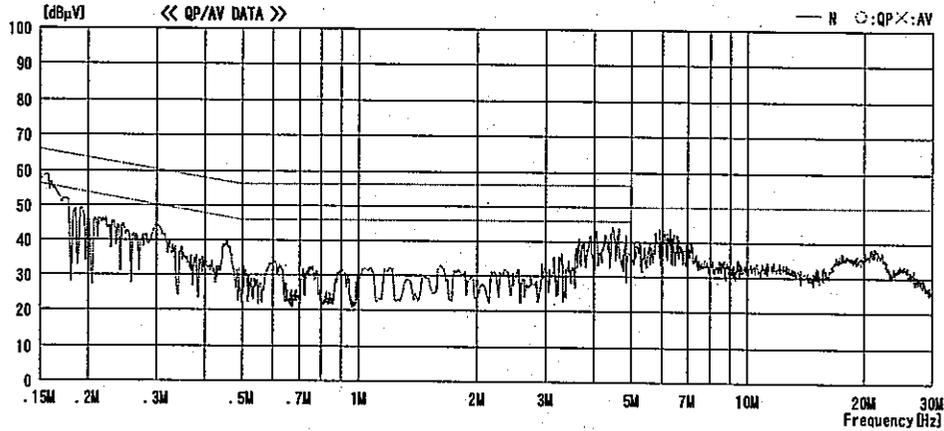


CHART:WITHOUT FACTOR,Peak hold data.Data is uncorrected.  
 Except for the above table : adequate margin data below the limits. MLS-02

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 21:36:58

Applicant : Sony Corporation  
 Kind of EUT : Notebook Personal Computer  
 Model No. : PCG-4A1L  
 Serial No. : 1200009  
 Report No. : 24DE0026-HO  
 Power : AC120V/60Hz  
 Temp°C/Humi% : 27 / 43  
 Operator : Hiroka Umeyama

Mode / Remarks: Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.207 (QP)  
 FCC15C §15.207 (AV)

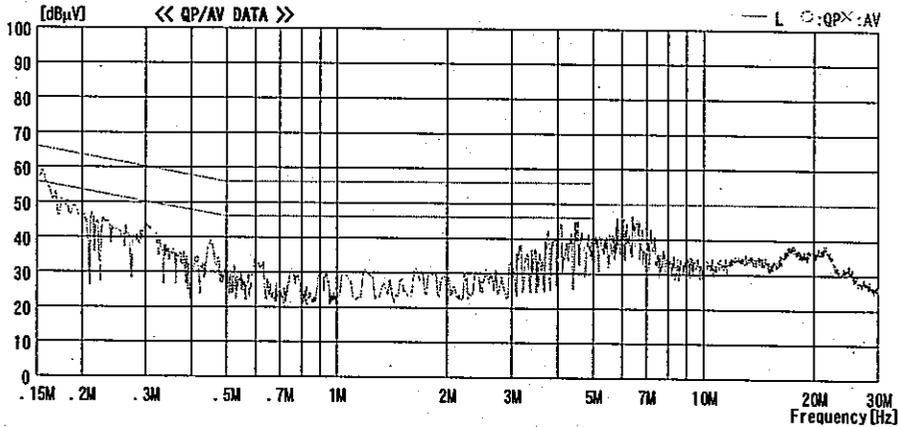
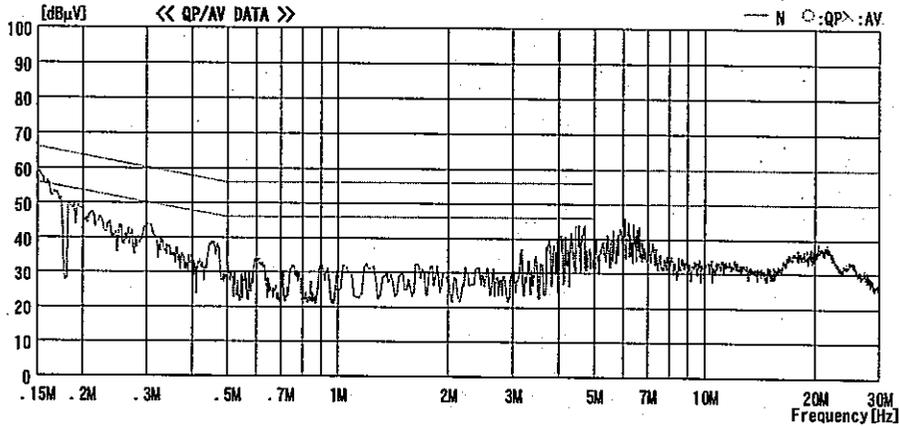


CHART:WITHOUT FACTOR. Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits. MLS-02

Test report No. : 24DE0026-HO-1  
Page : 17 of 57  
Issued date : December 16, 2003  
FCC ID : AK8PCG4A1L

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2003/11/21 21:45:18

Applicant : Sony Corporation  
Kind of EUT : Notebook Personal Computer  
Model No. : PCG-4A1L  
Serial No. : 1200009  
Report No. : 24DE0026-HO  
Power : AC120V/60Hz  
Temp./Humi% : 27 / 43  
Operator : Hiroka Umeyama

Mode / Remarks: Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch11:2462MHz)

LIMIT : FCC15C §15.207 (QP)  
FCC15C §15.207 (AV)

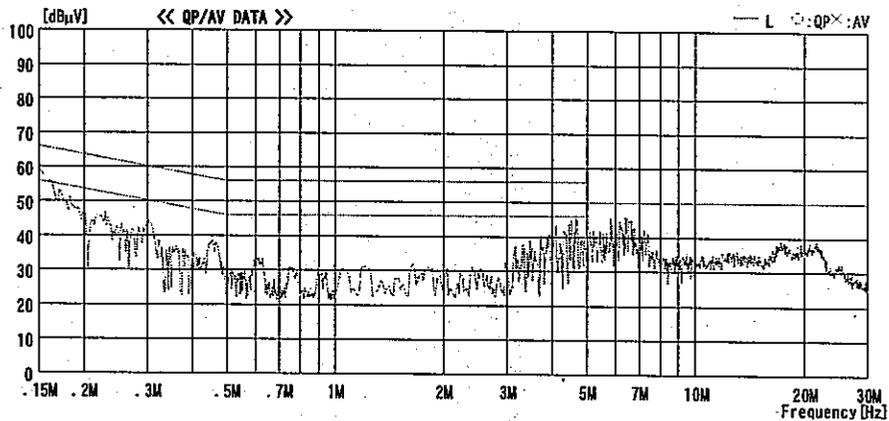
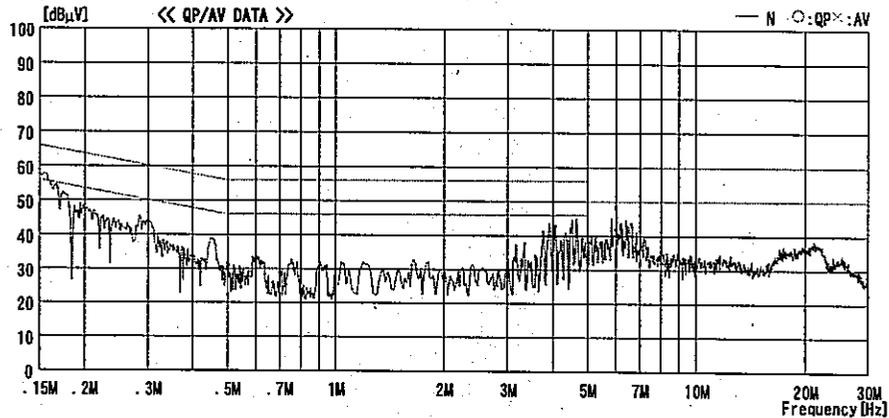


CHART:WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
Except for the above table : adequate margin data below the limits. MLS-02

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MF060b(10.04.03)

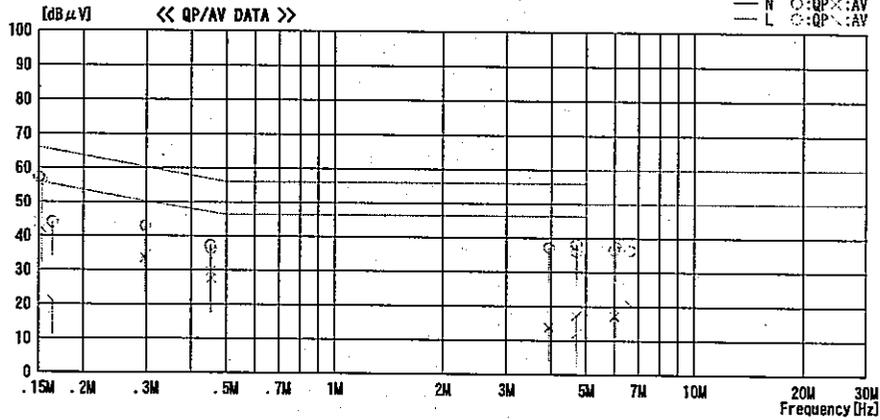
### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 1 Semi Anechoic Chamber  
Date : 2003/11/21 22:50:05

Applicant : Sony Corporation  
Kind of EUT : Notebook Personal Computer  
Model No. : PCC-4A1L  
Serial No. : 1200009  
Report No. : 24DE0026-HO  
Power : AC120V/60Hz  
Temp/C/Humi% : 27 / 43  
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch11:2462MHz)

LIMIT : FCC15C § 15.207 (QP)  
FCC15C § 15.207 (AV)



NO	FREQ [MHz]	READING		C.F	RESULT		LIMIT		MARGIN		PHASE
		QP [dB μV]	AV [dB μV]		QP [dB μV]	AV [dB μV]	QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]	
1	0.1504	47.4	34.1	9.8	57.2	43.9	66.0	56.0	8.8	12.1	N
2	0.1639	33.9	11.1	9.9	43.8	21.0	65.3	55.3	21.5	34.3	N
3	0.2978	32.7	23.5	10.0	42.7	33.5	60.3	50.3	17.6	16.8	N
4	0.4522	26.9	19.4	10.4	37.3	29.8	56.8	46.8	19.5	17.0	N
5	3.9469	26.0	2.8	11.1	37.1	13.9	56.0	46.0	18.9	32.1	N
6	4.6993	27.0	6.2	11.2	38.2	17.4	56.0	46.0	17.8	28.6	N
7	5.9968	25.4	6.2	11.1	36.5	17.3	60.0	50.0	23.6	32.7	N
8	0.1530	46.5	32.3	9.8	56.3	42.1	65.8	55.8	9.5	13.7	L
9	6.6251	25.2	9.4	11.2	36.4	20.6	60.0	50.0	23.6	29.4	L
10	0.4542	25.9	17.2	10.4	36.3	27.6	56.8	46.8	20.5	19.2	L
11	0.3004	32.8	24.6	10.1	42.9	34.7	60.2	50.2	17.3	15.5	L
12	4.7141	24.8	0.9	11.2	36.0	12.1	56.0	46.0	20.0	33.9	L
13	6.0526	26.3	8.3	11.1	37.4	19.4	60.0	50.0	22.6	30.6	L
14	3.9295	26.2	7.3	11.1	37.3	18.4	56.0	46.0	18.7	27.6	L

CHART:WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
Except for the above table : adequate margin data below the limits. MLS-02

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No. 1 Semi Anechoic Chamber  
 Date : 2003/11/21 22:30:55

Applicant	: Sony Corporation	Report No.	: 24DE0026-HO
Kind of EUT	: Notebook Personal Computer	Power	: AC120V/60Hz
Model No.	: PCG-4A1L	Temp/C/Humid%	: 27 / 43
Serial No.	: 1200009	Operator	: Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch1:2412MHz)

LIMIT : FCC15C § 15.207 (QP)  
 FCC15C § 15.207 (AV)

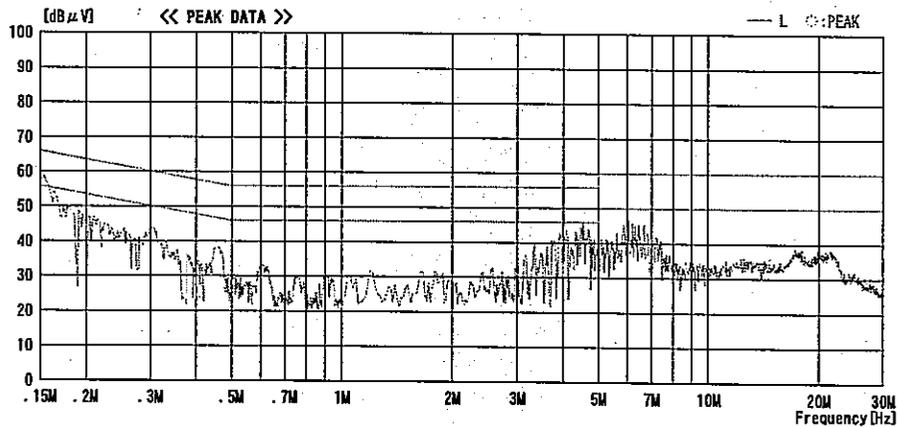
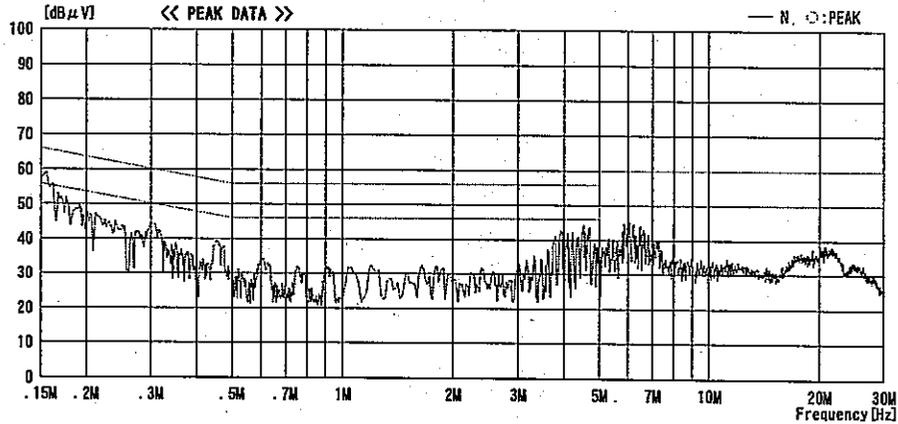


CHART:WITHOUT FACTOR. Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits. M.S-02

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 22:40:16

Applicant	: Sony Corporation	Report No.	: 24DE0026-HO
Kind of EUT	: Notebook Personal Computer	Power	: AC120V/60Hz
Model No.	: PCG-4A1L	Temp/C/Humi%	: 27 / 43
Serial No.	: 1200009	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.207 (QP)  
 FCC15C §15.207 (AV)

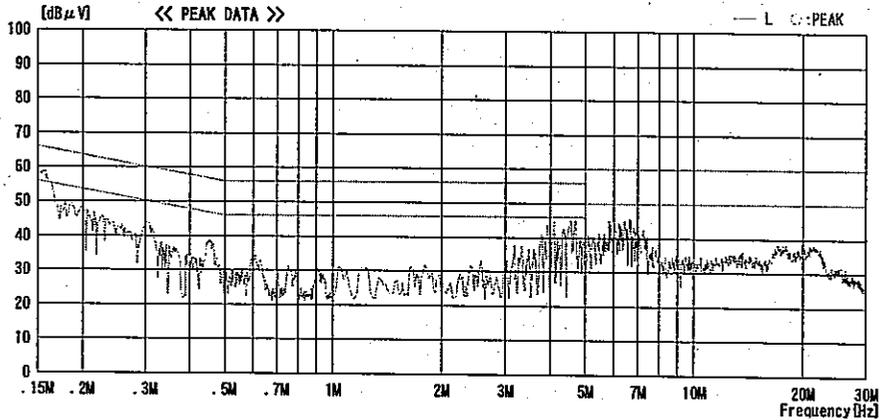
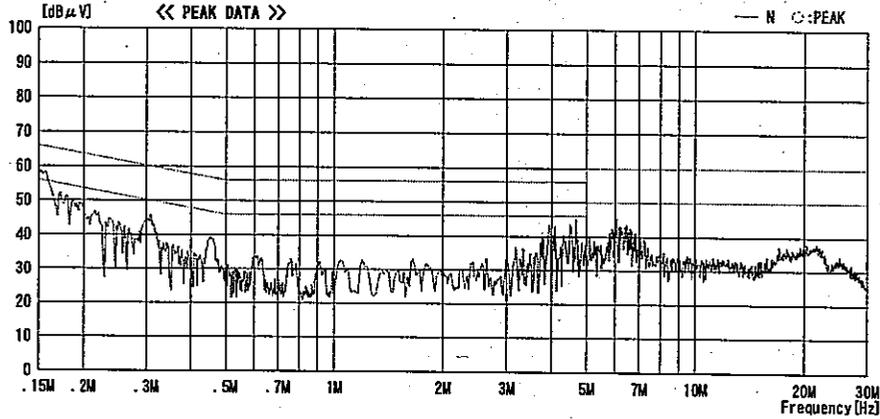


CHART:WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits. MLS-02

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 22:50:05

Applicant	: Sony Corporation	Report No.	: 24DE0026-HO
Kind of EUT	: Notebook Personal Computer	Power	: AC120V/60Hz
Model No.	: PCG-4A1L	Temp/°C/Humid%	: 27 / 43
Serial No.	: 1200009	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch11:2462MHz)

LIMIT : FCC15C §15.207 (QP)  
 FCC15C §15.207 (AV)

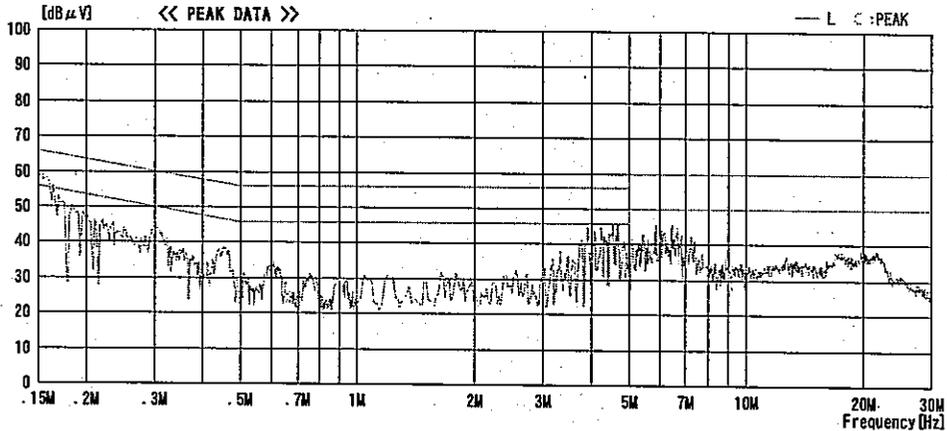
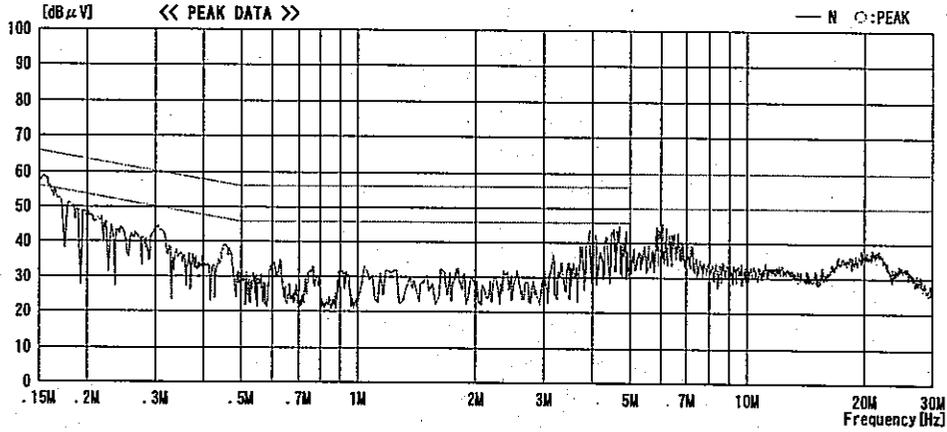


CHART:WITHOUT FACTOR,Peak hold data,Data is uncorrected.  
 Except for the above table : adequate margin data below the limits. MLS-02

**6dB Bandwidth (Conducted)**

UL Apex Co., Ltd.  
Head Office EMC Lab. No.3 Measurement Room

Company : Sony Corporation  
Equipment : Notebook Personal Computer  
Model : PCG-4A1L  
Sample No. : 1200009  
Power : AC120V/60Hz  
Mode : Tx (ch1,6,11)  
FCC ID : AK8PCG4A1L  
IC No. : 409B-PCG4A1L

REPORT NO : 24DE0026-HO  
REGULATION : Fcc Part15 Subpart C 15.247(a)(2)  
TEST DISTANCE : -  
DATE : 11/20/2003  
TEMPERATURE : 21°C  
HUMIDITY : 61%  
ENGINEER : Hiroka Umeyama

Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps

CH	FREQ	6dB Bandwidth	Limit
	[MHz]	[kHz]	[kHz]
ch1	2412.0	7900.0	500.0
ch6	2437.0	7120.0	500.0
ch11	2462.0	7540.0	500.0

Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps

CH	FREQ	6dB Bandwidth	Limit
	[MHz]	[kHz]	[kHz]
ch1	2412.0	16600.0	500.0
ch6	2437.0	16580.0	500.0
ch11	2462.0	16600.0	500.0

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

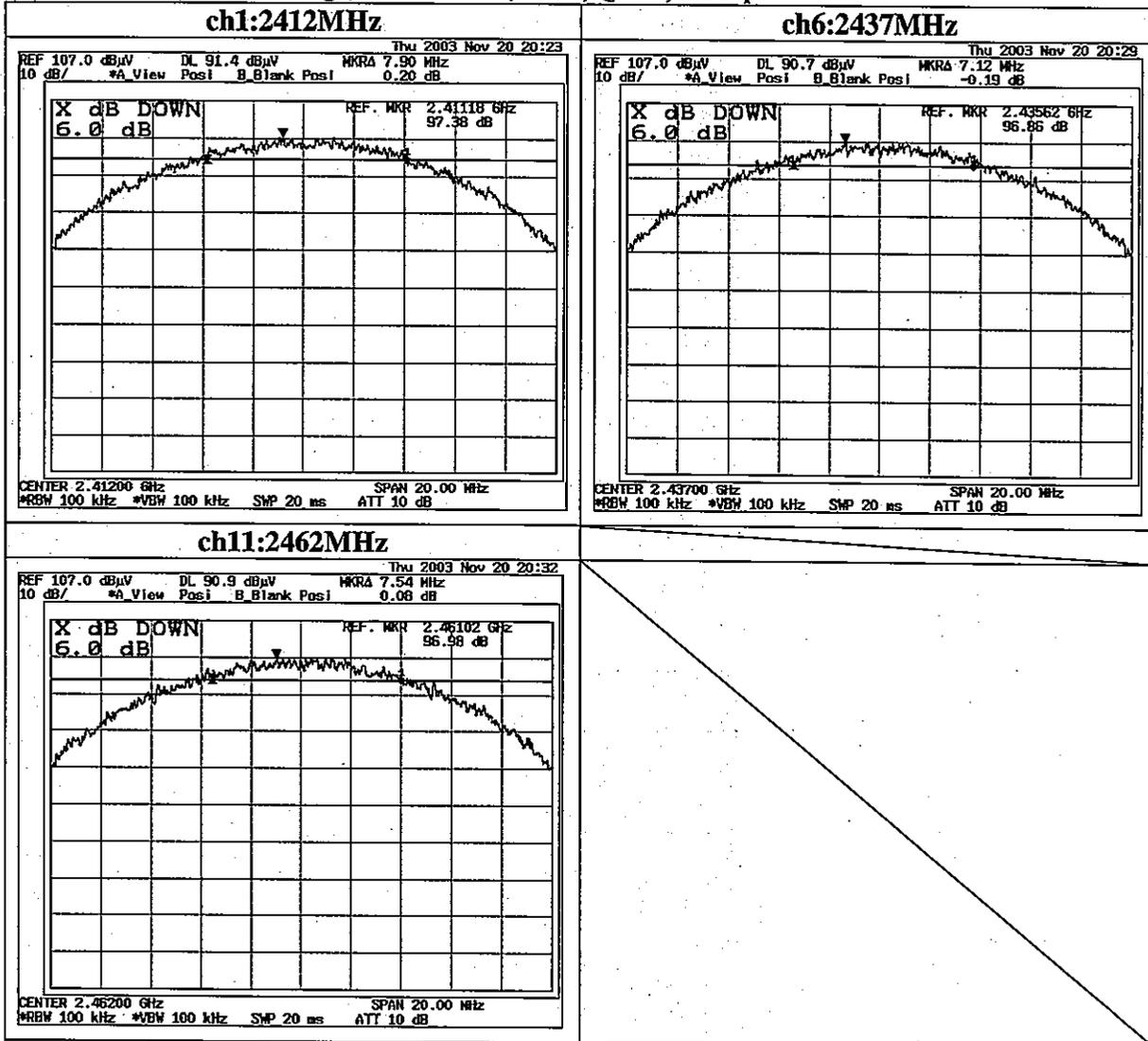
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

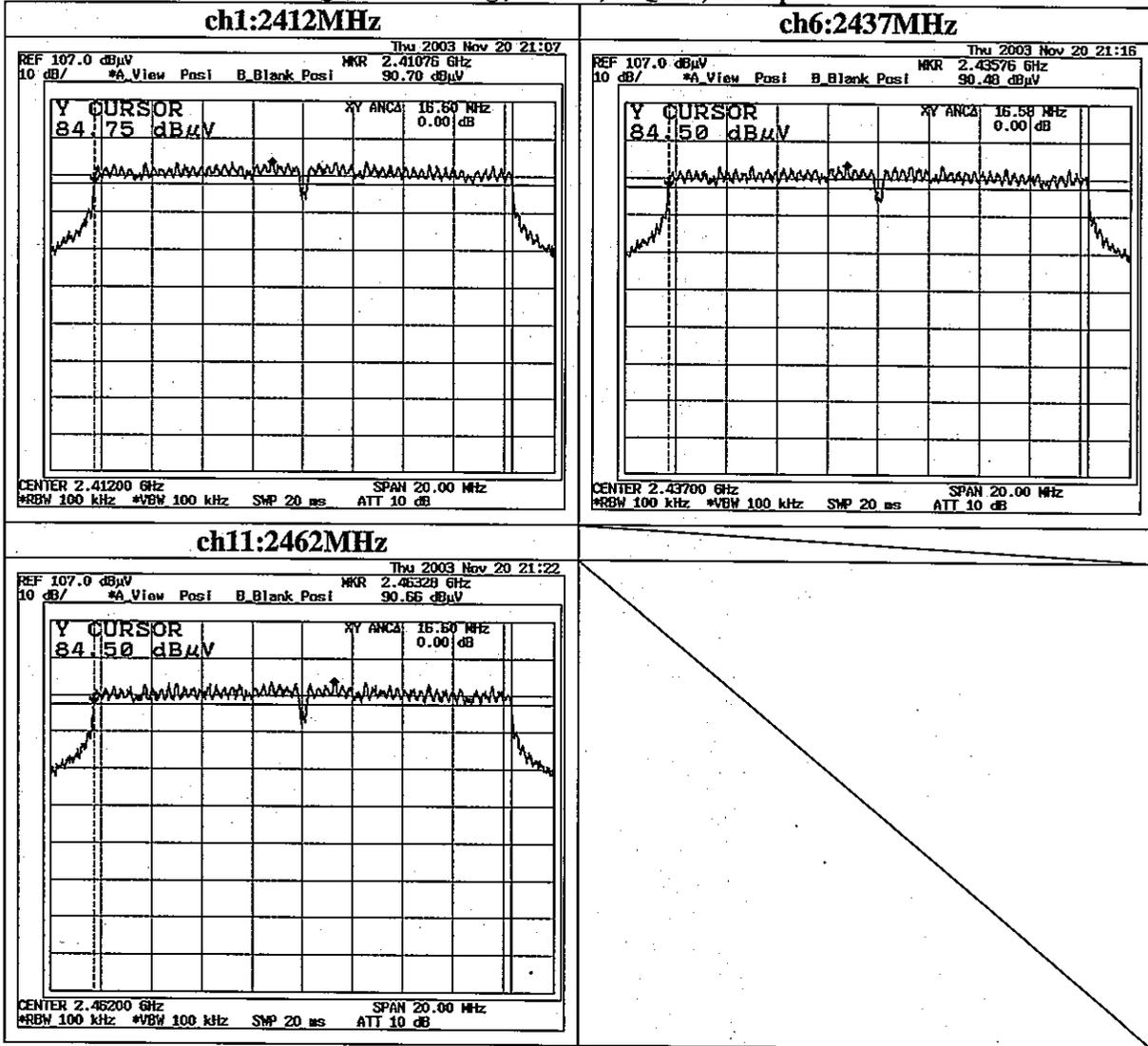
**6dB Bandwidth (Conducted)**

Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps



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Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps



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### Maximum Peak OutPut Power (Conducted)

UL Apex Co., Ltd.  
Head Office EMC Lab. No.3 Measurement Room

Company : Sony Corporation	REPORT NO : 24DE0026-HO
Equipment : Notebook Personal Computer	REGULATION : Fcc Part15 Subpart C 15.247(a)(2)
Model : PCG-4A1L	TEST DISTANCE : -
Sample No. : 1200009	DATE : 12/8, 9/2003
Power : AC120V/60Hz	TEMPERATURE : 21/23°C
Mode : Tx (ch1,6,11)	HUMIDITY : 61/45%
FCC ID : AK8PCG4A1L	ENGINEER : Hiroka Umeyama
IC No. : 409B-PCG4A1L	

**Main Antenna, Transmitting (IEEE 802.11b ) CCK, QPSK, 11Mbps**

ch	FREQ [MHz]	P/M Reading [dBm]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
ch1	2412.0	-4.52	1.3	20.5	17.3	30.0	12.7
ch6	2437.0	-4.74	1.2	20.5	17.0	30.0	13.0
ch11	2462.0	-5.28	1.3	20.5	16.6	30.0	13.4

**Sub Antenna, Transmitting (IEEE 802.11b ) CCK, QPSK, 11Mbps**

ch	FREQ [MHz]	P/M Reading [dBm]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
ch1	2412.0	-4.6	1.3	20.5	17.2	30.0	12.8
ch6	2437.0	-4.8	1.2	20.5	16.9	30.0	13.1
ch11	2462.0	-5.2	1.3	20.5	16.6	30.0	13.4

**Main Antenna, Transmitting (IEEE 802.11g ) OFDM, 64QAM, 54Mbps**

ch	FREQ [MHz]	S/A Reading [dBm]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
ch1	2412.0	-7.19	3.4	20.5	16.7	30.0	13.3
ch6	2437.0	-7.50	3.3	20.5	16.3	30.0	13.7
ch11	2462.0	-7.59	3.4	20.5	16.3	30.0	13.7

**Sub Antenna, Transmitting (IEEE 802.11g ) OFDM, 64QAM, 54Mbps**

ch	FREQ [MHz]	S/A Reading [dBm]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
ch1	2412.0	-7.2	3.4	20.5	16.7	30.0	13.3
ch6	2437.0	-7.7	3.3	20.5	16.1	30.0	13.9
ch11	2462.0	-7.6	3.4	20.5	16.3	30.0	13.7

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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Facsimile : +81 596 24 8124

**Maximum Peak OutPut Power (Conducted)**

UL Apex Co., Ltd.  
Head Office EMC Lab. No.3 Measurement Room

Company	: Sony Corporation	REPORT NO	: 24DE0026-HO
Equipment	: Notebook Personal Computer	REGULATION	: Fcc Part15 Subpart C 15.247(a)(2)
Model	: PCG-4AIL	TEST DISTANCE	: -
Sample No.	: 1200009	DATE	: 12/8, 9/2003
Power	: AC120V/60Hz	TEMPERATURE	: 21/23°C
Mode	: Tx (ch1,6,11)	HUMIDITY	: 61/45%
FCC ID	: AK8PCG4AIL	ENGINEER	: Hiroka Umeyama
IC No.	: 409B-PCG4AIL		

\*The power result of QPSK is shown in the following as the reference data.

Main Antenna, Transmitting (IEEE 802.11g) OFDM, QPSK, 18Mbps

ch	FREQ [MHz]	S/A Reading [dBm]	Cable Loss [dB]	ATTEN [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
ch1	2412.0	-8.70	3.4	20.5	15.2	30.0	14.8
ch6	2437.0	-9.05	3.3	20.5	14.8	30.0	15.2
ch11	2462.0	-9.48	3.4	20.5	14.4	30.0	15.6

Sub Antenna, Transmitting (IEEE 802.11g) OFDM, QPSK, 18Mbps

ch	FREQ [MHz]	S/A Reading [dBm]	Cable Loss [dB]	ATTEN [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
ch1	2412.0	-8.8	3.4	20.5	15.1	30.0	14.9
ch6	2437.0	-9.0	3.3	20.5	14.8	30.0	15.2
ch11	2462.0	-9.5	3.4	20.5	14.4	30.0	15.6

**UL Apex Co., Ltd.**

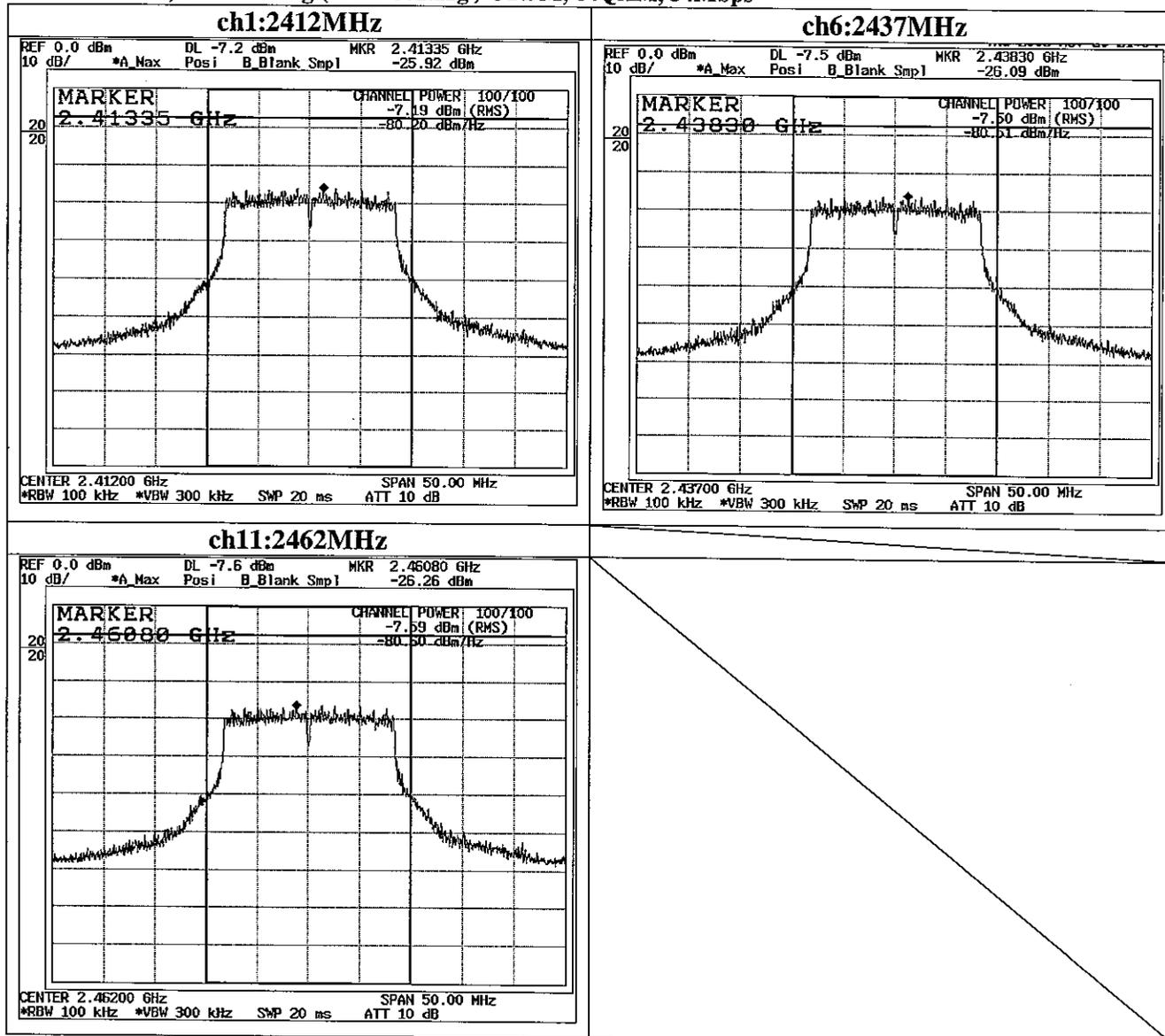
**Head Office EMC Lab.**

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Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps



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**Out of Band Emission : Radiated Emission**

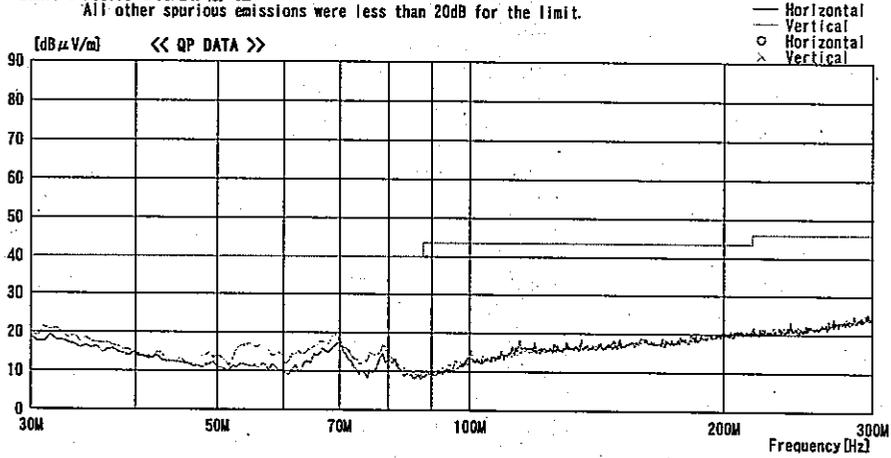
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2003/11/21 19:40:18.

Applicant : Sony Corp. Report No. : 24DE0026-HO  
Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
Model No. : PCG-4A1L Temp.°C/Humi% : 22 / 65  
Serial No. : 1200009 Operator : Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch1:2412MHz)

LIMIT : FCC15C §15.247 (c) 3m  
All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
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No points' data.

CHART:WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN Page:

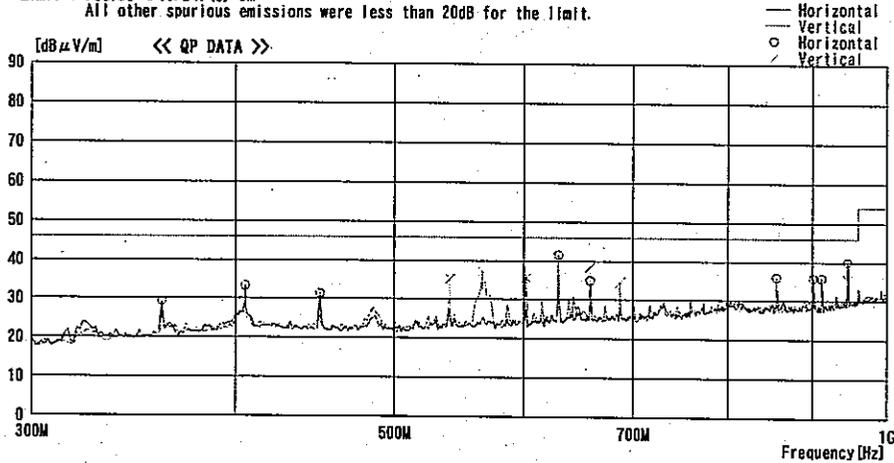
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2003/11/21 19:02:40

Applicant : Sony Corp.  
Kind of EUT : Notebook Personal Computer  
Model No. : PCG-4A1L  
Serial No. : 1200009  
Report No. : 24DE0026-HO  
Power : AC120V/60Hz  
Temp°C/Humi% : 22 / 65  
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch1:2412MHz)

LIMIT : FCC15C §15.247 (c) 3m  
All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
--- Horizontal ---										
1	360.470	29.4	16.7	10.2	27.1	29.2	46.0	16.8	100	1
2	405.523	31.5	18.3	10.5	27.2	33.1	46.0	12.9	100	359
3	450.584	30.4	18.1	10.7	27.9	31.3	46.0	14.7	100	195
4	629.989	38.9	19.7	11.6	28.6	41.6	46.0	4.4	140	350
5	658.619	31.9	19.9	11.8	28.8	34.8	46.0	11.2	129	359
6	856.126	30.3	21.4	12.6	28.5	35.8	46.0	10.2	100	345
7	901.189	30.3	21.1	12.8	28.6	35.6	46.0	10.4	100	220
8	912.126	30.0	21.4	12.8	28.6	35.6	46.0	10.4	100	228
9	946.246	33.4	22.1	13.0	28.5	40.0	46.0	6.0	100	223
--- Vertical ---										
10	540.699	33.5	18.6	11.2	28.3	35.0	46.0	11.0	109	66
11	565.892	35.3	19.0	11.3	28.4	37.2	46.0	8.8	100	333
12	601.347	33.1	19.5	11.5	28.7	35.4	46.0	10.6	101	1
13	629.985	38.2	19.7	11.6	28.6	40.9	46.0	5.1	172	0
14	658.614	35.4	19.9	11.8	28.8	38.3	46.0	7.7	171	359
15	687.256	31.2	20.1	11.9	28.7	34.5	46.0	11.5	162	351
16	946.250	28.8	22.1	13.0	28.5	35.4	46.0	10.6	113	273

CHART-WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN) - AMP. GAIN

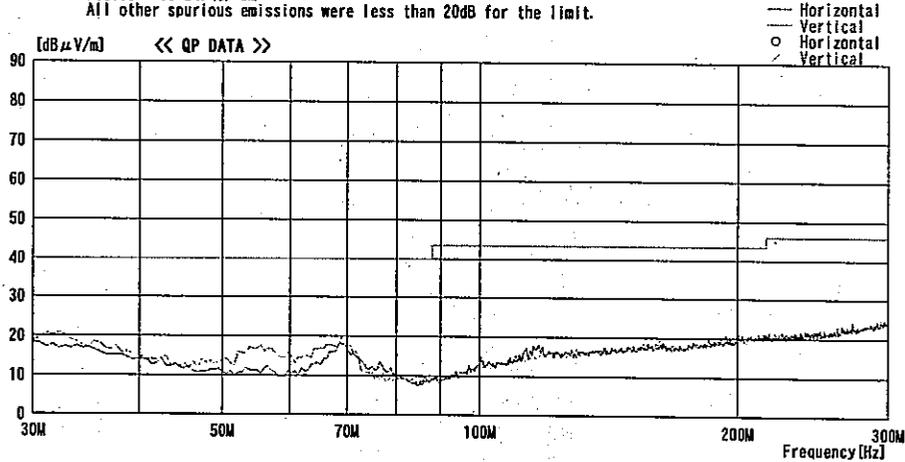
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 15:19:06

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp°C/Humi% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.247 (c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
-----	------------	--------------------	-------------------	-----------	-----------	------------------	-----------------	-------------	--------------	-------------

No points' data.

CHART: WITHOUT FACTOR ANT TYPE : 30MHz- LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN Page:

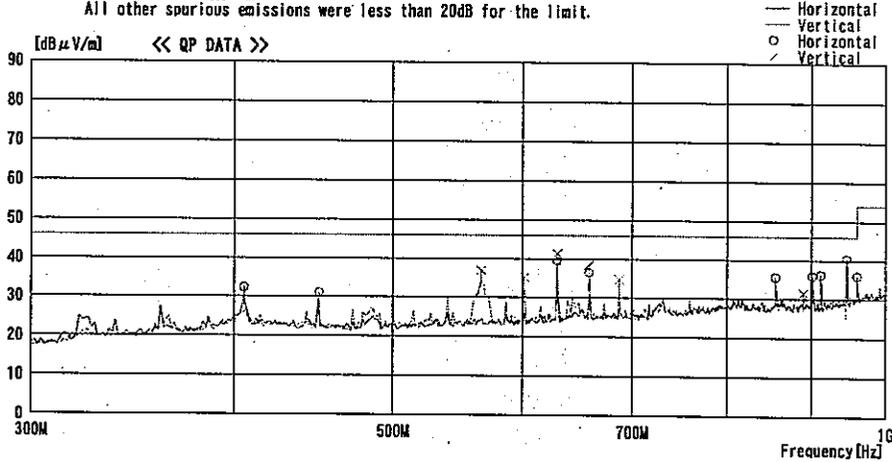
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 18:26:24

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp°C/HumI% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.247 (c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
Horizontal										
1	405.518	30.7	18.3	10.5	27.2	32.3	46.0	13.7	100	14
2	450.591	30.2	18.1	10.7	27.9	31.1	46.0	14.9	101	205
3	629.976	36.7	19.7	11.6	28.6	39.4	46.0	6.6	134	11
4	658.630	33.4	19.9	11.8	28.8	36.3	46.0	9.7	127	2
5	856.122	29.9	21.4	12.6	28.5	35.4	46.0	10.6	100	345
6	901.182	30.4	21.1	12.8	28.6	35.7	46.0	10.3	103	221
7	912.142	30.5	21.4	12.8	28.6	36.1	46.0	9.9	100	222
8	946.242	33.9	22.1	13.0	28.5	40.5	46.0	5.5	102	218
9	960.143	28.8	22.4	13.1	28.4	35.9	54.0	18.1	101	213
Vertical										
10	566.017	34.9	19.0	11.3	28.4	36.8	46.0	9.2	100	2
11	601.347	32.7	19.5	11.5	28.7	35.0	46.0	11.0	100	104
12	629.981	38.7	19.7	11.6	28.6	41.4	46.0	4.6	175	0
13	658.623	35.4	19.9	11.8	28.8	38.3	46.0	7.7	169	359
14	687.258	31.4	20.1	11.9	28.7	34.7	46.0	11.3	164	0
15	889.878	26.2	21.2	12.8	28.6	31.6	46.0	14.4	111	19
16	945.325	23.0	22.1	13.0	28.5	29.6	46.0	16.4	239	204

CHART: WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN

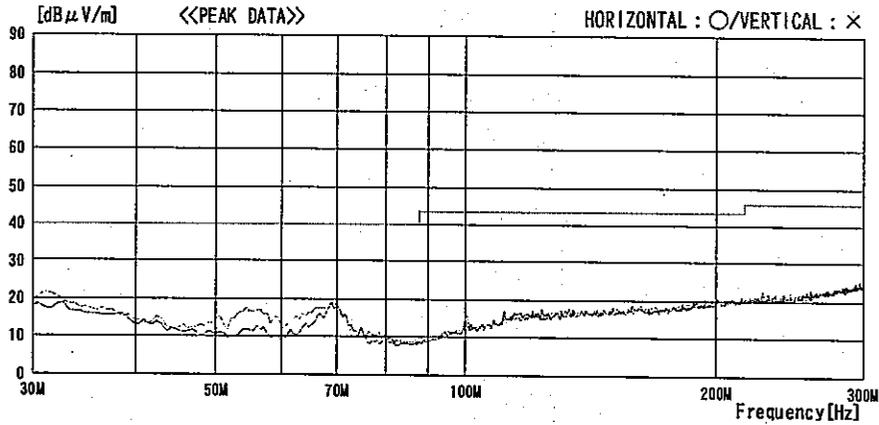
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 15:27:32

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp./Humid. : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch11:2462MHz)

LIMIT : FCC15C §15.247 (c) 3m  
 Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING PEAK [dB $\mu$ V]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dB $\mu$ V/m]	LIMIT [dB $\mu$ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
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No points' data.

CHART:WITHOUT FACTOR ANT TYPE: <30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN Page:

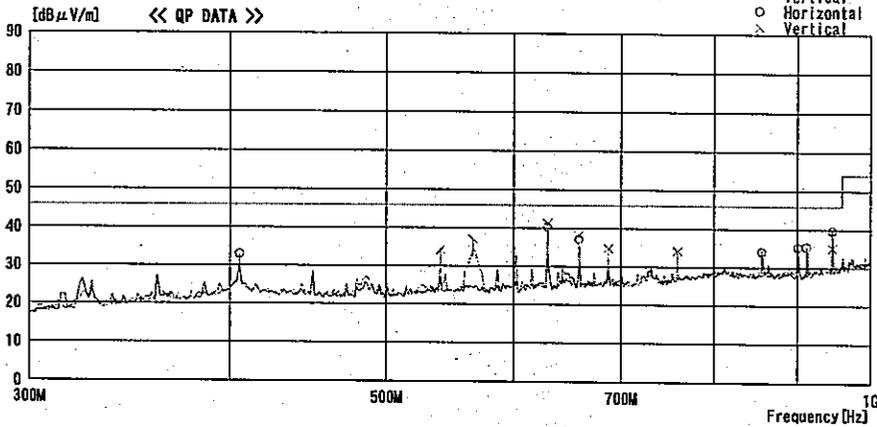
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 1 Semi Anechoic Chamber  
 Date : 2003/11/21 15:34:39

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PC6-4A1L Temp./Humid% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch11:2462MHz)

LIMIT : FCC15C §15.247(c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING-QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
Horizontal										
1	405.528	31.3	18.3	10.5	27.2	32.9	46.0	13.1	100	359
2	629.980	37.6	19.7	11.6	28.6	40.3	46.0	5.7	129	6
3	658.619	34.3	19.9	11.8	28.8	37.2	46.0	8.8	131	358
4	856.115	28.6	21.4	12.6	28.5	34.1	46.0	11.9	100	65
5	901.188	30.0	21.1	12.8	28.6	35.3	46.0	10.7	100	214
6	912.128	29.8	21.4	12.8	28.6	35.4	46.0	10.6	100	227
7	946.245	33.1	22.1	13.0	28.5	39.7	46.0	6.3	100	213
Vertical										
8	540.710	32.8	18.6	11.2	28.3	34.3	46.0	11.7	100	61
9	565.998	35.1	19.0	11.3	28.4	37.0	46.0	9.0	100	359
10	601.350	32.5	19.5	11.5	28.7	34.8	46.0	11.2	100	106
11	629.982	38.6	19.7	11.6	28.6	41.3	46.0	4.7	181	359
12	658.622	35.3	19.9	11.8	28.8	38.2	46.0	7.8	164	0
13	687.254	31.5	20.1	11.9	28.7	34.8	46.0	11.2	159	359
14	758.843	29.6	21.1	12.3	28.8	34.2	46.0	11.8	149	359
15	946.247	28.6	22.1	13.0	28.5	35.2	46.0	10.8	161	162

CHART: WITHOUT FACTOR ANT TYPE: ~30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN Page:

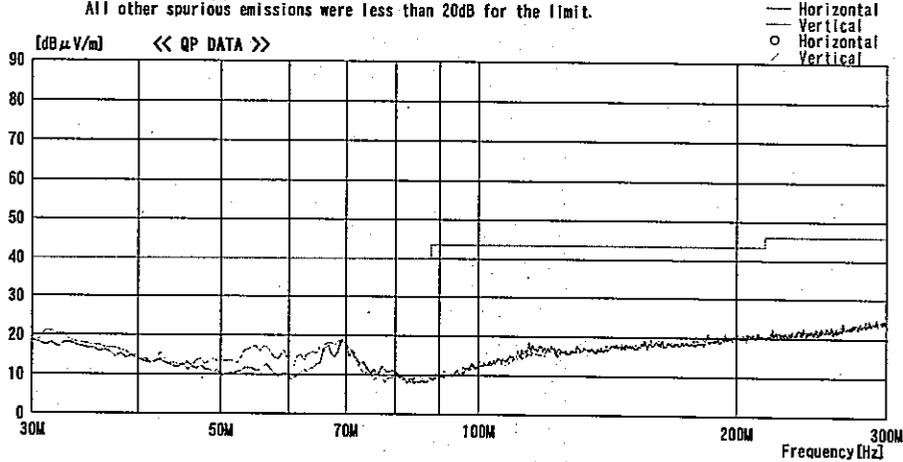
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 11:56:51

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp/C/Humi% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch1:2412MHz)

LIMIT : FCC15C §15.247 (c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
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No points' data.

CHART:WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN) - AMP. GAIN Page:

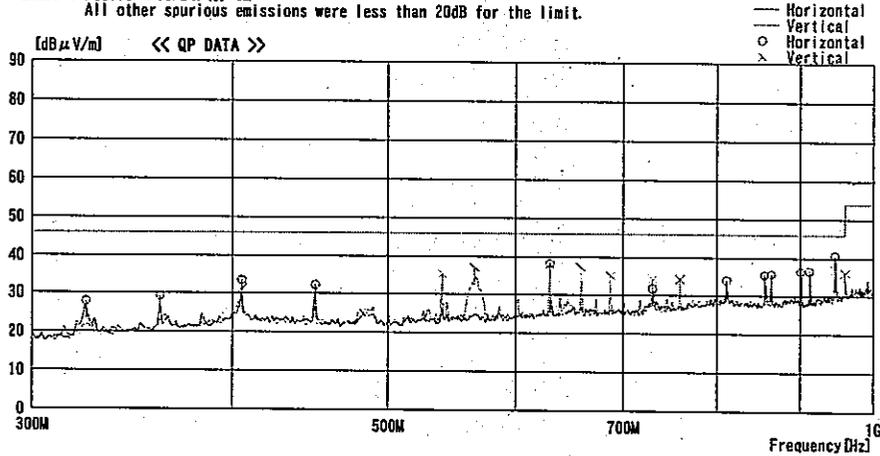
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 1 Semi Anechoic Chamber  
Date : 2003/11/21 10:43:27

Applicant : Sony Corp. Report No. : 24DE0026-HO  
Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
Model No. : PCG-4A1L Temp/C/Humi% : 22 / 65  
Serial No. : 1200009 Operator : Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch1:2412MHz)

LIMIT : FCC15C S 15.247 (c) 3m  
All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	324.149	29.6	15.2	9.9	26.8	27.9	46.0	18.1	100	77
2	360.472	29.5	16.7	10.2	27.1	29.3	46.0	16.7	100	0
3	405.527	31.7	18.3	10.5	27.2	33.3	46.0	12.7	100	8
4	450.586	31.2	18.1	10.7	27.9	32.1	46.0	13.9	100	199
5	629.996	35.5	19.7	11.6	28.6	38.2	46.0	7.8	135	90
6	730.219	27.8	20.7	12.0	28.8	31.7	46.0	14.3	100	0
7	811.060	28.0	21.7	12.5	28.4	33.8	46.0	12.2	100	324
8	856.119	29.8	21.4	12.6	28.5	35.3	46.0	10.7	100	333
9	864.136	29.9	21.4	12.7	28.5	35.5	46.0	10.5	100	200
10	901.177	31.0	21.1	12.8	28.6	36.3	46.0	9.7	100	241
11	912.142	30.8	21.4	12.8	28.6	36.4	46.0	9.6	100	228
12	946.237	34.1	22.1	13.0	28.5	40.7	46.0	5.3	100	231
----- Vertical -----										
13	405.519	29.5	18.3	10.5	27.2	31.1	46.0	14.9	123	327
14	540.697	33.7	18.6	11.2	28.3	35.2	46.0	10.8	100	72
15	565.032	35.1	19.0	11.3	28.4	37.0	46.0	9.0	100	0
16	629.992	35.2	19.7	11.6	28.6	37.9	46.0	8.1	178	359
17	658.628	34.4	19.9	11.8	28.8	37.3	46.0	8.7	172	0
18	687.268	31.7	20.1	11.9	28.7	35.0	46.0	11.0	162	359
19	730.223	30.2	20.7	12.0	28.8	34.1	46.0	11.9	157	0
20	758.856	29.5	21.1	12.3	28.8	34.1	46.0	11.9	145	359
21	946.227	30.2	22.1	13.0	28.5	36.8	46.0	9.2	122	221
22	960.148	28.8	22.4	13.1	28.4	35.9	54.0	18.1	109	359

CHART: WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN) - AMP. GAIN  
Page:

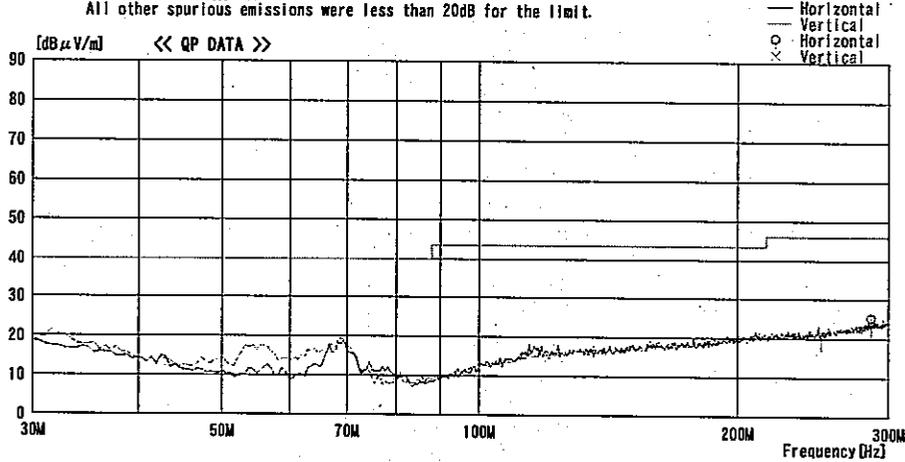
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 12:50:23

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp°C/Humid% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.247(c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT. [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	286.359	22.5	19.7	9.7	26.6	25.3	46.0	20.7	100	106
----- Vertical -----										
2	250.575	20.8	17.5	9.5	26.5	21.3	46.0	24.7	100	0

CHART: WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN) - AMP. GAIN Page:

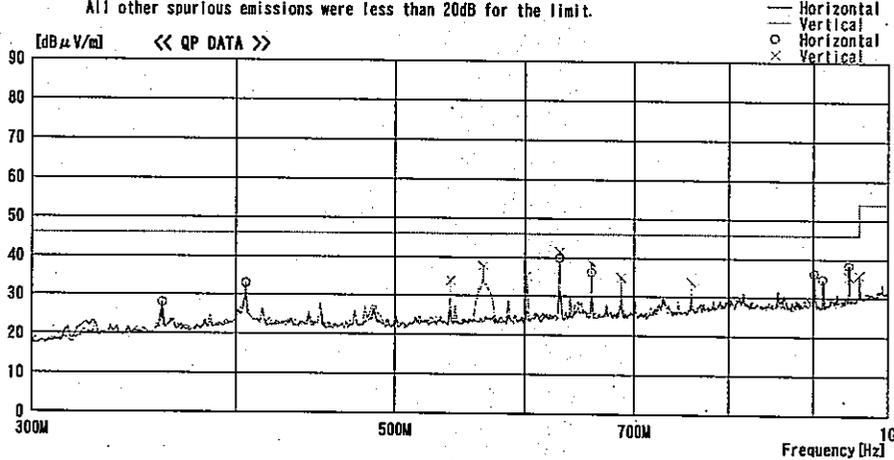
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 13:33:29

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp°C/Humi% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch6:2437MHz)

LIMIT : FCC15C §15.247(c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
--- Horizontal ---										
1	360.453	28.2	16.7	10.2	27.1	28.0	46.0	18.0	100	165
2	405.526	31.4	18.3	10.5	27.2	33.0	46.0	13.0	100	0
3	629.980	37.1	19.7	11.6	28.6	39.8	46.0	6.2	151	359
4	658.621	33.2	19.9	11.8	28.8	36.1	46.0	9.9	130	0
5	901.176	30.8	21.1	12.8	28.6	36.1	46.0	9.9	100	221
6	912.134	29.1	21.4	12.8	28.6	34.7	46.0	11.3	100	276
7	946.237	31.6	22.1	13.0	28.5	38.2	46.0	7.8	163	269
--- Vertical ---										
8	540.705	32.4	18.6	11.2	28.3	33.9	46.0	12.1	100	79
9	565.899	35.7	19.0	11.3	28.4	37.6	46.0	8.4	100	349
10	601.357	32.9	19.5	11.5	28.7	35.2	46.0	10.8	100	110
11	629.984	38.8	19.7	11.6	28.6	41.5	46.0	4.5	174	0
12	658.620	35.8	19.9	11.8	28.8	38.7	46.0	7.3	168	355
13	687.260	31.5	20.1	11.9	28.7	34.8	46.0	11.2	156	359
14	758.843	29.2	21.1	12.3	28.8	33.8	46.0	12.2	143	8
15	946.241	28.8	22.1	13.0	28.5	35.4	46.0	10.6	150	165
16	960.145	28.6	22.4	13.1	28.4	35.7	54.0	18.3	100	0

CHART-WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN

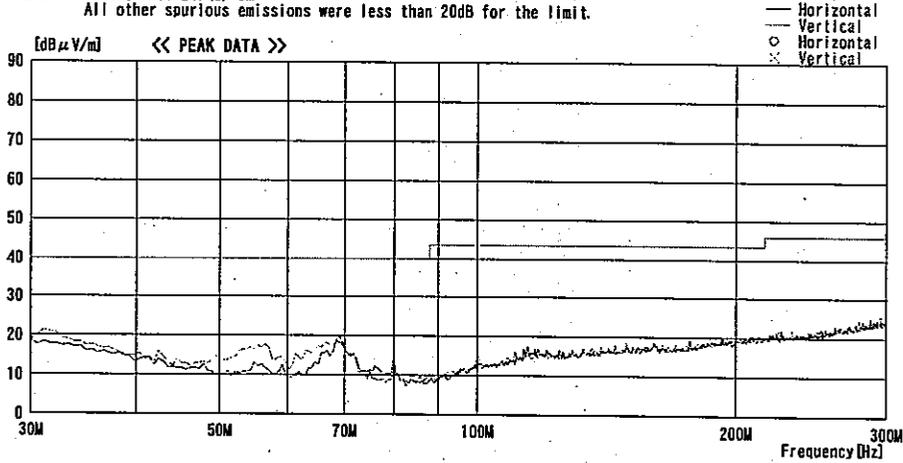
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 14:56:09

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCG-4A1L Temp°C/Humi% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Umeyama

Mode / Remarks : Transmitting (Main Antenna 802.11g OFDM 64QAM 54Mbps Ch11:2462MHz)

LIMIT : FCC15C §15.247 (c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING OP [dB μV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μV/m]	LIMIT [dB μV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEC]
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No points' data.

CHART: WITHOUT FACTOR ANT TYPE: -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
 CALCULATION: READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN

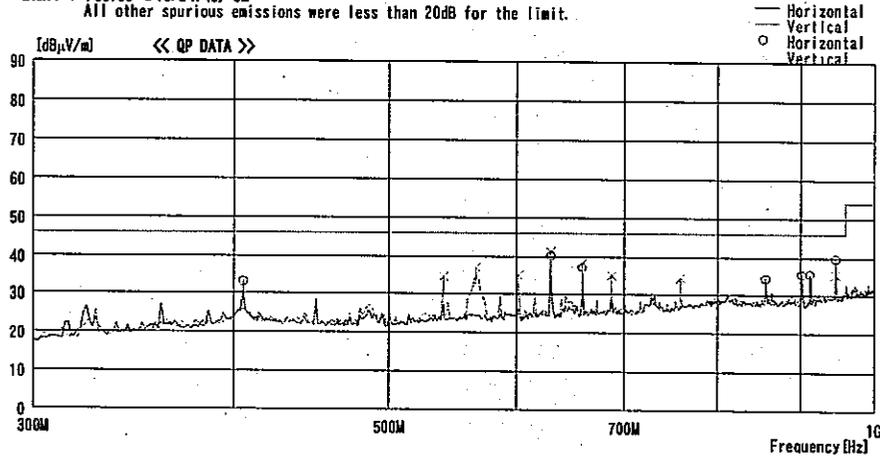
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
 Date : 2003/11/21 15:34:39

Applicant : Sony Corp. Report No. : 24DE0026-HO  
 Kind of EUT : Notebook Personal Computer Power : AC120V/60Hz  
 Model No. : PCC-4A1L Temp°C/Humi% : 22 / 65  
 Serial No. : 1200009 Operator : Hiroka Uneyama

Mode / Remarks : Transmitting (Main Antenna 802.11b CCK QPSK 11Mbps Ch11:2462MHz)

LIMIT : FCC15C §15.247 (c) 3m  
 All other spurious emissions were less than 20dB for the limit.



No.	FREQ [MHz]	READING QP [dBµV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBµV/m]	LIMIT [dBµV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	405.528	31.3	18.3	10.5	27.2	32.9	46.0	13.1	100	359
2	629.980	37.6	19.7	11.6	28.6	40.3	46.0	5.7	129	6
3	658.619	34.3	19.9	11.8	28.8	37.2	46.0	8.8	131	358
4	856.115	28.6	21.4	12.6	28.5	34.1	46.0	11.9	100	65
5	901.188	30.0	21.1	12.8	28.6	35.3	46.0	10.7	100	214
6	912.128	29.8	21.4	12.8	28.6	35.4	46.0	10.6	100	227
7	946.245	33.1	22.1	13.0	28.5	39.7	46.0	6.3	100	213
----- Vertical -----										
8	540.710	32.8	18.6	11.2	28.3	34.3	46.0	11.7	100	61
9	585.998	35.1	19.0	11.3	28.4	37.0	46.0	9.0	100	359
10	601.350	32.5	19.5	11.5	28.7	34.8	46.0	11.2	100	106
11	629.982	38.6	19.7	11.6	28.6	41.3	46.0	4.7	181	359
12	658.622	35.3	19.9	11.8	28.8	38.2	46.0	7.8	164	0
13	687.254	31.5	20.1	11.9	28.7	34.8	46.0	11.2	159	359
14	758.843	29.6	21.1	12.3	28.8	34.2	46.0	11.8	149	359
15	946.247	28.6	22.1	13.0	28.5	35.2	46.0	10.8	161	162

CHART:WITHOUT FACTOR ANT TYPE:-30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz-HORN  
 CALCULATION: READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN

Page:

### Out of Band Emission : Radiated Emission

Model : PCG-4A1L TEST DISTANCE: 3/1m  
Sample No. : 1200009 DATE : Nov 18,19,20/2003  
Power : AC120V/60Hz TEMPERATURE : 25/21/23deg.C  
Mode : Transmitting (IEEE 802.11b) , Main Antenna HUMIDITY : 30/49/62%  
: Continuous Tx mode, QPSK, 11Mbps ENGINEER : Hiroka Umeyama  
: CH1: 2412MHz  
FCC ID : AK8PCG4A1L  
IC No. : 409B-PCG4A1L

**PK DETECT**

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.7	58.7	65.5	23.1	37.7	4.6	0.0	48.7	55.5	74.0	25.3	18.5
2	2312.0	57.7	54.0	30.7	36.9	6.3	0.0	57.8	54.1	74.0	16.2	19.9
3	2390.0	56.3	55.7	30.7	36.9	6.3	0.0	56.4	55.8	74.0	17.7	18.2
4	2399.5	73.0	71.9	30.7	36.9	6.4	0.0	73.2	72.1	84.9	11.7	12.8
5	2512.0	47.8	45.1	30.7	36.9	6.5	0.0	48.1	45.4	74.0	26.0	28.6
6	4824.0	44.4	42.9	35.2	36.8	8.8	0.7	52.3	50.8	74.0	21.8	23.2
7	6432.0	45.0	45.7	38.1	36.6	10.3	0.0	56.8	57.5	74.0	17.2	16.5
8	7236.0	43.2	43.3	37.7	36.5	10.7	0.2	55.3	55.4	74.0	18.7	18.6
9	9648.0	45.9	48.0	37.3	37.2	12.7	0.3	59.0	61.1	74.0	15.1	12.9
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
10	12060.0	44.0	44.0	40.7	36.8	14.6	0.5	53.5	53.5	74.0	20.5	20.5
11	14472.0	43.2	43.3	42.9	35.4	16.3	0.4	57.9	58.0	74.0	16.1	16.0
12	16884.0	43.5	43.5	45.3	36.4	17.6	0.0	60.5	60.5	74.0	13.5	13.5
13	19296.0	42.2	42.9	40.9	35.9	18.9	0.0	56.6	57.3	74.0	17.5	16.7
14	21708.0	45.1	44.7	40.9	36.6	19.6	0.0	59.5	59.1	74.0	14.5	15.0
15	24120.0	44.1	43.8	40.3	36.5	20.9	0.0	59.3	59.0	74.0	14.7	15.0

**AV DETECT**

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.7	38.9	43.6	23.1	37.7	4.6	0.0	28.9	33.6	54.0	25.1	20.4
2	2312.0	48.4	44.4	30.7	36.9	6.3	0.0	48.5	44.5	54.0	5.5	9.5
3	2390.0	40.6	40.0	30.7	36.9	6.3	0.0	40.7	40.1	54.0	13.3	13.9
4	2399.5	61.1	59.8	30.7	36.9	6.4	0.0	61.3	60.0	71.7	10.4	11.6
5	2512.0	38.9	36.5	30.7	36.9	6.5	0.0	39.2	36.8	54.0	14.8	17.2
6	4824.0	29.8	29.8	35.2	36.8	8.8	0.7	37.7	37.7	54.0	16.4	16.3
7	6432.0	37.0	38.2	38.1	36.6	10.3	0.0	48.8	50.0	54.0	5.2	4.0
8	7236.0	30.2	30.2	37.7	36.5	10.7	0.2	42.3	42.3	54.0	11.7	11.7
9	9648.0	34.1	37.3	37.3	37.2	12.7	0.3	47.2	50.4	54.0	6.8	3.6
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
10	12060.0	30.6	31.0	40.7	36.8	14.6	0.5	40.1	40.5	54.0	13.9	13.5
11	14472.0	30.1	30.1	42.9	35.4	16.3	0.4	44.8	44.8	54.0	9.2	9.2
12	16884.0	30.0	30.0	45.3	36.4	17.6	0.0	47.0	47.0	54.0	7.0	7.0
13	19296.0	29.4	29.4	40.9	35.9	18.9	0.0	43.8	43.8	54.0	10.2	10.2
14	21708.0	31.2	31.2	40.9	36.6	19.6	0.0	45.6	45.6	54.0	8.4	8.4
15	24120.0	31.0	31.0	40.3	36.5	20.9	0.0	46.2	46.2	54.0	7.8	7.8

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

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

\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

\*The limit values at frequencies excepting restricted bands indicated in 15.205 are values 20dB below lower

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## Out of Band Emission : Radiated Emission

<p>Company : Sony Corp.  Equipment : Notebook Personal Computer  Model : PCG-4A1L  Sample No. : 1200009  Power : AC120V/60Hz  Mode : Transmitting (IEEE 802.11b), Main Antenna  : Continuous Tx mode, QPSK, 11Mbps  : CH6: 2437MHz  FCC ID : AK8PCG4A1L  IC No. : 409B-PCG4A1L</p>	<p style="text-align: center;">UL Apex Co., Ltd.  Head Office EMC Lab. No.1/2 Semi Anechoic Chamber</p> <p>REPORT NO : 24DE0026-HO  REGULATION : For Part15 Subpart C 15.247(b)(3)  TEST DISTANCE : 3/1m  DATE : Nov 18,19,20/2003  TEMPERATURE : 25/21/23deg.C  HUMIDITY : 30/49/62%  ENGINEER : Hiroka Umeyama</p>
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**PK DETECT**

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.5	55.2	53.3	23.0	37.7	4.6	0.0	45.1	43.2	74.0	28.9	30.8
2	2336.0	59.1	56.5	30.7	36.9	6.3	0.0	59.2	56.6	74.0	14.8	17.4
3	2538.6	49.7	45.7	31.0	37.0	6.5	0.0	50.2	46.2	74.0	23.8	27.8
4	4874.0	42.3	44.0	35.5	36.8	8.8	0.7	50.5	52.2	74.0	23.6	21.9
5	6498.6	45.3	45.7	38.4	36.6	10.4	0.0	57.5	57.9	74.0	16.5	16.1
6	7311.0	43.6	43.3	37.7	36.6	10.8	0.3	55.8	55.5	74.0	18.2	18.5
7	9748.0	46.8	47.4	37.0	37.2	12.8	0.3	59.7	60.3	74.0	14.3	13.7
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
8	12185.0	43.4	43.4	41.1	36.7	14.7	0.4	53.4	53.4	74.0	20.6	20.6
9	14622.0	43.8	43.6	43.1	35.5	16.4	0.4	58.7	58.5	74.0	15.3	15.5
10	17059.0	42.5	42.5	45.5	36.2	17.8	0.0	60.1	60.1	74.0	13.9	13.9
11	19496.0	42.9	42.7	40.6	36.0	19.0	0.0	57.0	56.8	74.0	17.0	17.2
12	21933.0	45.3	45.6	40.9	36.0	19.6	0.0	60.3	60.6	74.0	13.7	13.4
13	24370.0	43.3	43.6	40.4	36.9	21.0	0.0	58.3	58.6	74.0	15.7	15.4

**AV DETECT**

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.5	41.7	39.6	23.0	37.7	4.6	0.0	31.6	29.5	54.0	22.5	24.5
2	2336.0	49.2	46.9	30.7	36.9	6.3	0.0	49.3	47.0	54.0	4.8	7.0
3	2538.6	41.5	37.2	31.0	37.0	6.5	0.0	42.0	37.7	54.0	12.0	16.3
4	4874.0	29.1	30.2	35.5	36.8	8.8	0.7	37.3	38.4	54.0	16.7	15.6
5	6498.6	37.1	37.6	38.4	36.6	10.4	0.0	49.3	49.8	54.0	4.7	4.2
6	7311.0	30.5	30.5	37.7	36.6	10.8	0.3	42.7	42.7	54.0	11.3	11.4
7	9748.0	37.4	36.3	37.0	37.2	12.8	0.3	50.3	49.2	54.0	3.7	4.8
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
8	12185.0	30.4	30.4	41.1	36.7	14.7	0.4	40.4	40.4	54.0	13.6	13.6
9	14622.0	30.3	30.3	43.1	35.5	16.4	0.4	45.2	45.2	54.0	8.8	8.8
10	17059.0	29.7	29.7	45.5	36.2	17.8	0.0	47.3	47.3	54.0	6.7	6.7
11	19496.0	29.5	29.5	40.6	36.0	19.0	0.0	43.6	43.6	54.0	10.4	10.4
12	21933.0	32.6	32.6	40.9	36.0	19.6	0.0	47.6	47.6	54.0	6.4	6.4
13	24370.0	30.4	30.5	40.4	36.9	21.0	0.0	45.4	45.5	54.0	8.6	8.5

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

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

\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

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### Out of Band Emission : Radiated Emission

Company : Sony Corp.  
Equipment : Notebook Personal Computer  
Model : PCG-4AIL  
Sample No. : 1200009  
Power : AC120V/60Hz  
Mode : Transmitting (IEEE 802.11b), Main Antenna  
: Continuous Tx mode, QPSK, 11Mbps  
: CH11: 2462MHz  
FCC ID : AK8PCG4AIL  
IC No. : 409B-PCG4AIL

UL Apex Co., Ltd.  
Head Office EMC Lab. No.1/2 Semi Anechoic Chamber  
REPORT NO : 24DE0026-HO  
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)  
TEST DISTANCE : 3/1m  
DATE : Nov 18,19,20/2003  
TEMPERATURE : 25/21/23deg.C  
HUMIDITY : 30/49/62%  
ENGINEER : Hiroka Umeyama

**PK DETECT**

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.6	48.9	52.9	23.0	37.7	4.6	0.0	38.8	42.8	74.0	35.2	31.2
2	2288.0	50.2	47.1	30.7	36.9	6.2	0.0	50.2	47.1	74.0	23.8	26.9
3	2360.0	48.7	41.6	30.7	36.9	6.3	0.0	48.8	41.7	74.0	25.2	32.4
4	2483.5	57.1	53.7	30.7	36.9	6.4	0.0	57.3	53.9	74.0	16.7	20.1
5	2488.0	61.1	56.0	30.7	36.9	6.4	0.0	61.3	56.2	74.0	12.7	17.8
6	4924.0	42.3	43.3	35.8	36.8	8.9	0.8	51.0	52.0	74.0	23.1	22.0
7	6565.3	45.5	45.9	38.3	36.6	10.4	0.0	57.6	58.0	74.0	16.4	16.0
8	7386.0	43.6	42.9	37.9	36.6	10.8	0.3	56.0	55.3	74.0	18.0	18.7
9	9848.0	43.3	43.6	36.7	37.3	12.9	0.3	55.9	56.2	74.0	18.1	17.8
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
10	12310.0	44.1	44.7	41.5	36.6	14.7	0.3	54.5	55.1	74.0	19.5	18.9
11	14772.0	43.7	43.3	43.2	35.6	16.6	0.4	58.8	58.4	74.0	15.2	15.6
12	17234.0	42.4	42.7	45.5	36.2	17.9	0.0	60.1	60.4	74.0	13.9	13.6
13	19696.0	42.4	43.9	40.8	36.0	19.0	0.0	56.7	58.2	74.0	17.3	15.8
14	22158.0	44.7	44.1	40.8	35.7	19.7	0.0	60.0	59.4	74.0	14.1	14.6
15	24620.0	44.2	44.5	40.5	36.9	21.1	0.0	59.4	59.7	74.0	14.6	14.3

**AV DETECT**

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.6	35.3	39.0	23.0	37.7	4.6	0.0	25.2	28.9	54.0	28.8	25.1
2	2288.0	42.8	39.6	30.7	36.9	6.2	0.0	42.8	39.6	54.0	11.2	14.4
3	2360.0	40.9	41.6	30.7	36.9	6.3	0.0	41.0	41.7	54.0	13.0	12.4
4	2483.5	41.6	38.6	30.7	36.9	6.4	0.0	41.8	38.8	54.0	12.2	15.2
5	2488.0	46.0	41.4	30.7	36.9	6.4	0.0	46.2	41.6	54.0	7.8	12.4
6	4924.0	29.3	30.1	35.8	36.8	8.9	0.8	38.0	38.8	54.0	16.0	15.2
7	6565.3	37.3	38.3	38.3	36.6	10.4	0.0	49.4	50.4	54.0	4.6	3.6
8	7386.0	30.4	30.3	37.9	36.6	10.8	0.3	42.8	42.7	54.0	11.2	11.3
9	9848.0	33.7	33.4	36.7	37.3	12.9	0.3	46.3	46.0	54.0	7.7	8.0
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
10	12310.0	30.8	30.4	41.5	36.6	14.7	0.3	41.2	40.8	54.0	12.8	13.3
11	14772.0	30.1	30.1	43.2	35.6	16.6	0.4	45.2	45.2	54.0	8.8	8.8
12	17234.0	29.6	29.6	45.5	36.2	17.9	0.0	47.3	47.3	54.0	6.7	6.7
13	19696.0	29.7	29.8	40.8	36.0	19.0	0.0	44.0	44.1	54.0	10.0	9.9
14	22158.0	31.2	31.2	40.8	35.7	19.7	0.0	46.5	46.5	54.0	7.5	7.5
15	24620.0	31.1	31.2	40.5	36.9	21.1	0.0	46.3	46.4	54.0	7.7	7.6

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

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

\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

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### Out of Band Emission : Radiated Emission

Company : Sony Corp.  
Equipment : Notebook Personal Computer  
Model : PCG-4A1L  
Sample No. : I200009  
Power : AC120V/60Hz  
Mode : Transmitting (IEEE 802.11g), Main Antenna  
: Continuous Tx mode, OFDM, 64QAM, 54Mbps  
: CH1: 2412MHz  
FCC ID : AK8PCG4A1L  
IC No. : 409B-PCG4A1L

UL Apex Co., Ltd.  
Head Office EMC Lab. No.1/2 Semi Anechoic Chamber  
REPORT NO : 24DE0026-HO  
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)  
TEST DISTANCE : 3/1m  
DATE : Nov 18,19,20/2003  
TEMPERATURE : 25/21/23deg.C  
HUMIDITY : 30/49/62%  
ENGINEER : Hiroka Umeyama

#### PK DETECT

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1051.0	43.0	48.3	23.3	37.6	4.7	0.0	33.4	38.7	74.0	40.6	35.3
2	1131.9	62.4	66.9	23.1	37.7	4.6	0.0	52.4	56.9	74.0	21.6	17.1
3	2312.0	60.1	58.5	30.7	36.9	6.3	0.0	60.2	58.6	74.0	13.8	15.5
4	2360.0	53.7	52.9	30.7	36.9	6.3	0.0	53.8	53.0	74.0	20.2	21.0
5	2390.0	63.4	61.9	30.7	36.9	6.3	0.0	63.5	62.0	74.0	10.5	12.0
6	2400.0	80.6	79.0	30.7	36.9	6.4	0.0	80.8	79.2	86.3	5.5	7.1
7	4824.0	42.3	42.7	35.2	36.8	8.8	0.7	50.2	50.6	74.0	23.9	23.4
8	6432.0	45.8	46.9	38.1	36.6	10.3	0.0	57.6	58.7	74.0	16.4	15.3
9	7236.0	43.2	43.3	37.7	36.5	10.7	0.2	55.3	55.4	74.0	18.7	18.6
10	9648.0	43.7	44.9	37.3	37.2	12.7	0.3	56.8	58.0	74.0	17.2	16.0
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
11	12060.0	43.7	43.3	40.7	36.8	14.6	0.5	53.2	52.8	74.0	20.8	21.2
12	14472.0	43.1	42.5	42.9	35.4	16.3	0.4	57.8	57.2	74.0	16.2	16.8
13	16884.0	42.8	42.9	45.3	36.4	17.6	0.0	59.8	60.0	74.0	14.2	14.0
14	19296.0	42.3	42.3	40.9	35.9	18.9	0.0	56.7	56.7	74.0	17.4	17.4
15	21708.0	44.1	44.8	40.9	36.6	19.6	0.0	58.5	59.2	74.0	15.5	14.8
16	24120.0	44.1	44.1	40.3	36.5	20.9	0.0	59.3	59.3	74.0	14.7	14.7

#### AV DETECT

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1051.0	29.8	34.7	23.3	37.6	4.7	0.0	20.2	25.1	54.0	33.8	28.9
2	1131.9	41.8	45.2	23.1	37.7	4.6	0.0	31.8	35.2	54.0	22.2	18.8
3	2312.0	46.0	44.6	30.7	36.9	6.3	0.0	46.1	44.7	54.0	7.9	9.3
4	2360.0	36.2	35.8	30.7	36.9	6.3	0.0	36.3	35.9	54.0	17.7	18.1
5	2390.0	38.8	37.9	30.7	36.9	6.3	0.0	38.9	38.0	54.0	15.1	16.1
6	2400.0	51.2	49.5	30.7	36.9	6.4	0.0	51.4	49.7	62.8	11.4	13.1
7	4824.0	29.5	29.5	35.2	36.8	8.8	0.7	37.4	37.4	54.0	16.6	16.6
8	6432.0	37.1	40.6	38.1	36.6	10.3	0.0	48.9	52.4	54.0	5.1	1.6
9	7236.0	30.2	30.2	37.7	36.5	10.7	0.2	42.3	42.3	54.0	11.7	11.7
10	9648.0	31.4	33.7	37.3	37.2	12.7	0.3	44.5	46.8	54.0	9.5	7.2
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
11	12060.0	30.8	30.8	40.7	36.8	14.6	0.5	40.3	40.3	54.0	13.7	13.8
12	14472.0	30.1	30.1	42.9	35.4	16.3	0.4	44.8	44.8	54.0	9.2	9.2
13	16884.0	30.0	30.0	45.3	36.4	17.6	0.0	47.0	47.0	54.0	7.0	7.0
14	19296.0	29.3	29.4	40.9	35.9	18.9	0.0	43.7	43.8	54.0	10.3	10.2
15	21708.0	31.2	31.2	40.9	36.6	19.6	0.0	45.6	45.6	54.0	8.4	8.4
16	24120.0	31.0	31.0	40.3	36.5	20.9	0.0	46.2	46.2	54.0	7.8	7.8

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

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

\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

\*The limit values at frequencies excepting restricted bands indicated in 15.205 are values 20dB below lower

UL Apex Co., Ltd.

Head Office EMC Lab.

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### Out of Band Emission : Radiated Emission

UL Apex Co., Ltd.

Head Office EMC Lab. No.1/2 Semi Anechoic Chambe

Company : Sony Corp.  
Equipment : Notebook Personal Computer  
Model : PCG-4A1L  
Sample No. : 1200009  
Power : AC120V/60Hz  
Mode : Transmitting (IEEE 802.11g) , Main Antenna  
: Continuous Tx mode, OFDM, 64QAM, 54Mbps  
: CH6: 2437MHz  
FCC ID : AK8PCG4A1L  
IC No. : 409B-PCG4A1L

REPORT NO : 24DE0026-HO  
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)  
TEST DISTANCE: 3/1m  
DATE : Nov 18,19,20/2003  
TEMPERATURE : 25/21/23deg.C  
HUMIDITY : 30/49/62%  
ENGINEER : Hiroka Umeyama

#### PK DETECT

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.7	64.6	67.2	23.0	37.7	4.6	0.0	54.5	57.1	74.0	19.5	16.9
2	2336.0	61.6	58.3	30.7	36.9	6.3	0.0	61.7	58.4	74.0	12.3	15.6
3	2538.7	57.1	52.2	31.0	37.0	6.5	0.0	57.6	52.7	74.0	16.4	21.3
4	4874.0	42.8	42.9	35.5	36.8	8.8	0.7	51.0	51.1	74.0	23.0	22.9
5	6498.6	45.0	46.6	38.4	36.6	10.4	0.0	57.2	58.8	74.0	16.8	15.2
6	7311.0	43.8	43.2	37.7	36.6	10.8	0.3	56.0	55.4	74.0	18.0	18.6
7	9748.0	44.9	46.0	37.0	37.2	12.8	0.3	57.8	58.9	74.0	16.2	15.1
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
8	12185.0	44.1	43.1	41.1	36.7	14.7	0.4	54.1	53.1	74.0	19.9	20.9
9	14622.0	42.9	43.5	43.1	35.5	16.4	0.4	57.8	58.4	74.0	16.2	15.6
10	17059.0	42.8	42.7	45.5	36.2	17.8	0.0	60.4	60.2	74.0	13.6	13.8
11	19496.0	42.3	42.7	40.6	36.0	19.0	0.0	56.4	56.8	74.0	17.7	17.2
12	21933.0	45.8	45.3	40.9	36.0	19.6	0.0	60.8	60.3	74.0	13.3	13.7
13	24370.0	43.6	44.0	40.4	36.9	21.0	0.0	58.6	59.0	74.0	15.4	15.0

#### AV DETECT

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.7	43.0	45.2	23.0	37.7	4.6	0.0	32.9	35.1	54.0	21.1	18.9
2	2336.0	47.3	44.2	30.7	36.9	6.3	0.0	47.4	44.3	54.0	6.6	9.8
3	2538.7	41.9	37.7	31.0	37.0	6.5	0.0	42.4	38.2	54.0	11.6	15.8
4	4874.0	29.2	29.2	35.5	36.8	8.8	0.7	37.4	37.4	54.0	16.6	16.6
5	6498.6	36.9	39.8	38.4	36.6	10.4	0.0	49.1	52.0	54.0	4.9	2.0
6	7311.0	30.2	30.2	37.7	36.6	10.8	0.3	42.4	42.4	54.0	11.6	11.6
7	9748.0	33.4	34.9	37.0	37.2	12.8	0.3	46.3	47.8	54.0	7.7	6.2
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
8	12185.0	30.5	30.5	41.1	36.7	14.7	0.4	40.5	40.5	54.0	13.5	13.5
9	14622.0	30.5	30.5	43.1	35.5	16.4	0.4	45.4	45.4	54.0	8.7	8.7
10	17059.0	29.7	29.7	45.5	36.2	17.8	0.0	47.3	47.3	54.0	6.7	6.7
11	19496.0	29.5	29.5	40.6	36.0	19.0	0.0	43.6	43.6	54.0	10.4	10.4
12	21933.0	32.7	32.6	40.9	36.0	19.6	0.0	47.7	47.6	54.0	6.4	6.4
13	24370.0	30.5	30.5	40.4	36.9	21.0	0.0	45.5	45.5	54.0	8.5	8.5

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

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

\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

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### Out of Band Emission : Radiated Emission

Company : Sony Corp.  
Equipment : Notebook Personal Computer  
Model : PCG-4AIL  
Sample No. : 1200009  
Power : AC120V/60Hz  
Mode : Transmitting (IEEE 802.11g) , Main Antenna  
: Continuous Tx mode, OFDM, 64QAM, 54Mbps  
: CH11: 2462MHz

UL Apex Co., Ltd.  
Head Office EMC Lab. No.1/2 Semi Anechoic Chamber  
REPORT NO : 24DE0026-HO  
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)  
TEST DISTANCE : 3/1m  
DATE : Nov 18,19,20/2003  
TEMPERATURE : 25/21/23deg.C  
HUMIDITY : 30/49/62%  
ENGINEER : Hiroka Umeyama  
FCC ID : AK8PCG4AIL

#### PK DETECT

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.7	48.2	53.1	23.0	37.7	4.6	0.0	38.1	43.0	74.0	36.0	31.1
2	2288.0	53.9	51.4	30.7	36.9	6.2	0.0	53.9	51.5	74.0	20.1	22.5
3	2358.7	54.4	52.5	30.7	36.9	6.3	0.0	54.5	52.6	74.0	19.5	21.4
4	2483.5	71.0	62.9	30.7	36.9	6.4	0.0	71.2	63.1	74.0	2.8	11.0
5	2565.3	53.6	50.4	31.0	37.0	6.5	0.0	54.1	50.9	74.0	19.9	23.1
6	2600.0	54.9	50.2	31.1	37.0	6.6	0.0	55.6	50.9	74.0	18.4	23.1
7	4924.0	42.2	42.3	35.8	36.8	8.9	0.8	50.9	51.0	74.0	23.2	23.1
8	6565.3	44.8	47.2	38.3	36.6	10.4	0.0	56.9	59.3	74.0	17.1	14.7
9	7386.0	43.2	43.6	37.9	36.6	10.8	0.3	55.6	56.0	74.0	18.4	18.0
10	9848.0	45.3	45.5	36.7	37.3	12.9	0.3	57.9	58.1	74.0	16.1	15.9
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
11	12310.0	43.5	43.3	41.5	36.6	14.7	0.3	53.9	53.7	74.0	20.1	20.3
12	14772.0	43.0	43.1	43.2	35.6	16.6	0.4	58.1	58.2	74.0	15.9	15.8
13	17234.0	42.3	42.8	45.5	36.2	17.9	0.0	60.0	60.5	74.0	14.0	13.5
14	19696.0	43.1	42.4	40.8	36.0	19.0	0.0	57.4	56.7	74.0	16.6	17.3
15	22158.0	44.2	45.8	40.8	35.7	19.7	0.0	59.5	61.1	74.0	14.5	13.0
16	24620.0	44.9	44.2	40.5	36.9	21.1	0.0	60.1	59.4	74.0	13.9	14.6

#### AV DETECT

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1131.7	33.9	39.5	23.0	37.7	4.6	0.0	23.8	29.4	54.0	30.2	24.6
2	2288.0	41.1	38.9	30.7	36.9	6.2	0.0	41.2	38.9	54.0	12.9	15.1
3	2358.7	41.3	39.4	30.7	36.9	6.3	0.0	41.4	39.5	54.0	12.6	14.5
4	2483.5	43.5	38.1	30.7	36.9	6.4	0.0	43.7	38.3	54.0	10.3	15.8
5	2565.3	37.3	34.7	31.0	37.0	6.5	0.0	37.8	35.2	54.0	16.2	18.8
6	2600.0	38.6	35.5	31.1	37.0	6.6	0.0	39.3	36.2	54.0	14.7	17.8
7	4924.0	29.3	29.3	35.8	36.8	8.9	0.8	38.0	38.0	54.0	16.0	16.0
8	6565.3	35.8	38.7	38.3	36.6	10.4	0.0	47.9	50.8	54.0	6.1	3.2
9	7386.0	30.4	30.4	37.9	36.6	10.8	0.3	42.8	42.8	54.0	11.2	11.2
10	9848.0	33.8	34.3	36.7	37.3	12.9	0.3	46.4	46.9	54.0	7.7	7.1
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
11	12310.0	30.4	30.5	41.5	36.6	14.7	0.3	40.8	40.9	54.0	13.2	13.2
12	14772.0	30.1	30.1	43.2	35.6	16.6	0.4	45.2	45.2	54.0	8.8	8.8
13	17234.0	29.5	29.6	45.5	36.2	17.9	0.0	47.2	47.3	54.0	6.8	6.7
14	19696.0	29.6	29.7	40.8	36.0	19.0	0.0	43.9	44.0	54.0	10.1	10.0
15	22158.0	31.1	31.2	40.8	35.7	19.7	0.0	46.4	46.5	54.0	7.6	7.6
16	24620.0	31.1	31.1	40.5	36.9	21.1	0.0	46.3	46.3	54.0	7.7	7.7

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

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

\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

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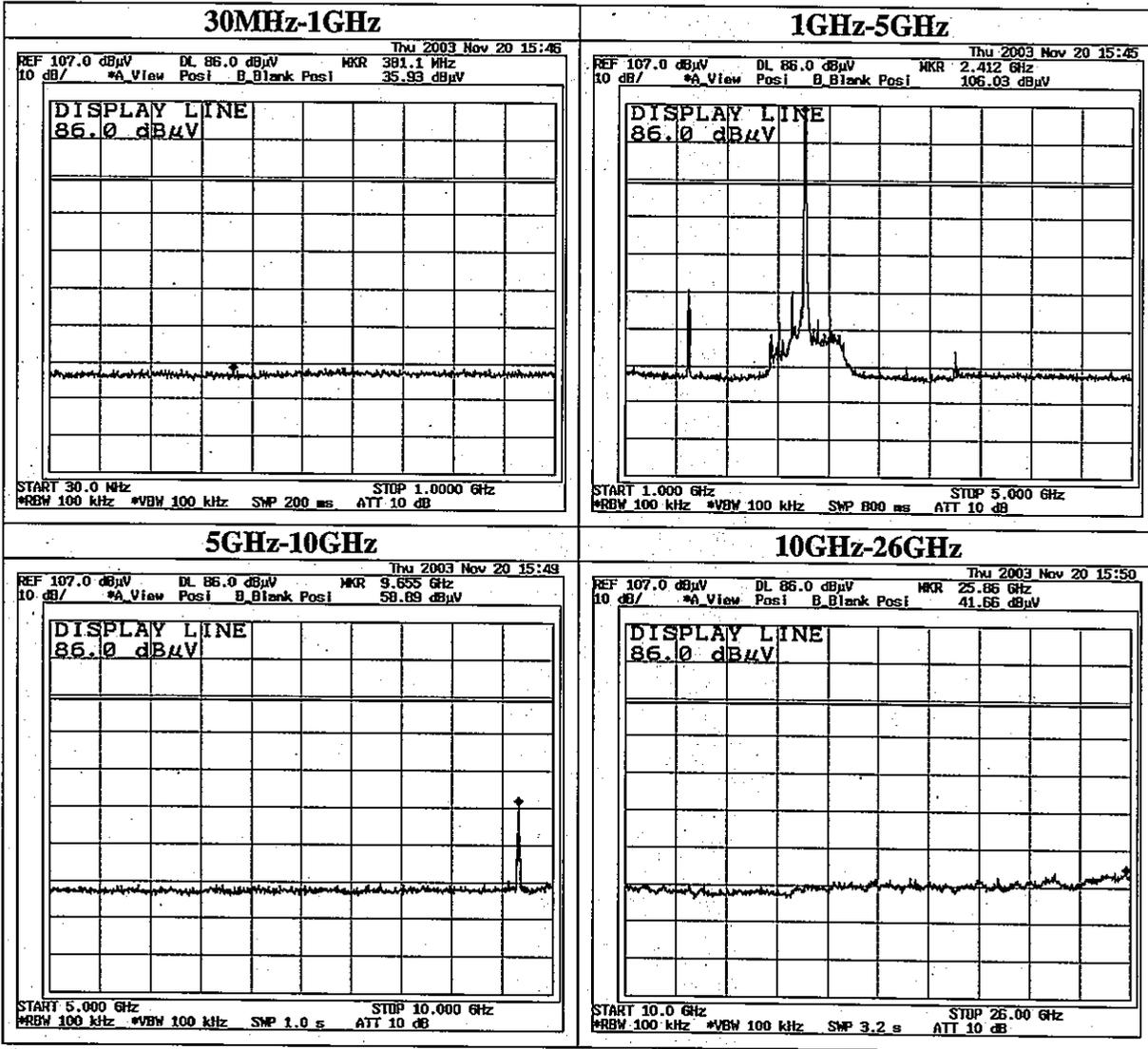
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**Out of Band Emission : Conducted**

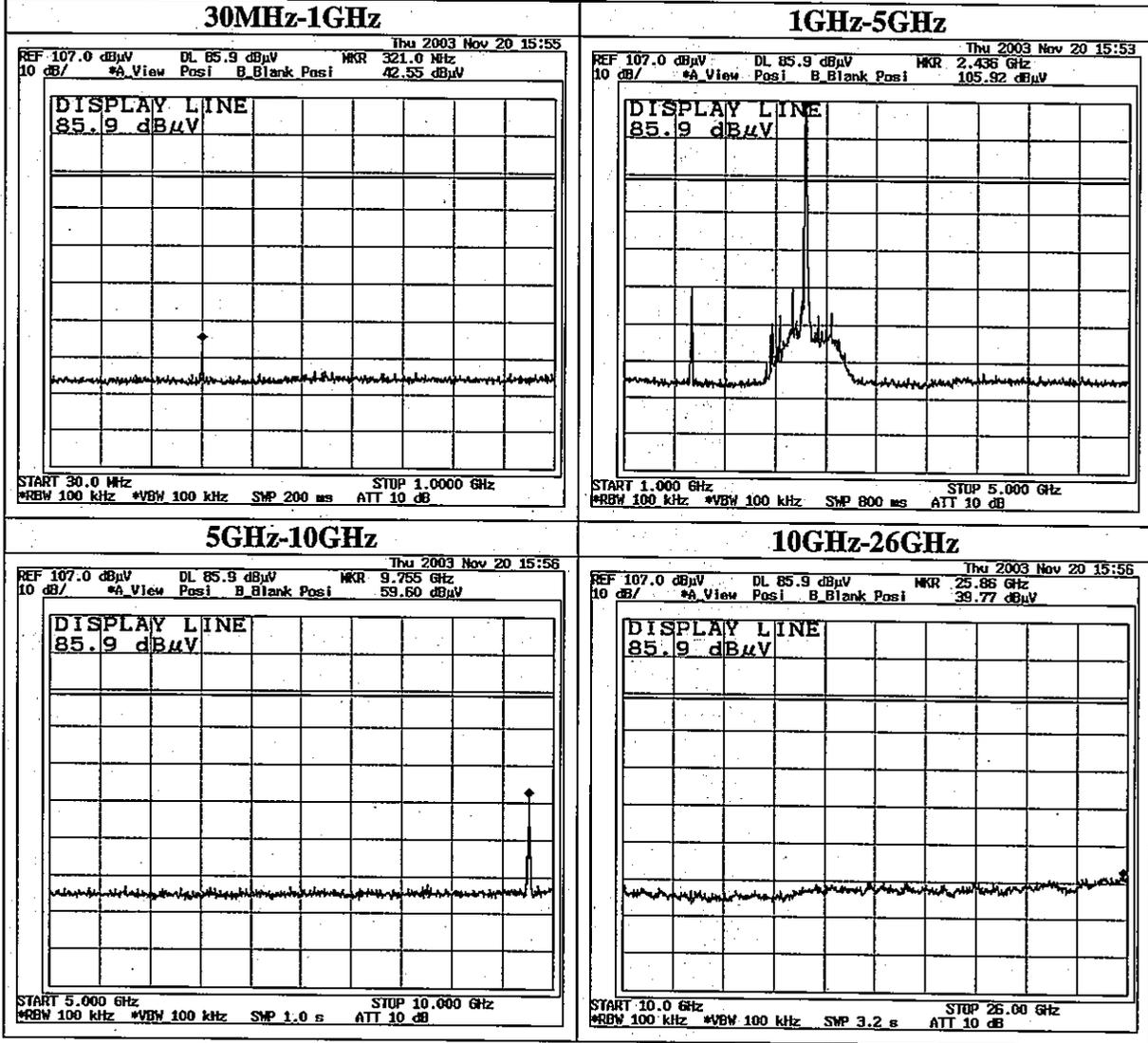
Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps  
 Ch1 : 2412MHz



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**Out of Band Emission : Conducted**

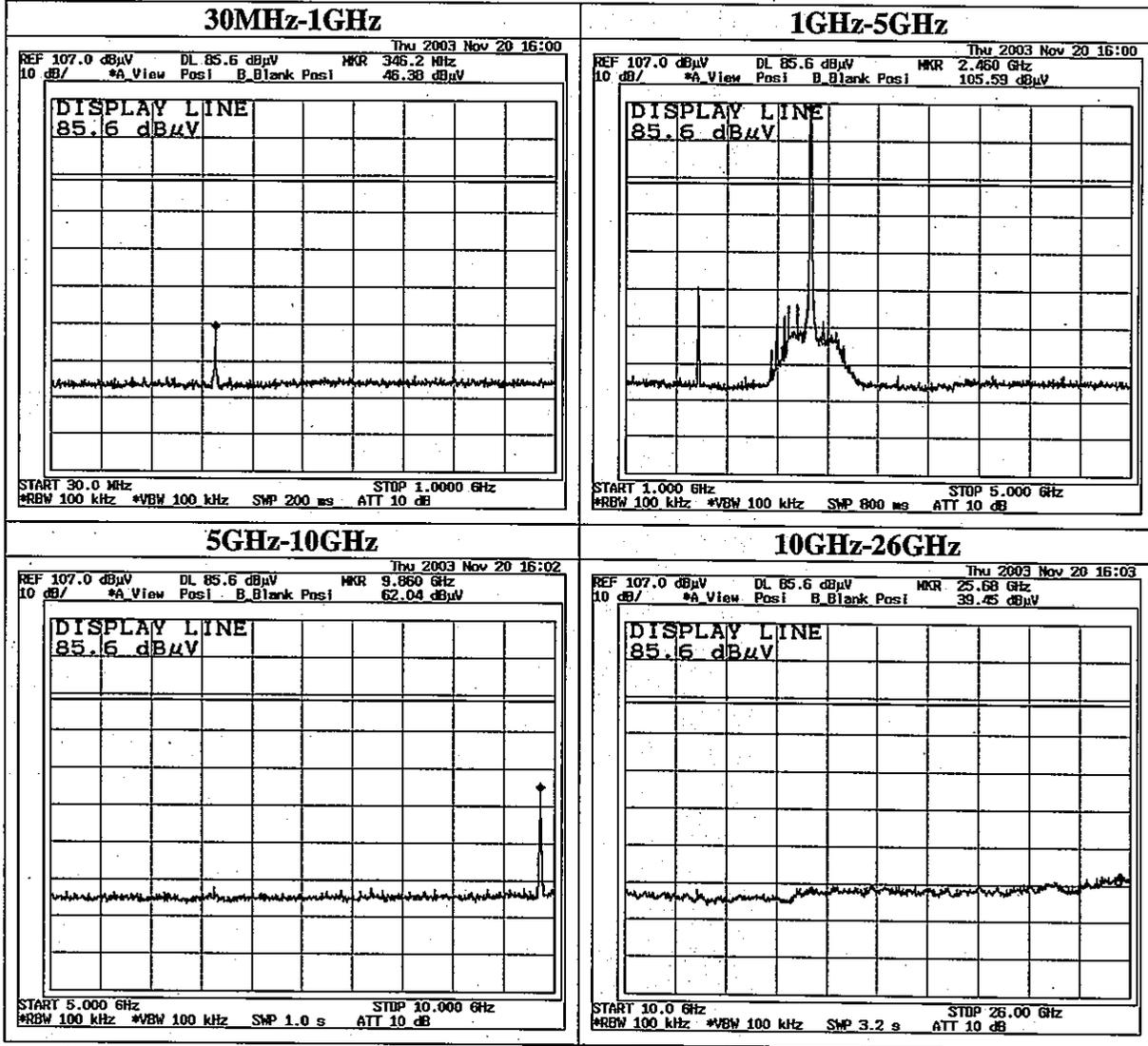
Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps  
 Ch6 : 2437MHz



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**Out of Band Emission : Conducted**

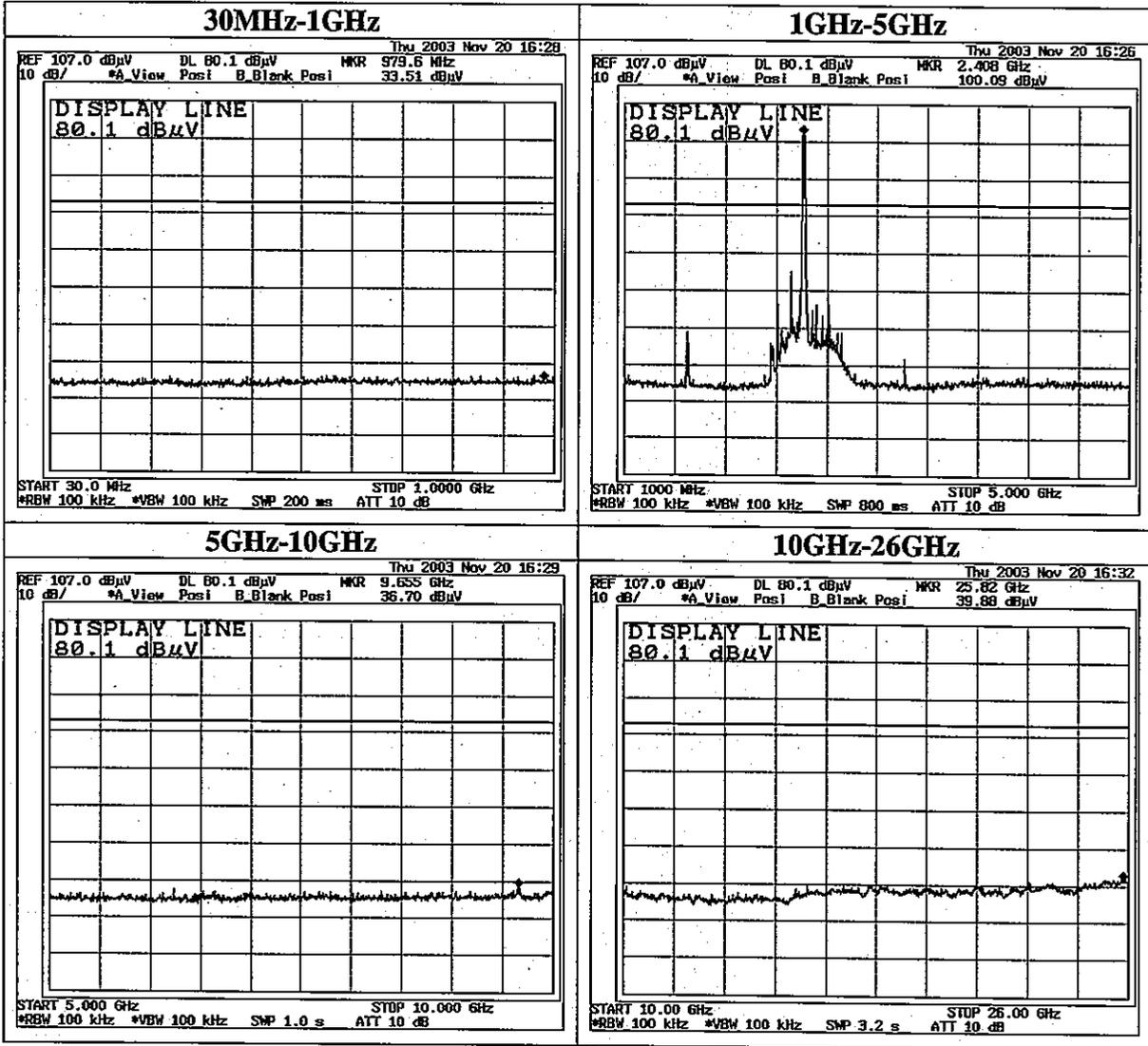
Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps  
 Ch11 : 2462MHz



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**Out of Band Emission : Conducted**

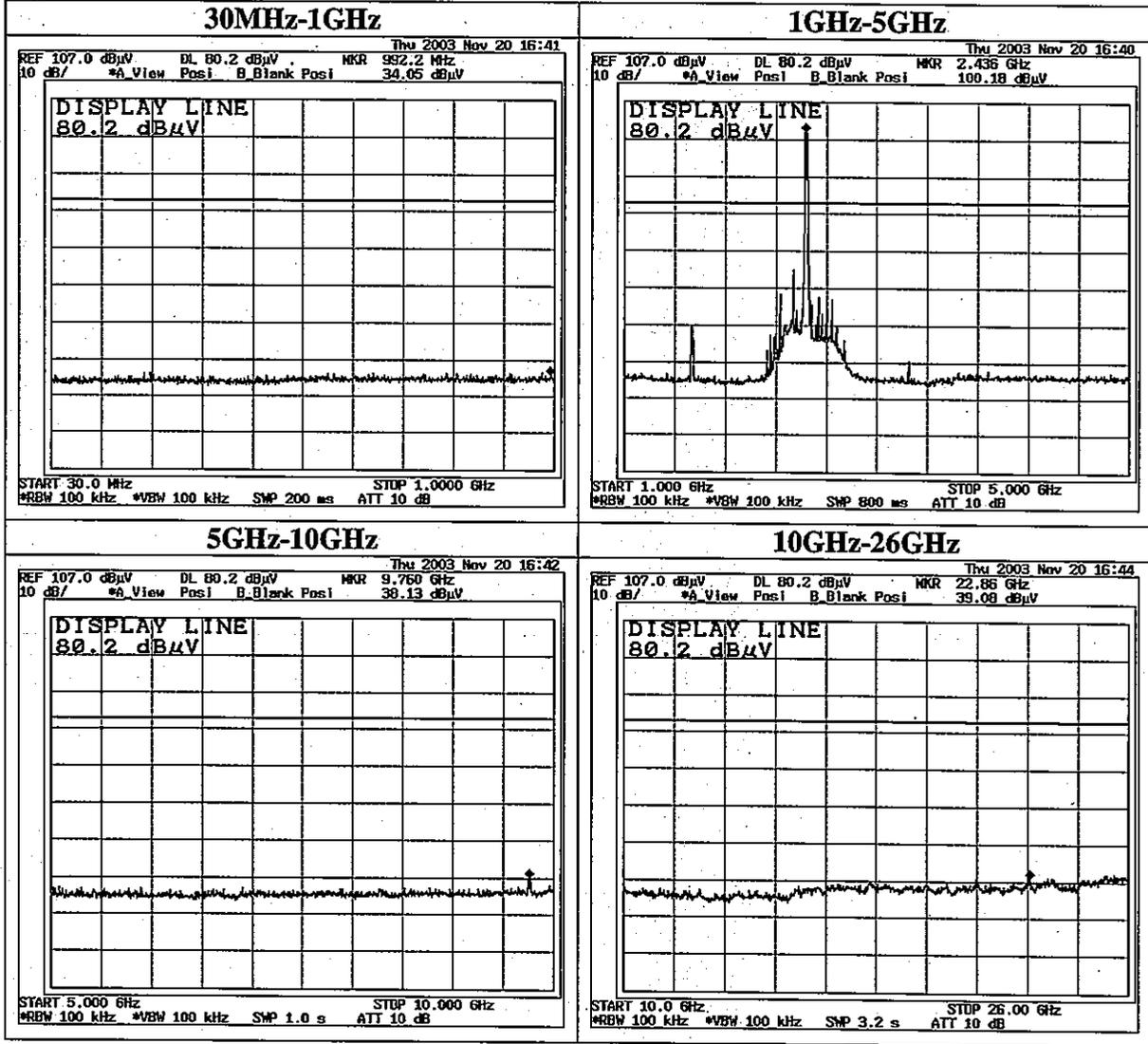
Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps  
 Ch1 : 2412MHz



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**Out of Band Emission : Conducted**

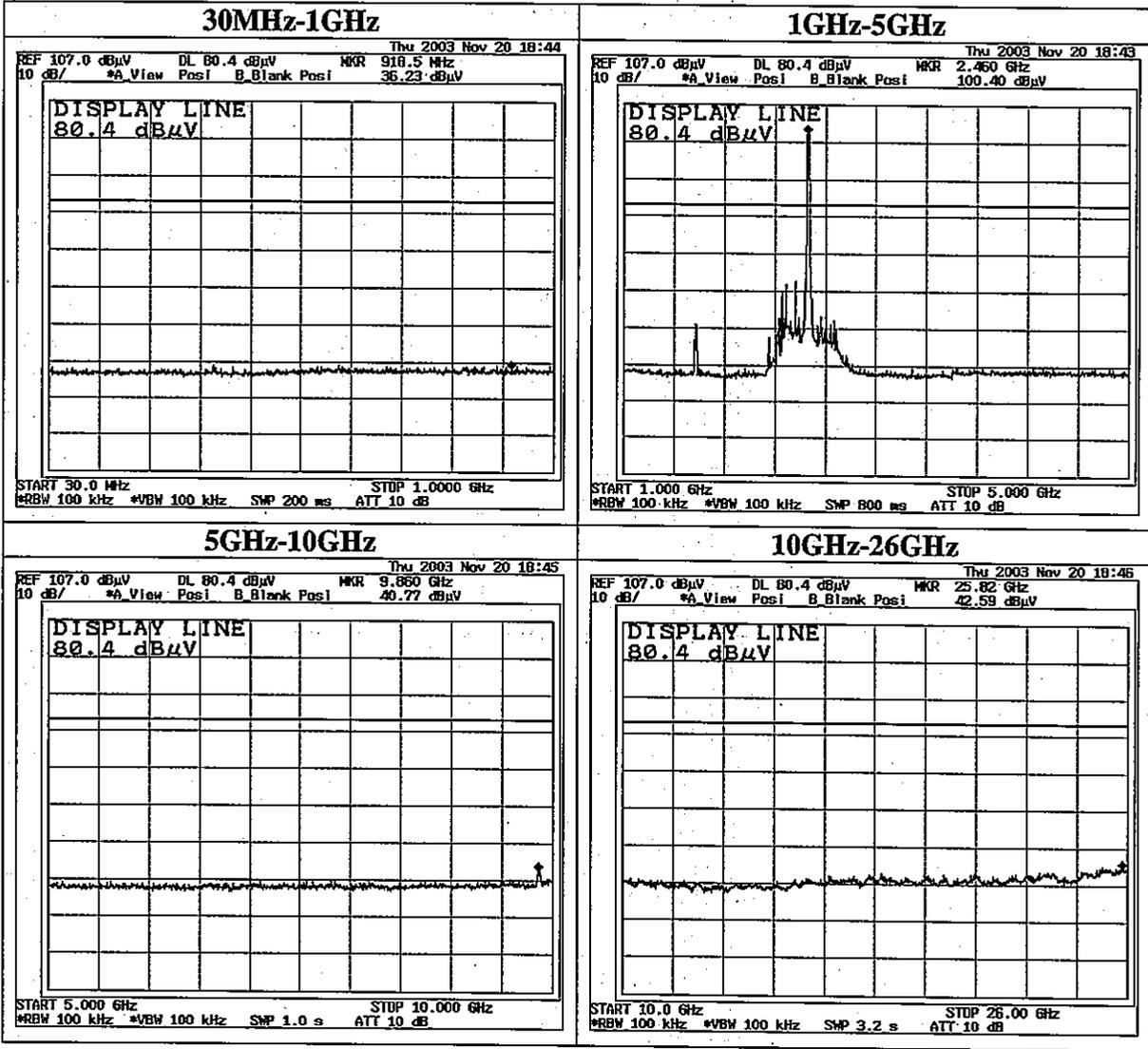
Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps  
Ch6 : 2437MHz



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**Out of Band Emission : Conducted**

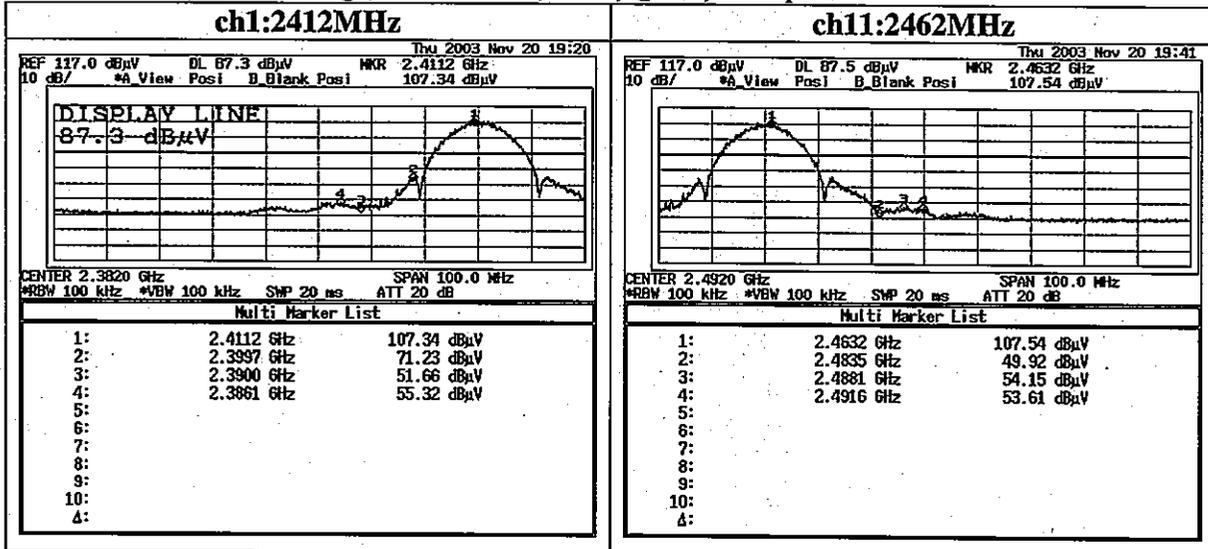
Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps  
 Ch11 : 2462MHz



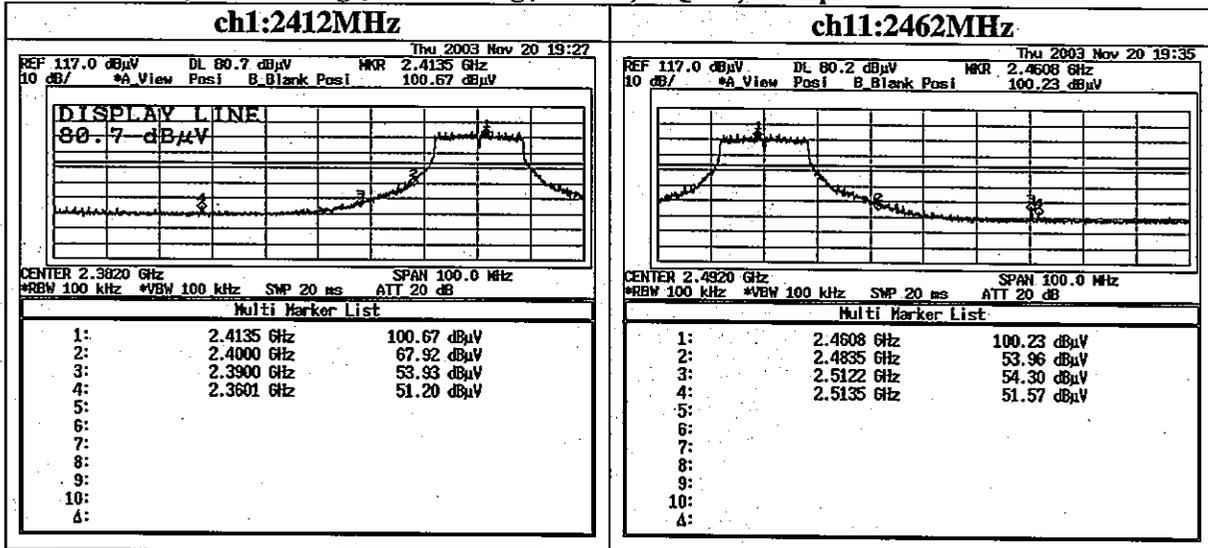
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**Out of Band Emission : Restricted Band Edges (Conducted)**

Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps



Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps



**Power Density (Conducted)**

UL Apex Co., Ltd.  
Head Office EMC Lab. No.3 Measurement Room

Company : Sony Corporation	REPORT NO : 24DE0026-HO
Equipment : Notebook Personal Computer	REGULATION : Fcc Part15 Subpart C 15.247(a)(2)
Model : PCG-4A1L	TEST DISTANCE : -
Sample No. : 1200009	DATE : 11/20/2003
Power : AC120V/60Hz	TEMPERATURE : 21°C
Mode : Tx (ch1,6,11)	HUMIDITY : 61%
FCC ID : AK8PCG4A1L	ENGINEER : Hiroka Umeyama
IC No. : 409B-PCG4A1L	

**Main Antenna, Transmitting (IEEE 802.11b ) CCK, QPSK, 11Mbps**

ch	FREQ [MHz]	S/A Reading [dBm]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
ch1	2412.2	-14.91	3.4	10.0	-1.5	8.0	9.5
ch6	2436.4	-14.89	3.3	10.0	-1.6	8.0	9.6
ch11	2461.4	-15.88	3.4	10.0	-2.5	8.0	10.5

**Main Antenna, Transmitting (IEEE 802.11g ) OFDM, 64QAM, 54Mbps**

ch	FREQ [MHz]	S/A Reading [dBm]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
ch1	2412.7	-21.71	3.4	10.0	-8.3	8.0	16.3
ch6	2436.7	-21.72	3.3	10.0	-8.4	8.0	16.4
ch11	2462.3	-21.59	3.4	10.0	-8.2	8.0	16.2

**Sample Calculation:**

Result = Reading + Cable Loss + Attenuator

**UL Apex Co., Ltd.**

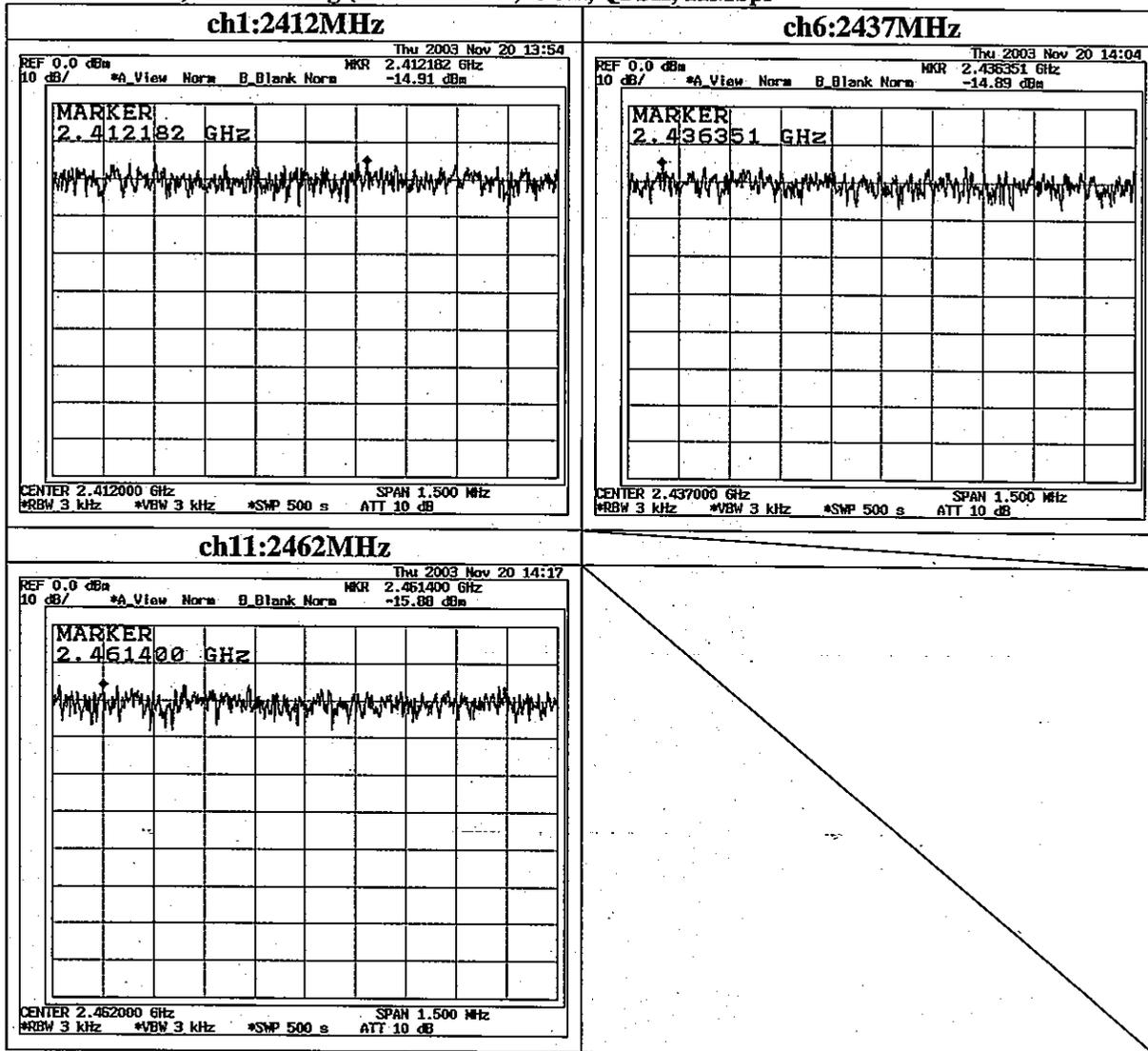
**Head Office EMC Lab.**

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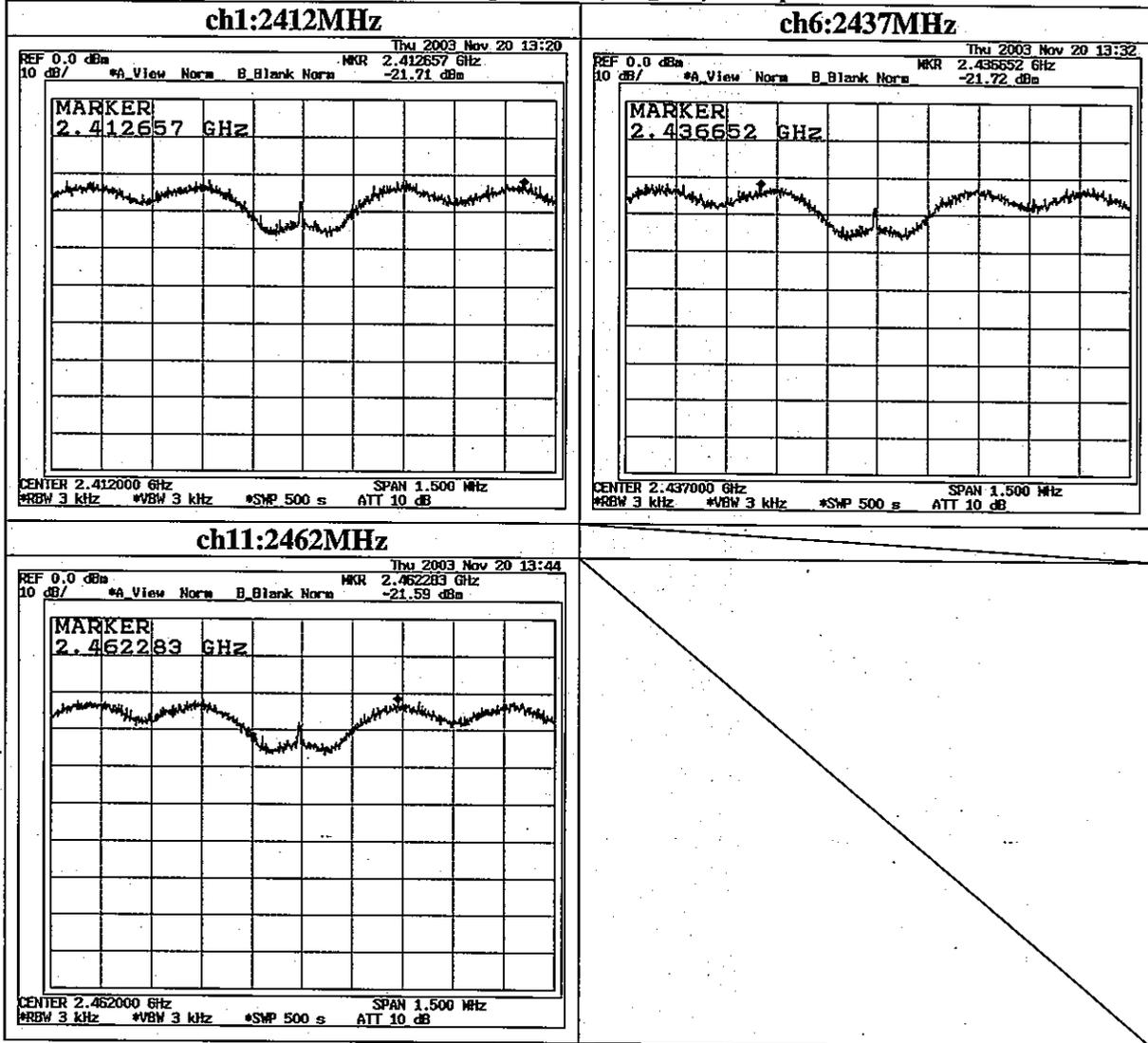
Facsimile : +81 596 24 8124

**Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps**



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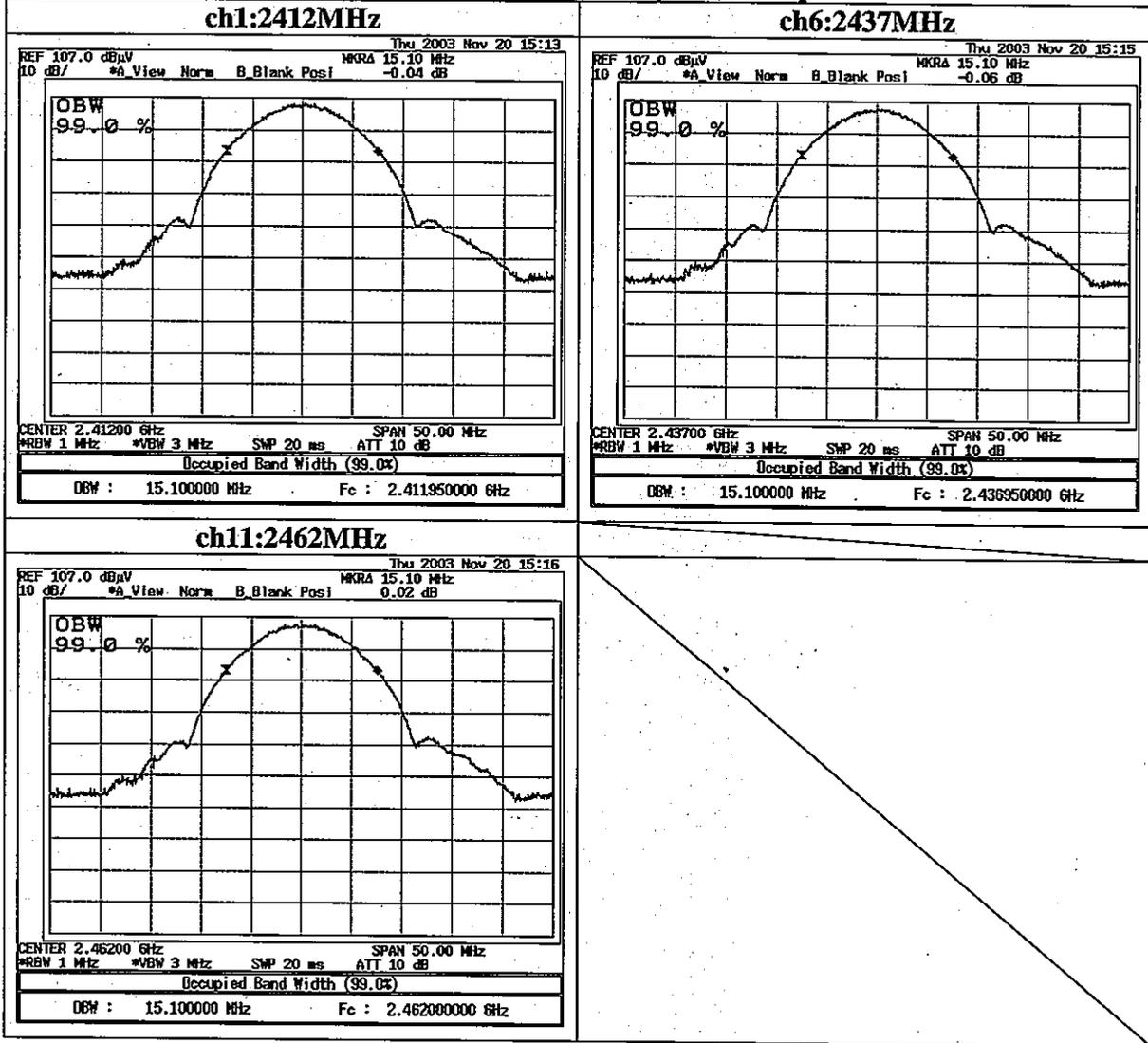
Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps



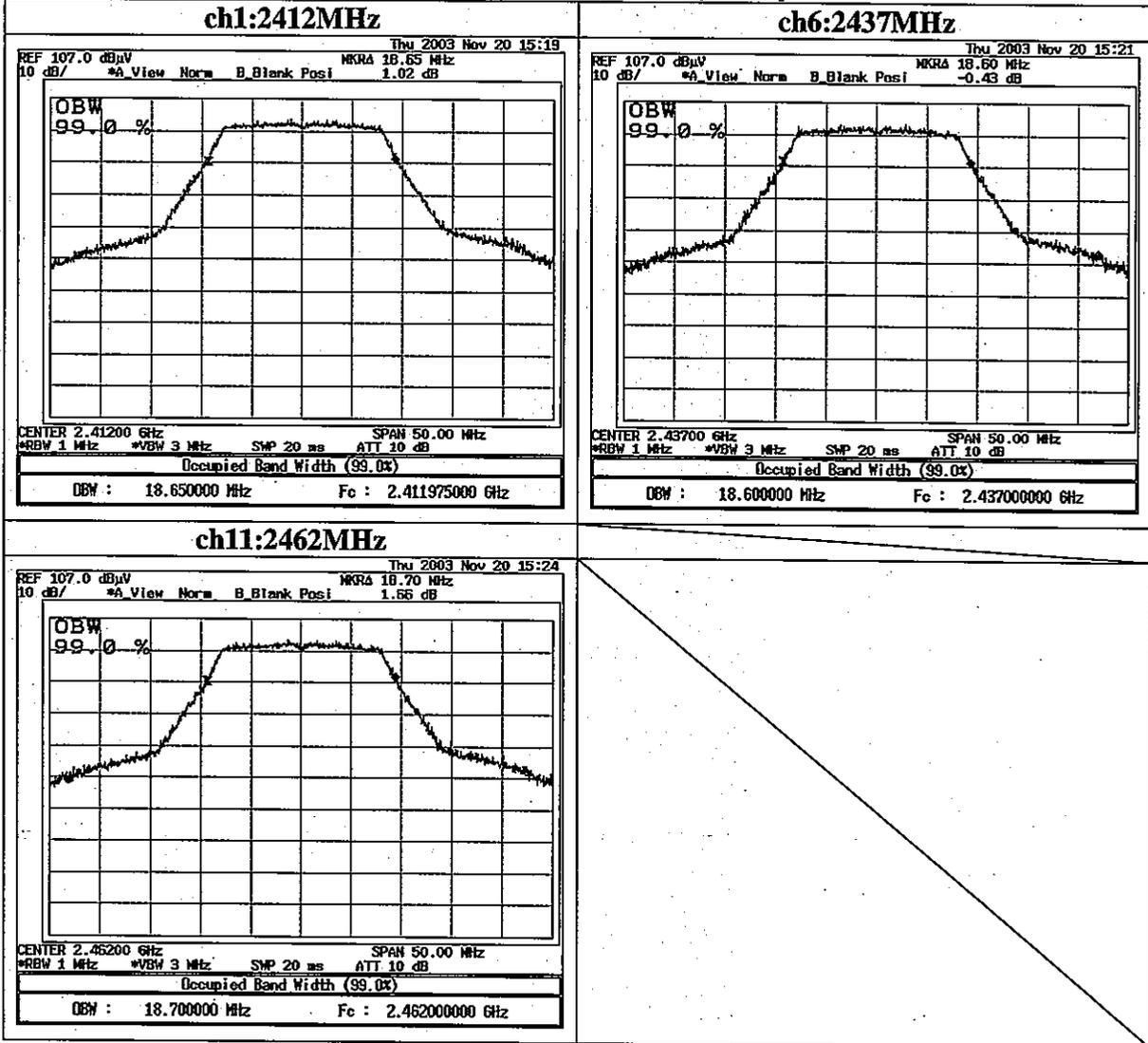
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**99% Occupied Bandwidth**

Main Antenna, Transmitting (IEEE 802.11b) CCK, QPSK, 11Mbps



Main Antenna, Transmitting (IEEE 802.11g) OFDM, 64QAM, 54Mbps



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