EMI TEST REPORT

Test Report No.: 25KE0241-HO-1a

Applicant	:	**SHARP CORPORATION**
Type of Equipment	:	**Personal Computer**
Model No.	:	**PC-M4000**
FCC ID	:	**APYNAR0059**
Test standard	:	**FCC Part 15 Subpart C Section 15.207 and Section 15.247: 2005**
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 the 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 to 20, 2005

Tested by:

Hiroka Umeyama
EMC Services

Norihisa Hashitmoto
EMC Services

Approved by :

Naoki Sakamoto
Group Leader of
EMC Services

UL Apex Co., Ltd.
Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
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SECTION 1: Client information

Company Name	:	SHARP CORPORATION
Brand Name	:	SHARP
Address	:	492 Minosho-cho, Yamatokoriyama-shi, Nara 639-1186 Japan
Telephone Number	:	+81-743-55-4091
Facsimile Number	:	+81-743-54-2856
Contact Person	:	Hirofumi Shimada

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

2.1 Identification of E.U.T.

Type of Equipment	:	Personal Computer
Model No.	:	PC-M4000
Serial No.	:	CN-0201
Country of Manufacture	:	Japan
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Rating	:	AC120 V/0.84A
Receipt Date of Sample	:	July 12, 2005

2.2 Product Description

Sharp Corporation., Model No: PC-M4000 is the Personal Computer with IEEE802. 11b and 11g Wireless LAN module. It has variant models (PC-M4xyy, X=0-2, Y=0-9) and they are equipped with the same Wireless LAN module and antenna, thus radio part will remain same in all the models.
The differences between the original and variants are CPU Clock, FSB Clock, and DDR2 SDRAM Bus Clock of PC, and spurious emission of each variant will be confirmed under FCC 15.B (DoC)/ICES-003.

Equipment Type	:	Personal Computer
Frequency of Operation	:	2412-2462MHz
Channel spacing	:	5MHz
Modulation	:	DSSS/OFDM
Mode of Operation	:	Simplex
ITU code	:	G1D/D1D
Antenna Type	:	Film Antenna (Hitachi Cable HFT30-SH01)
Antenna Connector Type	:	MiniPCI side: Hirose U.FL-R-SMT/Cable side : JST AYU-1
Antenna Gain	:	0.2dBi

***FCC 15.31 (e)**
The stable voltage is provided with RF part from the accompanying AC Adapter or the embedded battery. Therefore, this EUT complies with the requirement.

***FCC Part 15.203 Antenna requirement**
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	FCC Part15 Subpart C : 2005
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits : 2005 Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz : 2005

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 RSS-210 6.6	-	N/A	5.9dB (0.46430MHz, L and N, AV)	Complied
2	6dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(2) RSS-210 5.9.1	Conducted	N/A	See data.	Complied
3	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(b)(3) RSS-210 6.2.2(o)(b)	Conducted	N/A	See data.	Complied
4	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d) RSS-210 6.2.2(o)(e1) and 6.3	Conducted/ Radiated	N/A	0.1dB (66.470MHz, Ver, QP)	Complied
5	Restricted Band Edges	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d) RSS-210 6.2.2(o)(e1) and 6.3	Conducted	N/A	See data	Complied
6	Power Density	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (e) RSS-210 6.2.2(o)(b)	Conducted	N/A	See data	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 ±1.3dB.
The data listed in this test report has enough margin, more than the site margin.

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ±4.5dB(3m)/ ±4.7dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±5.2dB(3m)/ ±3.8dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ±6.6dB.
The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test is ±3.0dB.
The data listed in this test report has enough margin, more than the site margin.

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

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

3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS-210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004 + Amendment4: 2004	RSS-210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004 + Amendment4: 2004	Conducted	N/A	N/A	N/A

3.4 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

	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	313583	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	846015	IC4247A-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.

3.5 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

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

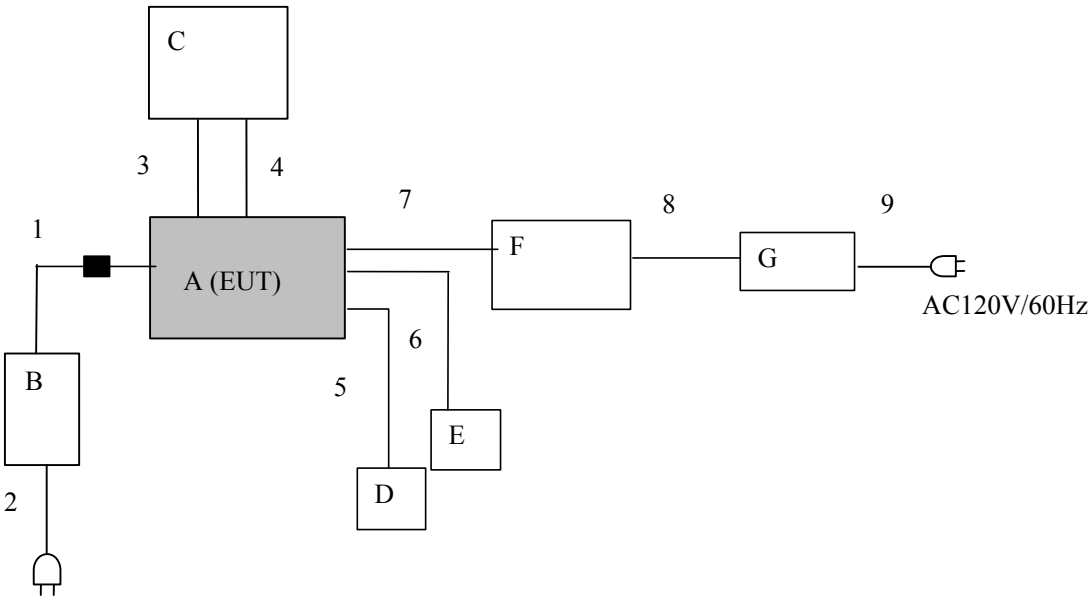
4.1 Operating Modes

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

*Tests were performed under maximum condition.

4.2 Configuration and peripherals



■: Standard Ferrite core

- 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 (EUT)	PC-M4000	CN-0201	SHARP	**APYNAR0059**
B	AC Adapter	EA-MW1V	05600159A	SHARP	-
C	Personal Computer	PC-MJ720M	1V024423	SHARP	-
D	Mouse	M-UB48	LZE02403177	Logitech	-
E	Mouse	M-UB48	LZE02601001	Logitech	-
F	Monitor	LM14VX	T354M05092	ENERGY STAR	-
G	AC Adapter	ADPC12416BB	12416B042120921	ENERGY STAR	-

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Power Cable	1.8m	N	Polyvinyl chloride
2	AC Power Cable	1.8m	N	Polyvinyl chloride
3	Modem Cable	2.0m	N	Polyvinyl chloride
4	LAN Cable	1.0m	N	Polyvinyl chloride
5	USB Cable	0.7m	N	Polyvinyl chloride
6	USB Cable	0.7m	N	Polyvinyl chloride
7	Monitor Cable	1.5m	Y	Polyvinyl chloride
8	DC Cable	1.0m	N	Polyvinyl chloride
9	AC Cable	1.7m	N	Polyvinyl chloride

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a platform of nominal size, **1.0m by 1.0m**, 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 resistivity 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 and average detector (IF BW 9 kHz)
Measurement range : 0.15-30MHz
Test data : APPENDIX 3
Test result : Pass

SECTION 6: Spurious Emission

[Conducted]

Test Procedure
The Spurious emission 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, 1.0m by 1.0m, 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 linear mode).
The test was made with the detector (RBW/VBW) in the following table.
When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

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.

20dBc was applied to the frequency over the limit of FCC 15.209 and outside the restricted band of 15.205.

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

The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Test data : APPENDIX 3
Test result : Pass

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SECTION 7: Bandwidth

Test Procedure

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

Test data : APPENDIX 3
Test result : Pass

SECTION 8: Maximum Peak Output Power

Test Procedure
The test was made with the spectrum analyzer that has a function of channel-power measurements.
The Maximum Peak Output Power was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 9: Peak Power Density

[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

This page has been submitted as a separate exhibit.

This page has been submitted as a separate exhibit.

This page has been submitted as a separate exhibit.

APPENDIX 2:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MSA-03	Spectrum Analyzer	Agilent	E4448A	AT /CE/RE	2005/06/03 * 12
MCC-16	Microwave Cable	Suhner	SUCOFLEX 104	AT	2005/02/03 * 12
MCC-37	Microwave Cable	Hirose	U.FL-2LP-066-A-(200)	AT	2005/07/22 * 12
MAT-23	Attenuator(10dB)(above1GHz)	Orient Microwave	BX10-0476-00	AT	2005/03/16 * 12
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE	2004/11/13 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE	2004/11/12 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	RE	2004/09/18 * 12
MCC-05	Microwave Cable 1G-50GHz	Storm	421-011 (90-1394-079)	RE	2005/01/05 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2005/02/05 * 12
MHA-01	Horn Antenna	EMCO	3160-09	RE	2005/01/10 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	CE	2005/04/11 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	CE/RE	2005/02/02 * 12
MTA-02	Termination	TME	CT-01	CE	2005/02/03 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE(EUT)	2005/02/04 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2005/02/04 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	CE	2005/02/24 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2005/02/24 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MPA-06	Pre Amplifier	Hewlett Packard	8447D	RE	2004/08/29 * 12

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

Test Item:

CE: Conducted emission,
RE: Radiated emission,
AT: Antenna terminal

APPENDIX 3: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

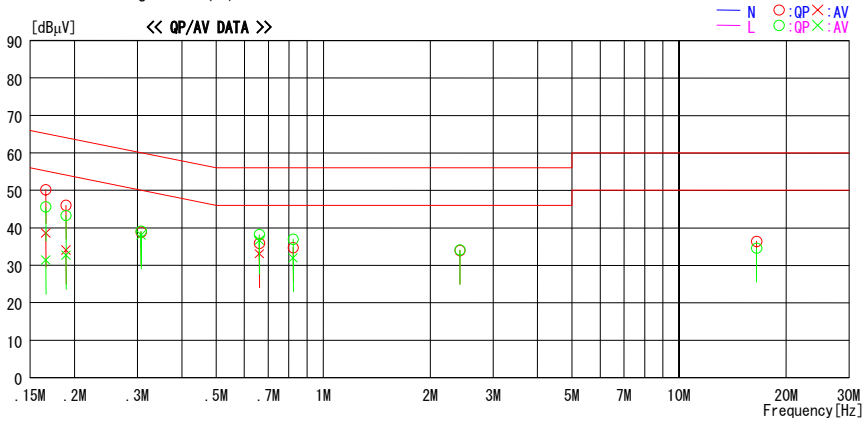
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 13:45:13

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V/60Hz
Temp℃/Humi% : 26deg.C / 60%
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11b Ch6 2437MHz

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



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
0.16593	45.5	31.3	0.1	45.6	31.4	65.2	55.2	19.6	23.8	L
0.16593	50.1	38.5	0.1	50.2	38.6	65.2	55.2	15.0	16.6	N
0.18900	45.9	34.0	0.1	46.0	34.1	64.1	54.1	18.1	20.0	N
0.18900	43.2	32.6	0.1	43.3	32.7	64.1	54.1	20.8	21.4	L
0.30750	39.0	38.0	0.1	39.1	38.1	60.0	50.0	20.9	11.9	L
0.30750	38.8	-----	0.1	38.9	-----	60.0	-----	21.1	-----	N
0.66050	38.0	36.5	0.2	38.2	36.7	56.0	46.0	17.8	9.3	L
0.66050	35.7	32.9	0.2	35.9	33.1	56.0	46.0	20.1	12.9	N
0.82214	36.7	31.7	0.3	37.0	32.0	56.0	46.0	19.0	14.0	L
0.82214	34.4	-----	0.3	34.7	-----	56.0	-----	21.3	-----	N
2.42000	33.6	-----	0.5	34.1	-----	56.0	-----	21.9	-----	L
2.42000	33.5	-----	0.5	34.0	-----	56.0	-----	22.0	-----	N
16.52000	34.7	-----	1.7	36.4	-----	60.0	-----	23.6	-----	N
16.52000	32.9	-----	1.7	34.6	-----	60.0	-----	25.4	-----	L

CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

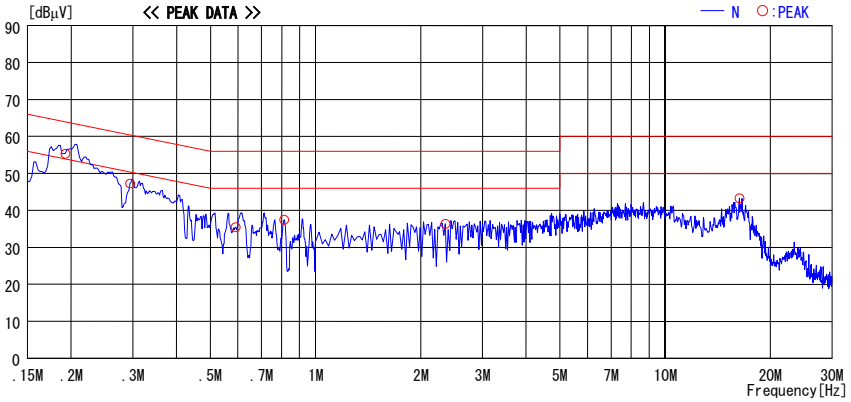
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 13:31:39

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V/60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 26deg.C / 60%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11b Ch1 2412MHz

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



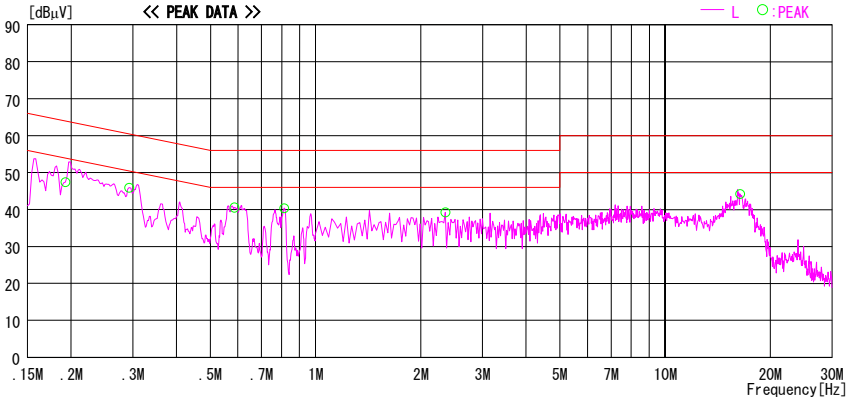


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE
Except for the above table : adequate margin data below the limits.

Conducted Emission

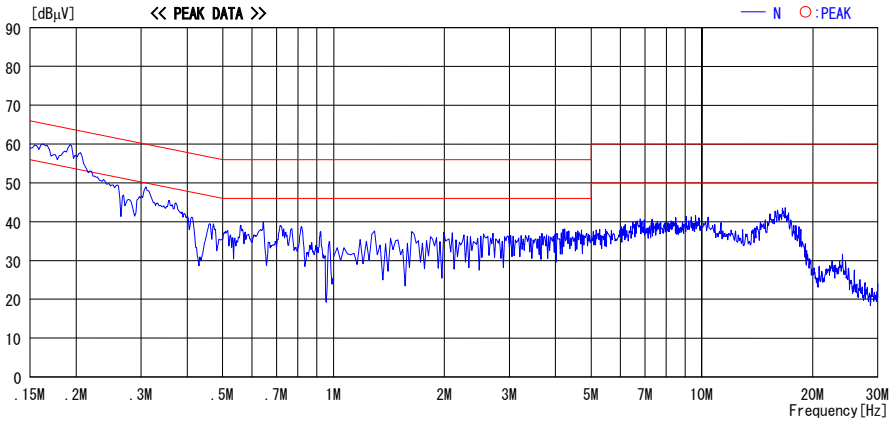
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 13:45:13

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V/60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 26deg.C / 60%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11b Ch6 2437MHz

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



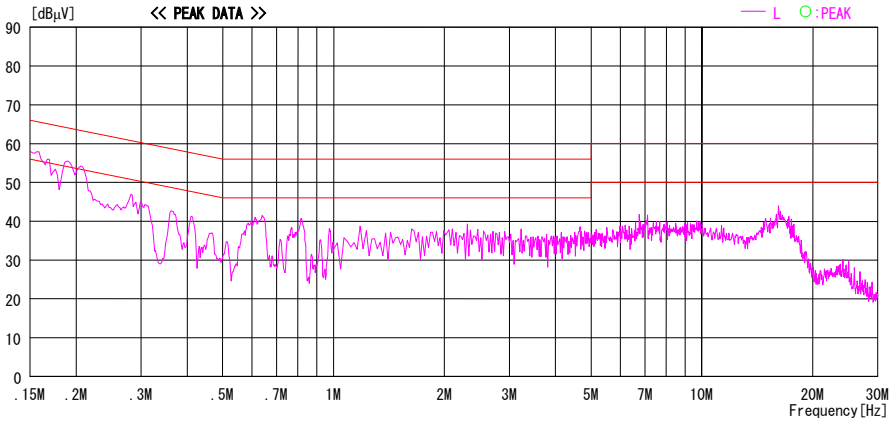


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

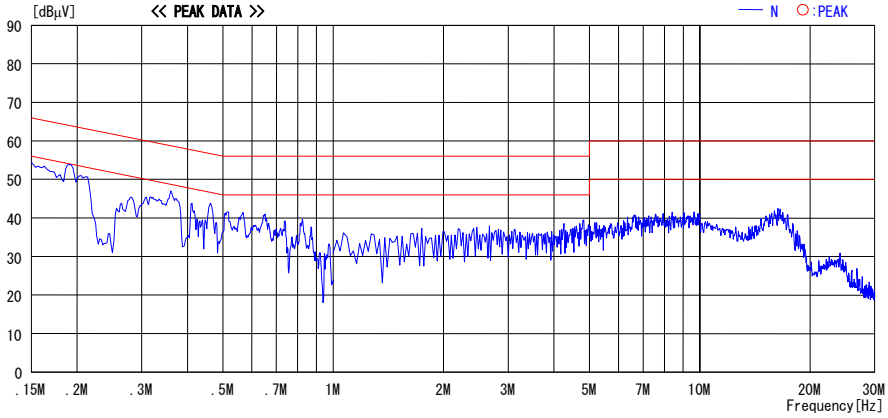
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 13:51:00

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V/60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 26deg.C / 60%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11b Ch11 2462MHz

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



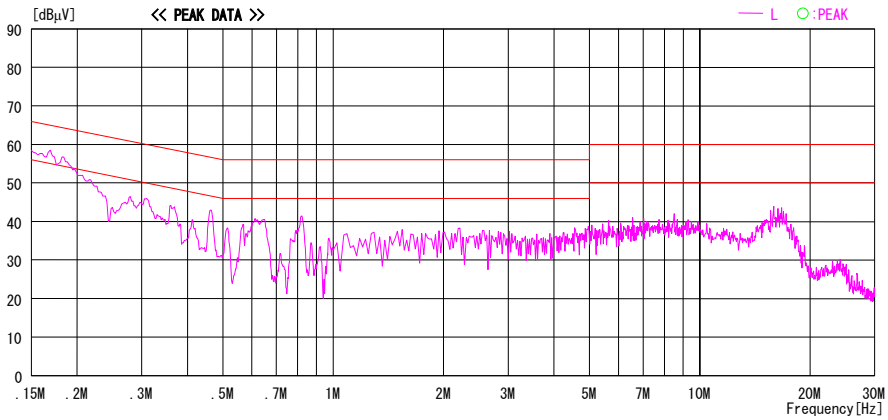


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

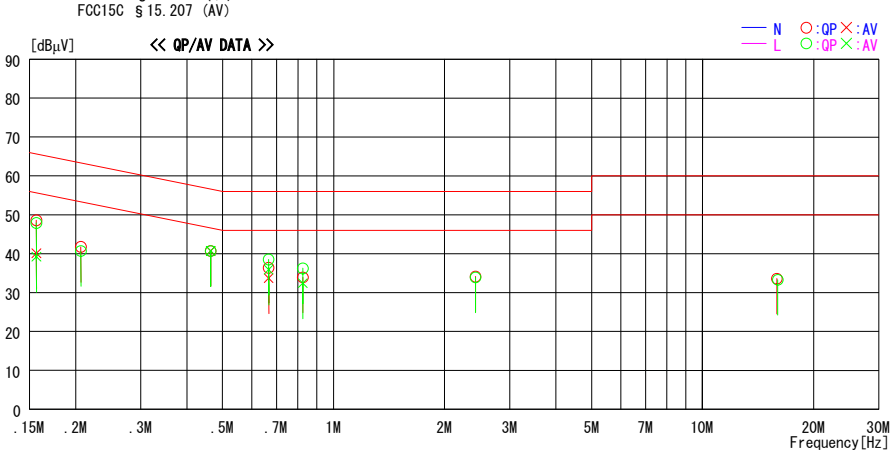
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 14:56:21

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V/60Hz
Temp℃/Humi% : 26deg.C / 60%
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11g Ch6 2437MHz

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



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
0.15650	48.5	40.0	0.1	48.6	40.1	65.6	55.6	17.0	15.5	N
0.15650	47.8	39.1	0.1	47.9	39.2	65.6	55.6	17.7	16.4	L
0.20648	41.6	-----	0.1	41.7	-----	63.3	-----	21.6	-----	N
0.20648	40.6	-----	0.1	40.7	-----	63.3	-----	22.6	-----	L
0.46430	40.6	40.6	0.1	40.7	40.7	56.6	46.6	15.9	5.9	N
0.46430	40.6	40.6	0.1	40.7	40.7	56.6	46.6	15.9	5.9	L
0.66680	38.3	35.7	0.2	38.5	35.9	56.0	46.0	17.5	10.1	L
0.66680	36.2	33.5	0.2	36.4	33.7	56.0	46.0	19.6	12.3	N
0.82530	33.6	-----	0.3	33.9	-----	56.0	-----	22.1	-----	N
0.82530	35.9	32.1	0.3	36.2	32.4	56.0	46.0	19.8	13.6	L
2.42480	33.6	-----	0.5	34.1	-----	56.0	-----	21.9	-----	N
2.42480	33.4	-----	0.5	33.9	-----	56.0	-----	22.1	-----	L
15.88800	32.0	-----	1.6	33.6	-----	60.0	-----	26.4	-----	N
15.98000	31.7	-----	1.6	33.3	-----	60.0	-----	26.7	-----	L

CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

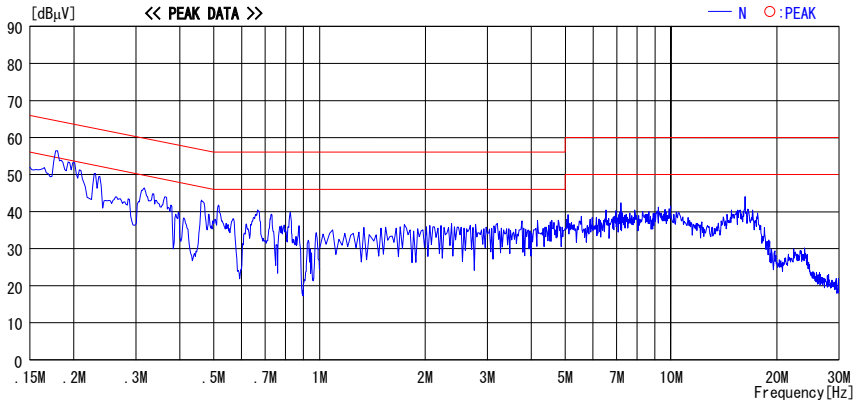
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 14:45:07

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V/60Hz
Temp℃/Humi% : 26deg.C / 60%
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11g Ch1 2412MHz

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



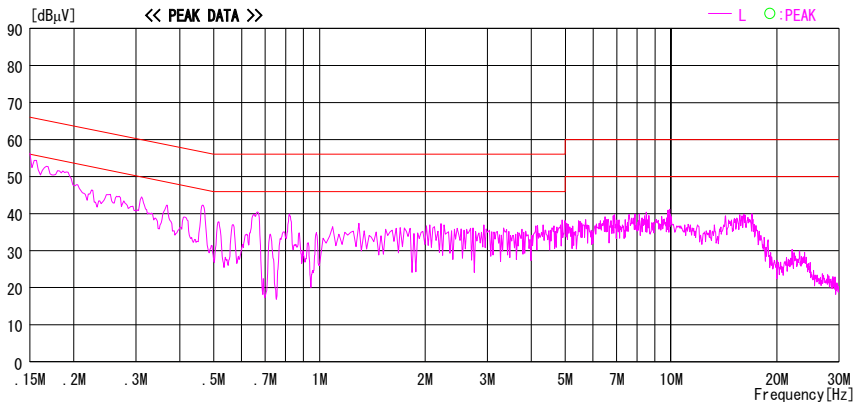


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

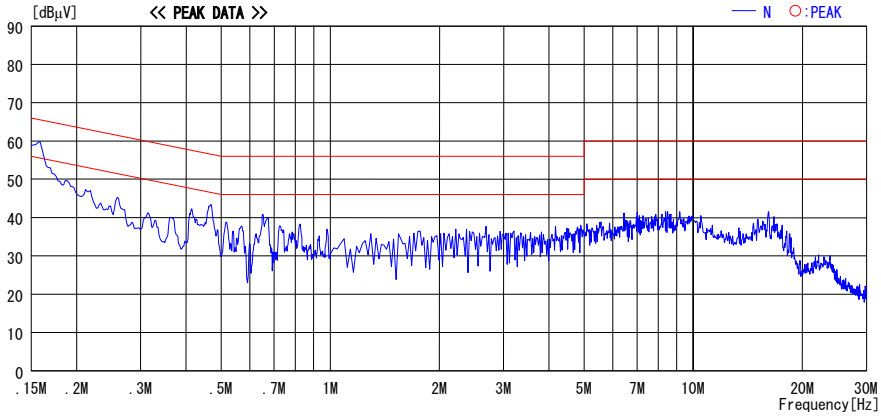
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 14:56:21

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V/60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 26deg.C / 60%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11g Ch6 2437MHz

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



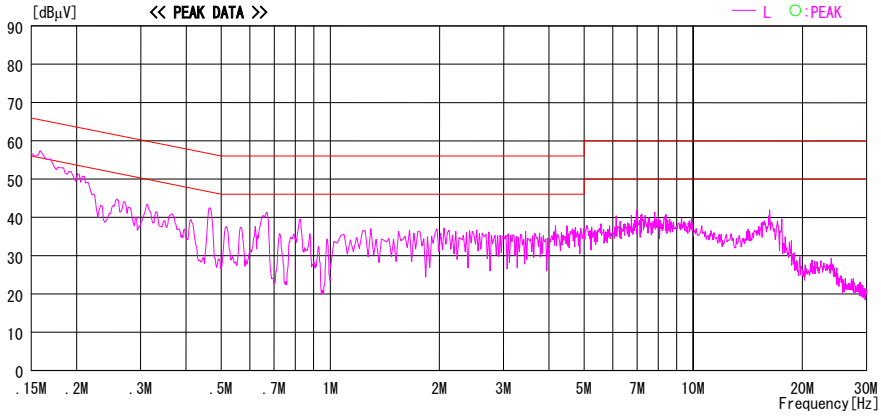


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

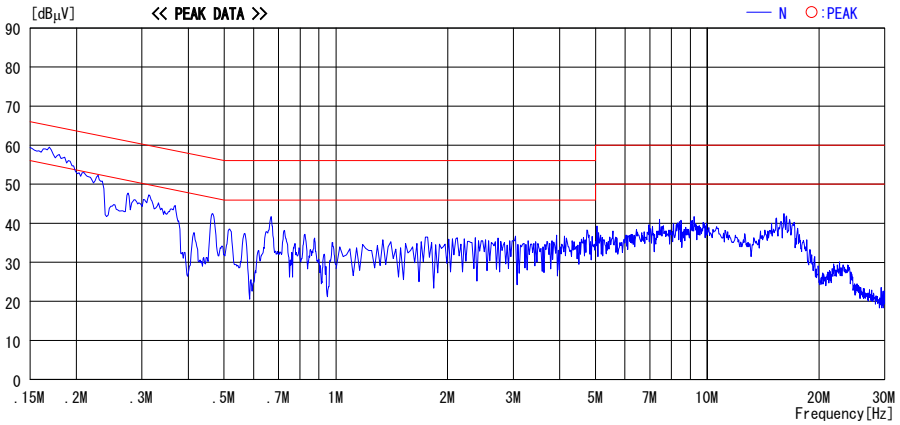
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/17 15:11:40

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V/60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 26deg.C / 60%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11g Ch11 2462MHz

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



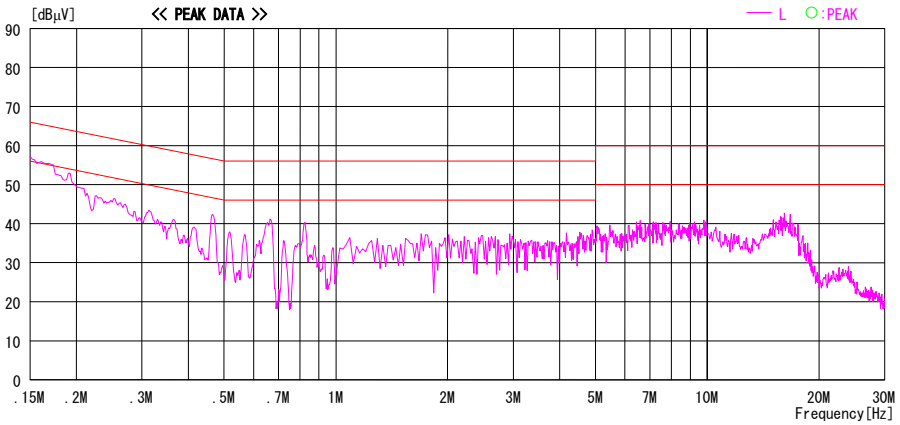


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

6dB Bandwidth(DSSS and other forms of modulation)

DATA OF 6dB BANDWIDTH (CONDUCTED)

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

Company	: SHARP CORPORATION	REPORT NO	: 25KE0241-HO
Equipment	: Personal Computer	REGULATION	: Fcc Part15 Subpart C 15.247(a)(2)
Model	: PC-M4000	TEST DISTANCE	: -
Sample No.	: CN-0201	DATE	: 07/17/2005
Power	: AC120V 60Hz	TEMPERATURE	: 26deg.C
Mode	: Tx IEEE802.11b,g	HUMIDITY	: 60%
		ENGINEER	: Hiroka Umeyama

[IEEE802.11b : 11Mbps]

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2412.0	8.174	>500
Mid	2437.0	9.219	>500
High	2462.0	8.752	>500

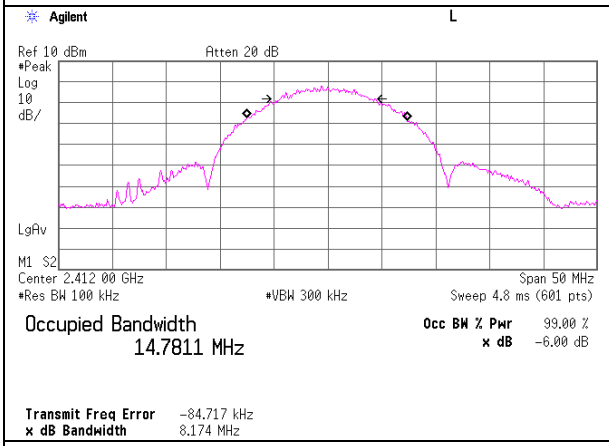
[IEEE802.11g : 54Mbps]

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2412.0	16.578	>500
Mid	2437.0	16.572	>500
High	2462.0	16.571	>500

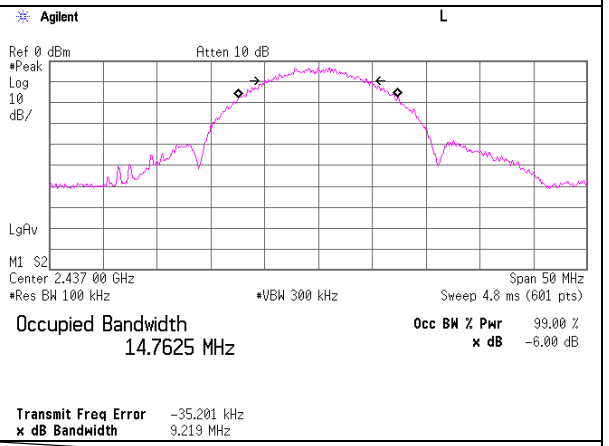
6dB Bandwidth 11b (DSSS and other forms of modulation)

IEEE802.11b 11Mbps

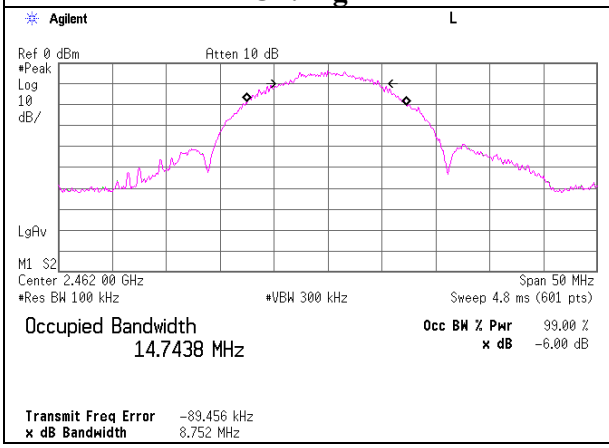
Ch:Low



Ch:Mid



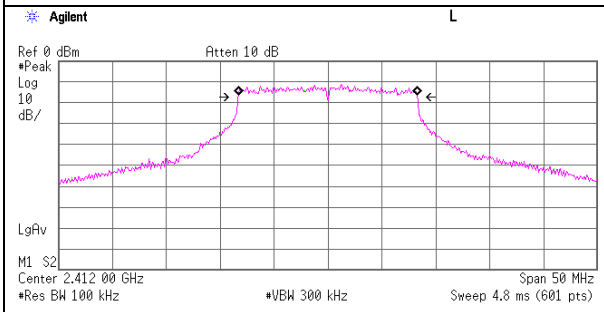
Ch:High



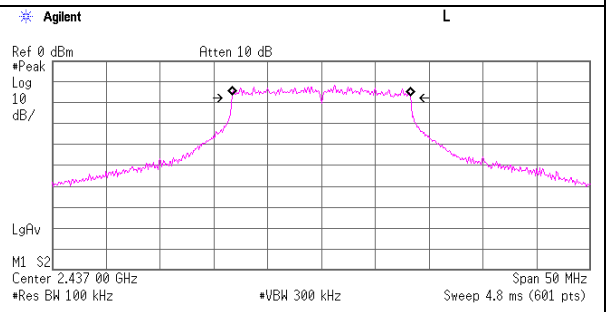
6dB Bandwidth 11g (DSSS and other forms of modulation)

IEEE802.11g 54Mbps

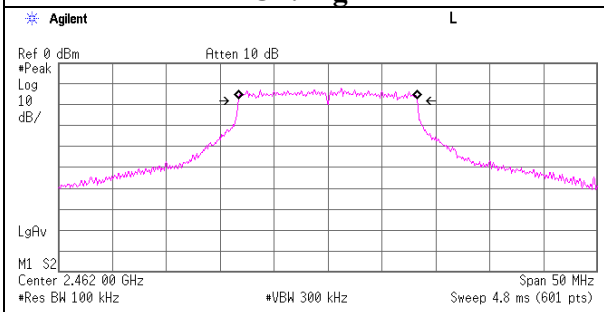
Ch:Low



Ch:Mid



Ch:High



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

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

Company	: SHARP CORPORATION	REPORT NO	: 25KE0241-HO
Equipment	: Personal Computer	REGULATION	: FCC 15.247(b)(3)
Model	: PC-M4000	TEST DISTANCE	: -
Sample No.	: CN-0201	DATE	: 07/17/2005
Power	: AC120V 60Hz	TEMPERATURE	: 26deg.C
Mode	: Tx IEEE 802.11b,g	HUMIDITY	: 60%
Antenna Port	: -	ENGINEER	: Hiroka Umeyama

[IEEE802.11b : 11Mbps]

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2412.0	12.88	0.86	10.70	24.44	30.00	5.56
Mid	2437.0	12.26	0.85	10.70	23.81	30.00	6.19
High	2462.0	11.52	0.83	10.70	23.05	30.00	6.95

[IEEE802.11g : 54Mbps]

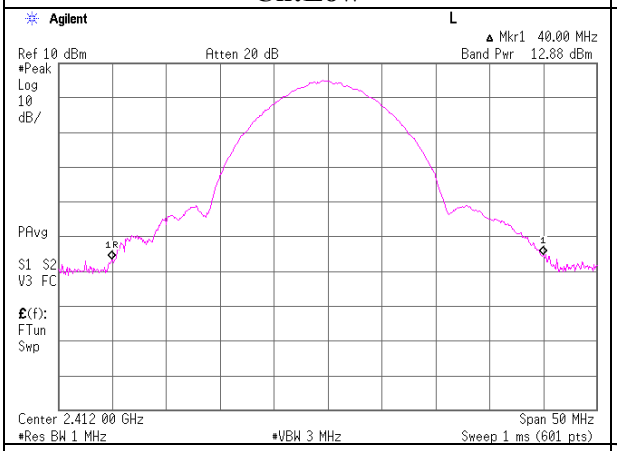
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2412.0	8.74	0.86	10.70	20.30	30.00	9.70
Mid	2437.0	8.00	0.85	10.70	19.55	30.00	10.45
High	2462.0	7.79	0.83	10.70	19.32	30.00	10.68

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

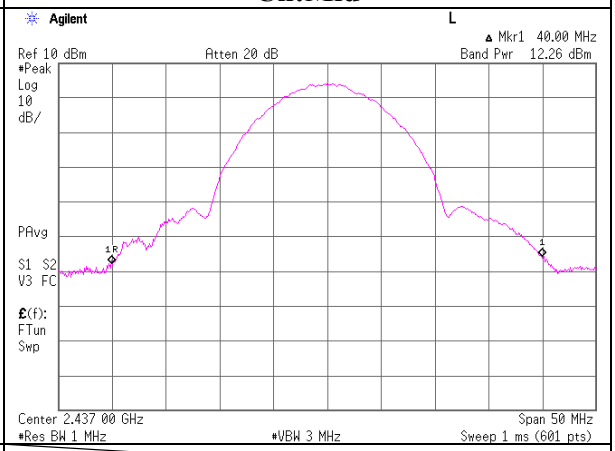
Maximum Peak OutPut Power (DSSS and other forms of modulation)

IEEE802.11b 11Mbps

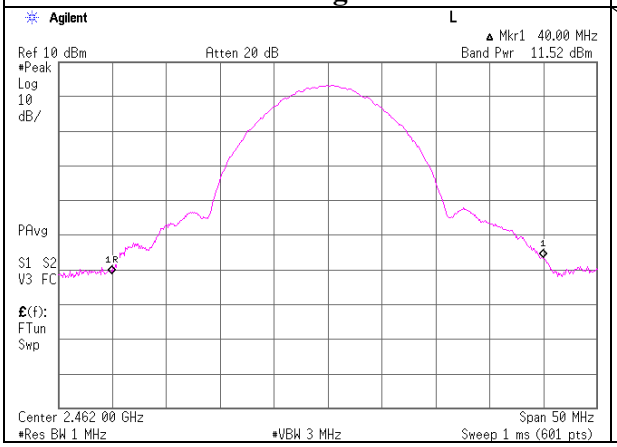
Ch:Low



Ch:Mid



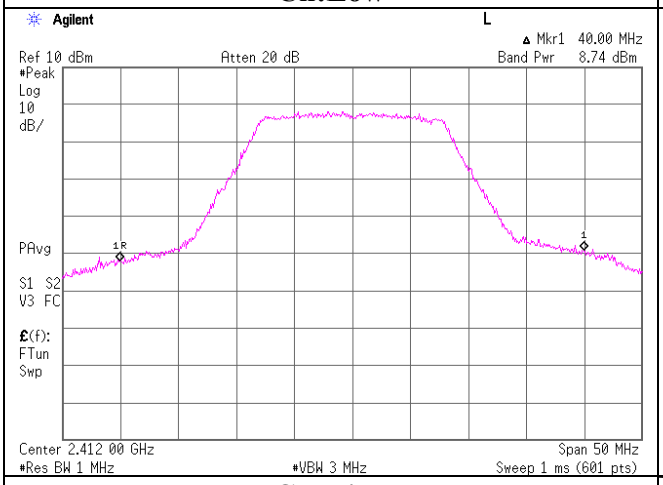
Ch:High



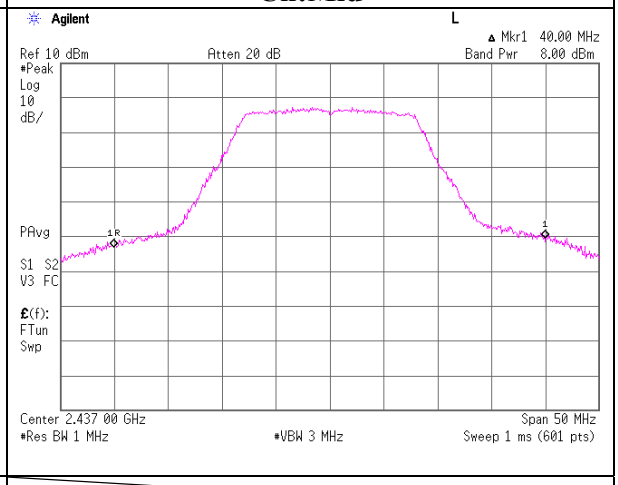
Maximum Peak OutPut Power (DSSS and other forms of modulation)

IEEE802.11g 54Mbps

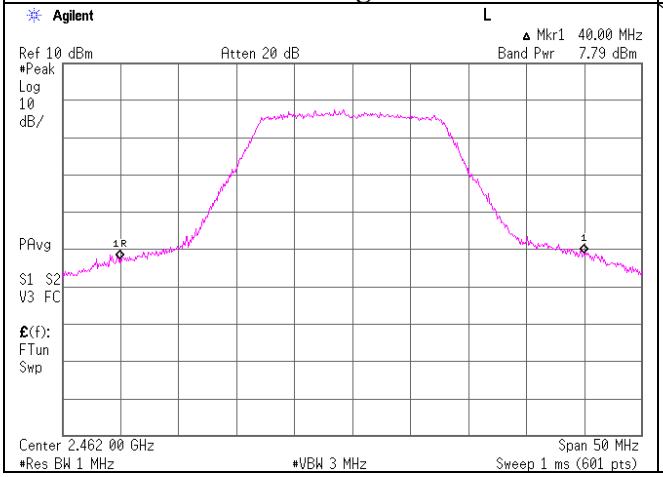
Ch:Low



Ch:Mid



Ch:High



Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

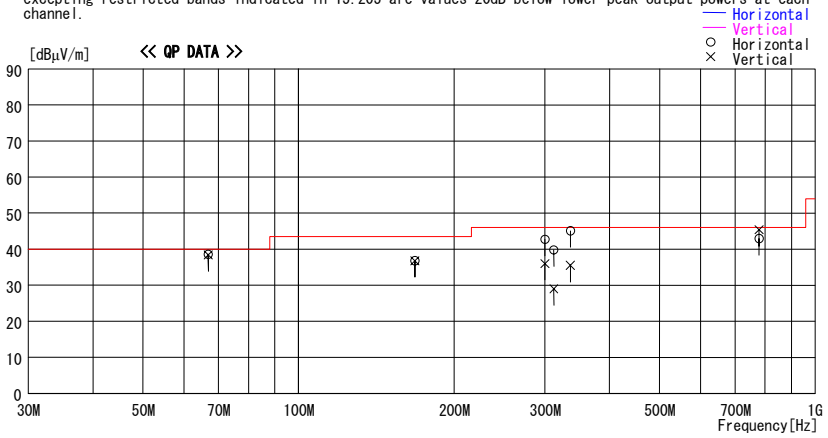
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/20 15:26:10

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V / 60Hz
Temp℃/Humi% : 23deg.C /48%
Operator : Hiroka Umeyama

Mode / Remarks : Transmitting 11b ch1 2412MHz / Max-Axis(Hor:X Ver:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adeauate margin data below the limits. The limit values at frequencies excepting restricted bands indicated in 15.205 are values 20dB below lower peak output powers at each channel.



Frequency [MHz]	Reading [dBμV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
66.900	52.8	QP	7.3	-21.5	38.6	288	243	Hori.	40.0	1.4
66.900	52.6	QP	7.3	-21.5	38.4	1	100	Vert.	40.0	1.6
168.011	40.1	QP	16.8	-20.1	36.8	210	176	Hori.	43.5	6.7
168.011	40.1	QP	16.8	-20.1	36.8	256	100	Vert.	43.5	6.7
300.000	41.2	QP	20.4	-18.9	42.7	59	116	Hori.	46.0	3.3
300.000	34.5	QP	20.4	-18.9	36.0	52	100	Vert.	46.0	10.0
312.033	43.4	QP	15.3	-18.9	39.8	218	100	Hori.	46.0	6.2
312.033	32.6	QP	15.3	-18.9	29.0	218	100	Vert.	46.0	17.0
336.040	47.8	QP	16.3	-19.0	45.1	190	100	Hori.	46.0	0.9
336.040	38.2	QP	16.3	-19.0	35.5	284	100	Vert.	46.0	10.5
779.507	39.6	QP	21.7	-18.4	42.9	175	215	Hori.	46.0	3.1
779.507	42.1	QP	21.7	-18.4	45.4	131	146	Vert.	46.0	0.6

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

Radiated Spurious Emission

- The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

●

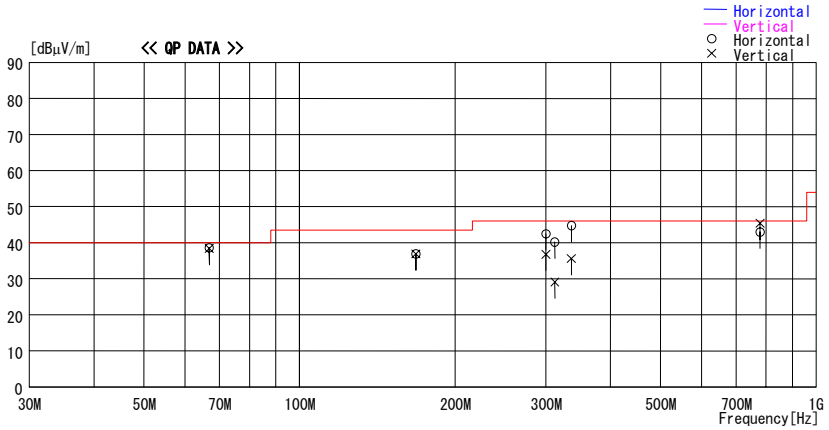
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/20 15:26:10

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V / 60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 23deg.C /48%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11b ch6 2437MHz / Max-Axis(Hor:X Ver:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adeauate margin data below the limits. The limit values at frequencies excepting restricted bands indicated in 15.205 are values 20dB below lower peak output powers at each channel.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
66.900	52.8	QP	7.3	-21.5	38.6	288	243	Hori.	40.0	1.4
66.900	52.6	QP	7.3	-21.5	38.4	1	100	Vert.	40.0	1.6
168.011	40.2	QP	16.8	-20.1	36.9	210	176	Hori.	43.5	6.6
168.011	40.2	QP	16.8	-20.1	36.9	256	100	Vert.	43.5	6.6
300.000	41.0	QP	20.4	-18.9	42.5	59	116	Hori.	46.0	3.5
300.000	35.3	QP	20.4	-18.9	36.8	52	100	Vert.	46.0	9.2
312.033	43.8	QP	15.3	-18.9	40.2	218	100	Hori.	46.0	5.8
312.033	32.7	QP	15.3	-18.9	29.1	218	100	Vert.	46.0	16.9
336.040	47.4	QP	16.3	-19.0	44.7	190	100	Hori.	46.0	1.3
336.040	38.3	QP	16.3	-19.0	35.6	284	100	Vert.	46.0	10.4
779.507	39.7	QP	21.7	-18.4	43.0	175	215	Hori.	46.0	3.0
779.507	42.1	QP	21.7	-18.4	45.4	131	146	Vert.	46.0	0.6

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

Radiated Spurious Emission

- The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

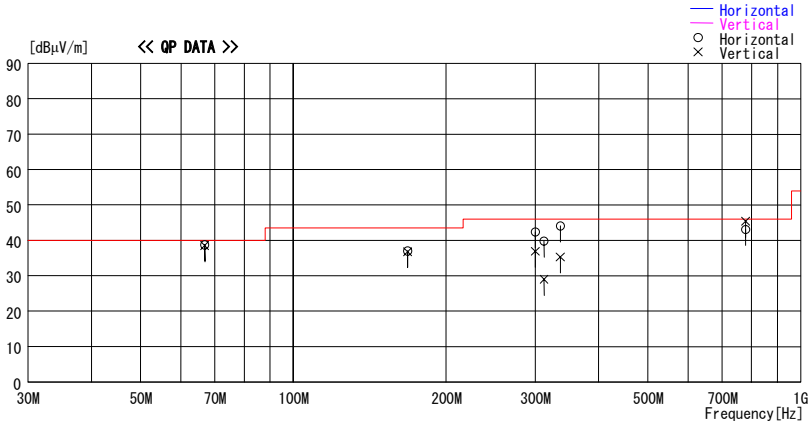
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/20 15:26:10

Applicant	: SHARP CORPORATION	Report No.	: 25KE0241-HO
Kind of EUT	: Personal Computer	Power	: AC120V / 60Hz
Model No.	: PC-M4000	Temp℃/Humi%	: 23deg.C /48%
Serial No.	: CN-0201	Operator	: Hiroka Umeyama

Mode / Remarks : Transmitting 11b ch11 2462MHz / Max-Axis(Hor:X Ver:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adeauate margin data below the limits. The limit values at frequencies excepting restricted bands indicated in 15.205 are values 20dB below lower peak output powers at each channel.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
66.900	52.9	QP	7.3	-21.5	38.7	288	243	Hori.	40.0	1.3
66.900	52.7	QP	7.3	-21.5	38.5	1	100	Vert.	40.0	1.5
168.011	40.3	QP	16.8	-20.1	37.0	210	176	Hori.	43.5	6.5
168.011	40.1	QP	16.8	-20.1	36.8	256	100	Vert.	43.5	6.7
300.000	40.9	QP	20.4	-18.9	42.4	59	116	Hori.	46.0	3.6
300.000	35.4	QP	20.4	-18.9	36.9	52	100	Vert.	46.0	9.1
312.033	43.4	QP	15.3	-18.9	39.8	218	100	Hori.	46.0	6.2
312.033	32.6	QP	15.3	-18.9	29.0	218	100	Vert.	46.0	17.0
336.040	46.8	QP	16.3	-19.0	44.1	190	100	Hori.	46.0	1.9
336.040	38.0	QP	16.3	-19.0	35.3	284	100	Vert.	46.0	10.7
779.507	39.8	QP	21.7	-18.4	43.1	175	215	Hori.	46.0	2.9
779.507	42.1	QP	21.7	-18.4	45.4	131	146	Vert.	46.0	0.6

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

Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

7

DATA OF RADIATED EMISSION TEST

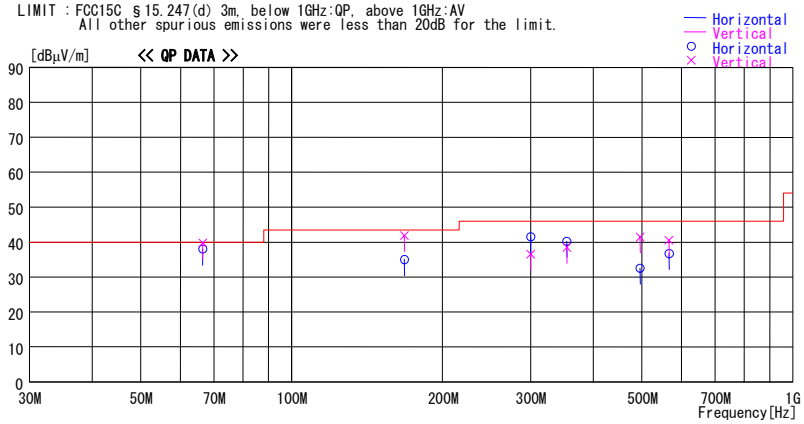
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/20 17:11:59

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V / 60Hz
Temp℃/Humi% : 27deg.C / 60%
Operator : Hiroka Umeyama

Mode / Remarks: Transmitting 11g ch1 2412MHz / Max-Axis(Hor:X Ver:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
All other spurious emissions were less than 20dB for the limit.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
66.470	52.2	QP	7.3	-21.5	38.0	23	100	Hori.	40.0	2.0
66.470	54.0	QP	7.3	-21.5	39.8	217	216	Vert.	40.0	0.2
168.020	38.3	QP	16.8	-20.1	35.0	95	170	Hori.	43.5	8.5
168.020	45.2	QP	16.8	-20.1	41.9	280	100	Vert.	43.5	1.6
300.030	45.6	QP	14.8	-18.9	41.5	45	100	Hori.	46.0	4.5
300.030	40.6	QP	14.8	-18.9	36.5	0	100	Vert.	46.0	9.5
354.320	40.5	QP	17.0	-19.0	38.5	0	182	Vert.	46.0	7.5
354.320	42.2	QP	17.0	-19.0	40.2	70	100	Hori.	46.0	5.8
496.050	41.9	QP	18.9	-19.4	41.4	0	100	Vert.	46.0	4.6
496.050	33.0	QP	18.9	-19.4	32.5	80	165	Hori.	46.0	13.5
566.900	40.3	QP	19.5	-19.3	40.5	0	195	Vert.	46.0	5.5
566.900	36.5	QP	19.5	-19.3	36.7	160	110	Hori.	46.0	9.3

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

Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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DATA OF RADIATED EMISSION TEST

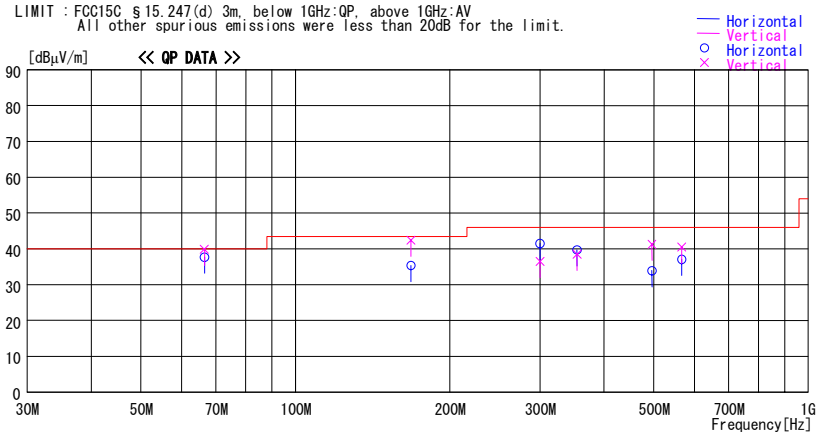
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/20 17:11:59

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V / 60Hz
Temp℃/Humi% : 27deg.C / 60%
Operator : Hiroka Umeyama

Mode / Remarks: Transmitting 11g ch6 2437MHz / Max-Axis(Hor:X Ver:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
All other spurious emissions were less than 20dB for the limit.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
66.470	51.9	QP	7.3	-21.5	37.7	23	100	Hori.	40.0	2.3
66.470	54.1	QP	7.3	-21.5	39.9	217	216	Vert.	40.0	0.1
168.020	38.7	QP	16.8	-20.1	35.4	95	170	Hori.	43.5	8.1
168.020	45.7	QP	16.8	-20.1	42.4	280	100	Vert.	43.5	1.1
300.030	45.6	QP	14.8	-18.9	41.5	45	100	Hori.	46.0	4.5
300.030	40.6	QP	14.8	-18.9	36.5	0	100	Vert.	46.0	9.5
354.320	40.5	QP	17.0	-19.0	38.5	0	182	Vert.	46.0	7.5
354.320	41.7	QP	17.0	-19.0	39.7	70	100	Hori.	46.0	6.3
496.050	41.8	QP	18.9	-19.4	41.3	0	100	Vert.	46.0	4.7
496.050	34.4	QP	18.9	-19.4	33.9	80	165	Hori.	46.0	12.1
566.900	40.3	QP	19.5	-19.3	40.5	0	195	Vert.	46.0	5.5
566.900	36.9	QP	19.5	-19.3	37.1	160	110	Hori.	46.0	8.9

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

Radiated Spurious Emission

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

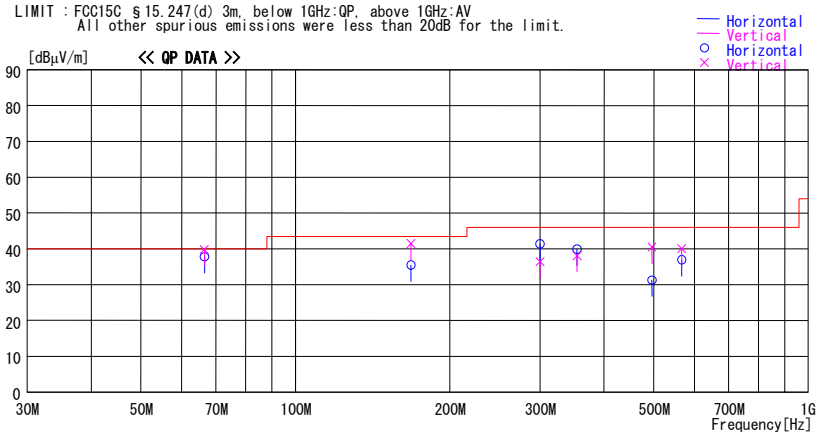
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/20 17:11:59

Applicant : SHARP CORPORATION
Kind of EUT : Personal Computer
Model No. : PC-M4000
Serial No. : CN-0201

Report No. : 25KE0241-HO
Power : AC120V / 60Hz
Temp°C/Humi% : 27deg.C / 60%
Operator : Hiroka Umeyama

Mode / Remarks: Transmitting 11g ch11 2462MHz / Max-Axis(Hor:X Ver:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
All other spurious emissions were less than 20dB for the limit.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
66.470	52.0	QP	7.3	-21.5	37.8	23	100	Hori.	40.0	2.2
66.470	54.0	QP	7.3	-21.5	39.8	217	216	Vert.	40.0	0.2
168.020	38.8	QP	16.8	-20.1	35.5	95	170	Hori.	43.5	8.0
168.020	44.8	QP	16.8	-20.1	41.5	280	100	Vert.	43.5	2.0
300.030	45.5	QP	14.8	-18.9	41.4	45	100	Hori.	46.0	4.6
300.030	40.5	QP	14.8	-18.9	36.4	0	100	Vert.	46.0	9.6
354.320	40.1	QP	17.0	-19.0	38.1	0	182	Vert.	46.0	7.9
354.320	41.9	QP	17.0	-19.0	39.9	70	100	Hori.	46.0	6.1
496.050	41.0	QP	18.9	-19.4	40.5	0	100	Vert.	46.0	5.5
496.050	31.8	QP	18.9	-19.4	31.3	80	165	Hori.	46.0	14.7
566.900	39.9	QP	19.5	-19.3	40.1	0	195	Vert.	46.0	5.9
566.900	36.8	QP	19.5	-19.3	37.0	160	110	Hori.	46.0	9.0

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

Radiated Spurious Emission (DSSS and other forms of modulation)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: SHARP CORPORATION	REGULATION	: Fcc Part15 Subpart C 15.247 (d)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: 3m / 1m
MODEL	: PC-M4000	DATE	: 07/16/2005
SAMPLE NO.	: CN-0201	TEMPERATURE	: 22deg.C
POWER	: AC120V/60Hz	HUMIDITY	: 65%
MODE	: Transmitting (11b / 11Mbps / CH1:2412MHz)	ENGINEER	: Norihisa Hashimoto

PK DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2390.0	64.8	62.5	30.9	36.4	3.6	0.0	62.9	60.6	74.0	11.1	13.4
2	4824.0	43.1	43.9	35.0	36.0	5.4	1.0	48.5	49.3	74.0	25.5	24.7
3	7236.0	44.3	44.0	37.6	36.0	6.7	0.4	53.0	52.7	74.0	21.0	21.3
4	9648.0	45.9	47.1	36.3	36.4	8.0	0.2	54.0	55.2	74.0	20.0	18.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12060.0	34.5	35.3	41.4	36.1	9.5	0.2	40.0	40.8	74.0	34.0	33.2
6	14472.0	34.1	35.1	41.8	34.6	10.5	0.1	42.4	43.4	74.0	31.6	30.6
7	16884.0	33.7	34.4	44.6	35.0	11.7	1.1	46.6	47.3	74.0	27.4	26.7
8	19296.0	33.6	33.1	41.6	34.1	13.1	2.1	46.8	46.3	74.0	27.2	27.7
9	21708.0	35.0	35.5	40.4	34.7	13.0	2.0	46.2	46.7	74.0	27.8	27.3
10	24120.0	34.5	35.5	41.0	35.6	14.8	0.2	45.4	46.4	74.0	28.6	27.6

AV DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2390.0	46.4	44.8	30.9	36.4	3.6	0.0	44.5	42.9	54.0	9.5	11.1
2	4824.0	30.4	30.6	35.0	36.0	5.4	1.0	35.8	36.0	54.0	18.2	18.0
3	7236.0	30.8	31.0	37.6	36.0	6.7	0.4	39.5	39.7	54.0	14.5	14.3
4	9648.0	34.6	36.2	36.3	36.4	8.0	0.2	42.7	44.3	54.0	11.3	9.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12060.0	22.2	22.2	41.4	36.1	9.5	0.2	27.7	27.7	54.0	26.3	26.3
6	14472.0	21.8	22.2	41.8	34.6	10.5	0.1	30.1	30.5	54.0	23.9	23.5
7	16884.0	21.0	21.0	44.6	35.0	11.7	1.1	33.9	33.9	54.0	20.1	20.1
8	19296.0	21.0	21.1	41.6	34.1	13.1	2.1	34.2	34.3	54.0	19.8	19.7
9	21708.0	22.8	22.8	40.4	34.7	13.0	2.0	34.0	34.0	54.0	20.0	20.0
10	24120.0	22.5	22.6	41.0	35.6	14.8	0.2	33.4	33.5	54.0	20.6	20.5

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Atten. or	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	20dBc	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	2412.0	110.8	107.1	30.9	36.4	3.7	0.0	109.0	105.3	-	-	-
2	2400.0	75.0	70.2	30.9	36.4	3.6	0.0	73.1	68.3	Funda-20dB	15.9	17.0

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

* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (DSSS and other forms of modulation)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: SHARP CORPORATION.	REGULATION	: Fcc Part15 Subpart C 15.247 (d)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: 3m / 1m
MODEL	: PC-M4000	DATE	: 07/16/2005
SAMPLE NO.	: CN-0201	TEMPERATURE	: 22deg.C
POWER	: AC120V/60Hz	HUMIDITY	: 65%
MODE	: Transmitting (11b / 11Mbps / CH6:2437MHz)	ENGINEER	:Norihisa Hashimoto

PK DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2336.0	59.4	53.9	30.4	41.1	3.7	10.1	62.5	57.0	74.0	11.5	17.0
2	4874.0	37.9	40.0	35.3	36.0	5.4	1.0	43.6	45.7	74.0	30.4	28.3
3	7311.0	35.3	35.2	37.7	36.0	6.7	0.5	44.2	44.1	74.0	29.8	29.9
4	9748.0	38.3	41.4	36.2	36.4	8.1	0.2	46.4	49.5	74.0	27.6	24.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12185.0	34.4	34.0	41.5	36.0	9.5	0.3	40.2	39.8	74.0	33.8	34.2
6	14622.0	33.8	35.1	42.1	35.1	10.6	0.2	42.1	43.4	74.0	31.9	30.6
7	17059.0	33.4	33.6	44.6	34.9	11.7	1.1	46.4	46.6	74.0	27.6	27.4
8	19496.0	33.7	33.6	41.4	34.3	13.3	2.3	46.9	46.8	74.0	27.1	27.2
9	21933.0	36.6	37.2	40.5	34.2	12.9	1.1	47.4	48.0	74.0	26.6	26.0
10	24370.0	34.2	33.8	41.1	35.7	14.8	0.6	45.5	45.1	74.0	28.5	28.9

AV DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2336.0	49.1	43.1	30.4	41.1	3.7	10.1	52.2	46.2	54.0	1.8	7.8
2	4874.0	23.7	26.0	35.3	36.0	5.4	1.0	29.4	31.7	54.0	24.6	22.3
3	7311.0	22.4	22.3	37.7	36.0	6.7	0.5	31.3	31.2	54.0	22.7	22.8
4	9748.0	29.2	33.1	36.2	36.4	8.1	0.2	37.3	41.2	54.0	16.7	12.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12185.0	22.0	22.0	41.5	36.0	9.5	0.3	27.8	27.8	54.0	26.2	26.2
6	14622.0	22.0	22.2	42.1	35.1	10.6	0.2	30.3	30.5	54.0	23.7	23.5
7	17059.0	20.9	20.9	44.6	34.9	11.7	1.1	33.9	33.9	54.0	20.1	20.1
8	19496.0	21.1	21.2	41.4	34.3	13.3	2.3	34.3	34.4	54.0	19.7	19.6
9	21933.0	24.6	24.7	40.5	34.2	12.9	1.1	35.4	35.5	54.0	18.6	18.5
10	24370.0	21.9	22.0	41.1	35.7	14.8	0.6	33.2	33.3	54.0	20.8	20.7

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

* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (DSSS and other forms of modulation)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: SHARP CORPORATION	REGULATION	: Fcc Part15 Subpart C 15.247 (d)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: 3m / 1m
MODEL	: PC-M4000	DATE	: 07/16/2005
SAMPLE NO.	: CN-0201	TEMPERATURE	: 22deg.C
POWER	: AC120V/60Hz	HUMIDITY	: 65%
MODE	: Transmitting (11b / 11bps / CH11:2462MHz)	ENGINEER	: Norihisa Hashimoto

PK DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2483.5	59.3	59.8	30.8	36.4	3.6	0.0	57.3	57.8	74.0	16.7	16.2
2	4924.0	44.7	44.2	35.6	35.9	5.4	1.0	50.8	50.3	74.0	23.2	23.7
3	7386.0	44.5	45.0	37.8	36.0	6.8	0.6	53.7	54.2	74.0	20.3	19.8
4	9848.0	47.0	46.4	36.2	36.4	8.2	0.3	55.3	54.7	74.0	18.7	19.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12310.0	34.1	34.4	41.5	35.9	9.6	0.4	40.2	40.5	74.0	33.8	33.5
6	14772.0	34.2	33.3	42.4	35.6	10.7	0.4	42.6	41.7	74.0	31.4	32.3
7	17234.0	33.4	33.6	44.5	35.0	11.9	1.0	46.3	46.5	74.0	27.7	27.5
8	19696.0	34.1	33.7	41.2	34.6	13.4	1.8	46.4	46.0	74.0	27.6	28.0
9	22158.0	35.6	35.5	40.5	34.1	13.1	0.9	46.5	46.4	74.0	27.5	27.6
10	24620.0	34.5	35.9	41.1	35.5	14.8	0.9	46.3	47.7	74.0	27.7	26.3

AV DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2483.5	43.0	43.2	30.8	36.4	3.6	0.0	41.0	41.2	54.0	13.0	12.8
2	4924.0	30.5	30.4	35.6	35.9	5.4	1.0	36.6	36.5	54.0	17.4	17.5
3	7386.0	31.3	31.3	37.8	36.0	6.8	0.6	40.5	40.5	54.0	13.5	13.5
4	9848.0	36.5	35.2	36.2	36.4	8.2	0.3	44.8	43.5	54.0	9.2	10.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12310.0	21.8	21.8	41.5	35.9	9.6	0.4	27.9	27.9	54.0	26.1	26.1
6	14772.0	21.6	21.6	42.4	35.6	10.7	0.4	30.0	30.0	54.0	24.0	24.0
7	17234.0	20.9	20.9	44.5	35.0	11.9	1.0	33.8	33.8	54.0	20.2	20.2
8	19696.0	21.4	21.6	41.2	34.6	13.4	1.8	33.7	33.9	54.0	20.3	20.1
9	22158.0	23.0	23.0	40.5	34.1	13.1	0.9	33.9	33.9	54.0	20.1	20.1
10	24620.0	22.6	22.7	41.1	35.5	14.8	0.9	34.4	34.5	54.0	19.6	19.5

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

* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (DSSS and other forms of modulation)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: SHARP CORPORATION	REGULATION	: Fcc Part15 Subpart C 15.247 (d)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: 3m / 1m
MODEL	: PC-M4000	DATE	: 07/16/2005
SAMPLE NO.	: CN-0201	TEMPERATURE	: 22deg.C
POWER	: AC120V/60Hz	HUMIDITY	: 65%
MODE	: Transmitting (11g / 54Mbps / CH1:2412MHz)	ENGINEER	: Norihisa Hashimoto

PK DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2390.0	75.7	68.5	30.9	36.4	3.6	0.0	73.8	66.6	74.0	0.2	7.4
2	4824.0	43.7	43.7	35.0	36.0	5.4	1.0	49.1	49.1	74.0	24.9	24.9
3	7236.0	44.2	44.2	37.6	36.0	6.7	0.4	52.9	52.9	74.0	21.1	21.1
4	9648.0	44.1	44.0	36.3	36.4	8.0	0.2	52.2	52.1	74.0	21.8	21.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12060.0	34.2	34.7	41.4	36.1	9.5	0.2	39.7	40.2	74.0	34.3	33.8
6	14472.0	34.3	34.2	41.8	34.6	10.5	0.1	42.6	42.5	74.0	31.4	31.5
7	16884.0	33.5	32.8	44.6	35.0	11.7	1.1	46.4	45.7	74.0	27.6	28.3
8	19296.0	34.0	33.3	41.6	34.1	13.1	2.1	47.2	46.5	74.0	26.8	27.5
9	21708.0	35.3	35.7	40.4	34.7	13.0	2.0	46.5	46.9	74.0	27.5	27.1
10	24120.0	35.1	35.6	41.0	35.6	14.8	0.2	46.0	46.5	74.0	28.0	27.5

AV DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2390.0	47.8	45.6	30.9	36.4	3.6	0.0	45.9	43.7	54.0	8.1	10.3
2	4824.0	30.7	30.7	35.0	36.0	5.4	1.0	36.1	36.1	54.0	17.9	17.9
3	7236.0	31.1	31.1	37.6	36.0	6.7	0.4	39.8	39.8	54.0	14.2	14.2
4	9648.0	31.1	31.1	36.3	36.4	8.0	0.2	39.2	39.2	54.0	14.8	14.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12060.0	22.2	22.2	41.4	36.1	9.5	0.2	27.7	27.7	54.0	26.3	26.3
6	14472.0	21.6	21.7	41.8	34.6	10.5	0.1	29.9	30.0	54.0	24.1	24.0
7	16884.0	21.1	21.1	44.6	35.0	11.7	1.1	34.0	34.0	54.0	20.0	20.0
8	19296.0	21.1	21.5	41.6	34.1	13.1	2.1	34.3	34.7	54.0	19.7	19.3
9	21708.0	22.9	22.9	40.4	34.7	13.0	2.0	34.1	34.1	54.0	19.9	19.9
10	24120.0	22.7	22.7	41.0	35.6	14.8	0.2	33.6	33.6	54.0	20.4	20.4

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Atten. or	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	20dBc	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	2412.0	111.6	93.3	30.9	36.4	3.7	0.0	109.8	91.5	-	-	-
2	2400.0	89.0	69.1	30.9	36.4	3.6	0.0	87.1	67.2	Funda-20dB	2.7	4.3

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

* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (DSSS and other forms of modulation)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: SHARP CORPORATION	REGULATION	: Fcc Part15 Subpart C 15.247 (d)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: 3m / 1m
MODEL	: PC-M4000	DATE	: 07/16/2005
SAMPLE NO.	: CN-0201	TEMPERATURE	: 22deg.C
POWER	: AC120V/60Hz	HUMIDITY	: 65%
MODE	: Transmitting (11g / 54Mbps / CH6:2437MHz)	ENGINEER	: Norihisa Hashimoto

PK DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2336.0	62.7	56.7	30.4	41.1	3.7	10.1	65.8	59.8	74.0	8.2	14.2
2	4874.0	34.2	35.1	35.3	36.0	5.4	1.0	39.9	40.8	74.0	34.1	33.2
3	7311.0	34.2	34.2	37.7	36.0	6.7	0.5	43.1	43.1	74.0	30.9	30.9
4	9748.0	34.7	34.8	36.2	36.4	8.1	0.2	42.8	42.9	74.0	31.2	31.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
4	12185.0	35.3	34.2	41.5	36.0	9.5	0.3	41.1	40.0	74.0	32.9	34.0
5	14622.0	34.2	34.5	42.1	35.1	10.6	0.2	42.5	42.8	74.0	31.5	31.2
6	17059.0	33.2	33.4	44.6	34.9	11.7	1.1	46.2	46.4	74.0	27.8	27.6
7	19496.0	34.9	34.5	41.4	34.3	13.3	2.3	48.1	47.7	74.0	25.9	26.3
8	21933.0	37.2	37.1	40.5	34.2	12.9	1.1	48.0	47.9	74.0	26.0	26.1
9	24370.0	34.2	34.8	41.1	35.7	14.8	0.6	45.5	46.1	74.0	28.5	27.9

AV DETECT

No.	Freq.	Reading		Ant.	Amp.	Cable	Atten. or	Result		Limit	Margin	
		HOR	VER	Factor	Gain	Loss	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2336.0	48.0	45.7	30.4	41.1	3.7	10.1	51.1	48.8	54.0	2.9	5.2
2	4874.0	21.4	21.5	35.3	36.0	5.4	1.0	27.1	27.2	54.0	26.9	26.8
3	7311.0	22.2	22.2	37.7	36.0	6.7	0.5	31.1	31.1	54.0	22.9	22.9
4	9748.0	21.9	22.4	36.2	36.4	8.1	0.2	30.0	30.5	54.0	24.0	23.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
4	12185.0	21.9	21.9	41.5	36.0	9.5	0.3	27.7	27.7	54.0	26.3	26.3
5	14622.0	22.0	22.0	42.1	35.1	10.6	0.2	30.3	30.3	54.0	23.7	23.7
6	17059.0	20.9	20.9	44.6	34.9	11.7	1.1	33.9	33.9	54.0	20.1	20.1
7	19496.0	21.2	22.1	41.4	34.3	13.3	2.3	34.4	35.3	54.0	19.6	18.7
8	21933.0	24.7	24.7	40.5	34.2	12.9	1.1	35.5	35.5	54.0	18.5	18.5
9	24370.0	22.1	22.1	41.1	35.7	14.8	0.6	33.4	33.4	54.0	20.6	20.6

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

* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission (DSSS and other forms of modulation)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: SHARP CORPORATION	REGULATION	: Fcc Part15 Subpart C 15.247 (d)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: 3m / 1m
MODEL	: PC-M4000	DATE	: 07/16/2005
SAMPLE NO.	: CN-0201	TEMPERATURE	: 22deg.C
POWER	: AC120V/60Hz	HUMIDITY	: 65%
MODE	: Transmitting (11g / 54Mbps / CH11:2462MHz)	ENGINEER	: Norihisa Hashimoto

PK DETECT

No.	Freq.	Reading HOR	Reading VER	Ant. Factor	Amp. Gain	Cable Loss	Atten. or Filter	Result HOR	Result VER	Limit PK	Margin HOR	Margin VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2483.5	73.4	68.3	30.8	36.4	3.6	0.0	71.4	66.3	74.0	2.6	7.7
2	4924.0	43.4	44.2	35.6	35.9	5.4	1.0	49.5	50.3	74.0	24.5	23.7
3	7386.0	45.0	44.6	37.8	36.0	6.8	0.6	54.2	53.8	74.0	19.8	20.2
4	9848.0	44.8	44.7	36.2	36.4	8.2	0.3	53.1	53.0	74.0	20.9	21.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12310.0	34.2	33.8	41.5	35.9	9.6	0.4	40.3	39.9	74.0	33.7	34.1
6	14772.0	34.0	33.8	42.4	35.6	10.7	0.4	42.4	42.2	74.0	31.6	31.8
7	17234.0	33.3	33.3	44.5	35.0	11.9	1.0	46.2	46.2	74.0	27.8	27.8
8	19696.0	34.0	34.5	41.2	34.6	13.4	1.8	46.3	46.8	74.0	27.7	27.2
9	22158.0	36.6	36.3	40.5	34.1	13.1	0.9	47.5	47.2	74.0	26.5	26.8
10	24620.0	35.5	35.3	41.1	35.5	14.8	0.9	47.3	47.1	74.0	26.7	26.9

AV DETECT

No.	Freq.	Reading HOR	Reading VER	Ant. Factor	Amp. Gain	Cable Loss	Atten. or Filter	Result HOR	Result VER	Limit AV	Margin HOR	Margin VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter)												
1	2483.5	46.3	43.5	30.8	36.4	3.6	0.0	44.3	41.5	54.0	9.7	12.5
2	4924.0	30.5	30.5	35.6	35.9	5.4	1.0	36.6	36.6	54.0	17.4	17.4
3	7386.0	31.4	31.4	37.8	36.0	6.8	0.6	40.6	40.6	54.0	13.4	13.4
4	9848.0	31.2	31.3	36.2	36.4	8.2	0.3	39.5	39.6	54.0	14.5	14.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Attenuator (or Filter) - Dfac												
5	12310.0	21.8	21.8	41.5	35.9	9.6	0.4	27.9	27.9	54.0	26.1	26.1
6	14772.0	21.6	21.6	42.4	35.6	10.7	0.4	30.0	30.0	54.0	24.0	24.0
7	17234.0	20.9	20.9	44.5	35.0	11.9	1.0	33.8	33.8	54.0	20.2	20.2
8	19696.0	21.4	21.8	41.2	34.6	13.4	1.8	33.7	34.1	54.0	20.3	19.9
9	22158.0	23.1	23.1	40.5	34.1	13.1	0.9	34.0	34.0	54.0	20.0	20.0
10	24620.0	22.7	22.7	41.1	35.5	14.8	0.9	34.5	34.5	54.0	19.5	19.5

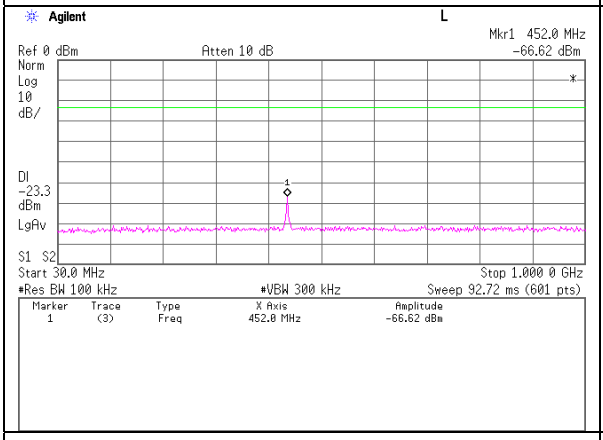
Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

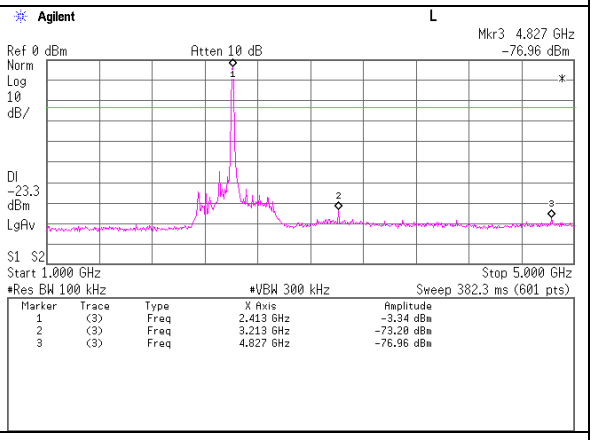
Conducted Spurious Emission (DSSS and other forms of modulation)

Ch: Low IEEE802.11b 11Mbps

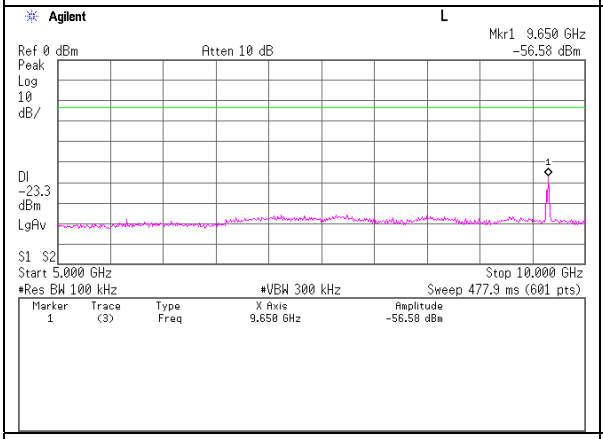
30MHz-1GHz



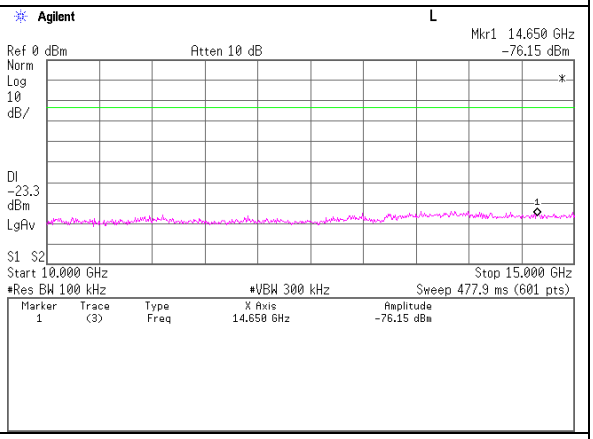
1GHz-5GHz



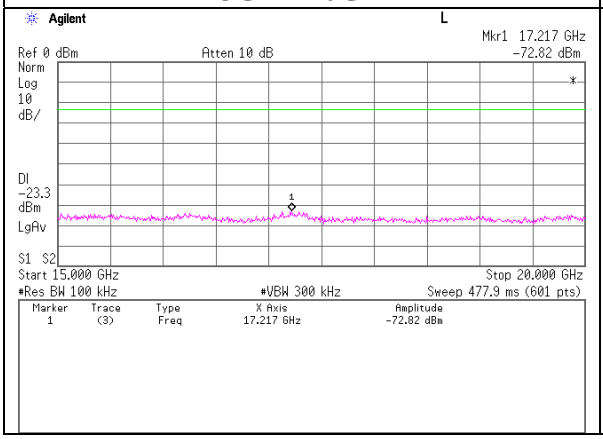
5GHz-10GHz



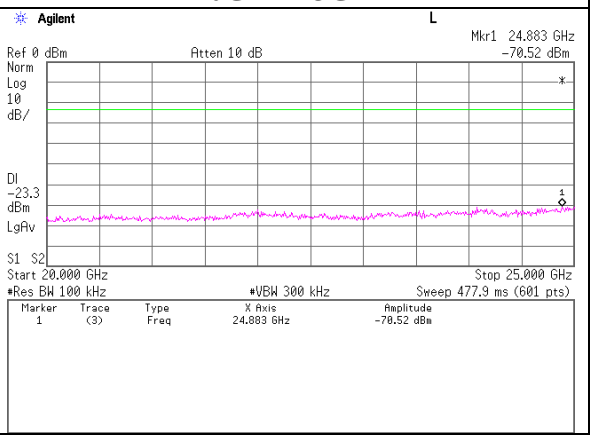
10GHz-15GHz



15GHz-20GHz



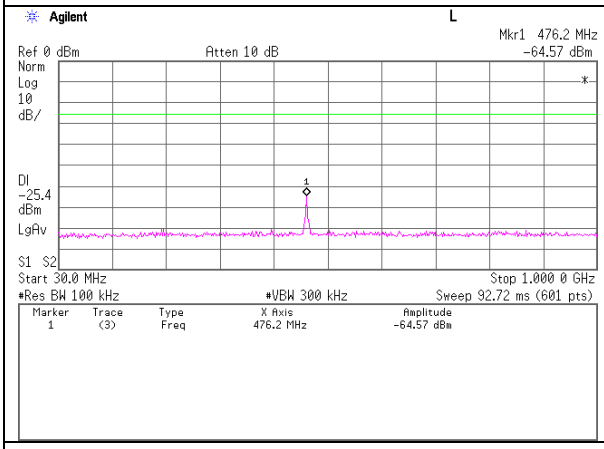
20GHz-25GHz



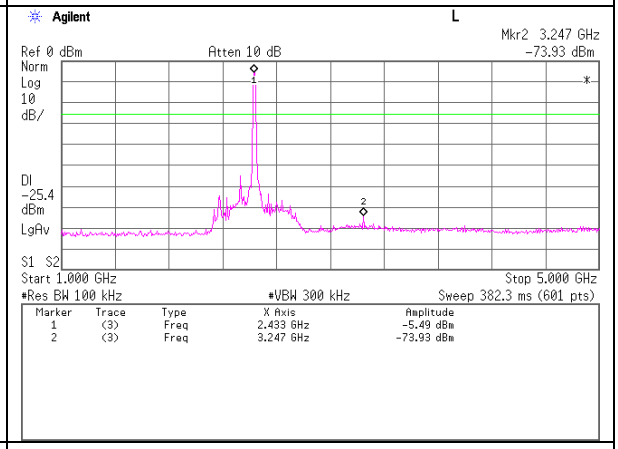
Conducted Spurious Emission (DSSS and other forms of modulation)

Ch: Mid IEEE802.11b 11Mbps

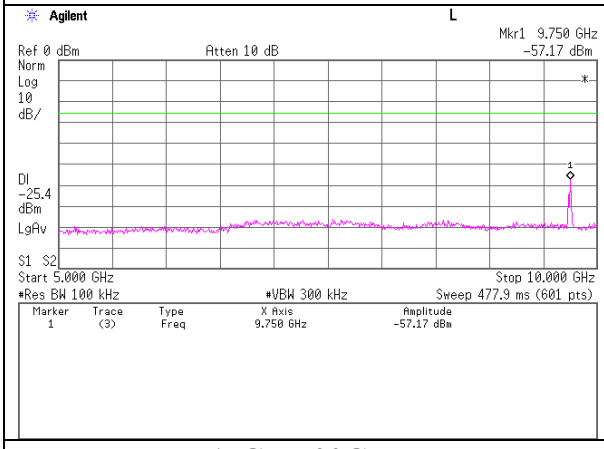
30MHz-1GHz



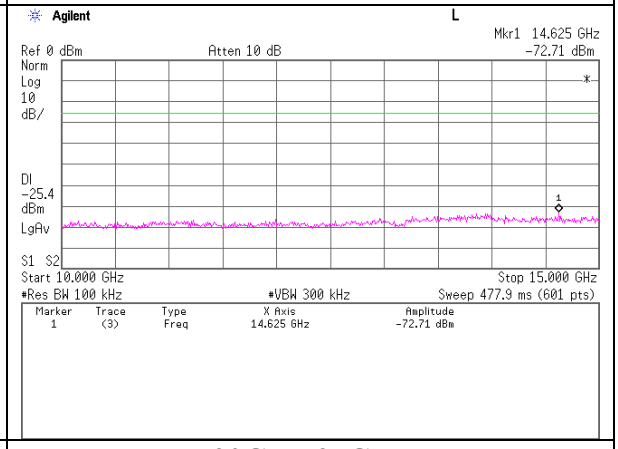
1GHz-5GHz



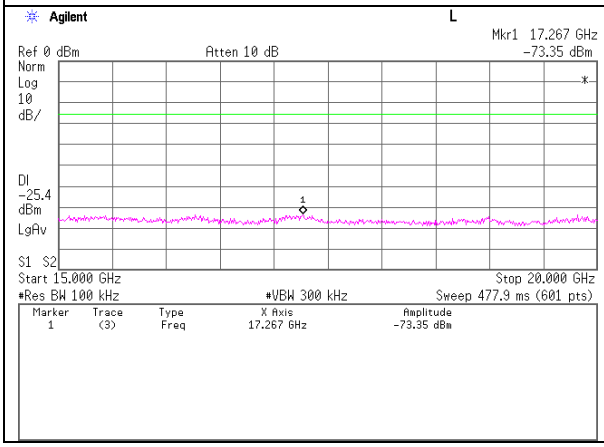
5GHz-10GHz



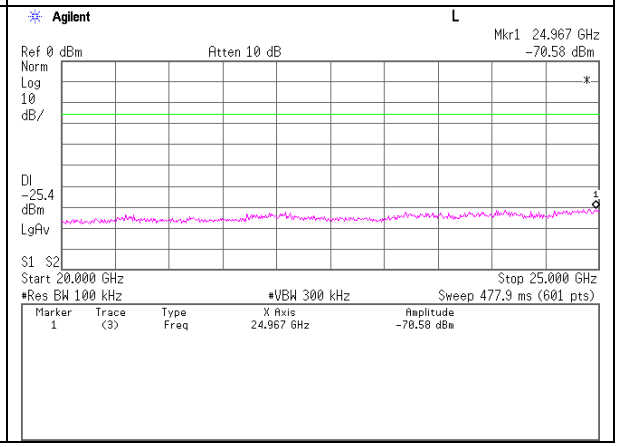
10GHz-15GHz



15GHz-20GHz



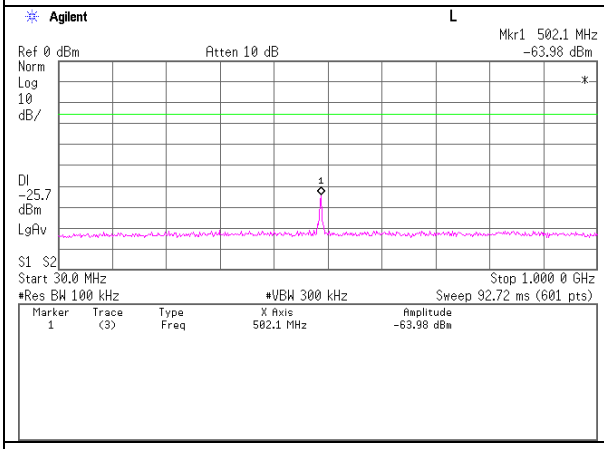
20GHz-25GHz



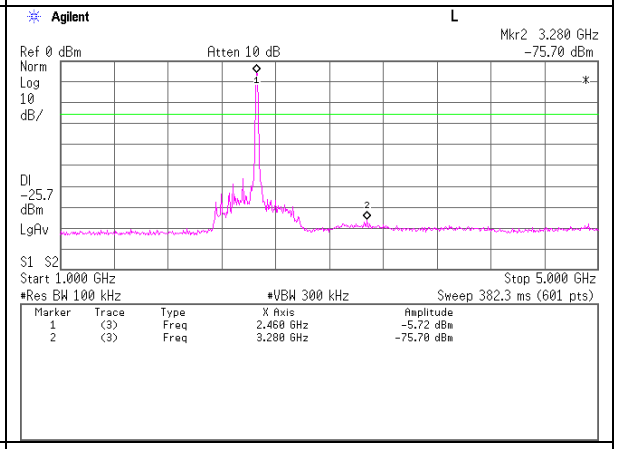
Conducted Spurious Emission (DSSS and other forms of modulation)

Ch: High IEEE802.11b 11Mbps

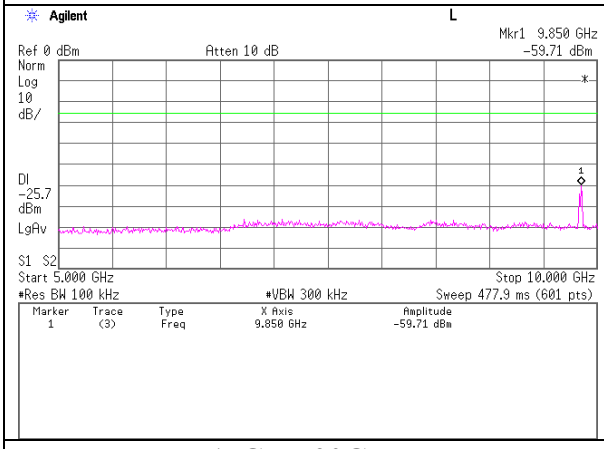
30MHz-1GHz



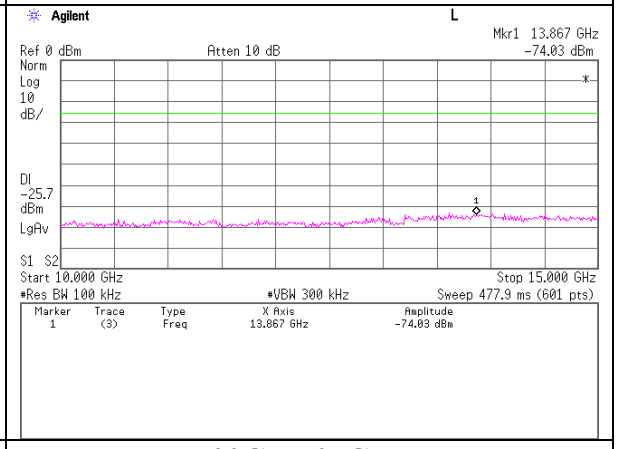
1GHz-5GHz



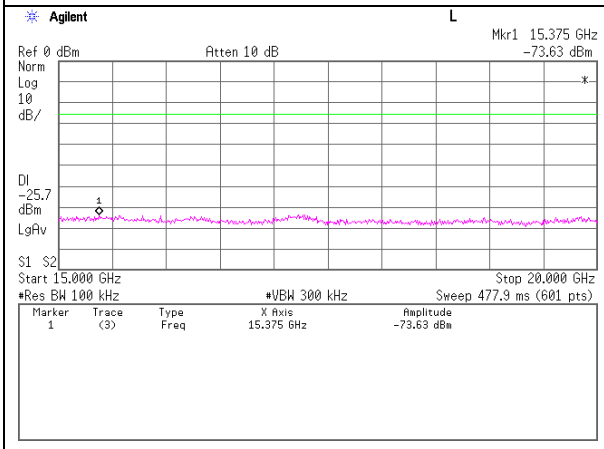
5GHz-10GHz



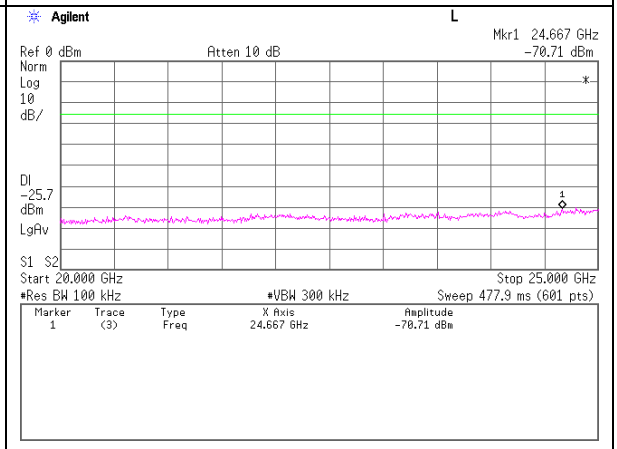
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz

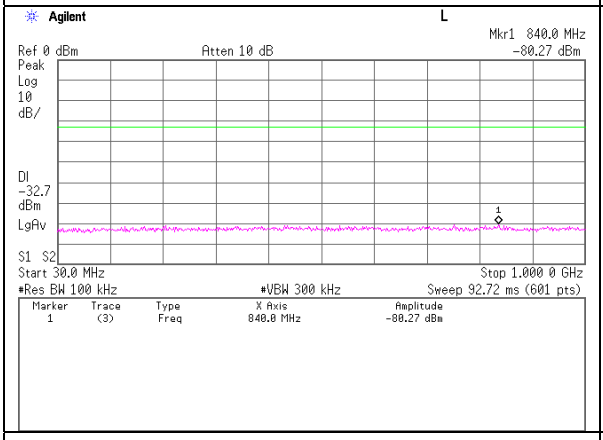


UL Apex Co., Ltd.
Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

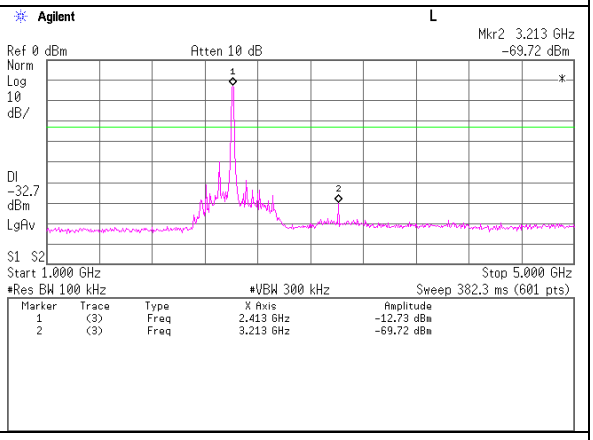
Conducted Spurious Emission (DSSS and other forms of modulation)

Ch: Low IEEE802.11g 54Mbps

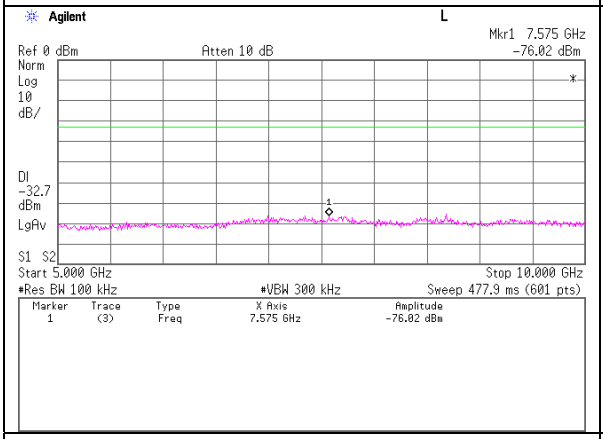
30MHz-1GHz



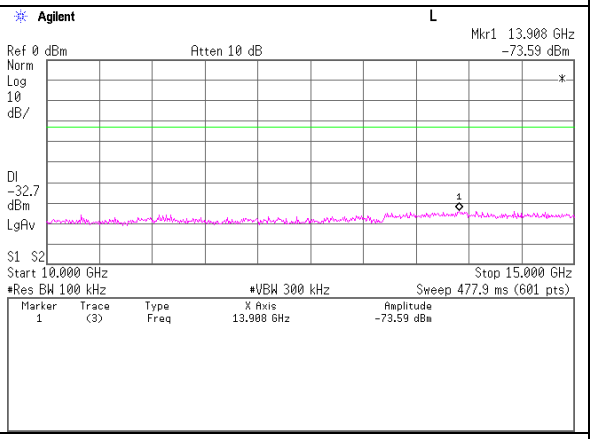
1GHz-5GHz



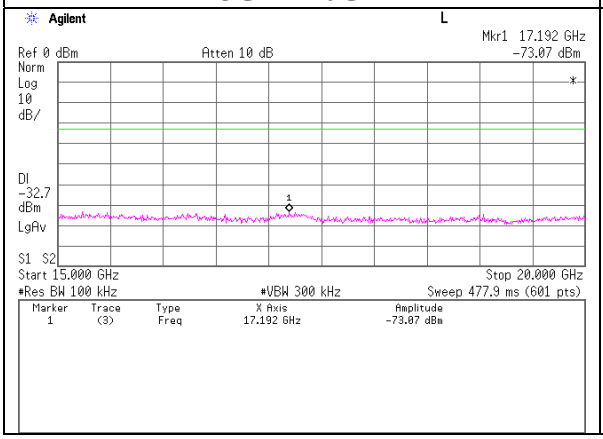
5GHz-10GHz



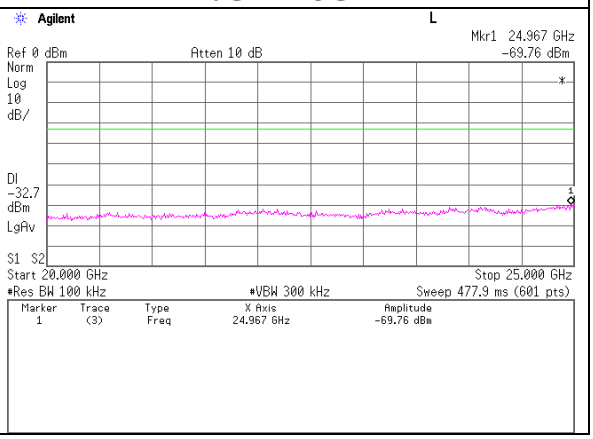
10GHz-15GHz



15GHz-20GHz



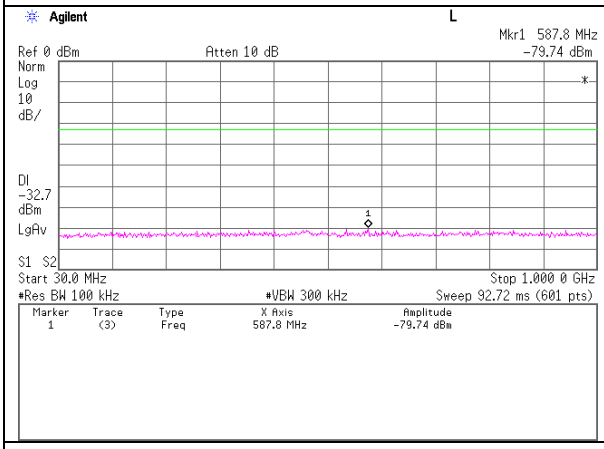
20GHz-25GHz



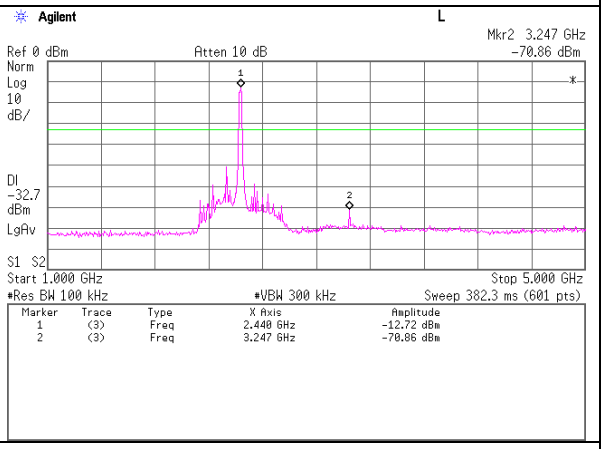
Conducted Spurious Emission (DSSS and other forms of modulation)

Ch: Mid IEEE802.11g 54Mbps

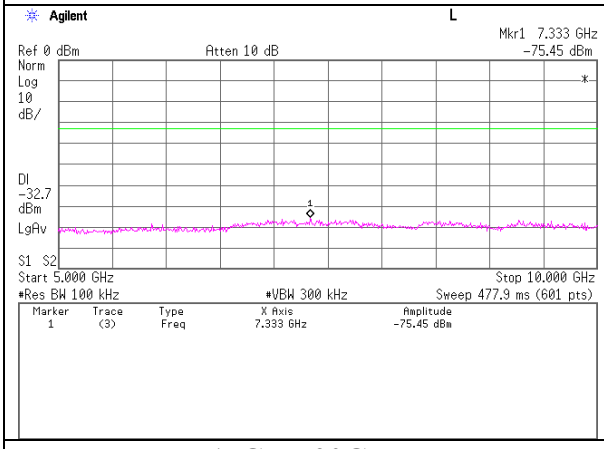
30MHz-1GHz



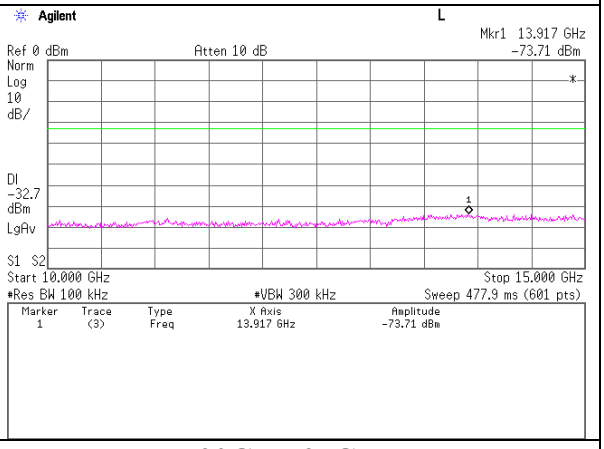
1GHz-5GHz



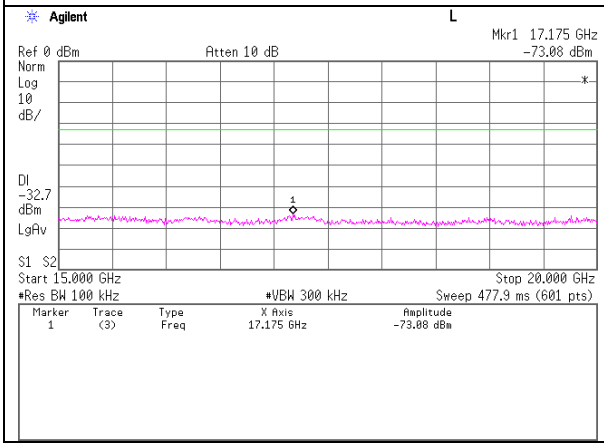
5GHz-10GHz



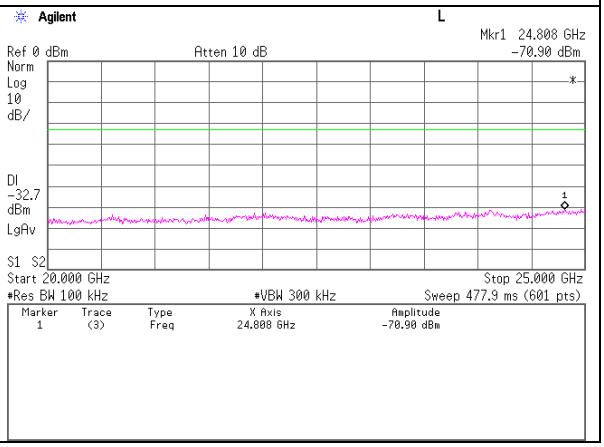
10GHz-15GHz



15GHz-20GHz



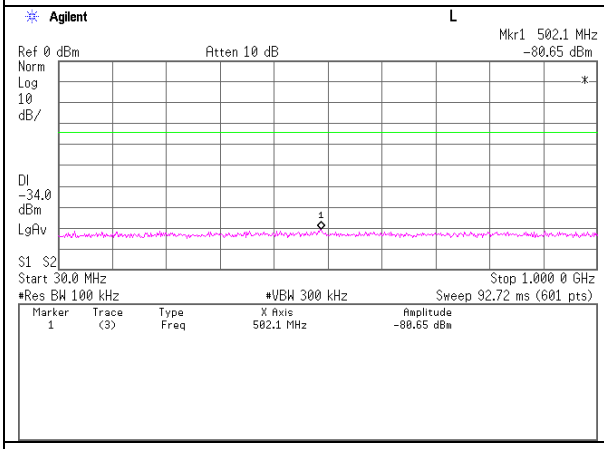
20GHz-25GHz



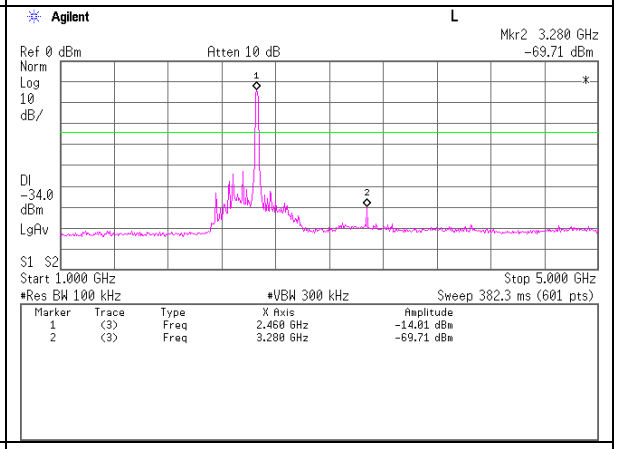
Conducted Spurious Emission (DSSS and other forms of modulation)

Ch: High IEEE802.11g 54Mbps

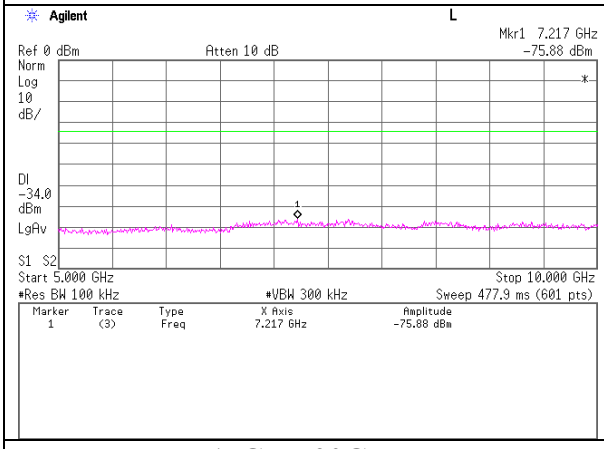
30MHz-1GHz



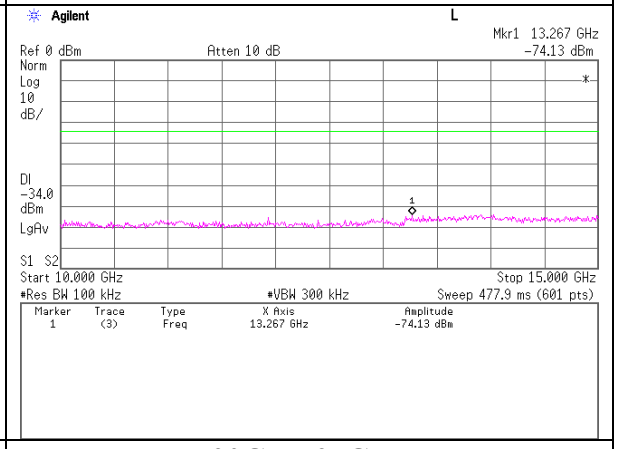
1GHz-5GHz



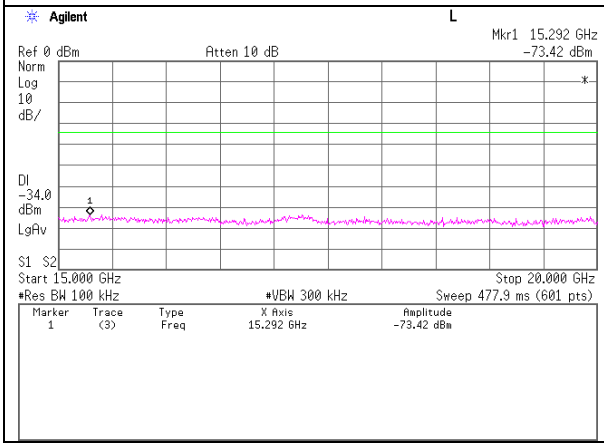
5GHz-10GHz



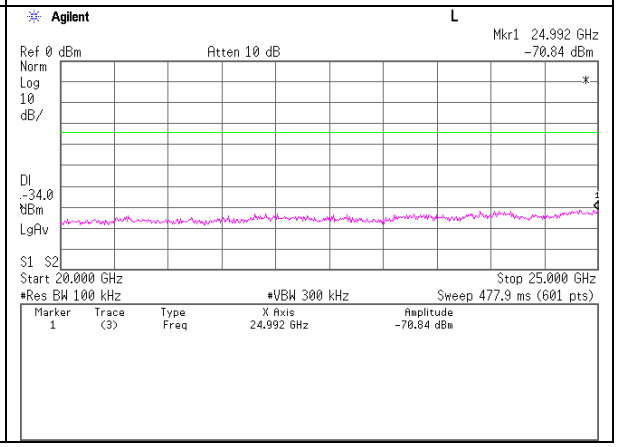
10GHz-15GHz



15GHz-20GHz



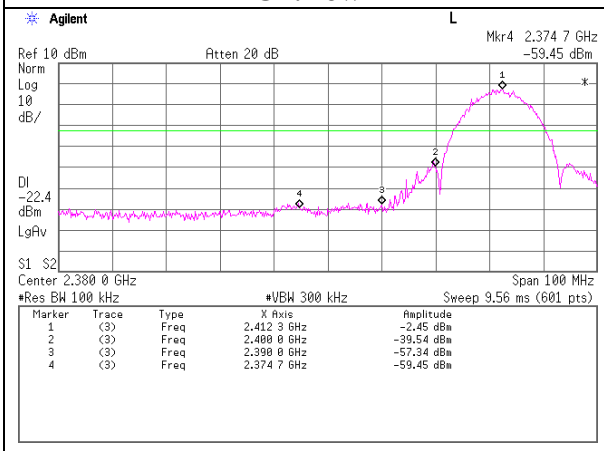
20GHz-25GHz



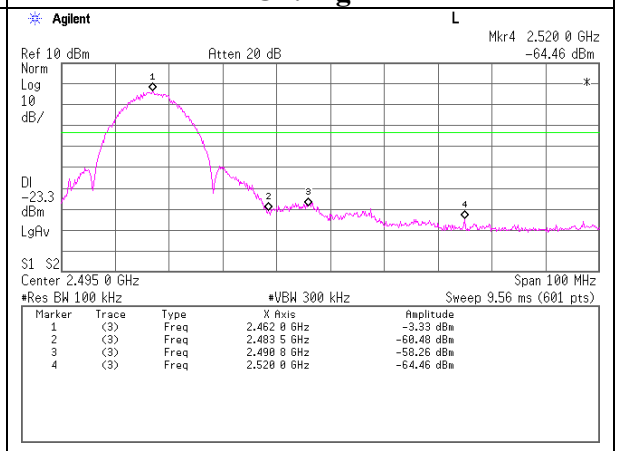
Conducted emission Band Edge compliance (DSSS and other forms of modulation)

IEEE802.11b 11Mbps

Ch:Low

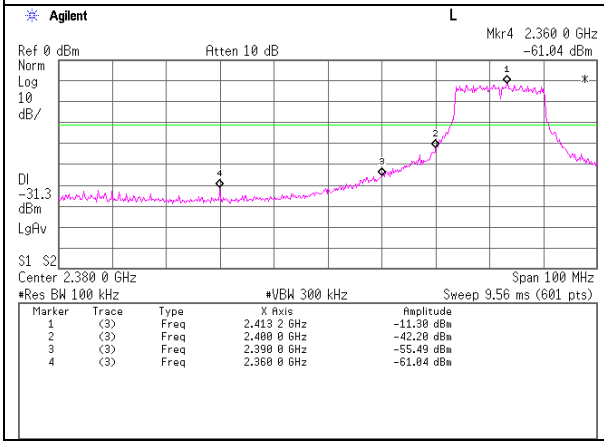


Ch:High

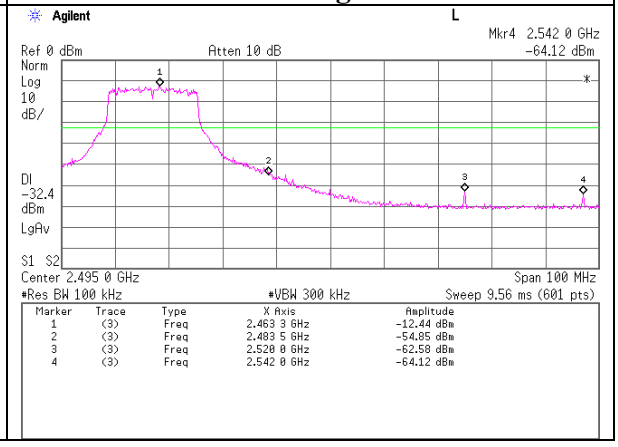


IEEE802.11g 54Mbps

Ch:Low



Ch:High



Power Density (DSSS and other forms of modulation)

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

Company	: SHARP CORPORATION	REPORT NO	: 25KE0241-HO
Equipment	: Personal Computer	REGULATION	: Fcc Part15 Subpart C 15.247(e)
Model	: PC-M4000	TEST DISTANCE	: -
Sample No.	: CN-0201	DATE	: 07/17/2005
Power	: AC120V 60Hz	TEMPERATURE	: 26deg.C
Mode	: Tx IEEE802.11b,g	HUMIDITY	: 60%
		ENGINEER	: Hiroka Umeyama

[IEEE802.11b : 11Mbps]

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2412.0	-17.12	0.86	10.7	-5.6	8.0	13.6
Mid	2437.0	-19.18	0.85	10.7	-7.6	8.0	15.6
High	2462.0	-19.47	0.83	10.7	-7.9	8.0	15.9

[IEEE802.11g : 54Mbps]

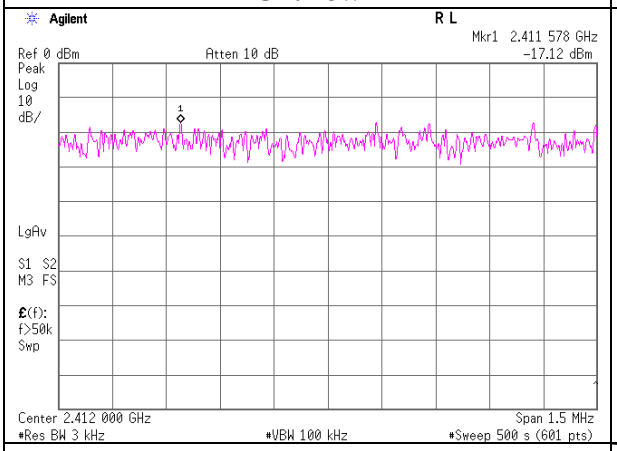
Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2412.0	-25.27	0.86	10.7	-13.7	8.0	21.7
Mid	2437.0	-25.86	0.85	10.7	-14.3	8.0	22.3
High	2462.0	-26.33	0.83	10.7	-14.8	8.0	22.8

Sample Calculation:
Result = Reading + Cable Loss (supplied by customer)+ Attenuator

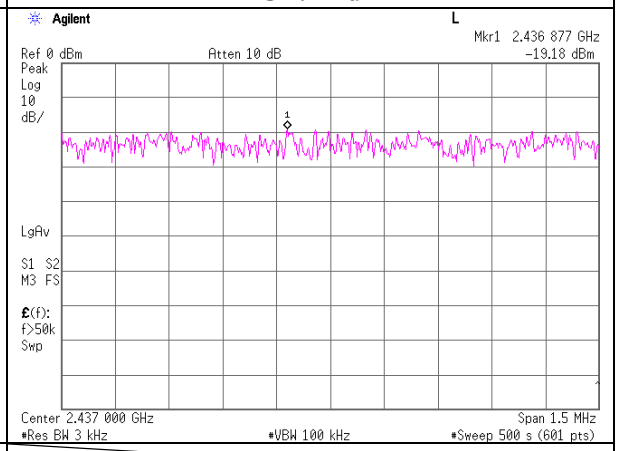
Power Density (DSSS and other forms of modulation)

IEEE802.11b 11Mbps

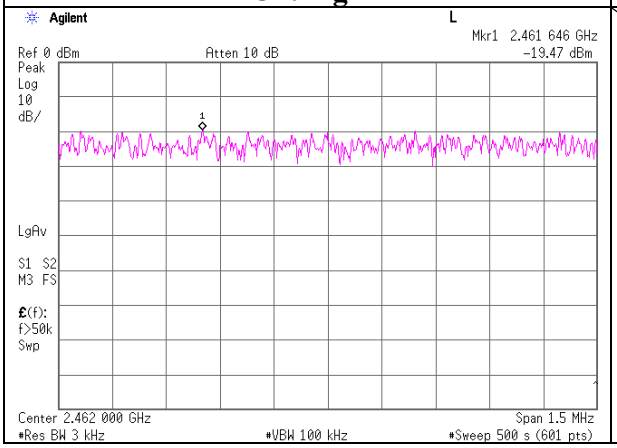
Ch:Low



Ch:Mid



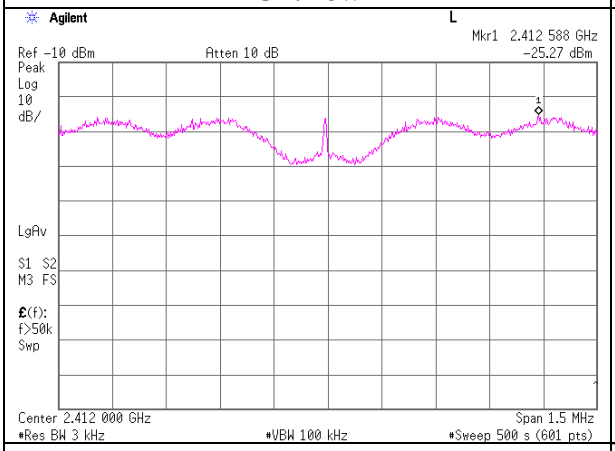
Ch:High



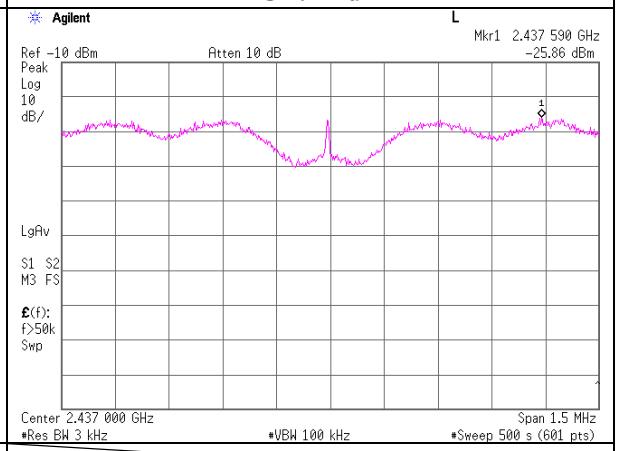
Power Density (DSSS and other forms of modulation)

IEEE802.11g 54Mbps

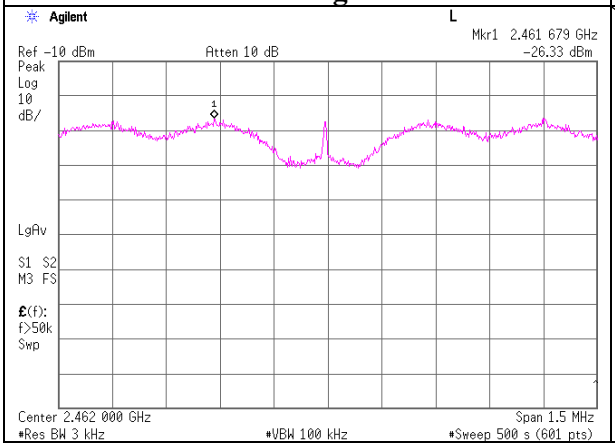
Ch:Low



Ch:Mid



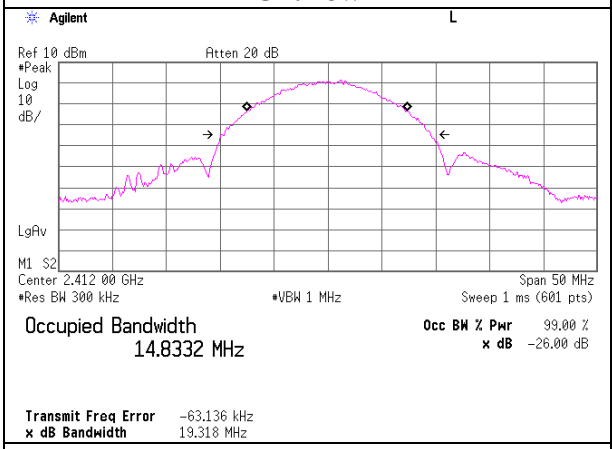
Ch:High



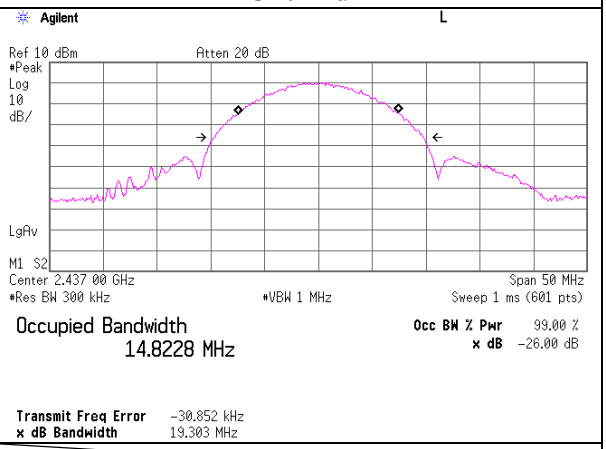
99%Occupied Bandwidth (DSSS and other forms of modulation)

IEEE802.11b 11Mbps

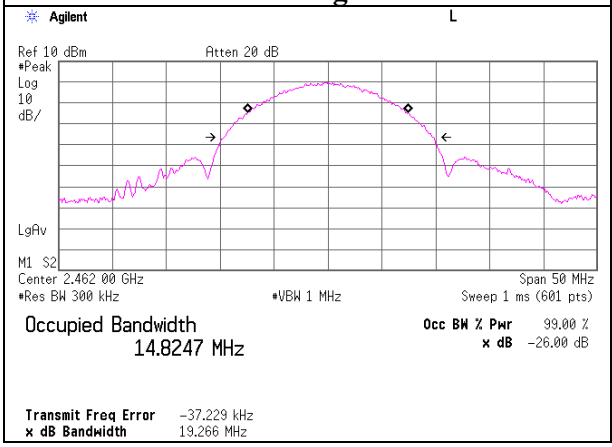
Ch:Low



Ch:Mid



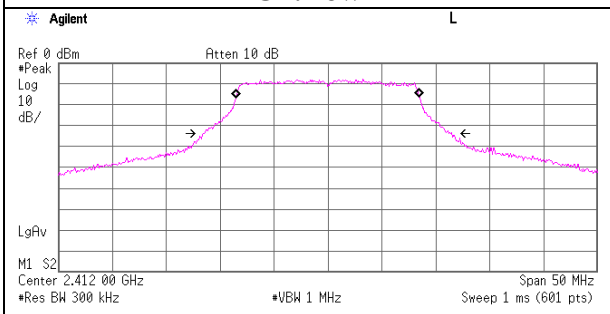
Ch:High



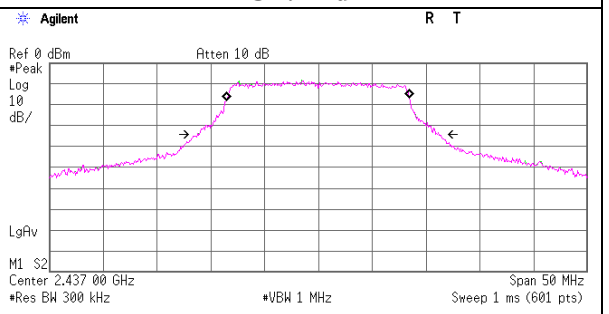
99%Occupied Bandwidth (DSSS and other forms of modulation)

IEEE802.11g 54Mbps

Ch:Low



Ch:Mid



Ch:High