

ADDENDUM EMI TEST REPORT

Test Report No. : 24KE0201-HO-1A

Applicant : Sony Corporation
Type of Equipment : Personal Computer
Model No. : PCG-4C1L
Test standard : FCC Part 15 Subpart C
Section 15.207, Section 15.247 : 2004
FCC ID : AK8PCG4C1L
Test Result : Complied

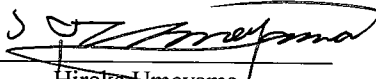
1. This test report shall not be reproduced in full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the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

Date of test:

July 16 ~ September 4, 2004

Tested by:


Kenichi Adachi
EMC Service


Hiroka Umeyama

Approved by :


Naoki Sakamoto
EMC Service

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

MF060b(10.04.03)

CONTENTS	PAGE
SECTION 1: Client information	3
SECTION 2: Equipment under test (E.U.T.).....	3
SECTION 3: Test specification, procedures & results	4
SECTION 4: Operation of E.U.T. during testing.....	6
SECTION 5: Conducted Emission, Section 15.207	7
SECTION 6: 6dB Bandwidth, Section 15.247(a)(2)	7
SECTION 7: Maximum Peak Output Power, Section 15.247(b)(3)	7
SECTION 8: Spurious Emission, Section 15.247 (c)	8
SECTION 9: Peak Power Density, Section 15.247 (d)	8
APPENDIX 1: Photographs of test setup	9
Conducted Emission.....	9
Spurious Emission (Radiated).....	10
Worst Case Position (X-axis:Horizontal / X-axis:Vertical)	11
APPENDIX 2: Test instruments	12
APPENDIX 3: Data of EMI test.....	13
Conducted Emission.....	13
6dB Bandwidth(DSSS and other forms of modulation)	19
Maximum Peak OutPut Power (DSSS and other forms of modulation).....	22
Spurious Emission (Radiated /11b, Tx2412MHz) below 1GHz	25
Spurious Emission (Radiated /11b, Tx2437MHz) below 1GHz	26
Spurious Emission (Radiated /11b, Tx2462MHz) below 1GHz	27
Spurious Emission (Radiated /11g, Tx2412MHz) below 1GHz	28
Spurious Emission (Radiated /11g, Tx2437MHz) below 1GHz	29
Spurious Emission (Radiated /11g, Tx2462MHz) below 1GHz	30
Spurious Emission (Radiated /11b, Tx2437MHz+Bluetooth Hopping ON) below 1GHz.....	31
Spurious Emission (Radiated /11g, Tx2437MHz+Bluetooth Hopping ON) below 1GHz	32
Spurious Emission (Radiated /11b, Tx2412MHz) above 1GHz	33
Spurious Emission (Radiated /11b, Tx2437MHz) above 1GHz	34
Spurious Emission (Radiated /11b, Tx2462MHz) above 1GHz	35
Spurious Emission (Radiated /11g, Tx2412MHz) above 1GHz	36
Spurious Emission (Radiated /11g, Tx2437MHz) above 1GHz	37
Spurious Emission (Radiated /11g, Tx2462MHz) above 1GHz	38
Spurious Emission (Radiated /11b, Tx2437MHz+Bluetooth Hopping ON) above 1GHz.....	39
Spurious Emission (Radiated /11g, Tx2437MHz + Bluetooth Hopping ON) above 1GHz	40
Spurious Emission (Radiated /11b/g +Bluetooth Hopping ON:Band Edge) above 1GHz.....	41
Conducted Spurious Emission(DSSS and other forms of modulation).....	42
Conducted emission Band Edge compliance (DSSS and other forms of modulation)	48
Power Density (DSSS and other forms of modulation)	49
99%Occupied Bandwidth(DSSS and other forms of modulation).....	52

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

MF060b(10.04.03)

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C : 2004

Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits : 2004
Section 15.247 Operation within the bands 902-928MHz,
2400-2483.5MHz, and 5725-5850MHz : 2004

3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	20.6dB 0.1975MHz, QP, N (IEEE802.11b, 2462MHz)	Complied
2	6dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(2)	Conducted	N/A	7.36MHz (IEEE802.11b, 2412MHz)	Complied
3	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(b)(3)	Conducted	N/A	8.02dB (IEEE802.11b, 2462MHz)	Complied
4	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (c)	Conducted/ Radiated	N/A	3.1dB 17059.0MHz Horizontal, AV (IEEE802.11g, 2437MHz)	Complied
5	Restricted Band Edges	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (c)	Conducted	N/A	N/A	Complied
6	Power Density	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d)	Conducted	N/A	15.3dB (IEEE802.11b, 2437MHz)	Complied

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

Uncertainty:

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 1.3\text{dB}$.

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.5\text{dB}(3\text{m})/\pm 4.7\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 5.2\text{dB}(3\text{m})/\pm 3.8\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 6.6\text{dB}$.

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

*These tests were performed without any deviations from test procedure except for additions or exclusions.

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

MF060b(10.04.03)

3.3 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

	Listed date (for FCC)	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	February 01, 2002	313583	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	June 05, 2002	846015	IC4247-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.4 measurement room	-	-	-	3.1 x 5.0 x 2.7m	N/A	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1 and No.2 semi-anechoic and No.3 shielded room.

3.4 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

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

4.1 Operating Modes

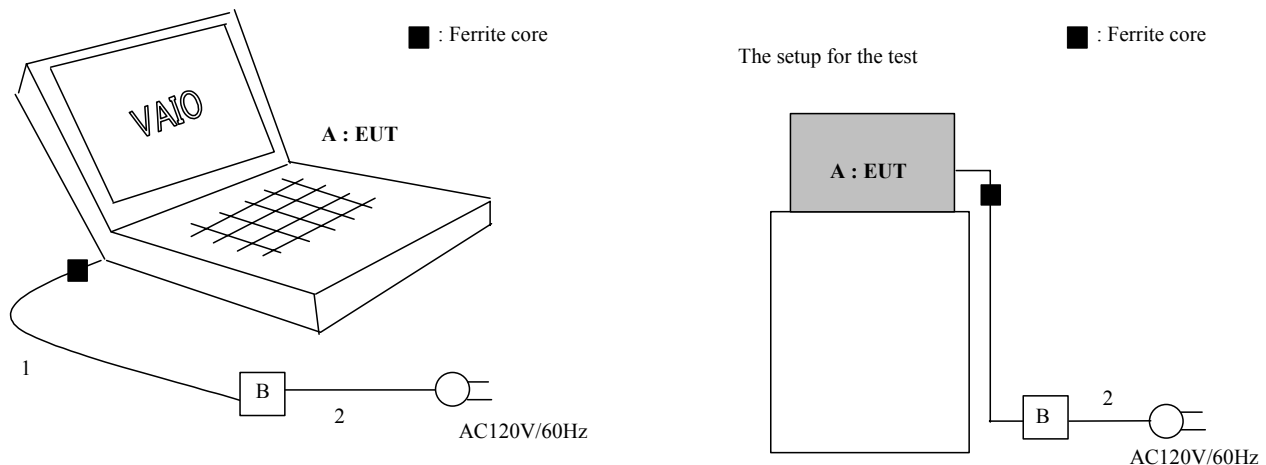
The mode is used : Transmitting mode
Low Channel : 2412MHz(Ch1)
Mid Channel : 2437MHz(Ch6)
High Channel : 2462MHz(Ch11)
The radio was transmitting at full power on the specified channels in the maximum and it allowed duty cycle and at a data rate of 11Mbps (11b)/54Mbps (11g).
Packet Type: Maximum, Payload: PN9

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

*The test was performed with the Main Antenna since main antenna are the same type and set up symmetrically with sub antenna.

*As for the Radiated Emission test, the test had been performed in the above mode + Bluetooth in the simultaneous transmitting mode.

4.2 Configuration and peripherals



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

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Personal Computer	PCG-4C1L	XTA019 *1) XTA084 *2)	SONY	AK8PCG4C1L
B	AC Adaptor	VGP-AC16V8	-	SONY	-

*1) for Spurious Emission (Radiated) and Conducted emission (AC) test

*2) for the other tests

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

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

MF060b(10.04.03)

SECTION 5: Conducted Emission, Section 15.207

Test Procedure and conditions

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 a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

1) For the tests on EUT with other peripherals (as a whole system)

I/O cable 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.

2) For the tests on EUT itself (as a stand alone equipment)

Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN /(AMN) to the input power source. All unused 50ohm connectors of the LISN(AMN) 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 in a Semi Anechoic Chamber or a Measurement Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

Detector	: 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 Spectrum Analyzer connected to the antenna port. The test was made with the spectrum analyzer that has a function of channel – power measurement.

Test data	:	APPENDIX 3
Test result	:	Pass

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

MF060b(10.04.03)

SECTION 8: Spurious Emission, Section 15.247 (c)

[Conducted]

Test Procedure

The Spurious Emission was measured with a spectrum analyzer connected to the antenna port.

[Radiated]

Test Procedure

EUT was placed on a platform of nominal size, 0.5m by 0.5m, raised 80cm above the conducting ground plane. The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz).

The height of the measuring varied between 1 and 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 with the Test Receiver or the Spectrum Analyzer.

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.

When not satisfying the requirement of Section 15.209, 20dBc was applied the restricted band of Section 15.205.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver / Spectrum Analyzer	Spectrum Analyzer
Detector	QP: BW 120kHz(T/R)	PK: RBW:1MHz/VBW: 1MHz
IF Bandwidth	20dBc : RBW: 100kHz VBW: 300kHz (S/A)	AV: RBW:1MHz/VBW:10Hz 20dBc : RBW:100kHz/VBW:300kHz

Test data : APPENDIX 3

Test result : Pass

- The carrier level (or, noise levels) was (or were) measured at each position of all three axes X, Y and Z, and the position that has the maximum noise was determined.

With the position, the noise levels of all the frequencies was measured.

SECTION 9: Peak Power Density, Section 15.247 (d)

[Conducted]

Test Procedure

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

The test was made with the spectrum analyzer that has a function of channel-power measurement.

Test data : APPENDIX 3

Test result : Pass

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

MF060b(10.04.03)

APPENDIX 1: Photographs of test setup

Conducted Emission **Front**



Rear



Spurious Emission (Radiated)

Front



Rear

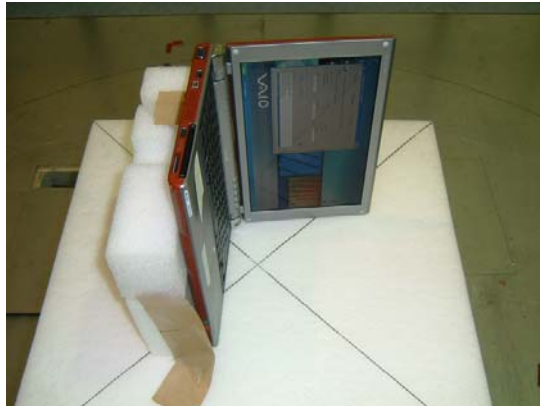


Worst Case Position (X-axis:Horizontal / X-axis:Vertical)

X-axis



Y-axis



Z-axis



APPENDIX 2:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE/CE	2004/04/12 * 12
MCC-04	Microwave Cable	Storm	421-011	RE	2004/01/06 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2004/02/06 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	RE	2003/09/19 * 12
MCC-24	Microwave Cable	Storm	-	RE	2004/05/01 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2004/01/10 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	RE/CE	2004/02/03 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2004/02/24 * 12
MPA-02	Pre Amplifier	Agilent	87405A	RE	2004/04/16 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2003/12/16 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2003/10/15 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2003/10/15 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	AT/RE/CE	2004/02/18 * 12
MAT-23	Attenuator (10dB)	Orient Microwave	BX10-0476-00	AT	2004/03/30 * 12
MBTR10	Spectrum Analyzer	Rohde & Schwarz	FSP30	AT	2003/11/12 * 12
MLS-07	LISN (AMN)	Schwarzbeck	NSLK8127	CE	2004/02/17 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	CE	2004/02/24 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2004/01/10 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2004/01/10 * 12

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

Test Item:

CE AC Main Conducted Emission

RE: Radiated Spurious Emission

AT Antenna Terminal Conducted Spurious Emission

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

MF060b(10.04.03)

APPENDIX 3: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/08/10 16:59:12

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019

Report No. : 24KE0201-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 28 / 58
Operator : Naoki Sakamoto

Mode / Remarks : IEEE802.11b Transmitting 2412MHz

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

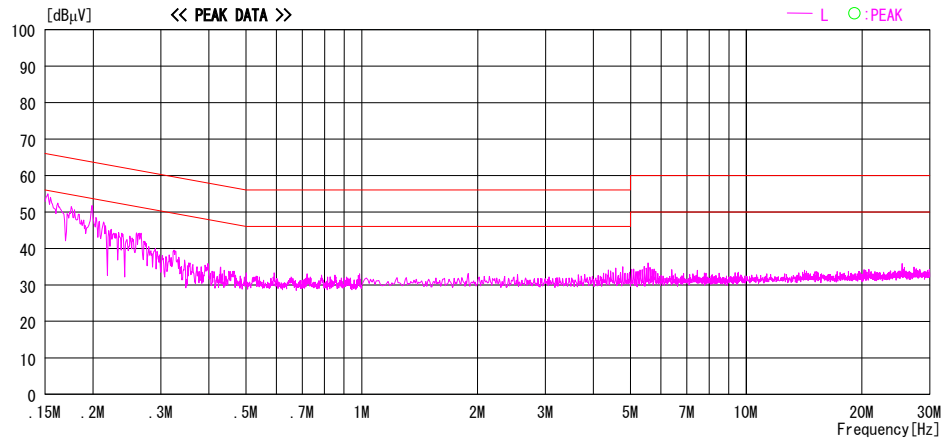
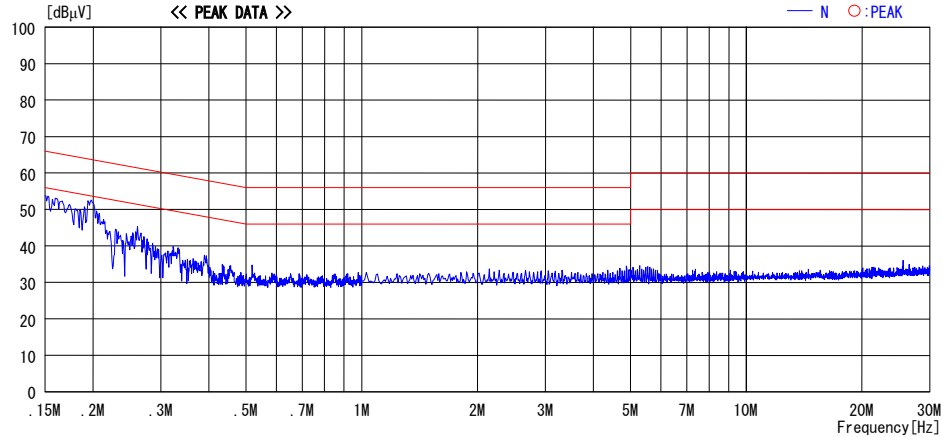


CHART:WITHOUT FACTOR. Peak hold data. Data is uncorrected.
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/08/10 17:03:00

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019

Report No. : 24KE0201-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 28 / 58
Operator : Naoki Sakamoto

Mode / Remarks: IEEE802.11b Transmitting 2437MHz

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

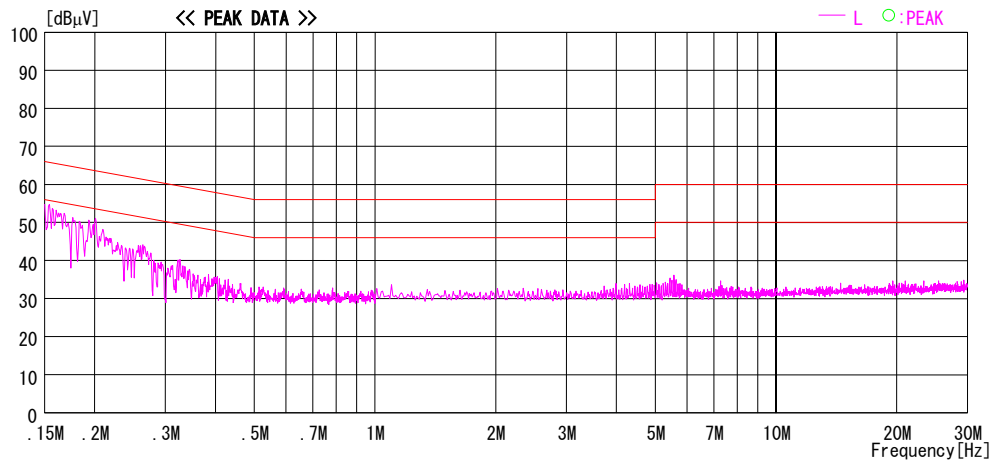
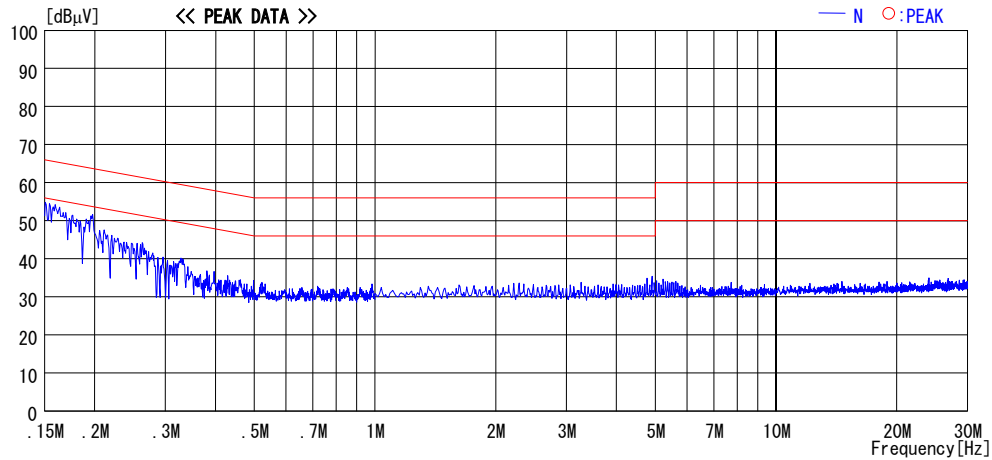


CHART:WITHOUT FACTOR,Peak hold data.Data is uncorrected.
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

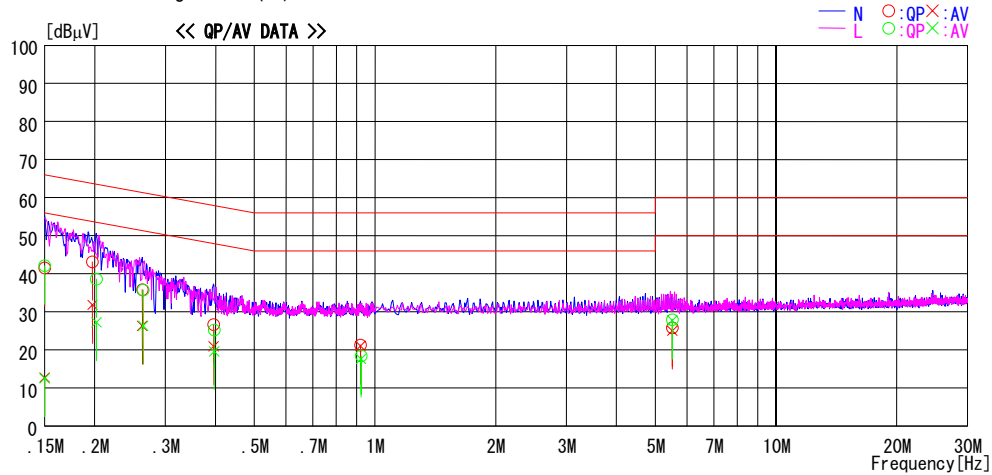
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/08/10 17:07:48

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019

Report No. : 24KE0201-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 28 / 58
Operator : Naoki Sakamoto

Mode / Remarks : IEEE802.11b Transmitting 2462MHz

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	41.3	12.5	0.2	41.5	12.7	66.0	56.0	24.5	43.3	N
2	0.1975	42.9	31.6	0.2	43.1	31.8	63.7	53.7	20.6	21.9	N
3	0.2630	35.6	26.1	0.2	35.8	26.3	61.3	51.3	25.5	25.0	N
4	0.3960	26.4	20.7	0.2	26.6	20.9	57.9	47.9	31.3	27.0	N
5	0.9200	21.0	20.7	0.3	21.3	21.0	56.0	46.0	34.7	25.0	N
6	5.5170	25.0	24.2	0.8	25.8	25.0	60.0	50.0	34.2	25.0	N
7	0.1500	41.9	12.3	0.2	42.1	12.5	66.0	56.0	23.9	43.5	L
8	0.2020	38.4	27.0	0.2	38.6	27.2	63.5	53.5	24.9	26.3	L
9	0.2643	35.5	26.1	0.2	35.7	26.3	61.3	51.3	25.6	25.0	L
10	0.3970	25.0	19.4	0.2	25.2	19.6	57.9	47.9	32.7	28.3	L
11	0.9223	18.1	17.3	0.3	18.4	17.6	56.0	46.0	37.6	28.4	L
12	5.5163	27.1	26.9	0.8	27.9	27.7	60.0	50.0	32.1	22.3	L

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

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/08/10 17:20:07

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019

Report No. : 24KE0201-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 28 / 58
Operator : Naoki Sakamoto

Mode / Remarks: IEEE802.11g Transmitting 2412MHz

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

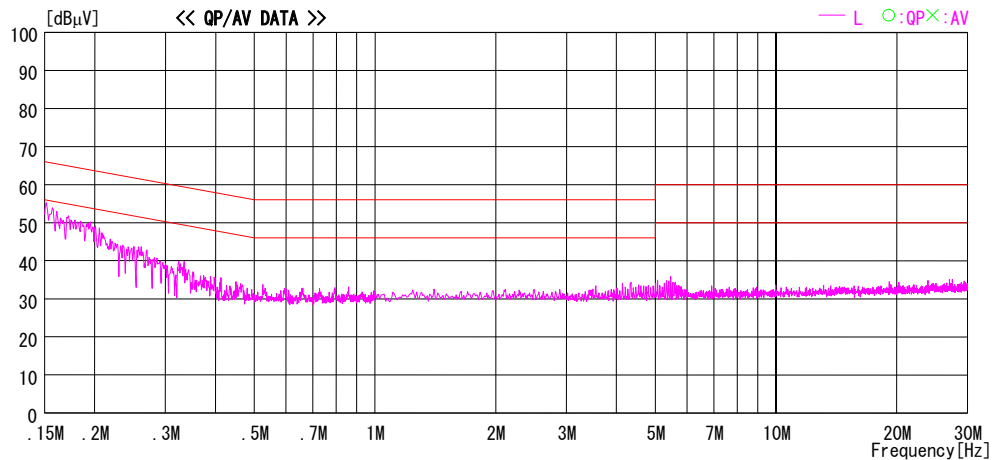
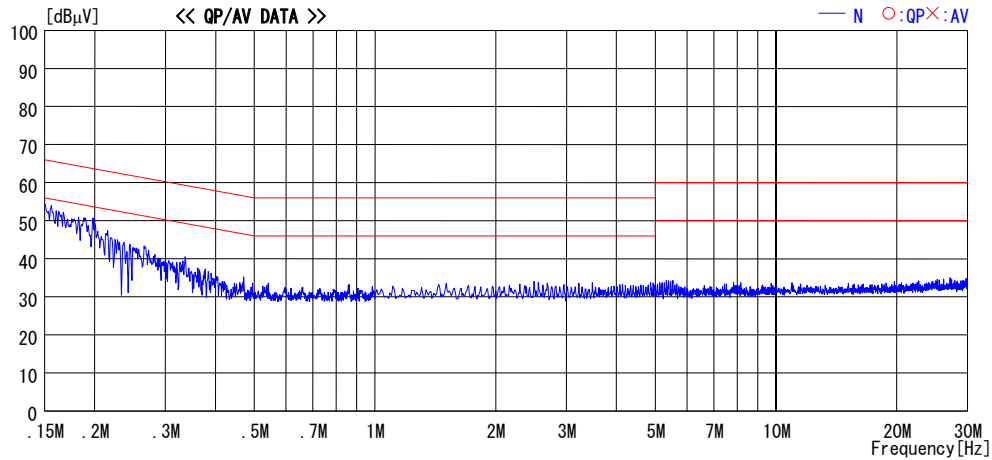


CHART:WITHOUT FACTOR,Peak hold data.Data is uncorrected.
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/08/10 17:23:16

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019

Report No. : 24KE0201-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 28 / 58
Operator : Naoki Sakamoto

Mode / Remarks: IEEE802.11g Transmitting 2437MHz

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

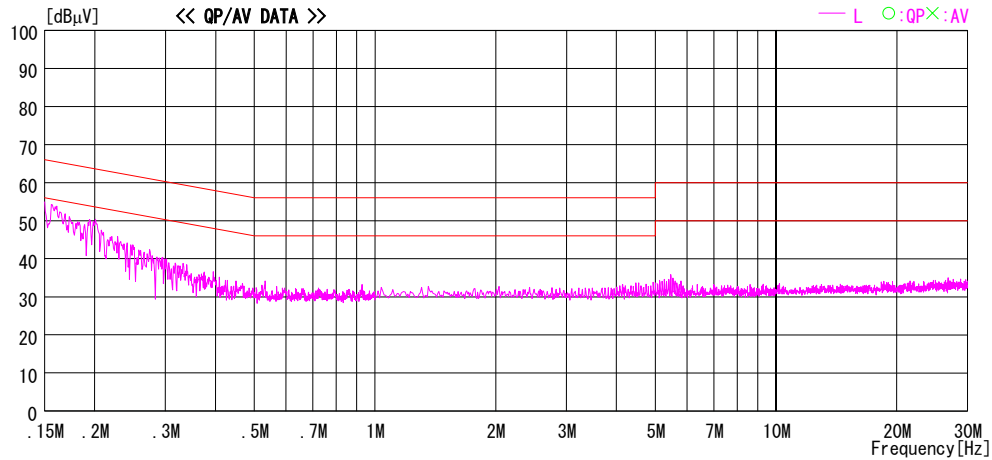
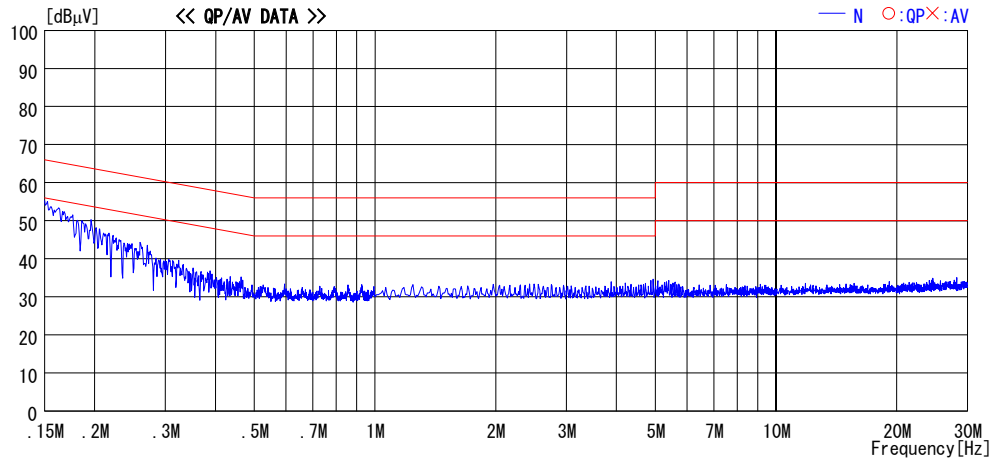


CHART:WITHOUT FACTOR,Peak hold data.Data is uncorrected.
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

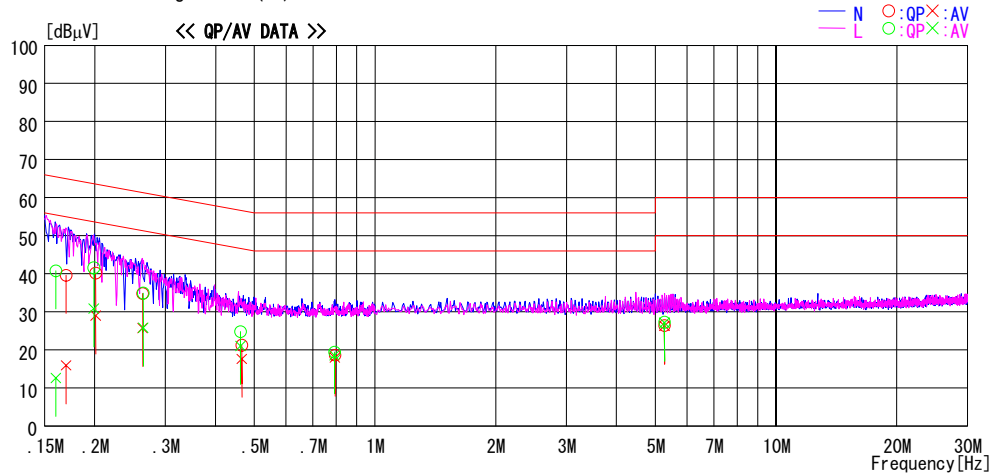
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/08/10 17:26:59

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019

Report No. : 24KE0201-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 28 / 58
Operator : Naoki Sakamoto

Mode / Remarks: IEEE802.11g Transmitting 2462MHz

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	0.1698	39.4	15.7	0.2	39.6	15.9	65.0	55.0	25.4	39.1	N
2	0.2010	40.0	28.8	0.2	40.2	29.0	63.6	53.6	23.4	24.6	N
3	0.2633	34.6	25.5	0.2	34.8	25.7	61.3	51.3	26.5	25.6	N
4	0.4656	21.0	17.4	0.2	21.2	17.6	56.6	46.6	35.4	29.0	N
5	0.7943	18.3	17.6	0.3	18.6	17.9	56.0	46.0	37.4	28.1	N
6	5.2725	25.7	25.6	0.7	26.4	26.3	60.0	50.0	33.6	23.7	N
7	0.1600	40.6	12.4	0.2	40.8	12.6	65.5	55.5	24.7	42.9	L
8	0.1990	41.4	30.6	0.2	41.6	30.8	63.7	53.7	22.1	22.9	L
9	0.2643	34.7	25.6	0.2	34.9	25.8	61.3	51.3	26.4	25.5	L
10	0.4618	24.6	20.8	0.2	24.8	21.0	56.7	46.7	31.9	25.7	L
11	0.7923	19.1	18.2	0.3	19.4	18.5	56.0	46.0	36.6	27.5	L
12	5.2720	26.6	26.4	0.7	27.3	27.1	60.0	50.0	32.7	22.9	L

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

6dB Bandwidth(DSSS and other forms of modulation)

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

Company	: Sony Corporation	REPORT NO	: 24KE0201-HO
Equipment	: Personal Computer	REGULATION	: Fcc Part15 Subpart C 15.247(a)(2)
Model	: PCG-4C1L	TEST DISTANCE	: -
Sample No.	: XTA084	DATE	: 07/28/2004
Power	: AC120V/60Hz	TEMPERATURE	: 25°C
Mode	: Tx(ch1,6,11)	HUMIDITY	: 53%
		ENGINEER	: Hiroka Umeyama

IEEE802.11b

Ch	Freq.	6dB Bandwidth	Limit
	[MHz]	[MHz]	[kHz]
Low	2412.0	7.360	500.0
Mid	2437.0	7.560	500.0
High	2462.0	8.160	500.0

IEEE802.11g

Ch	Freq.	6dB Bandwidth	Limit
	[MHz]	[MHz]	[kHz]
Low	2412.0	16.700	500.0
Mid	2437.0	16.550	500.0
High	2462.0	16.600	500.0

UL Apex Co., Ltd.

Head Office EMC Lab.

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

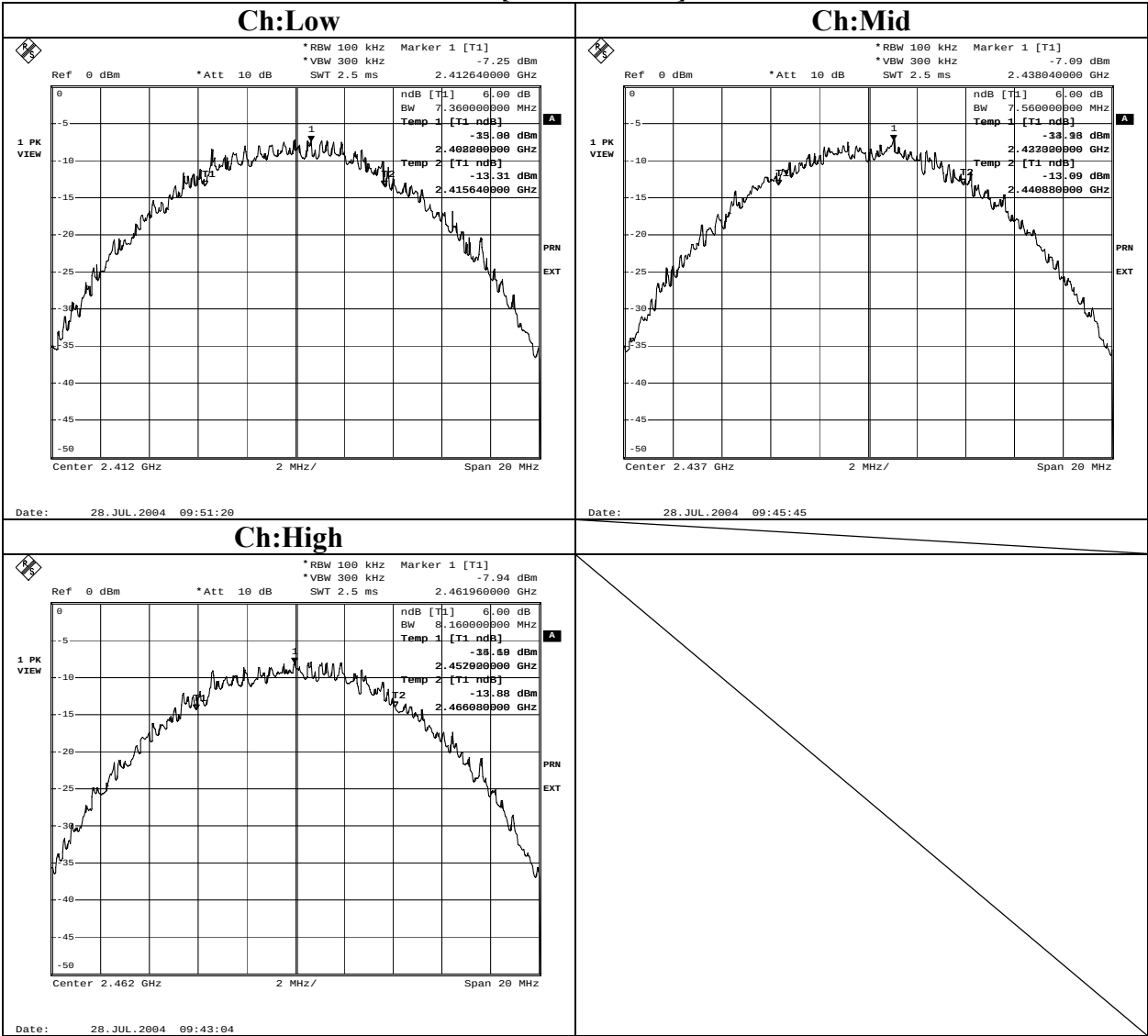
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

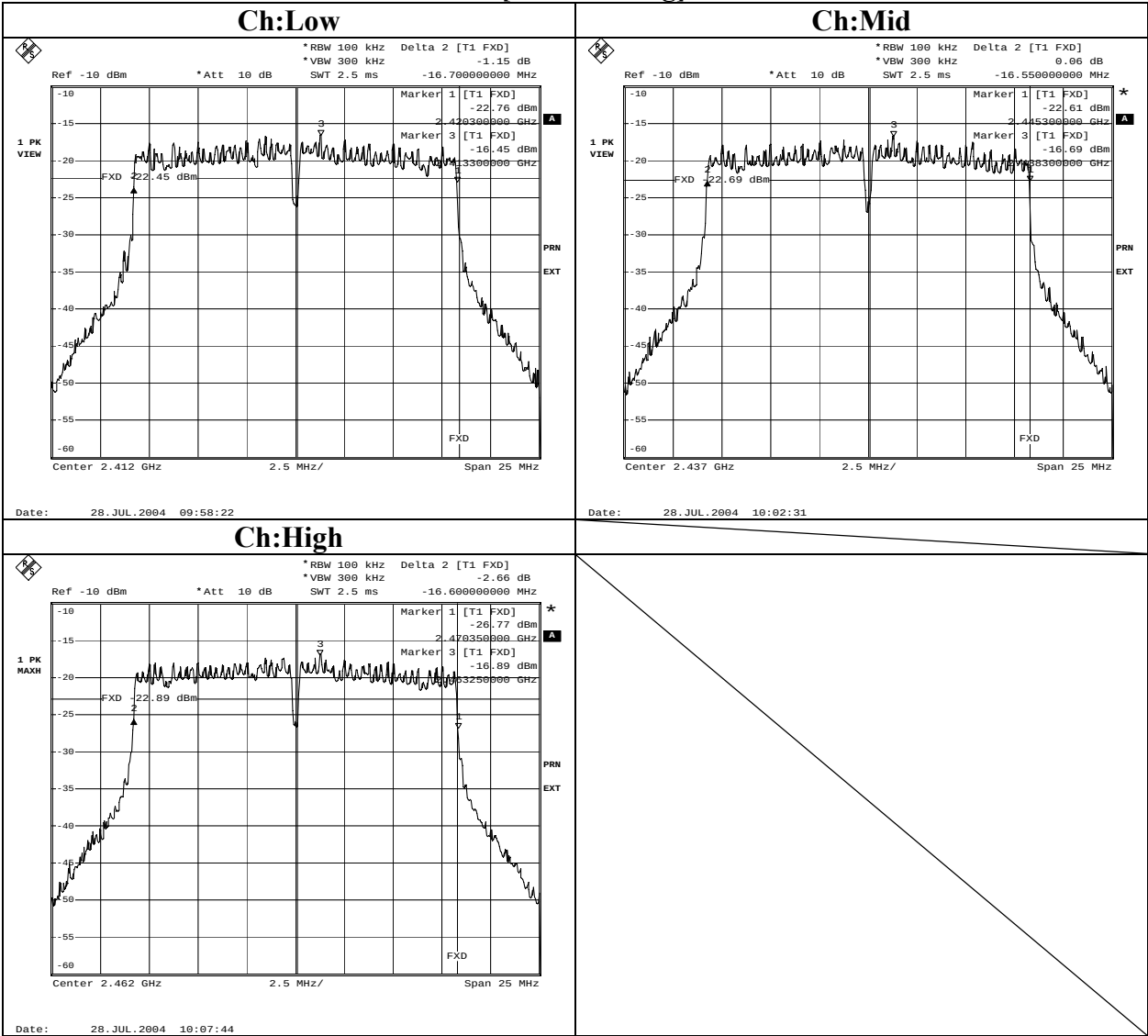
6dB Bandwidth(DSSS and other forms of modulation)

[IEEE802.11b]



6dB Bandwidth(DSSS and other forms of modulation)

[IEEE802.11g]



Maximum Peak OutPut Power (DSSS and other forms of modulation)

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

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA084
Power : AC120V/60Hz
Mode : Tx(ch1,6,11)

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : -
DATE : 07/27/2004
TEMPERATURE : 26℃
HUMIDITY : 42%
ENGINEER : Hiroka Umeyama

IEEE802.11b

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2412.0	8.31	3.40	10.00	21.71	30.00	8.29
Mid	2437.0	8.46	3.40	10.00	21.86	30.00	8.14
High	2462.0	8.58	3.40	10.00	21.98	30.00	8.02

IEEE802.11g

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2412.0	2.82	3.40	10.00	16.22	30.00	13.78
Mid	2437.0	3.04	3.40	10.00	16.44	30.00	13.56
High	2462.0	2.90	3.40	10.00	16.30	30.00	13.70

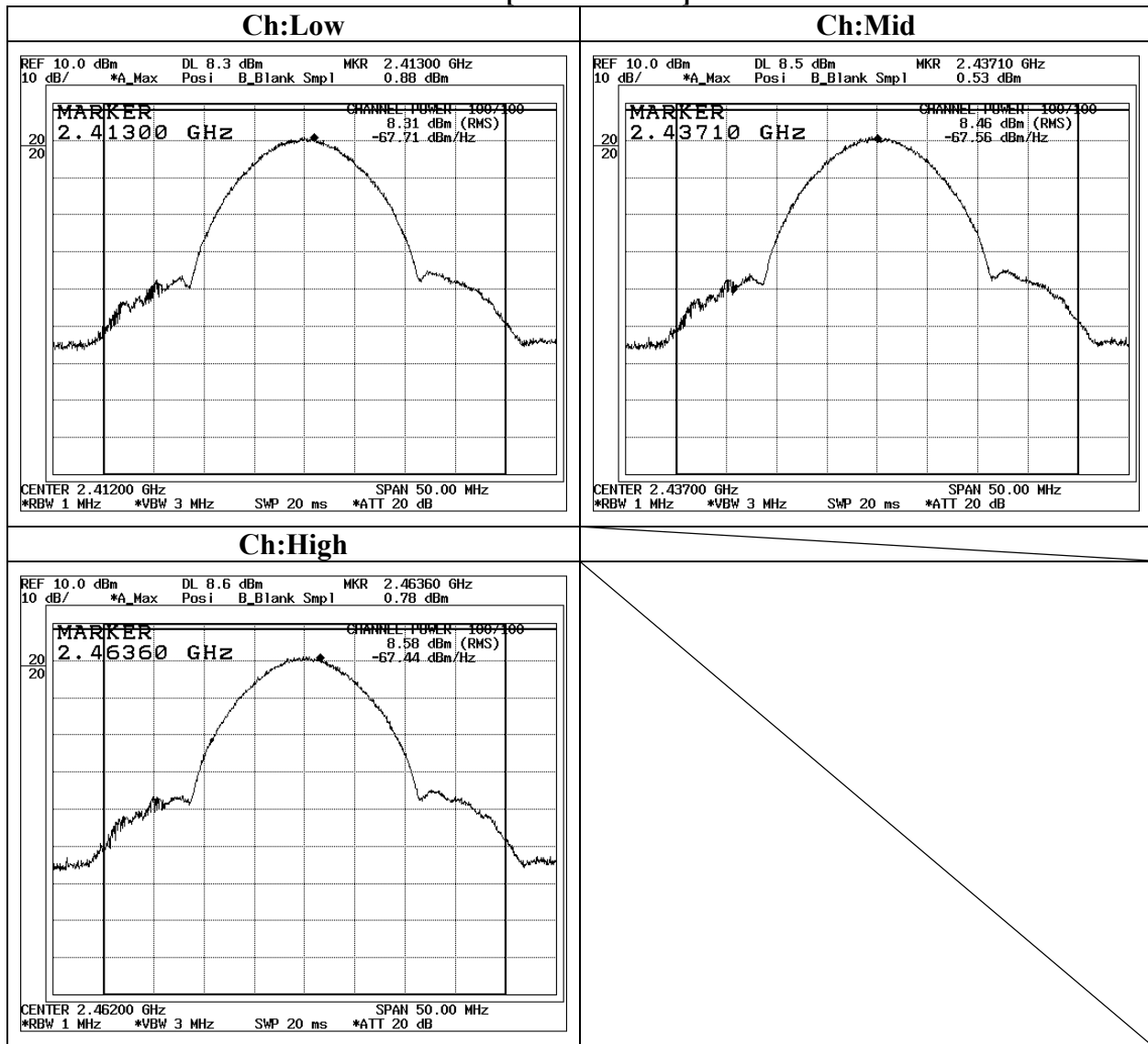
Sample Calculation:

Result = Reading + Cable Loss(customer's Cable) + Attenuator

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

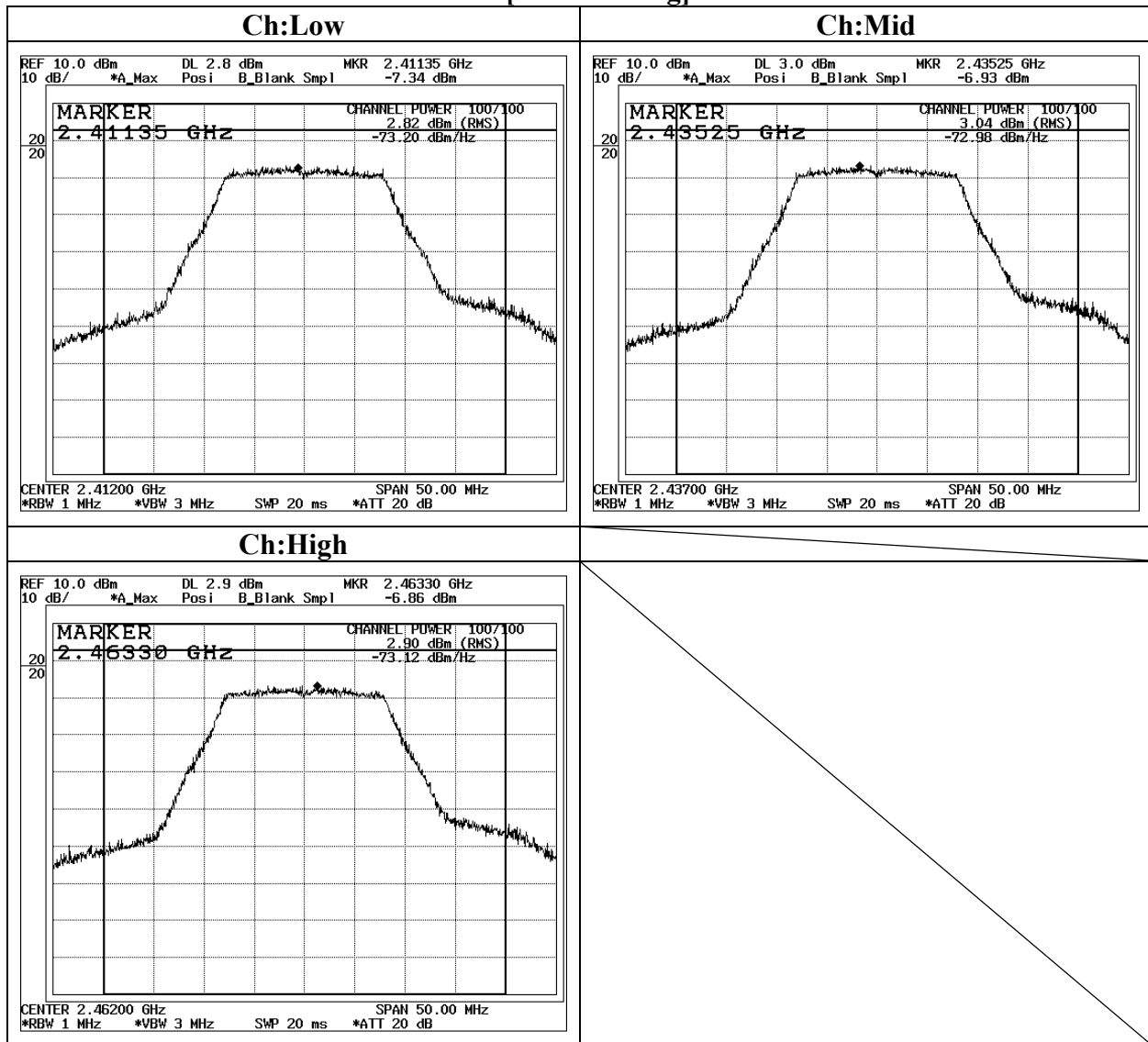
Maximum Peak OutPut Power (DSSS and other forms of modulation)

[IEEE802.11b]



Maximum Peak OutPut Power (DSSS and other forms of modulation)

[IEEE802.11g]



Spurious Emission (Radiated /11b, Tx2412MHz) below 1GHz

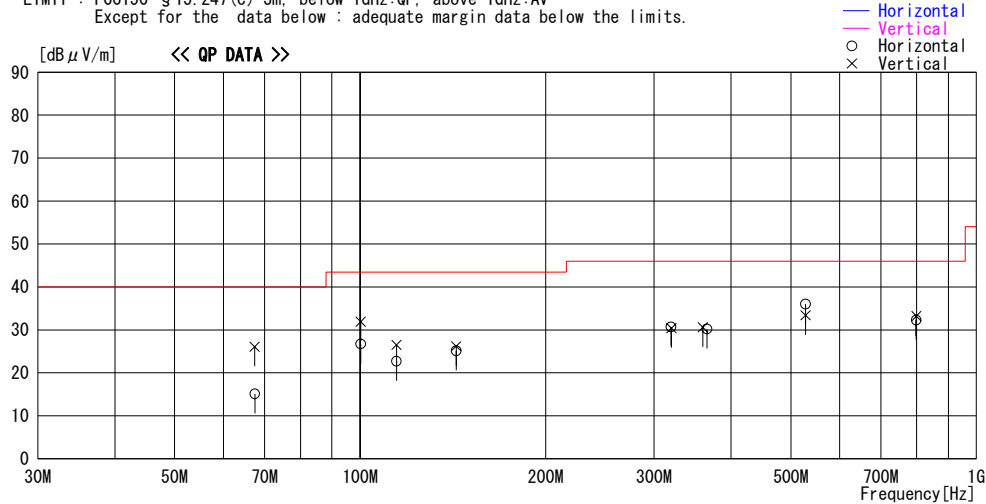
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/16 14:48:51

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 57 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b, 11Mbps_Transmit mode_2412MHz, X-Axis (Max-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	67.461	24.2	7.1	6.9	23.1	15.1	40.0	24.9	177	87
2	100.231	32.3	10.2	7.2	23.0	26.7	43.5	16.8	283	245
3	114.551	26.1	12.2	7.3	22.9	22.7	43.5	20.8	165	266
4	143.182	26.4	14.3	7.5	23.1	25.1	43.5	18.4	211	273
5	319.416	30.4	14.8	8.4	22.9	30.7	46.0	15.3	100	95
6	365.432	27.6	16.8	8.6	22.8	30.2	46.0	15.8	100	270
7	528.088	30.8	18.7	9.4	22.9	36.0	46.0	10.0	186	275
8	799.098	22.8	21.6	10.5	22.6	32.3	46.0	13.7	176	330
----- Vertical -----										
9	67.406	35.2	7.1	6.9	23.1	26.1	40.0	13.9	100	172
10	100.229	37.5	10.2	7.2	23.0	31.9	43.5	11.6	100	151
11	114.549	29.9	12.2	7.3	22.9	26.5	43.5	17.0	100	152
12	143.183	27.5	14.3	7.5	23.1	26.2	43.5	17.3	100	270
13	319.997	30.0	14.9	8.4	22.9	30.4	46.0	15.6	206	360
14	359.703	28.1	16.6	8.6	22.7	30.6	46.0	15.4	168	41
15	528.204	28.2	18.7	9.4	22.9	33.4	46.0	12.6	115	290
16	798.845	23.7	21.6	10.5	22.6	33.2	46.0	12.8	151	21

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

Spurious Emission (Radiated /11b,Tx2437MHz) below 1GHz

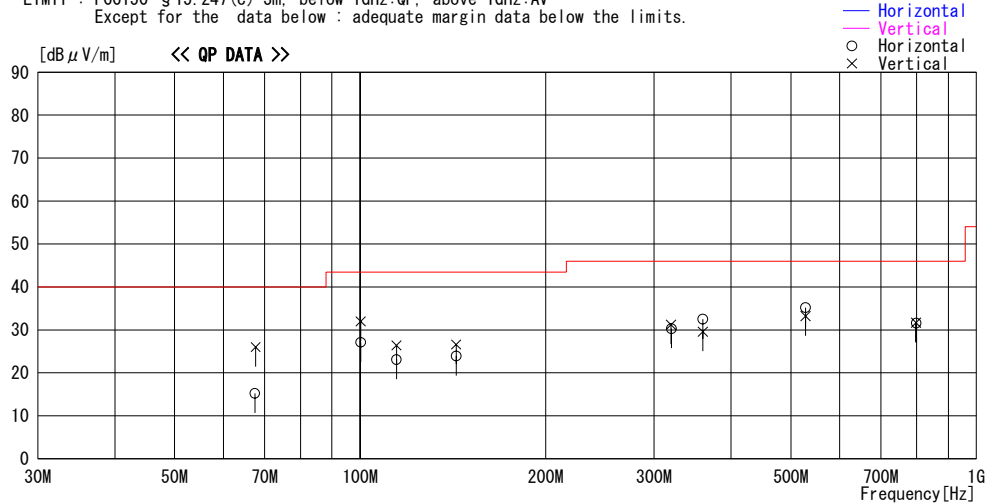
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/16 15:21:27

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 57 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b, 11Mbps_Transmit mode_2437MHz, X-Axis (Max-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	67.471	24.3	7.1	6.9	23.1	15.2	40.0	24.8	400	259
2	100.230	32.7	10.2	7.2	23.0	27.1	43.5	16.4	287	276
3	114.547	26.5	12.2	7.3	22.9	23.1	43.5	20.4	280	271
4	143.184	25.2	14.3	7.5	23.1	23.9	43.5	19.6	351	292
5	319.997	29.9	14.9	8.4	22.9	30.3	46.0	15.7	100	72
6	359.702	30.0	16.6	8.6	22.7	32.5	46.0	13.5	100	259
7	528.080	30.0	18.7	9.4	22.9	35.2	46.0	10.8	180	272
8	798.497	22.1	21.6	10.5	22.6	31.6	46.0	14.4	170	318
----- Vertical -----										
9	67.672	35.1	7.1	6.9	23.1	26.0	40.0	14.0	147	179
10	100.232	37.6	10.2	7.2	23.0	32.0	43.5	11.5	100	138
11	114.549	29.8	12.2	7.3	22.9	26.4	43.5	17.1	100	161
12	143.184	27.9	14.3	7.5	23.1	26.6	43.5	16.9	100	292
13	319.476	30.9	14.8	8.4	22.9	31.2	46.0	14.8	217	360
14	359.706	27.1	16.6	8.6	22.7	29.6	46.0	16.4	217	0
15	528.100	28.0	18.7	9.4	22.9	33.2	46.0	12.8	110	287
16	798.214	22.2	21.6	10.5	22.6	31.7	46.0	14.3	113	285

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

Spurious Emission (Radiated /11b, Tx2462MHz) below 1GHz

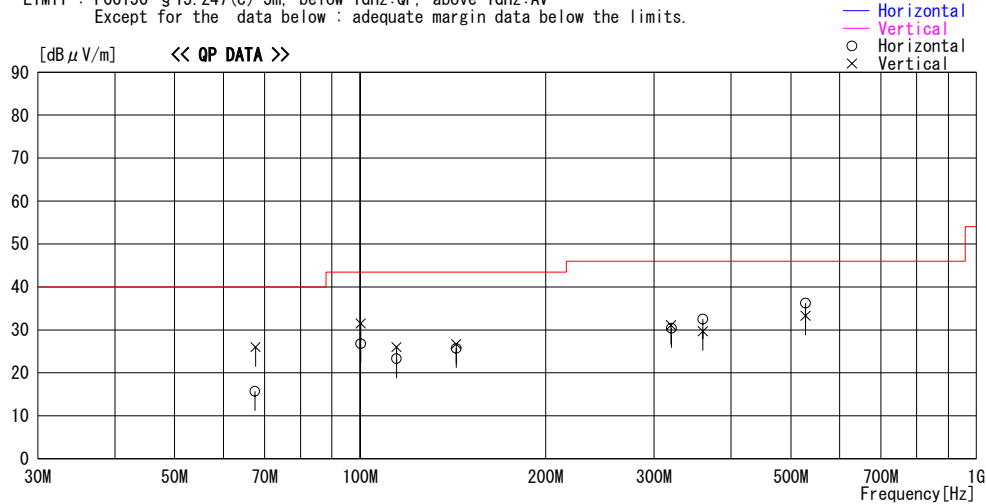
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/16 16:49:07

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 57 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b, 11Mbps_Transmit mode_2462MHz, X-Axis (Max-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	67.477	24.8	7.1	6.9	23.1	15.7	40.0	24.3	400	272
2	100.227	32.4	10.2	7.2	23.0	26.8	43.5	16.7	297	267
3	114.546	26.7	12.2	7.3	22.9	23.3	43.5	20.2	271	273
4	143.181	27.0	14.3	7.5	23.1	25.7	43.5	17.8	217	274
5	319.996	30.0	14.9	8.4	22.9	30.4	46.0	15.6	100	92
6	359.705	30.0	16.6	8.6	22.7	32.5	46.0	13.5	100	274
7	528.088	31.0	18.7	9.4	22.9	36.2	46.0	9.8	185	273
----- Vertical -----										
8	67.662	35.1	7.1	6.9	23.1	26.0	40.0	14.0	100	175
9	100.226	37.1	10.2	7.2	23.0	31.5	43.5	12.0	100	133
10	114.550	29.4	12.2	7.3	22.9	26.0	43.5	17.5	100	139
11	143.185	28.0	14.3	7.5	23.1	26.7	43.5	16.8	100	296
12	319.473	30.8	14.8	8.4	22.9	31.1	46.0	14.9	215	0
13	359.706	27.2	16.6	8.6	22.7	29.7	46.0	16.3	215	360
14	528.088	28.1	18.7	9.4	22.9	33.3	46.0	12.7	117	292

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

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

MF060b(10.04.03)

Spurious Emission (Radiated /11g, Tx2412MHz) below 1GHz

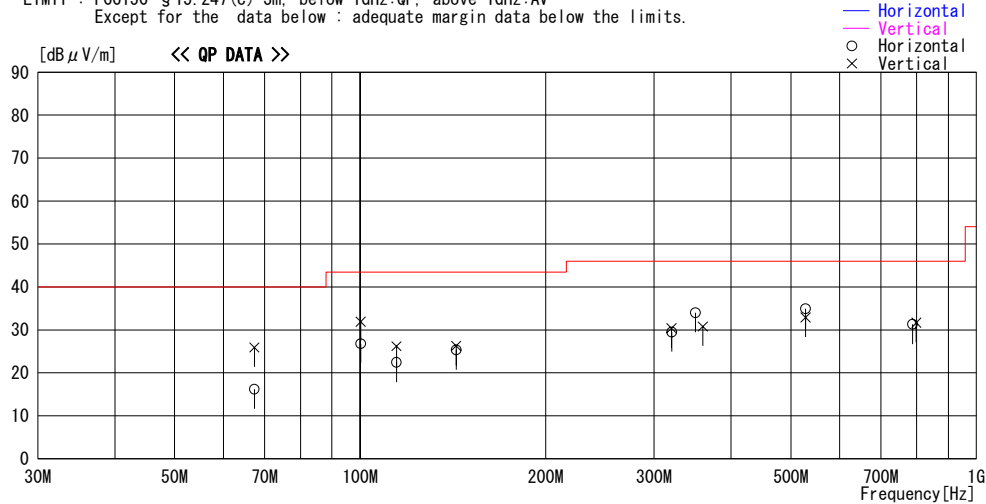
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/16 14:02:58

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 57 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g, 54Mbps_Transmit mode_2412MHz, X-Axis (MAX-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	67.325	25.3	7.1	6.9	23.1	16.2	40.0	23.8	400	280
2	100.229	32.4	10.2	7.2	23.0	26.8	43.5	16.7	189	249
3	114.547	25.8	12.2	7.3	22.9	22.4	43.5	21.1	295	256
4	143.182	26.6	14.3	7.5	23.1	25.3	43.5	18.2	210	267
5	320.117	29.1	14.9	8.4	22.9	29.5	46.0	16.5	165	360
6	350.001	32.0	16.2	8.5	22.7	34.0	46.0	12.0	158	168
7	528.040	29.7	18.7	9.4	22.9	34.9	46.0	11.1	182	277
8	787.497	22.1	21.4	10.4	22.6	31.3	46.0	14.7	170	1
----- Vertical -----										
9	67.355	35.0	7.1	6.9	23.1	25.9	40.0	14.1	100	175
10	100.228	37.5	10.2	7.2	23.0	31.9	43.5	11.6	100	139
11	114.548	29.6	12.2	7.3	22.9	26.2	43.5	17.3	100	170
12	143.180	27.6	14.3	7.5	23.1	26.3	43.5	17.2	100	278
13	319.995	30.0	14.9	8.4	22.9	30.4	46.0	15.6	180	51
14	359.701	28.3	16.6	8.6	22.7	30.8	46.0	15.2	139	184
15	528.104	27.7	18.7	9.4	22.9	32.9	46.0	13.1	112	289
16	798.899	22.2	21.6	10.5	22.6	31.7	46.0	14.3	118	290

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

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

MF060b(10.04.03)

Spurious Emission (Radiated /11g, Tx2437MHz) below 1GHz

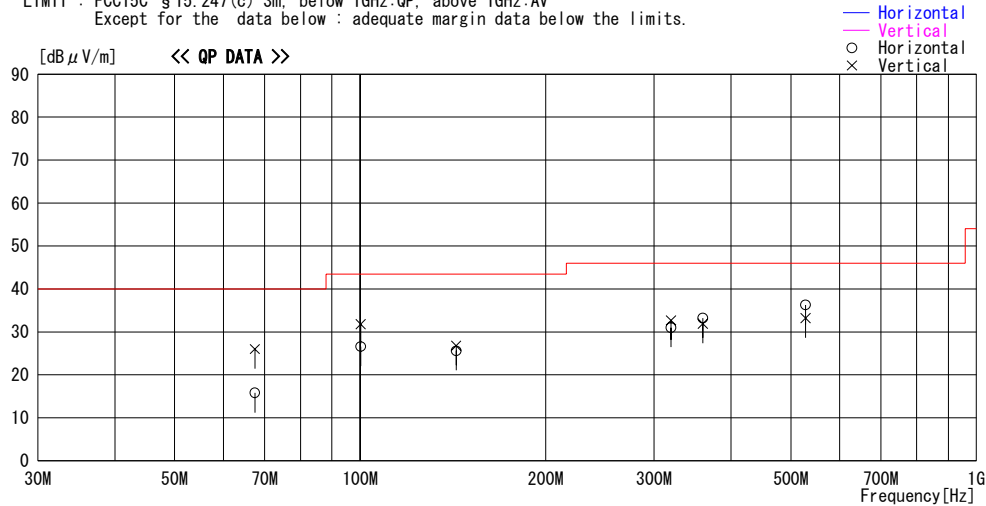
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/16 17:35:55

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 57 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g, 54Mbps_Transmit mode_2437MHz, X-Axis (MAX-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	67.453	24.9	7.1	6.9	23.1	15.8	40.0	24.2	400	278
2	100.229	32.2	10.2	7.2	23.0	26.6	43.5	16.9	310	251
3	143.182	26.9	14.3	7.5	23.1	25.6	43.5	17.9	230	289
4	319.471	30.7	14.8	8.4	22.9	31.0	46.0	15.0	100	92
5	359.707	30.7	16.6	8.6	22.7	33.2	46.0	12.8	100	272
6	528.090	31.1	18.7	9.4	22.9	36.3	46.0	9.7	189	262
----- Vertical -----										
7	67.452	35.1	7.1	6.9	23.1	26.0	40.0	14.0	100	196
8	100.229	37.4	10.2	7.2	23.0	31.8	43.5	11.7	100	140
9	143.185	28.1	14.3	7.5	23.1	26.8	43.5	16.7	100	287
10	319.471	32.4	14.8	8.4	22.9	32.7	46.0	13.3	163	340
11	359.704	29.4	16.6	8.6	22.7	31.9	46.0	14.1	165	360
12	528.088	28.0	18.7	9.4	22.9	33.2	46.0	12.8	116	280

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

Spurious Emission (Radiated /11g, Tx2462MHz) below 1GHz

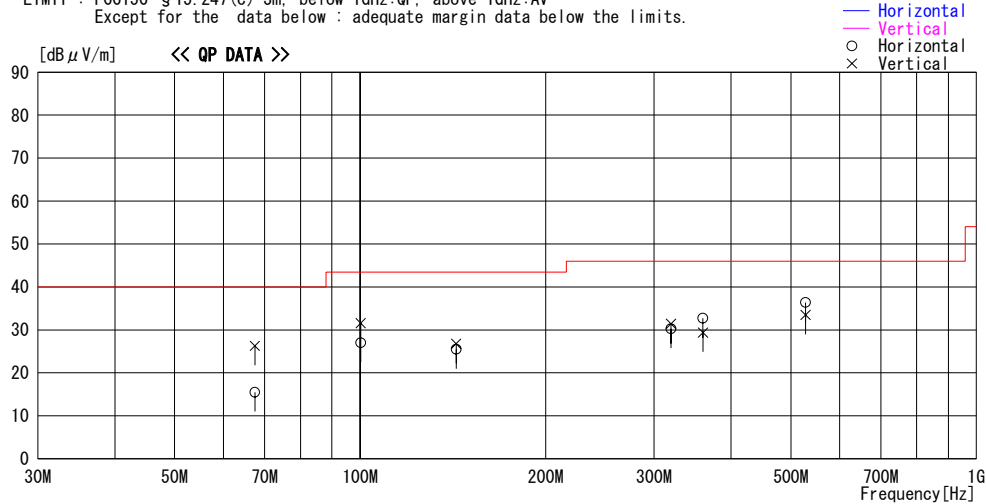
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/16 18:04:51

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 57 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g, 54Mbps_Transmit mode_2462MHz, X-Axis (MAX-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	67.493	24.6	7.1	6.9	23.1	15.5	40.0	24.5	400	276
2	100.232	32.6	10.2	7.2	23.0	27.0	43.5	16.5	293	271
3	143.182	26.8	14.3	7.5	23.1	25.5	43.5	18.0	210	274
4	319.474	30.0	14.8	8.4	22.9	30.3	46.0	15.7	100	277
5	359.705	30.2	16.6	8.6	22.7	32.7	46.0	13.3	100	272
6	528.088	31.2	18.7	9.4	22.9	36.4	46.0	9.6	182	263
----- Vertical -----										
7	67.490	35.4	7.1	6.9	23.1	26.3	40.0	13.7	100	178
8	100.228	37.2	10.2	7.2	23.0	31.6	43.5	11.9	100	133
9	143.183	28.1	14.3	7.5	23.1	26.8	43.5	16.7	100	281
10	319.474	31.1	14.8	8.4	22.9	31.4	46.0	14.6	201	360
11	359.986	26.9	16.6	8.6	22.7	29.4	46.0	16.6	187	356
12	528.088	28.3	18.7	9.4	22.9	33.5	46.0	12.5	111	282

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

Spurious Emission (Radiated /11b, Tx2437MHz+Bluetooth Hopping ON) below 1GHz

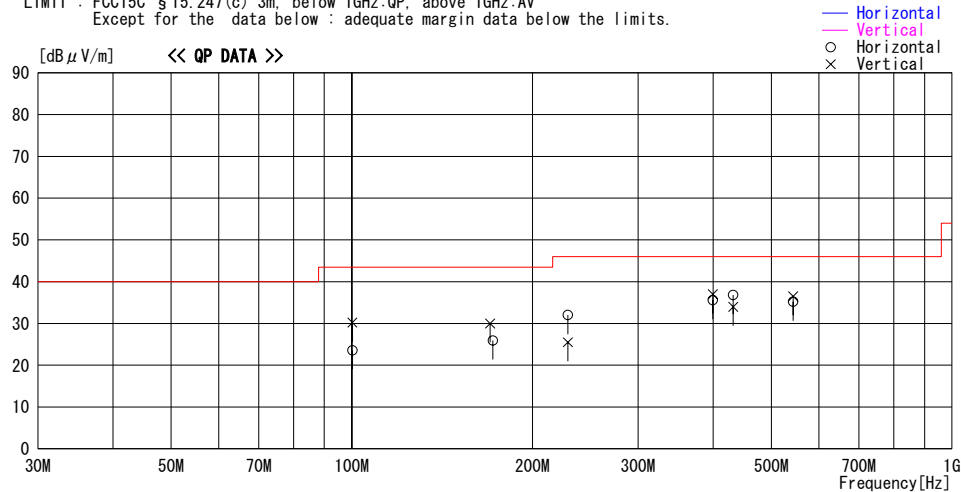
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C. / 53 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b, 11Mbps Transmit mode_2437MHz + Bluetooth Hopping ON, X-Axis (Max-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	100.227	33.8	10.2	7.2	27.6	23.6	43.5	19.9	283	256
2	171.823	29.7	15.8	7.7	27.3	25.9	43.5	17.6	100	240
3	229.090	33.9	17.1	8.0	27.0	32.0	46.0	14.0	148	229
4	399.722	36.0	18.3	8.8	27.5	35.6	46.0	10.4	100	288
5	432.078	37.2	18.3	9.1	27.8	36.8	46.0	9.2	100	59
6	543.623	35.0	18.9	9.5	28.2	35.2	46.0	10.8	189	248
----- Vertical -----										
7	100.235	40.4	10.2	7.2	27.6	30.2	43.5	13.3	100	135
8	170.006	33.9	15.7	7.7	27.3	30.0	43.5	13.5	100	0
9	229.097	27.4	17.1	8.0	27.0	25.5	46.0	20.5	100	271
10	399.716	37.4	18.3	8.8	27.5	37.0	46.0	9.0	160	0
11	432.077	34.4	18.3	9.1	27.8	34.0	46.0	12.0	100	161
12	543.613	36.3	18.9	9.5	28.2	36.5	46.0	9.5	100	187

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

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

MF060b(10.04.03)

Spurious Emission (Radiated /11g, Tx2437MHz+Bluetooth Hopping ON) below 1GHz

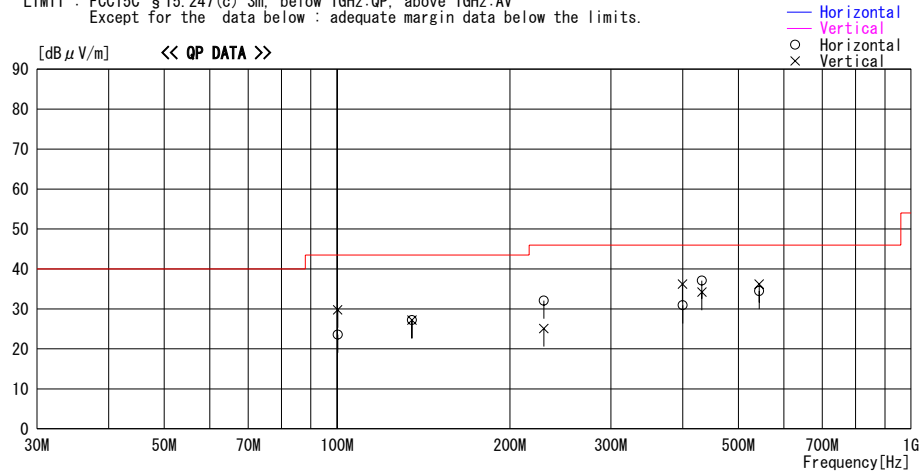
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber

Applicant : Sony Corporation
Kind of EUT : Personal Computer
Model No. : PCG-4C1L
Serial No. : XTA019
Report No. : 24KE0201-HO
Power : DC 16.0V (AC 120V/60Hz (AC adaptor))
Temp./Humi. : 26 deg.C / 53 %
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g, 54Mbps_Transmit mode_2437MHz + Bluetooth Hopping ON , X-Axis (Max-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	100.233	33.8	10.2	7.2	27.6	23.6	43.5	19.9	310	251
2	135.008	33.4	13.8	7.4	27.4	27.2	43.5	16.3	129	357
3	229.095	34.0	17.1	8.0	27.0	32.1	46.0	13.9	144	228
4	400.002	31.2	18.3	8.9	27.5	30.9	46.0	15.1	100	209
5	432.079	37.5	18.3	9.1	27.8	37.1	46.0	8.9	100	69
6	543.622	34.3	18.9	9.5	28.2	34.5	46.0	11.5	193	265
----- Vertical -----										
7	100.235	40.0	10.2	7.2	27.6	29.8	43.5	13.7	100	126
8	135.008	33.4	13.8	7.4	27.4	27.2	43.5	16.3	100	108
9	229.095	27.0	17.1	8.0	27.0	25.1	46.0	20.9	100	290
10	399.685	36.6	18.3	8.8	27.5	36.2	46.0	9.8	155	-1
11	432.075	34.6	18.3	9.1	27.8	34.2	46.0	11.8	114	140
12	543.621	36.0	18.9	9.5	28.2	36.2	46.0	9.8	100	173

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

Spurious Emission (Radiated /11b, Tx2412MHz) above 1GHz

UL Apex Co., Ltd.

Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11b, 11Mbps, PN9, Tx 2412MHz

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 7/30/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 54 %
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
	[MHz]	HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	PK	HOR	VER
		[dBuV/m]	[dBm]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1502.2	51.2	48.3	24.2	36.5	5.0	0.0	43.9	41.0	74.0	30.1	33.0
2	2384.6	56.7	54.8	30.7	36.3	6.4	0.0	57.5	55.6	74.0	16.5	18.4
3	3216.2	47.7	47.9	31.8	36.4	7.5	0.0	50.6	50.8	74.0	23.4	23.2
4	4823.9	41.9	43.2	35.2	36.1	9.3	1.0	51.3	52.6	74.0	22.7	21.4
5	7235.7	41.4	40.8	37.7	35.6	11.8	0.5	55.8	55.2	74.0	18.2	18.8
6	9648.0	40.6	40.1	37.1	36.3	13.9	0.0	55.3	54.8	74.0	18.7	19.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12060.0	40.4	40.2	40.8	35.7	15.5	0.0	51.5	51.3	74.0	22.5	22.7
8	14472.0	39.0	38.9	42.3	34.6	16.6	0.0	53.8	53.7	74.0	20.2	20.3
9	16884.0	41.0	40.8	46.4	35.5	18.6	0.0	61.0	60.8	74.0	13.0	13.2
10	19296.0	39.5	40.0	39.6	34.9	20.4	0.0	55.1	55.6	74.0	18.9	18.4
11	21708.0	42.9	40.4	40.7	35.3	22.1	0.0	60.9	58.4	74.0	13.1	15.6
12	24120.0	41.3	40.3	40.0	36.0	22.6	0.0	58.4	57.4	74.0	15.6	16.6

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ	S/A READING		ANT Factor	AMP GAIN	CABLE LOSS	Band-Pass Filter	RESULT		Limit AV	MARGIN	
	[MHz]	HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dB/m]					[dB]	[dB]		[dBuV/m]	[dBuV/m]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1502.2	39.6	37.8	24.2	36.5	5.0	0.0	32.3	30.5	54.0	21.7	23.5
2	2384.6	42.6	41.0	30.7	36.3	6.4	0.0	43.4	41.8	54.0	10.6	12.2
3	3216.2	43.8	43.9	31.8	36.4	7.5	0.0	46.7	46.8	54.0	7.3	7.2
4	4823.9	31.6	32.4	35.2	36.1	9.3	1.0	41.0	41.8	54.0	13.0	12.2
5	7235.7	30.2	30.5	37.7	35.6	11.8	0.5	44.6	44.9	54.0	9.4	9.1
6	9648.0	31.4	31.2	37.1	36.3	13.9	0.0	46.1	45.9	54.0	7.9	8.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12060.0	29.7	29.8	40.8	35.7	15.5	0.0	40.8	40.9	54.0	13.2	13.1
8	14472.0	28.3	28.4	42.3	34.6	16.6	0.0	43.1	43.2	54.0	10.9	10.8
9	16884.0	30.3	30.4	46.4	35.5	18.6	0.0	50.3	50.4	54.0	3.7	3.6
10	19296.0	30.2	30.1	39.6	34.9	20.4	0.0	45.8	45.7	54.0	8.2	8.3
11	21708.0	30.7	30.6	40.7	35.3	22.1	0.0	48.7	48.6	54.0	5.3	5.4
12	24120.0	30.4	30.5	40.0	36.0	22.6	0.0	47.5	47.6	54.0	6.5	6.4

20dBc(Fundamental 2412MHz) (RBW: 100kHz, VBW:300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2411.1	104.0	100.3	30.9	36.3	6.5	0.0	105.1	101.4	-	-	-
2	2399.5	66.5	62.9	30.8	36.3	6.5	0.0	67.5	63.9	Funda-20dB	17.6	17.6

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11b, Tx2437MHz) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11b, 11Mbps, PN9, Tx 2437MHz

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 7/30/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 54 %
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
	[MHz]	HOR [dBuV/m]	VER					HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2173.2	48.4	45.5	30.5	36.3	6.1	0.0	48.7	45.8	74.0	25.3	28.2
2	2335.9	53.9	49.8	30.6	36.3	6.3	0.0	54.5	50.4	74.0	19.5	23.6
3	3249.2	47.5	47.9	31.8	36.4	7.5	0.0	50.4	50.8	74.0	23.6	23.2
4	4874.0	42.1	43.1	35.4	36.1	9.5	1.0	51.9	52.9	74.0	22.1	21.1
5	7311.0	39.0	39.5	37.9	35.7	12.0	0.5	53.7	54.2	74.0	20.3	19.8
6	9748.0	41.0	41.4	37.1	36.3	14.0	0.0	55.8	56.2	74.0	18.2	17.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12185.0	40.9	40.2	41.4	35.6	15.6	0.0	52.8	52.1	74.0	21.2	21.9
8	14622.0	38.7	38.6	42.6	34.8	16.8	0.0	53.8	53.7	74.0	20.2	20.3
9	17059.0	40.3	39.8	46.6	35.4	18.8	0.0	60.8	60.3	74.0	13.2	13.7
10	19496.0	40.0	40.5	39.2	34.9	20.6	0.0	55.4	55.9	74.0	18.6	18.1
11	21933.0	41.3	40.3	40.5	35.0	22.3	0.0	59.6	58.6	74.0	14.4	15.4
12	24370.0	41.2	41.8	40.1	36.6	22.7	0.0	57.9	58.5	74.0	16.1	15.5

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
	[MHz]	HOR [dBuV/m]	VER					HOR [dBuV/m]	VER		HOR [dB]	VER [dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2173.2	38.3	35.2	30.5	36.3	6.1	0.0	38.6	35.5	54.0	15.4	18.5
2	2335.9	45.7	41.7	30.6	36.3	6.3	0.0	46.3	42.3	54.0	7.7	11.7
3	3249.2	41.8	44.1	31.8	36.4	7.5	0.0	44.7	47.0	54.0	9.3	7.0
4	4874.0	31.1	32.2	35.4	36.1	9.5	1.0	40.9	42.0	54.0	13.1	12.0
5	7311.0	30.3	30.4	37.9	35.7	12.0	0.5	45.0	45.1	54.0	9.0	8.9
6	9748.0	31.7	32.3	37.1	36.3	14.0	0.0	46.5	47.1	54.0	7.5	6.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12185.0	30.3	30.3	41.4	35.6	15.6	0.0	42.2	42.2	54.0	11.8	11.8
8	14622.0	28.2	28.1	42.6	34.8	16.8	0.0	43.3	43.2	54.0	10.7	10.8
9	17059.0	30.3	30.2	46.6	35.4	18.8	0.0	50.8	50.7	54.0	3.2	3.3
10	19496.0	29.9	29.8	39.2	34.9	20.6	0.0	45.3	45.2	54.0	8.7	8.8
11	21933.0	30.7	30.6	40.5	35.0	22.3	0.0	49.0	48.9	54.0	5.0	5.1
12	24370.0	31.2	31.2	40.1	36.6	22.7	0.0	47.9	47.9	54.0	6.1	6.1

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11b, Tx2462MHz) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11b, 11Mbps, PN9, Tx 2462MHz

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 7/30/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 54 %
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2360.0	55.1	50.4	30.7	36.3	4.5	0.0	54.0	49.3	74.0	20.0	24.7
2	2483.5	49.3	48.3	30.8	36.2	6.5	0.0	50.4	49.4	74.0	23.6	24.6
3	3282.7	47.1	48.3	31.7	36.4	9.5	0.0	51.9	53.1	74.0	22.1	20.9
4	4924.0	41.8	42.1	35.4	36.1	9.5	1.0	51.6	51.9	74.0	22.4	22.1
5	7386.0	41.0	41.2	38.1	35.7	12.0	0.5	55.9	56.1	74.0	18.1	17.9
6	9848.0	42.7	41.3	37.0	36.3	14.1	0.0	57.5	56.1	74.0	16.5	17.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12310.0	40.2	40.0	41.9	35.6	15.6	0.0	52.6	52.4	74.0	21.4	21.6
8	14772.0	38.1	38.9	42.8	34.9	16.9	0.0	53.4	54.2	74.0	20.6	19.8
9	17234.0	40.9	40.4	45.9	35.3	18.9	0.0	60.9	60.4	74.0	13.1	13.6
10	19696.0	40.1	40.6	39.6	35.2	20.7	0.0	55.7	56.2	74.0	18.3	17.8
11	22158.0	40.5	39.8	40.6	35.0	22.3	0.0	58.9	58.2	74.0	15.1	15.8
12	24620.0	41.2	41.0	40.2	36.8	22.9	0.0	58.0	57.8	74.0	16.0	16.2

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2360.0	45.1	42.2	30.7	36.3	4.5	0.0	44.0	41.1	54.0	10.0	12.9
2	2483.5	38.6	38.0	30.8	36.2	6.5	0.0	39.7	39.1	54.0	14.3	14.9
3	3282.7	43.2	45.1	31.7	36.4	9.5	0.0	48.0	49.9	54.0	6.0	4.1
4	4924.0	31.1	31.1	35.4	36.1	9.5	1.0	40.9	40.9	54.0	13.1	13.1
5	7386.0	30.4	30.5	38.1	35.7	12.0	0.5	45.3	45.4	54.0	8.7	8.6
6	9848.0	31.6	32.5	37.0	36.3	14.1	0.0	46.4	47.3	54.0	7.6	6.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12310.0	30.4	30.4	41.9	35.6	15.6	0.0	42.8	42.8	54.0	11.2	11.2
8	14772.0	28.8	28.9	42.8	34.9	16.9	0.0	44.1	44.2	54.0	9.9	9.8
9	17234.0	30.4	30.4	45.9	35.3	18.9	0.0	50.4	50.4	54.0	3.6	3.6
10	19696.0	29.9	29.8	39.6	35.2	20.7	0.0	45.5	45.4	54.0	8.5	8.6
11	22158.0	30.8	30.7	40.6	35.0	22.3	0.0	49.2	49.1	54.0	4.8	4.9
12	24620.0	31.6	31.5	40.2	36.8	22.9	0.0	48.4	48.3	54.0	5.6	5.7

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11g, Tx2412MHz) above 1GHz

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chan

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11g, 54Mbps, PN9, Tx 2412MHz

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247f
TEST DISTANCE : 3/1m
DATE : 07/16/2004
TEMPERATURE : 26deg.C
HUMIDITY : 57%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1197.4	50.1	50.9	23.0	36.9	4.4	0.0	40.6	41.4	74.0	33.4	32.6
2	2312.0	53.0	49.6	30.7	36.3	6.3	0.0	53.7	50.3	74.0	20.3	23.7
3	2389.4	60.8	52.3	30.8	36.3	6.4	0.0	61.7	53.2	74.0	12.3	20.8
4	3216.0	49.2	50.9	31.8	36.4	7.5	0.0	52.1	53.8	74.0	21.9	20.2
5	4822.6	44.2	43.6	35.4	36.1	9.3	1.0	53.8	53.2	74.0	20.2	20.8
6	7237.3	42.3	42.8	38.0	35.6	11.8	0.5	57.0	57.5	74.0	17.0	16.5
7	9648.0	41.3	42.7	37.5	36.3	13.9	0.0	56.4	57.8	74.0	17.6	16.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
8	12060.0	39.7	39.4	40.8	35.7	15.5	0.0	50.8	50.5	74.0	23.2	23.5
9	14472.0	38.1	38.9	42.3	34.6	16.6	0.0	52.9	53.7	74.0	21.1	20.3
10	16884.0	40.5	40.4	46.4	35.5	18.6	0.0	60.5	60.4	74.0	13.5	13.6
11	19296.0	40.4	40.2	39.6	34.9	20.4	0.0	56.0	55.8	74.0	18.0	18.2
12	21708.0	40.4	41.2	40.7	35.3	22.1	0.0	58.5	59.3	74.0	15.6	14.8
13	24120.0	40.6	40.6	40.0	36.0	22.6	0.0	57.7	57.7	74.0	16.3	16.3

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	1197.4	38.8	40.7	23.0	36.9	4.4	0.0	29.3	31.2	54.0	24.7	22.8
2	2312.0	42.5	39.5	30.7	36.3	6.3	0.0	43.2	40.2	54.0	10.8	13.8
3	2389.4	40.7	37.0	30.8	36.3	6.4	0.0	41.6	37.9	54.0	12.4	16.2
4	3216.0	43.4	46.8	31.8	36.4	7.5	0.0	46.3	49.7	54.0	7.7	4.3
5	4822.6	31.7	31.6	35.4	36.1	9.3	1.0	41.3	41.2	54.0	12.7	12.8
6	7237.3	30.1	30.5	38.0	35.6	11.8	0.5	44.8	45.2	54.0	9.2	8.8
7	9648.0	30.9	31.0	37.5	36.3	13.9	0.0	46.0	46.1	54.0	8.0	7.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
8	12060.0	29.8	29.8	40.8	35.7	15.5	0.0	40.9	40.9	54.0	13.1	13.1
9	14472.0	28.3	28.4	42.3	34.6	16.6	0.0	43.1	43.2	54.0	10.9	10.8
10	16884.0	30.3	30.3	46.4	35.5	18.6	0.0	50.3	50.3	54.0	3.7	3.7
11	19296.0	30.2	30.4	39.6	34.9	20.4	0.0	45.8	46.0	54.0	8.2	8.0
12	21708.0	30.7	30.6	40.7	35.3	22.1	0.0	48.8	48.7	54.0	5.3	5.4
13	24120.0	30.5	30.5	40.0	36.0	22.6	0.0	47.6	47.6	54.0	6.4	6.4

20dBc(Fundamental 2412MHz) (RBW: 100kHz, VBW:300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2410.6	92.9	90.7	30.9	36.3	6.5	0.0	94.0	91.8	-	-	-
2	2400.0	53.7	51.9	30.8	36.3	6.5	0.0	54.7	52.9	Funda-20dB	19.3	18.9

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /1g, Tx2437MHz) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11g, 54Mbps, PN9, Tx 2437MHz

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 7/30/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 54%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ [MHz]	S/A 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
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2336.0	54.5	49.2	30.6	36.3	6.3	0.0	55.1	49.8	74.0	18.9	24.2
2	2880.0	43.0	42.0	32.0	36.4	7.1	0.0	45.7	44.7	74.0	28.3	29.3
3	3249.3	47.9	47.8	31.8	36.4	7.5	0.0	50.8	50.7	74.0	23.2	23.3
4	4874.0	47.6	47.2	35.4	36.1	9.5	0.0	56.4	56.0	74.0	17.6	18.0
5	7311.0	41.8	41.6	37.9	35.7	12.0	0.0	56.0	55.8	74.0	18.0	18.2
6	9748.0	41.0	40.9	37.1	36.3	14.0	0.0	55.8	55.7	74.0	18.2	18.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
5	12185.0	39.7	39.6	41.4	35.6	15.6	0.0	51.6	51.5	74.0	22.4	22.5
6	14622.0	38.3	38.7	42.6	34.8	16.8	0.0	53.4	53.8	74.0	20.6	20.2
7	17059.0	41.7	41.6	46.6	35.4	18.8	0.0	62.2	62.1	74.0	11.8	11.9
8	19496.0	38.5	39.8	39.2	34.9	20.6	0.0	53.9	55.2	74.0	20.1	18.8
9	21933.0	39.7	39.4	40.5	35.0	22.3	0.0	58.0	57.7	74.0	16.0	16.3
10	24370.0	41.4	42.0	40.1	36.6	22.7	0.0	58.1	58.7	74.0	15.9	15.3

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ [MHz]	S/A 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
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2336.0	44.5	41.0	30.6	36.3	6.3	0.0	45.1	41.6	54.0	8.9	12.4
2	2880.0	32.1	32.2	32.0	36.4	7.1	0.0	34.8	34.9	54.0	19.2	19.1
3	3249.3	43.8	44.0	31.8	36.4	7.5	0.0	46.7	46.9	54.0	7.3	7.1
4	4874.0	35.7	34.7	35.4	36.1	9.5	0.0	44.5	43.5	54.0	9.5	10.5
5	7311.0	31.3	30.8	37.9	35.7	12.0	0.0	45.5	45.0	54.0	8.5	9.0
6	9748.0	31.1	31.4	37.1	36.3	14.0	0.0	45.9	46.2	54.0	8.1	7.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
5	12185.0	29.9	29.8	41.4	35.6	15.6	0.0	41.8	41.7	54.0	12.2	12.3
6	14622.0	28.1	28.3	42.6	34.8	16.8	0.0	43.2	43.4	54.0	10.8	10.6
7	17059.0	30.4	30.2	46.6	35.4	18.8	0.0	50.9	50.7	54.0	3.1	3.3
8	19496.0	29.9	29.8	39.2	34.9	20.6	0.0	45.3	45.2	54.0	8.7	8.8
9	21933.0	30.6	30.7	40.5	35.0	22.3	0.0	48.9	49.0	54.0	5.1	5.0
10	24370.0	31.2	31.3	40.1	36.6	22.7	0.0	47.9	48.0	54.0	6.1	6.0

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11g, Tx2462MHz) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11g, 54Mbps, PN9, Tx 2462MHz

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 7/30/2004
TEMPERATURE : 23 deg.C.
HUMIDITY : 54%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ [MHz]	S/A 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
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2360.0	53.6	50.4	30.7	36.3	6.3	0.0	54.3	51.1	74.0	19.7	22.9
2	2483.9	57.5	55.8	30.8	36.2	6.5	0.0	58.6	56.9	74.0	15.4	17.1
3	3282.7	47.1	49.4	31.7	36.4	7.6	0.0	50.0	52.3	74.0	24.0	21.7
4	4924.0	46.1	46.7	35.7	36.1	9.5	0.0	55.2	55.8	74.0	18.8	18.2
5	7386.0	41.4	41.4	38.1	35.7	12.0	0.0	55.8	55.8	74.0	18.2	18.2
6	9848.0	42.1	41.7	37.0	36.3	14.1	0.0	56.9	56.5	74.0	17.1	17.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12310.0	39.9	39.5	41.9	35.6	15.6	0.0	52.3	51.9	74.0	21.7	22.1
8	14772.0	38.3	39.9	42.8	34.9	16.9	0.0	53.6	55.2	74.0	20.4	18.8
9	17234.0	40.9	40.6	45.9	35.3	18.9	0.0	60.9	60.6	74.0	13.1	13.4
10	19696.0	40.8	40.7	39.6	35.2	20.7	0.0	56.4	56.3	74.0	17.6	17.7
11	22158.0	40.8	41.8	40.6	35.0	22.3	0.0	59.2	60.2	74.0	14.8	13.8
12	24620.0	41.5	42.3	40.2	36.8	22.9	0.0	58.3	59.1	74.0	15.7	14.9

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ [MHz]	S/A 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
		[dBuV/m]	[dBuV/m]					[dB]	[dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2360.0	42.9	41.4	30.7	36.3	6.3	0.0	43.6	42.1	54.0	10.4	11.9
2	2483.9	39.4	38.8	30.8	36.2	6.5	0.0	40.5	39.9	54.0	13.5	14.1
3	3282.7	44.6	44.8	31.7	36.4	7.6	0.0	47.5	47.7	54.0	6.5	6.3
4	4924.0	31.6	32.3	35.7	36.1	9.5	0.0	40.7	41.4	54.0	13.3	12.6
5	7386.0	31.0	31.0	38.1	35.7	12.0	0.0	45.4	45.4	54.0	8.6	8.6
6	9848.0	34.8	33.9	37.0	36.3	14.1	0.0	49.6	48.7	54.0	4.4	5.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12310.0	29.7	29.6	41.9	35.6	15.6	0.0	42.1	42.0	54.0	11.9	12.0
8	14772.0	28.7	28.9	42.8	34.9	16.9	0.0	44.0	44.2	54.0	10.0	9.8
9	17234.0	30.6	30.5	45.9	35.3	18.9	0.0	50.6	50.5	54.0	3.4	3.5
10	19696.0	29.8	29.9	39.6	35.2	20.7	0.0	45.4	45.5	54.0	8.6	8.5
11	22158.0	30.8	30.9	40.6	35.0	22.3	0.0	49.2	49.3	54.0	4.8	4.7
12	24620.0	31.7	31.6	40.2	36.8	22.9	0.0	48.5	48.4	54.0	5.5	5.6

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11b, Tx2437MHz+Bluetooth Hopping ON) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11b, 11Mbps, PN9, Tx 2437MHz
+Bluetooth Hopping ON

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 9/04/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 64 %
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR VER [dBuV/m]		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR VER [dBuV/m]		Limit PK [dBuV/m]	MARGIN HOR VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2173.5	50.2	47.8	30.5	36.3	6.1	0.0	50.5	48.1	74.0	23.5	25.9
2	2335.8	59.6	53.1	30.6	36.3	6.3	0.0	60.2	53.7	74.0	13.8	20.3
3	3249.4	46.3	47.7	31.8	36.4	7.5	0.0	49.2	50.6	74.0	24.8	23.4
4	4874.0	45.4	47.6	35.4	36.1	9.5	1.0	55.2	57.4	74.0	18.8	16.6
5	7311.0	42.5	41.7	37.9	35.7	12.0	0.5	57.2	56.4	74.0	16.8	17.6
6	9748.0	44.4	44.9	37.1	36.3	14.0	0.0	59.2	59.7	74.0	14.8	14.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12185.0	44.7	41.6	41.4	35.6	15.6	0.0	56.6	53.5	74.0	17.4	20.5
8	14622.0	40.6	40.8	42.6	34.8	16.8	0.0	55.7	56.0	74.0	18.3	18.0
9	17059.0	43.6	43.4	46.6	35.4	18.8	0.0	64.1	64.0	74.0	9.9	10.0
10	19496.0	41.9	42.6	39.2	34.9	20.6	0.0	57.3	58.0	74.0	16.7	16.0
11	21933.0	43.4	43.1	40.5	35.0	22.3	0.0	61.7	61.4	74.0	12.3	12.6
12	24370.0	44.0	44.0	40.1	36.6	22.7	0.0	60.7	60.8	74.0	13.3	13.2

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2173.5	38.5	36.2	30.5	36.3	6.1	0.0	38.8	36.5	54.0	15.2	17.5
2	2335.8	48.6	43.4	30.6	36.3	6.3	0.0	49.2	44.0	54.0	4.8	10.0
3	3249.4	34.8	39.6	31.8	36.4	7.5	0.0	37.7	42.5	54.0	16.3	11.5
4	4874.0	30.5	30.8	35.4	36.1	9.5	1.0	40.3	40.6	54.0	13.7	13.4
5	7311.0	29.4	29.4	37.9	35.7	12.0	0.5	44.1	44.1	54.0	9.9	9.9
6	9748.0	32.9	33.9	37.1	36.3	14.0	0.0	47.7	48.7	54.0	6.3	5.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12185.0	32.5	29.5	41.4	35.6	15.6	0.0	44.4	41.4	54.0	9.6	12.6
8	14622.0	28.1	28.0	42.6	34.8	16.8	0.0	43.2	43.2	54.0	10.8	10.8
9	17059.0	30.7	30.6	46.6	35.4	18.8	0.0	51.3	51.2	54.0	2.7	2.8
10	19496.0	29.9	29.9	39.2	34.9	20.6	0.0	45.4	45.4	54.0	8.6	8.6
11	21933.0	30.8	30.8	40.5	35.0	22.3	0.0	49.1	49.1	54.0	4.9	4.9
12	24370.0	31.4	31.4	40.1	36.6	22.7	0.0	48.1	48.1	54.0	5.9	5.9

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11g, Tx2437MHz + Bluetooth Hopping ON) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)
Mode : 11g, 54Mbps, PN9, Tx 2437MHz
+Bluetooth Hopping ON

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 9/04/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 64 %
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	FREQ [MHz]	S/A 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
		[dBuV/m]	[dBuV/m]					[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2336.0	60.2	53.6	30.6	36.3	6.3	0.0	60.8	54.2	74.0	13.2	19.8
2	2880.0	43.8	43.8	32.0	36.4	7.1	0.0	46.5	46.5	74.0	27.6	27.5
3	3249.3	46.1	48.5	31.8	36.4	7.5	0.0	49.0	51.4	74.0	25.0	22.6
4	4874.0	53.8	47.4	35.4	36.1	9.5	0.0	62.6	56.2	74.0	11.4	17.8
5	7311.0	44.9	42.2	37.9	35.7	12.0	0.0	59.1	56.4	74.0	14.9	17.6
6	9748.0	43.0	42.5	37.1	36.3	14.0	0.0	57.8	57.3	74.0	16.2	16.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12185.0	43.8	43.9	41.4	35.6	15.6	0.0	55.7	55.9	74.0	18.3	18.1
8	14622.0	40.7	40.7	42.6	34.8	16.8	0.0	55.9	55.8	74.0	18.1	18.2
9	17059.0	42.9	43.1	46.6	35.4	18.8	0.0	63.4	63.6	74.0	10.6	10.4
10	19496.0	43.1	42.8	39.2	34.9	20.6	0.0	58.5	58.2	74.0	15.5	15.8
11	21933.0	43.5	43.4	40.5	35.0	22.3	0.0	61.8	61.7	74.0	12.2	12.3
12	24370.0	44.1	43.4	40.1	36.6	22.7	0.0	60.8	60.1	74.0	13.2	13.9

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	FREQ [MHz]	S/A 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
		[dBuV/m]	[dBuV/m]					[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2336.0	47.3	42.9	30.6	36.3	6.3	0.0	47.9	43.5	54.0	6.1	10.5
2	2880.0	31.5	31.5	32.0	36.4	7.1	0.0	34.2	34.2	54.0	19.8	19.8
3	3249.3	36.0	42.0	31.8	36.4	7.5	0.0	38.9	44.9	54.0	15.1	9.1
4	4874.0	37.0	30.7	35.4	36.1	9.5	0.0	45.8	39.5	54.0	8.2	14.5
5	7311.0	30.2	29.0	37.9	35.7	12.0	0.0	44.4	43.2	54.0	9.6	10.8
6	9748.0	30.1	30.5	37.1	36.3	14.0	0.0	44.9	45.3	54.0	9.1	8.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac												
7	12185.0	30.4	30.5	41.4	35.6	15.6	0.0	42.4	42.4	54.0	11.7	11.6
8	14622.0	28.1	28.1	42.6	34.8	16.8	0.0	43.2	43.2	54.0	10.8	10.8
9	17059.0	30.4	30.4	46.6	35.4	18.8	0.0	51.0	51.0	54.0	3.1	3.0
10	19496.0	29.9	29.9	39.2	34.9	20.6	0.0	45.3	45.3	54.0	8.7	8.7
11	21933.0	30.8	30.8	40.5	35.0	22.3	0.0	49.2	49.1	54.0	4.8	4.9
12	24370.0	31.2	31.2	40.1	36.6	22.7	0.0	47.9	48.0	54.0	6.1	6.0

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.

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

MF060b(10.04.03)

Spurious Emission (Radiated /11b/g +Bluetooth Hopping ON:Band Edge) above 1GHz

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Sony Corporation
Equipment : Personal Computer
Model : PCG-4C1L
Sample No. : XTA019
Power : AC120V / 60Hz (PC: DC16V)

REPORT NO : 24KE0201-HO
REGULATION : Fcc Part15 Subpart C 15.247(C)
TEST DISTANCE : 3/1m
DATE : 9/04/2004
TEMPERATURE : 23 deg.C
HUMIDITY : 64 %
ENGINEER : Kenichi Adachi

Mode : 11b, 11Mbps, PN9, Tx 2412MHz + Bluetooth Hopping ON

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER		HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
PK DETECT (RBW: 1MHz , VBW:1MHz)												
1	2384.6	59.9	56.3	30.8	36.3	6.4	0.0	60.8	57.2	74.0	13.2	16.8
AV DETECT (RBW: 1MHz , VBW:10Hz)												
1	2384.6	43.5	40.8	30.8	36.3	6.4	0.0	44.4	41.7	54.0	9.6	12.3
20dBc(Fundamental 2412MHz) (RBW: 100kHz , VBW:300kHz)												
1	2411.1	104.0	100.7	30.9	36.3	6.5	0.0	105.1	101.8	-	-	-
2	2399.5	66.5	62.8	30.8	36.3	6.5	0.0	67.5	63.8	Funda-20dB	17.6	18.1

Mode : 11b, 11Mbps, PN9, Tx 2462MHz + Bluetooth Hopping ON

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dBuV/m]	[dBuV/m]		[dB]	[dB]
PK DETECT (RBW: 1MHz , VBW:1MHz)												
1	2487.4	54.4	52.4	30.8	36.2	6.5	0.0	55.5	53.5	74.0	18.5	20.5
AV DETECT (RBW: 1MHz , VBW:10Hz)												
1	2487.4	40.3	39.2	30.8	36.2	6.5	0.0	41.4	40.3	54.0	12.6	13.7

Mode : 11g, 54Mbps, PN9, Tx 2412MHz + Bluetooth Hopping ON

No.	FREQ	S/A READING		ANT	AMP	CABLE	Band-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER		HOR	VER
	[MHz]	[dBuV/m]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
PK DETECT (RBW: 1MHz, VBW:1MHz)												
1	2389.6	62.3	58.3	30.8	36.3	6.4	0.0	63.2	59.2	74.0	10.8	14.9
AV DETECT (RBW: 1MHz, VBW:10Hz)												
1	2389.6	40.1	37.7	30.8	36.3	6.4	0.0	41.0	38.6	54.0	13.0	15.4
20dBc(Fundamental 2412MHz) (RBW: 100kHz, VBW:300kHz)												
1	2410.8	95.8	92.3	30.9	36.3	6.5	0.0	96.9	93.4	-	-	-
2	2399.9	65.2	60.5	30.8	36.3	6.5	0.0	66.2	61.5	Funda-20dB	18.8	20.3

Mode : 11g, 54Mbps, PN9, Tx 2462MHz + Bluetooth Hopping ON

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]						[dBuV/m]			[dB]	[dB]
PK DETECT (RBW: 1MHz , VBW:1MHz)												
1	2484.0	60.5	60.1	30.8	36.2	6.5	0.0	61.6	61.2	74.0	12.4	12.8
AV DETECT (RBW: 1MHz, VBW:10Hz)												
1	2484.0	39.6	38.8	30.8	36.2	6.5	0.0	40.7	39.9	54.0	13.3	14.1

Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass

*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.

UL Apex Co., Ltd.

Head Office EMC Lab.

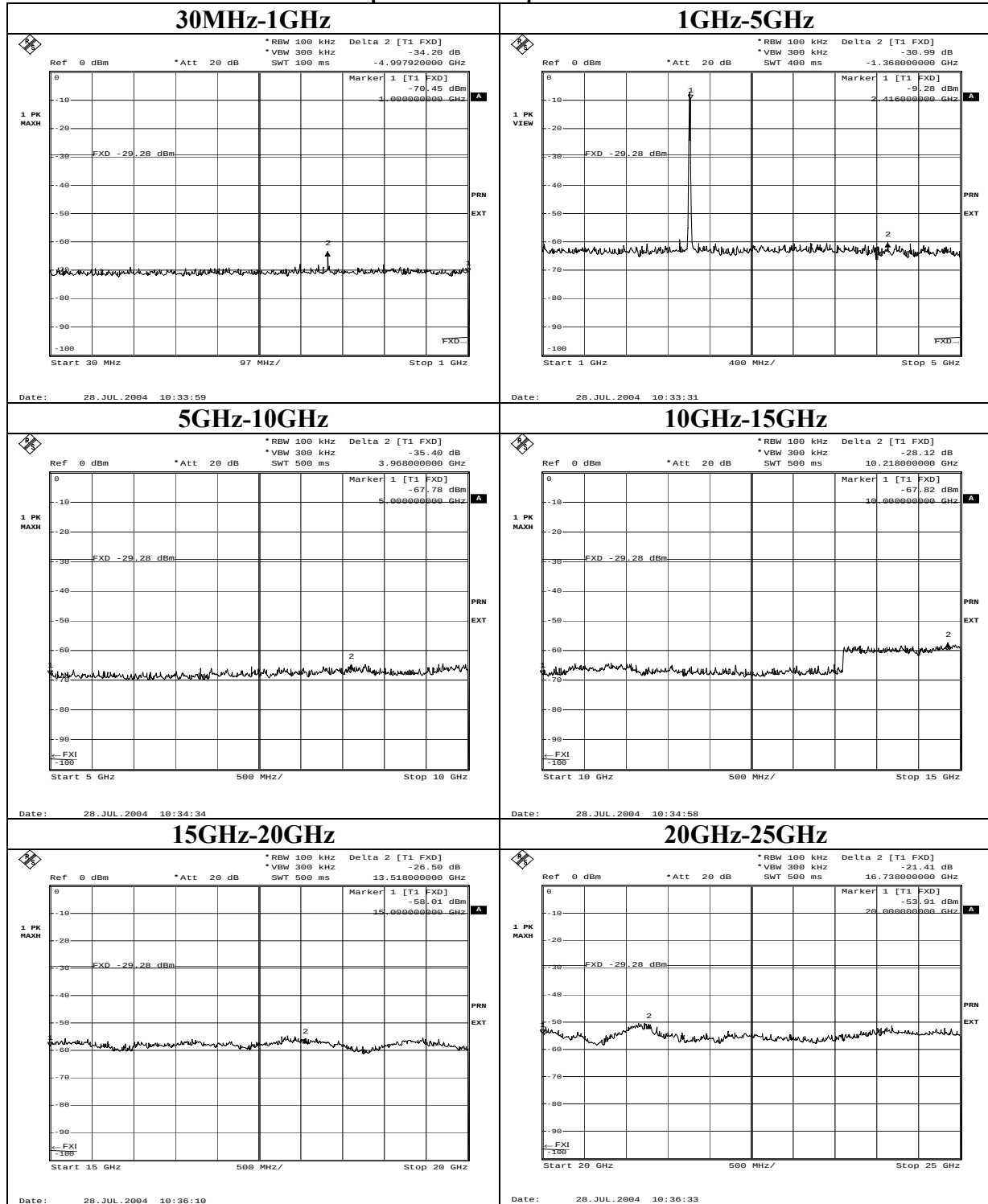
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

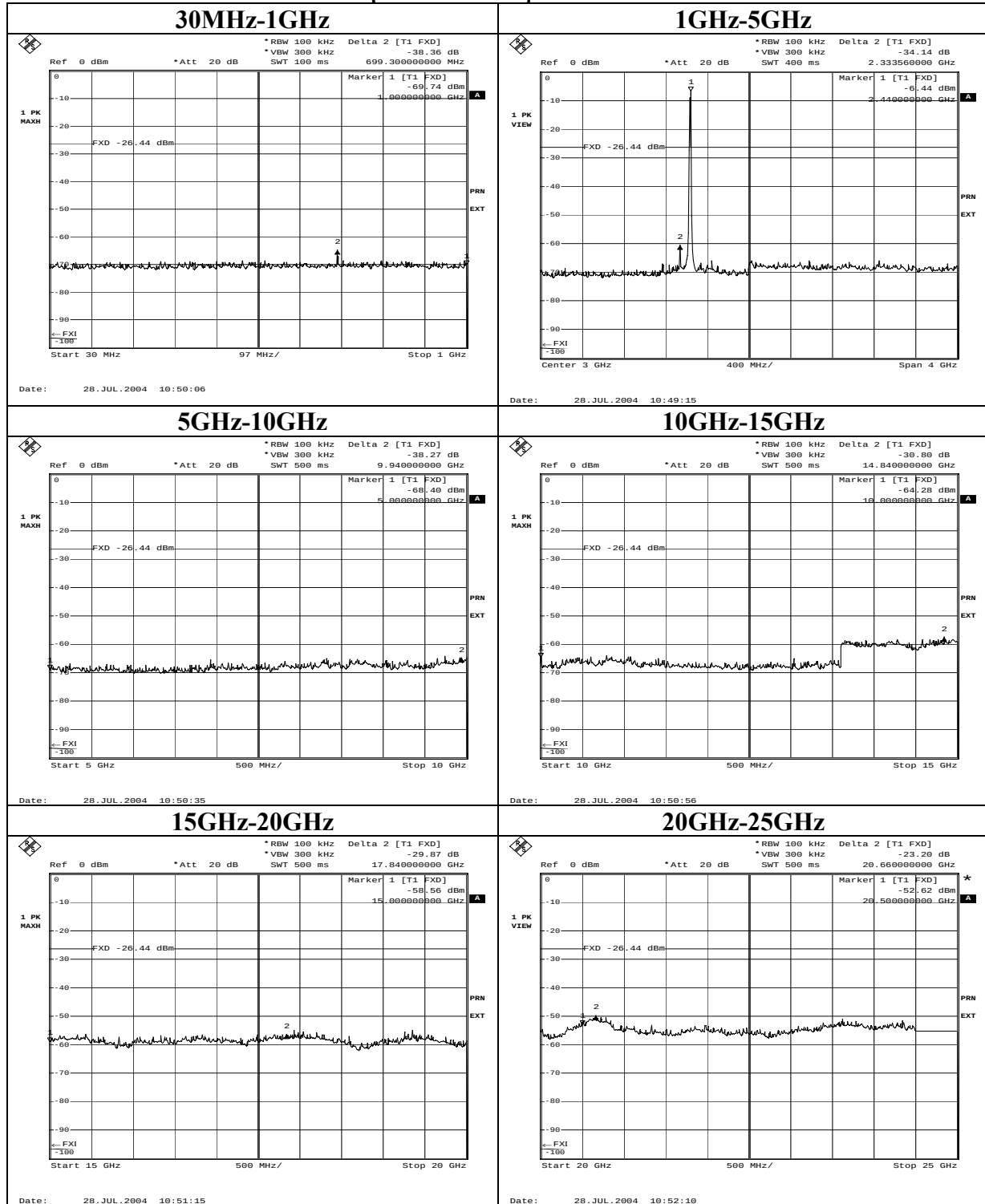
Facsimile : +81 596 24 8124

MF060b(10.04.03)

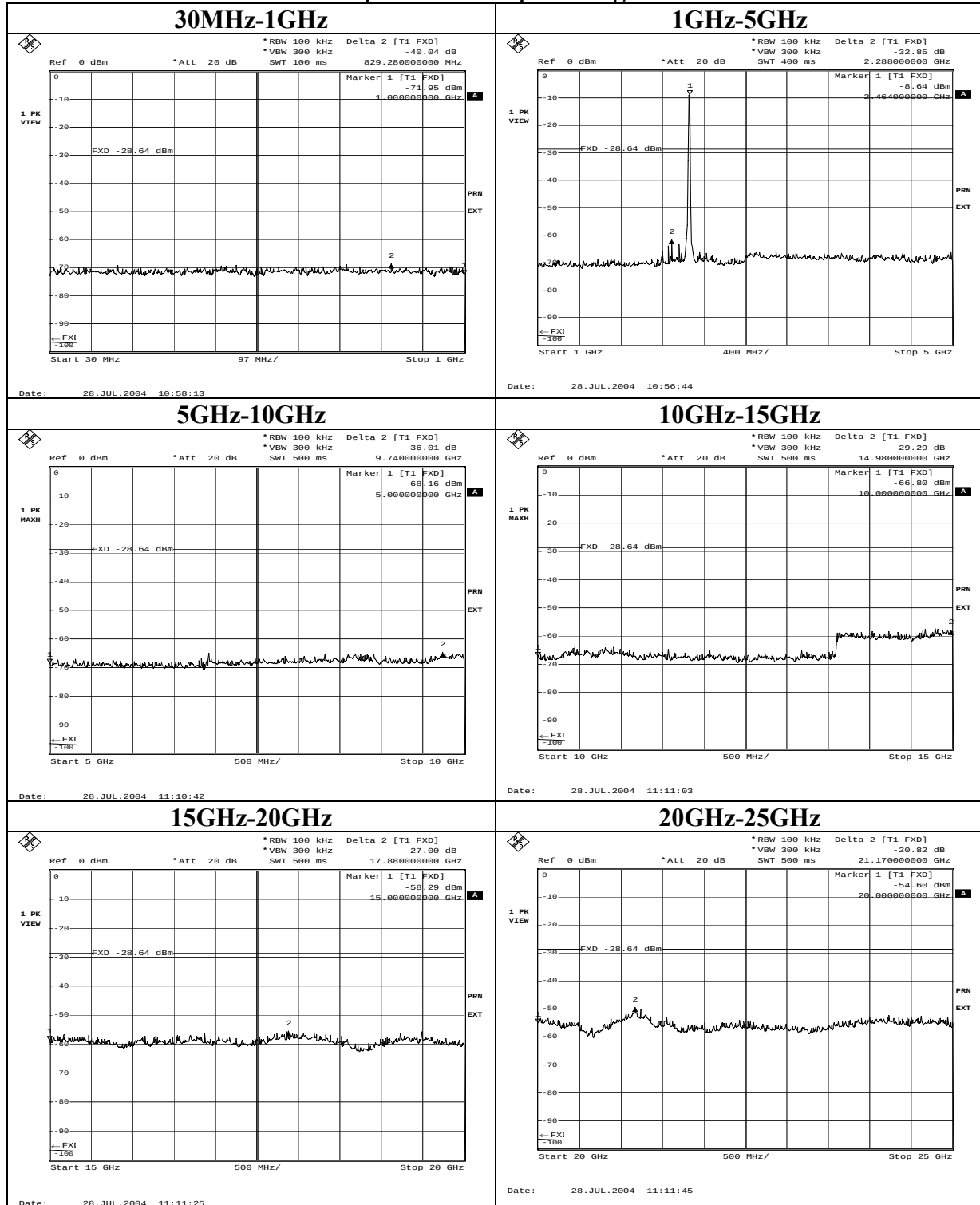
Conducted Spurious Emission(DSSS and other forms of modulation)
[IEEE802.11b] Ch : Low



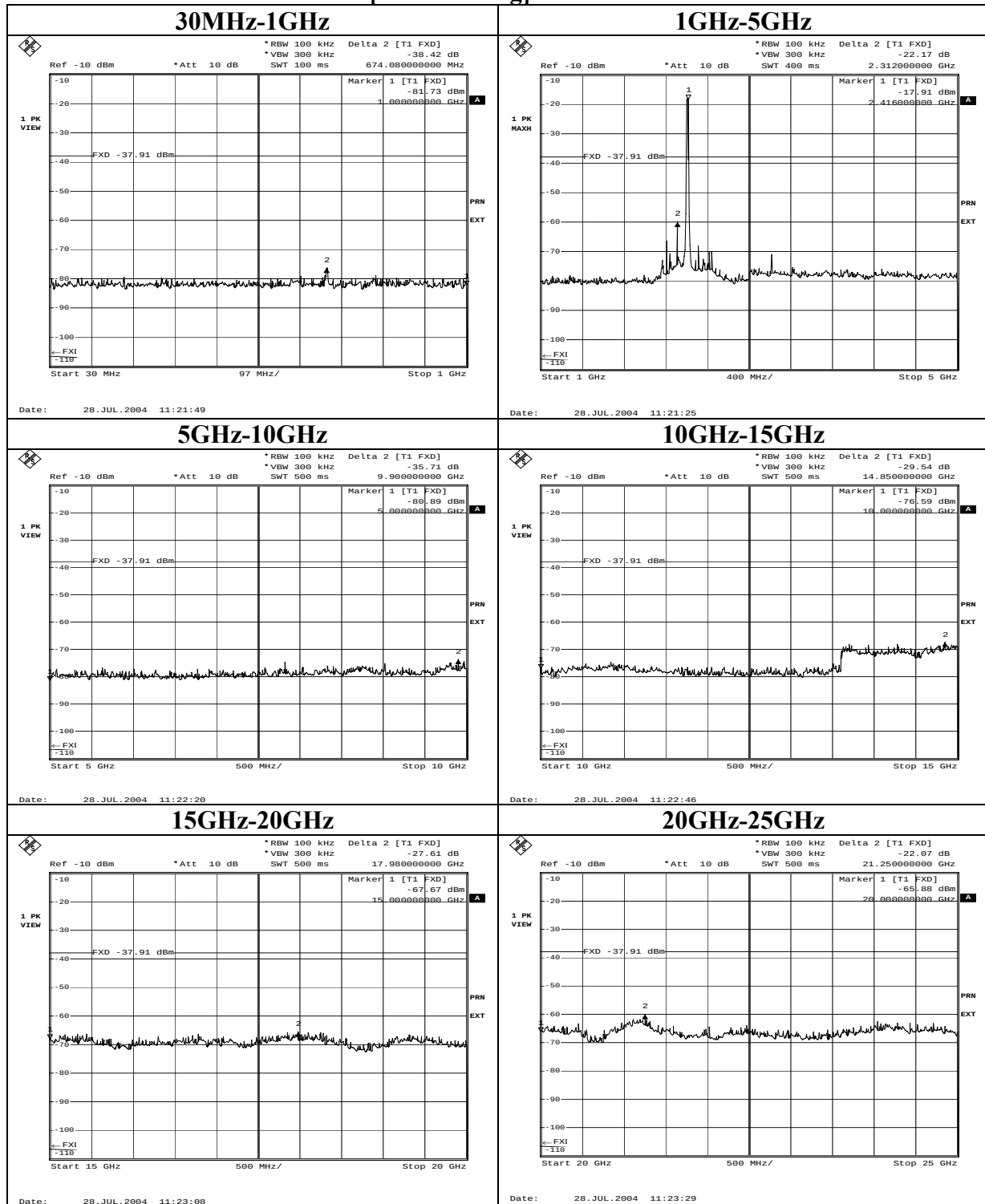
Conducted Spurious Emission(DSSS and other forms of modulation)
[IEEE802.11b] Ch : Mid



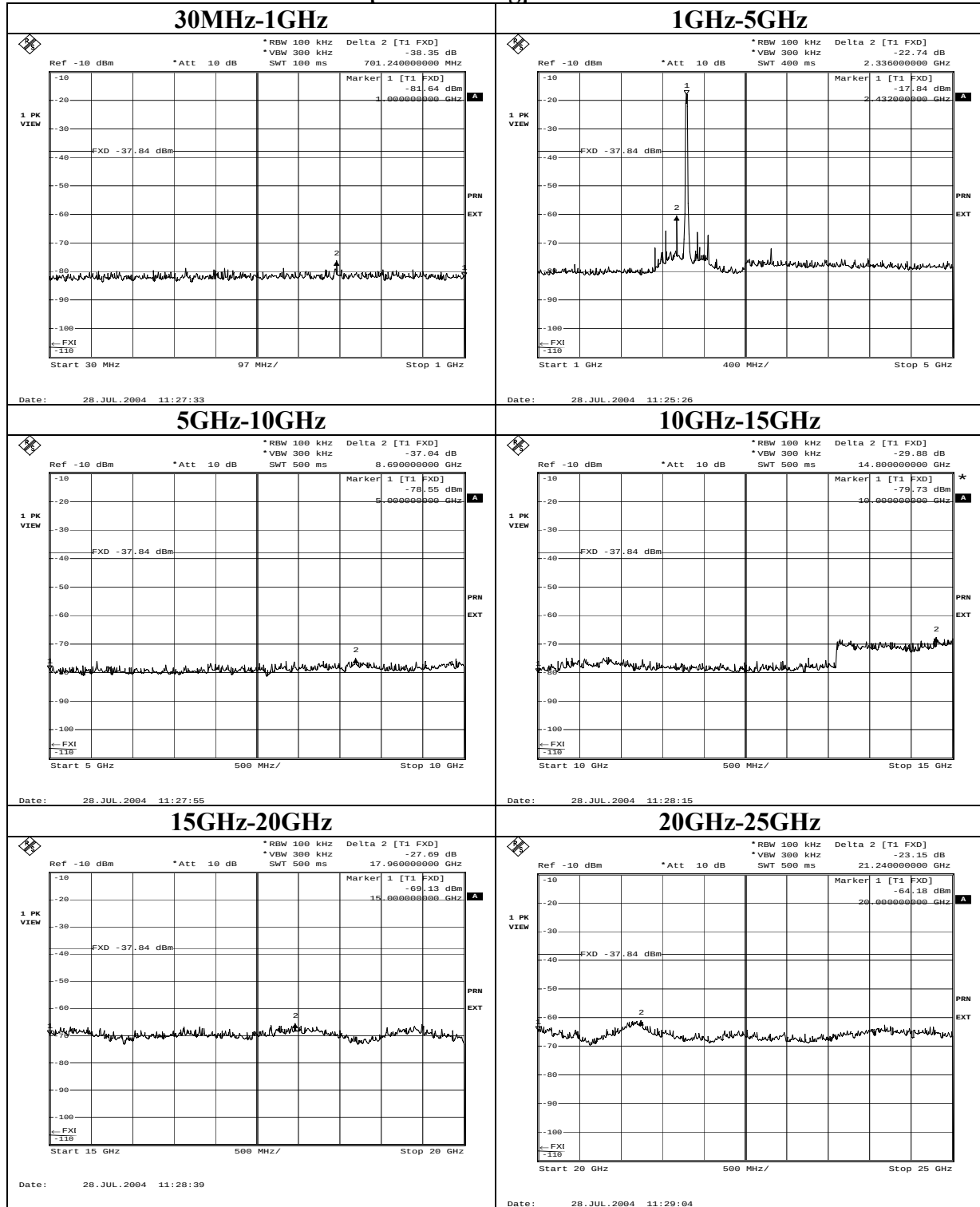
Conducted Spurious Emission(DSSS and other forms of modulation)
[IEEE802.11b] Ch : High



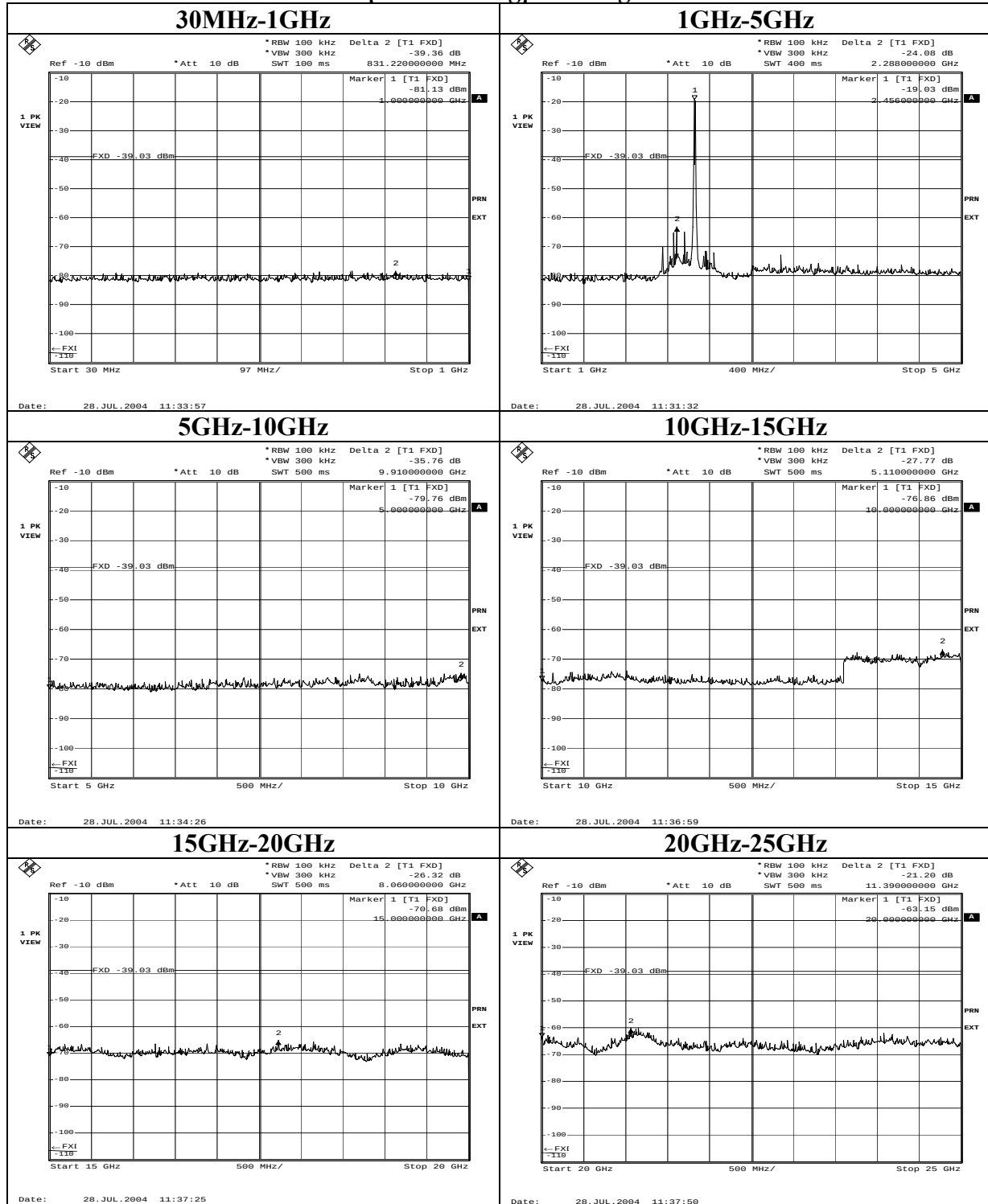
Conducted Spurious Emission(DSSS and other forms of modulation)
[IEEE802.11g] Ch : Low



Conducted Spurious Emission(DSSS and other forms of modulation)
[IEEE802.11g] Ch : Mid

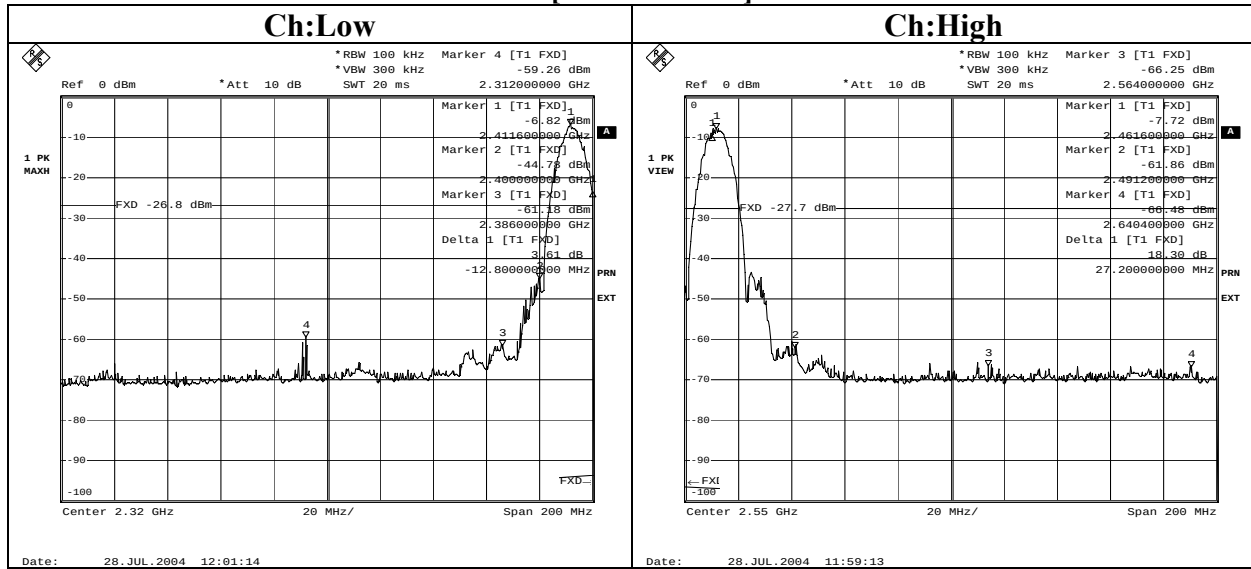


Conducted Spurious Emission(DSSS and other forms of modulation)
[IEEE802.11g] Ch : High

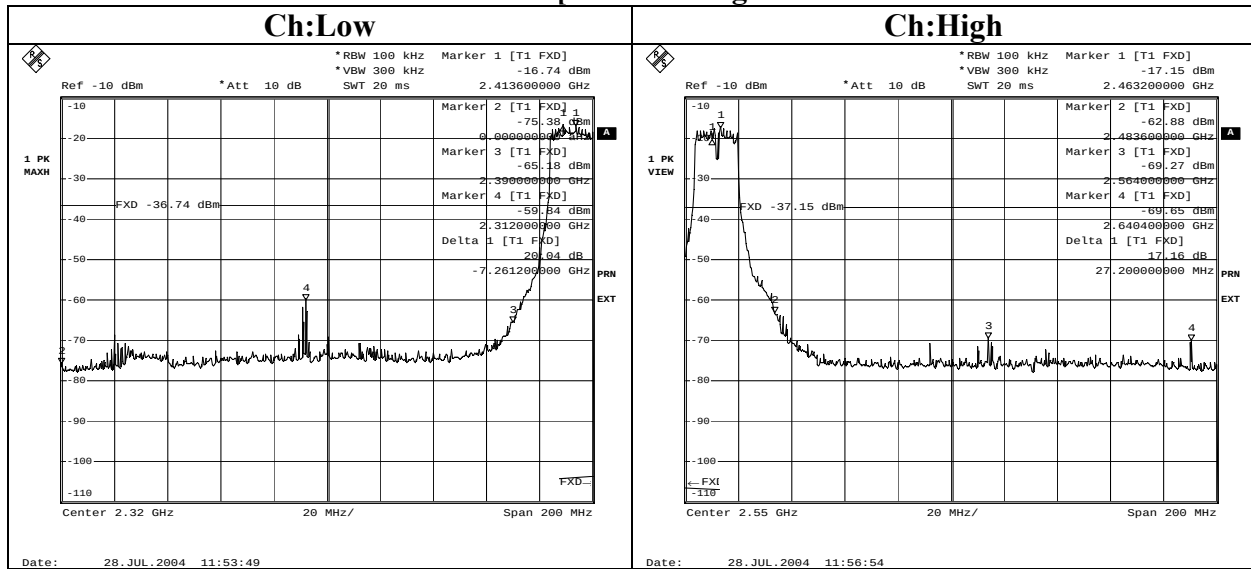


Conducted emission Band Edge compliance (DSSS and other forms of modulation)

[IEEE802.11b]



[IEEE802.11g]



Power Density (DSSS and other forms of modulation)

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

Company	: Sony Corporation	REPORT NO	: 24KE0201-HO
Equipment	: Personal Computer	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: PCG-4C1L	TEST DISTANCE	: -
Sample No.	: XTA084	DATE	: 07/27/2004
Power	: AC120V/60Hz	TEMPERATURE	: 26°C
Mode	: Tx(ch1,6,11)	HUMIDITY	: 42%
		ENGINEER	: Hiroka Umeyama

IEEE802.11b

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2412.0	-21.47	3.40	10.00	-8.1	8.0	16.1
Mid	2437.0	-20.74	3.40	10.00	-7.3	8.0	15.3
High	2462.0	-22.46	3.40	10.00	-9.1	8.0	17.1

IEEE802.11g

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2412.0	-30.07	3.40	10.00	-16.7	8.0	24.7
Mid	2437.0	-29.72	3.40	10.00	-16.3	8.0	24.3
High	2462.0	-30.10	3.40	10.00	-16.7	8.0	24.7

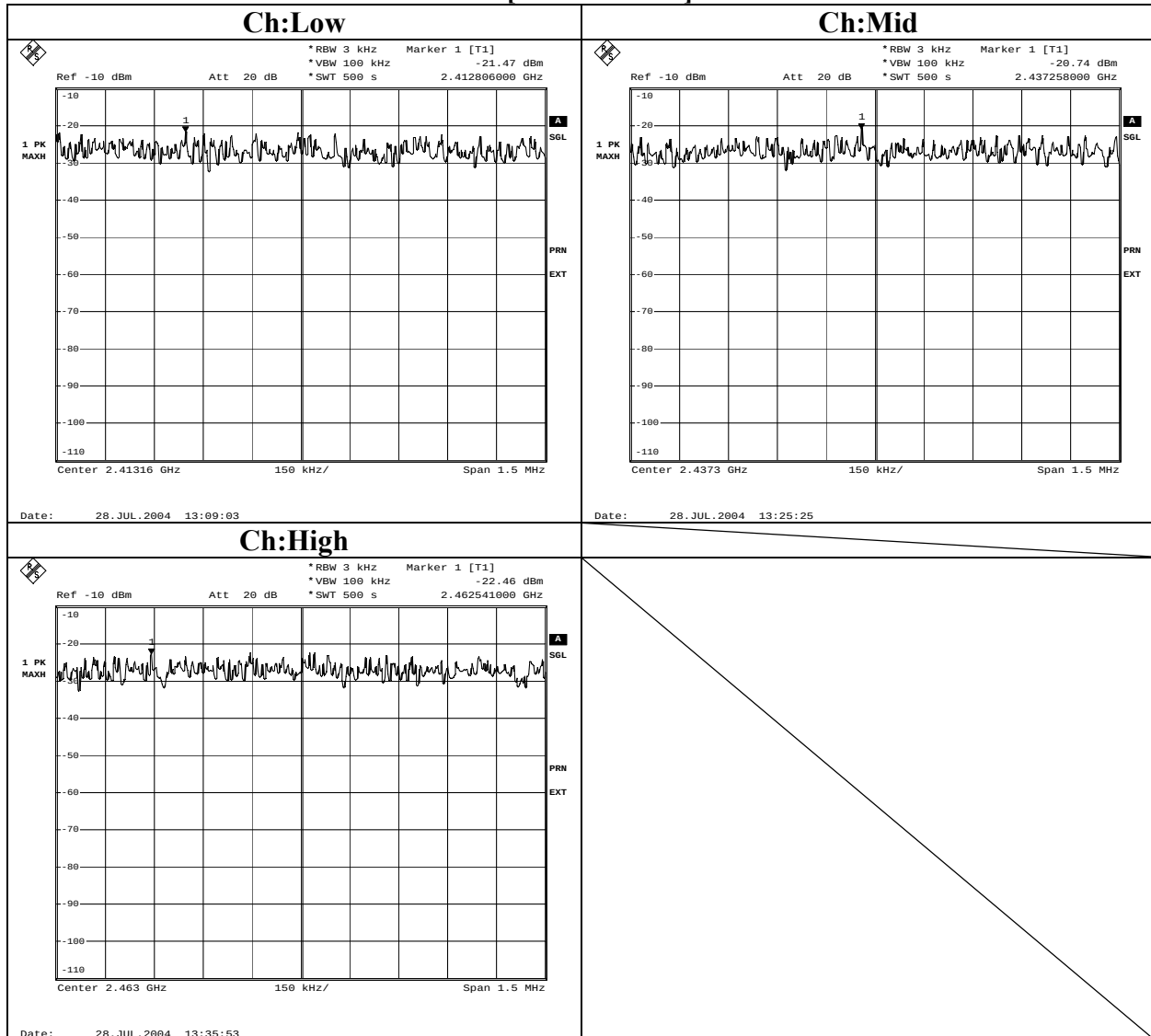
Sample Calculation:

Result = Reading + Cable Loss(customer's Cable) + Attenuator

* Atten. was not used for factor 0.0dB of the above table.

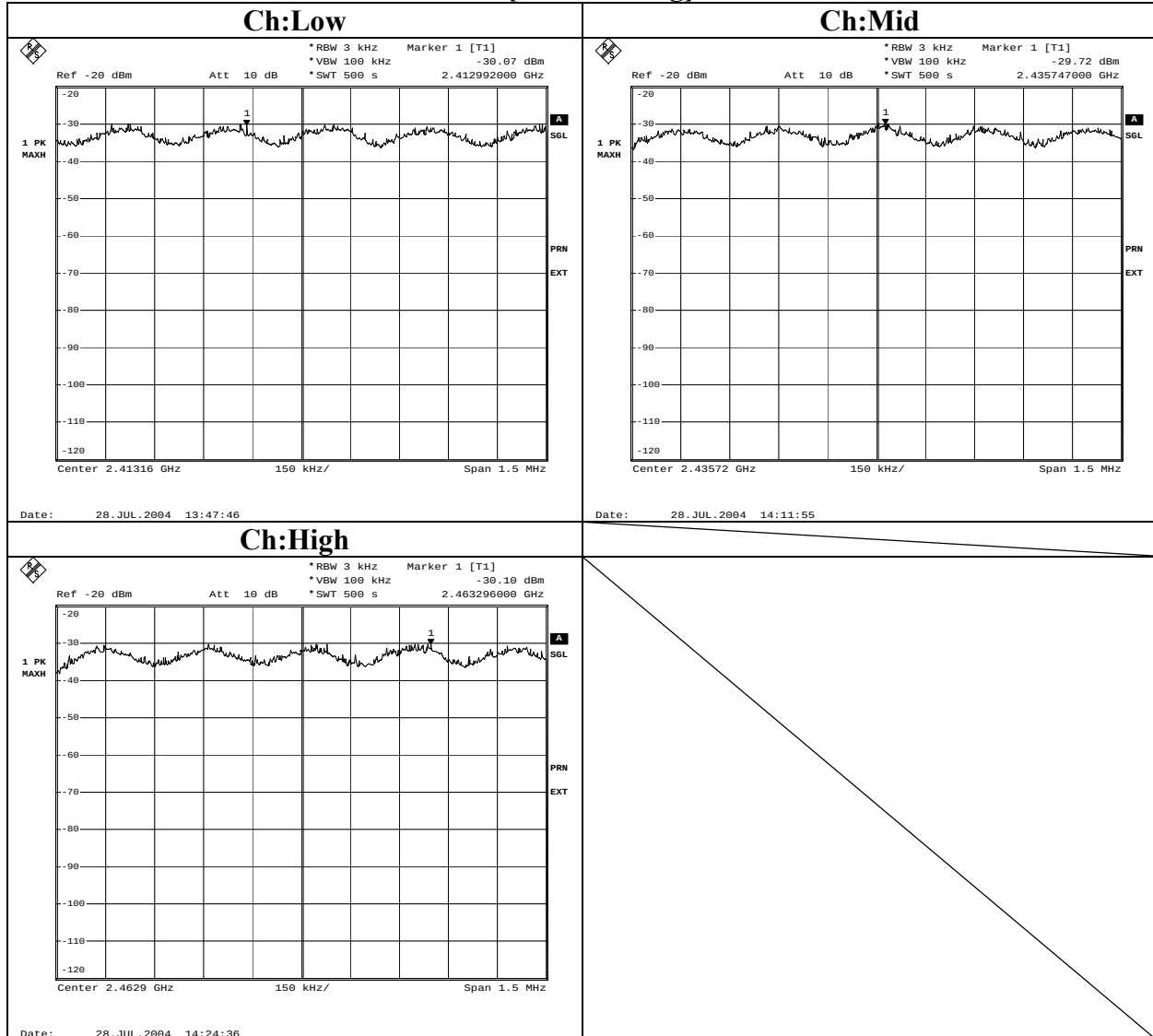
Power Density(DSSS and other forms of modulation)

[IEEE802.11b]



Power Density(DSSS and other forms of modulation)

[IEEE802.11g]



99%Occupied Bandwidth(DSSS and other forms of modulation)

[IEEE802.11b]

