



EMI TEST REPORT

Test Report No. : 25IE0258-HO-1

Applicant : YAMAHA CORPORATION
Type of Equipment : Digital Audio Server
Model No. : MCX-2000
Test standard : FCC Part 15 Subpart C
Section 15.207, Section 15.247 : 2005
FCC ID : A6RMCX2000A
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 8 to 21, 2005

Tested by:

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SECTION 1: Client information

Company Name : YAMAHA CORPORATION
Brand Name : YAMAHA
Address : 10-1 Nakazawa-cho, Hamamatsu-shi, Shizuoka 430-8650 Japan
Telephone Number : +81-53-460-3325
Facsimile Number : +81-53-471-1147
Contact Person : Hiroshi Yamazaki

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

2.1 Identification of E.U.T.

Type of Equipment : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Rating : AC120V / 0.53A
Country of Manufacture : Malaysia
Receipt Date of Sample : May 11, 2005
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model No: MCX-2000 (referred to as the EUT in this report) is the Digital Audio Server.

IEEE802.11b IEEE802.11g Wireless LAN	
Clock frequency in the system	Wireless LAN Module:40MHz Server : CPU 25MHz Sub CPU 20MHz Digital Radio IC 45.16MHz
Feature of EUT	<ul style="list-style-type: none"> • Audio player function MCX-2000 can play music CD,MP3(CD-ROM),the audio signal inputted from the outside, the radio program by built-in FM tuner. • Audio recorder function Music CD,MP3(CD-ROM),the audio signal inputted from the outside,the radio program by built-in FM tuner can be recorded to a built-in hard disk drive. • CD recorder function The original music CD can be made combining the music in archives. • Music distribution function MCX-2000 can distribute to a maximum of 15 sets clients which installed in each room through the Music CAST network of wired/wireless LAN.

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		IEEE802.11b IEEE802.11g Wireless LAN
Equipment Type		Transceiver
Frequency band	Lower limit	2400MHz
	Upper limit	2483.5MHz
Frequency of Operation		2417MHz to 2457MHz
Bandwidth & Channel spacing		26MHz & 5MHz
Type of Modulation		DSSS, OFDM
Antenna Type		Main antenna : lambda/2 Dipole Antenna Sub Antenna : Metal Plate Antenna
Antenna Connector Type		Main antenna : Reverse SMA Conector Sub Antenna : U·FL
Antenna Gain		Main antenna : 2.15dBi Sub Antenna : 3.0dBi
Transmit Power		16dBm max
Mode of Operation		Duplex
ITU code		G1D
Power Supply (inner)		DC 3.3V

FCC 15.31 (e)

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

FCC Part 15.203 Antenna requirement

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.

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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	-	N/A	11.0dB, AV, 0.18507MHz, N, (Main-ant., 11g, ch06)	Complied
2	6dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(2)	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)	Conducted	N/A		Complied
4	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d)	Conducted/ Radiated	N/A	1.1dB, PK, 2483.5MHz, Vertical, (Main-ant.,11g,ch10) 3.4dB, PK, 2400.00MHz, Vertical, (Sub-ant.,11b,ch02)	Complied
5	Restricted Band Edges	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d)	Conducted	N/A	*See data.	Complied
6	Power Density	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (e)	Conducted	N/A		Complied

Note: UL Apex's EMI Work Procedures No.QPM05 and QPM15.

Uncertainty:

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is ± 1.3 dB.

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

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ± 4.5 dB(3m)/ ± 4.7 dB(10m).

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ± 5.2 dB(3m)/ ± 3.8 dB(10m).

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ± 6.6 dB.

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 ± 3.0 dB.

*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.

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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
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	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

The mode is used : IEEE 802.11b : DSSS (11Mbps (for Conducted) , 3Mbps (for Radiated))

-Transmitting mode
Low channel : 2417MHz
Mid channel : 2437MHz
High channel : 2457MHz

-Receiving mode
IEEE 802.11g : OFDM (54Mbps (for Conducted) , 8Mbps (for Radiated))

-Transmitting mode
Low channel : 2417MHz
Mid channel : 2437MHz
High channel : 2457MHz

-Receiving mode

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

*Test data rate for Radiated tests were Maximum Rate (IEEE802.11b: 3Mbps / 11g: 8Mbps) in normal use.

Remarks MCX-2000 / About transmitting rate for Radiated tests (evidence)

<p><IEEE802.11b> Maximum rate 3.0Mbit/sec (evidence)</p>	<p>The client (MCX-A10 or MCX-C15) that can be connected to MCX-2000 Server: Maximum 5 machine -Linear: PCM sampling frequency 44.1kHz, 16bit=1.411 Mbit/sec MP3 320kbit/sec (maximum) 160kbit/sec The specification is as follows in 2 ways; (1) linear PCM (1) + MP3 (320kbps) 4 machine ⇒ 1.411 x 1 + 0.320 x 4 = 2.691 Mbit/sec (2) MP3 (320kbps) 5 machine 0.320 x 5 = 1.6Mbit/sec -This Music CAST system uses TCP/IP protocol. (Packet size 1500 Byte Header size: 40Byte) 1500/1460 = 1.03 Therefore, actual transmitting rate should be considered as 3% increased. Here is 5% for extra margin. The high transmitting rate (1) above plus 5% transmitting rate 2.691 x 1.05 = 2.826 Mbit/sec This is the maximum transmitting rate for IEEE802.11b.</p>
<p><IEEE802.11g> Maximum rate 8.0Mbit/sec (evidence)</p>	<p>Number of Client machine that can be connected to MCX-2000 in IEEE802.11g mode are as follows; (1) Linear PCM 5 + MP3 (160kbps) 3 1.411 x 5 + 0.160 x 3 = 7.535 Mbit/sec (2) MP3 (320kbps) 15 0.320 x 15 = 4.8 Mbit/sec -This Music CAST system uses TCP/IP protocol. (Packet size 1500 Byte Header size: 40Byte) 1500/1460 = 1.03 Therefore, actual transmitting rate should be considered as 3% increased. Here is 5% for extra margin. The high transmitting rate (1) above plus 5% transmitting rate 7.535 x 1.05 = 7.912 Mbit/sec This is the maximum transmitting rate for IEEE802.11g. *MCX-2000 has the re-play function for stored music data in HDD of PC. In this case, MCX-2000 is in only receiving mode. (PC has no re-play function for Music stored data in MCX-2000.). In this case, transmitting rate is not needed to be considered. When PC edits the contents of MCX-2000 HDD in PC, MCX-2000 may transmits in the maximum transmitting rate in IEEE802.11g. Firmware transmitting rate is restricted not more than 8.0Mbit/sec.</p>

*The Conducted test was performed with the Main (Rear) Antenna only, since Main antenna was higher level.

*Main and Sub antenna cannot transmit simultaneously.

*Radiated test was performed with Main (Rear) and Sub (Front) antenna.

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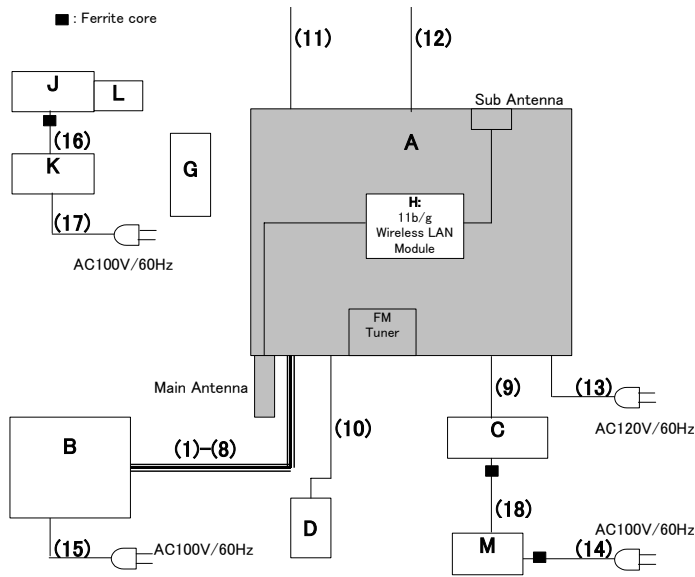
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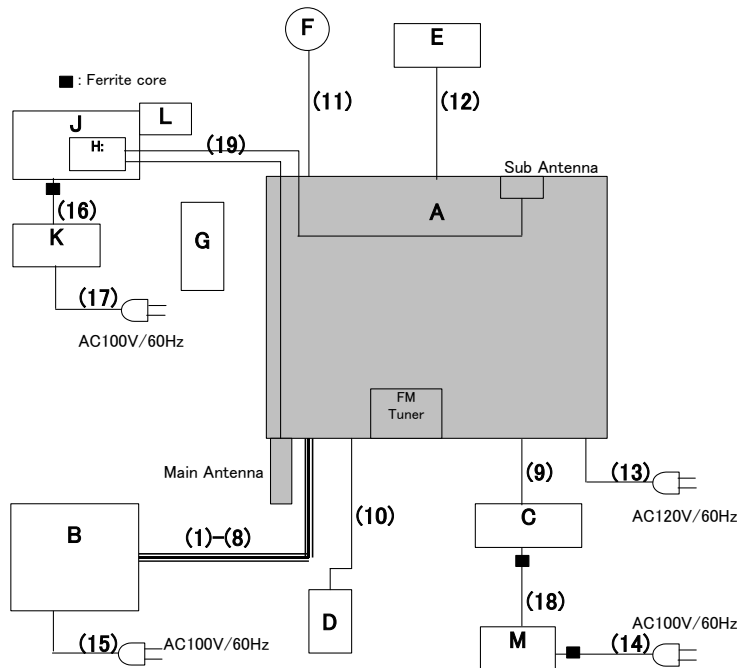
4.2 Configuration and peripherals

< For Radiated Tests >



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

< For Conducted Tests >



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

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Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Digital Audio Server	MCX-2000	Y010305PR	YAMAHA	A6RMCX2000A
B	Audio Amplifier	RX-V2400	Y0582830W	YAMAHA	-
C	Digital Audio Terminal	MCX-A10	N010923QS	YAMAHA	-
D	Satelite Radio Tuner	CNP-1000	06950038	AUDOVOX	-
E	Head Phone	MDR-Z300	-	SONY	-
F	Keyboard	SK-1000REW	-	DELL	GYUR36SK
G	Remote Controller	MCX4 WF13830	035	YAMAHA	-
H	Wireless LAN Module	DC2G1EZ077	A5318A	SHARP	-
J	Personal Computer	2562-B3J	99-DZBXY 02/40	IBM	-
K	AC Adapter	02K6753	11S02K6746Z1Z 2UF1BP2S0	IBM	-
L	Wireless-G Notebook Adapter	WPC54G	BDH003278474	LINKSYS	
M	AC Adapter	LSE0215C1240	A20405080909	YAMAHA	

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
(1)	Video Cable	1.5	Y	Polyvinyl chloride
(2)	S Video Cable	1.6	Y	Polyvinyl chloride
(3)	RS-232C Cable	1.8	Y	Polyvinyl chloride
(4)	Analog Audio Cable	1.6	Y	Polyvinyl chloride
(5)	Analog Audio Cable	1.6	Y	Polyvinyl chloride
(6)	IR Cable	3.0	Y	Polyvinyl chloride
(7)	Digital Cable	1.6	Y	Polyvinyl chloride
(8)	Digital Cable	1.6	Y	Polyvinyl chloride
(9)	LAN Cable	2.0	Y	Polyvinyl chloride
(10)	Satellite Radio Cable	9.0	Y	Polyvinyl chloride
(11)	Headphone Cable	3.0	Y	Polyvinyl chloride
(12)	Keyboard Cable	1.8	Y	Polyvinyl chloride
(13)	AC Power Cable	2.0	N	Polyvinyl chloride
(14)	DC Power Cable	1.5	N	Polyvinyl chloride
(15)	AC Power Cable	1.85	N	Polyvinyl chloride
(16)	DC Power Cable	1.5	N	Polyvinyl chloride
(17)	AC Power Cable	2.0	N	Polyvinyl chloride
(18)	AC Power Cable	2.2	N	Polyvinyl chloride
(19)	Antenna Cable	0.3	N	Polyvinyl chloride

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SECTION 5: Conducted Emission

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.

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

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SECTION 6: Spurious Emission

[Conducted]

Test Procedure

The Out of Band 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 1.5m, 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 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.

Test data : APPENDIX 3

Test result : Pass

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	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

For main antenna, 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.

For sub antenna, the test was made on EUT in the normal use position.

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SECTION 7: 6dB Bandwidth

Test Procedure

The 6dB 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

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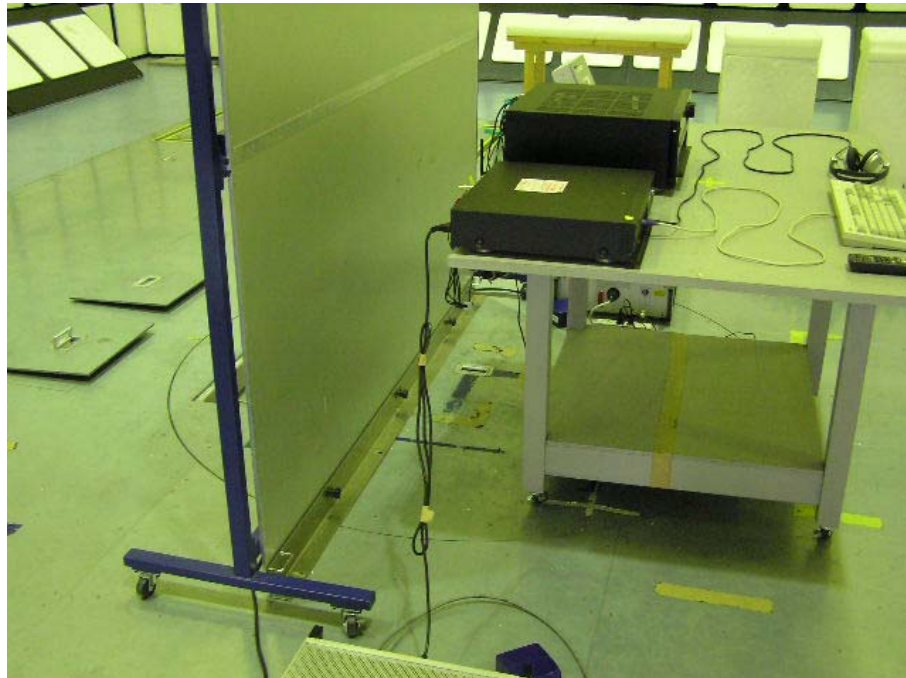
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APPENDIX 1: Photographs of test setup

Conducted Emission
Front



Side

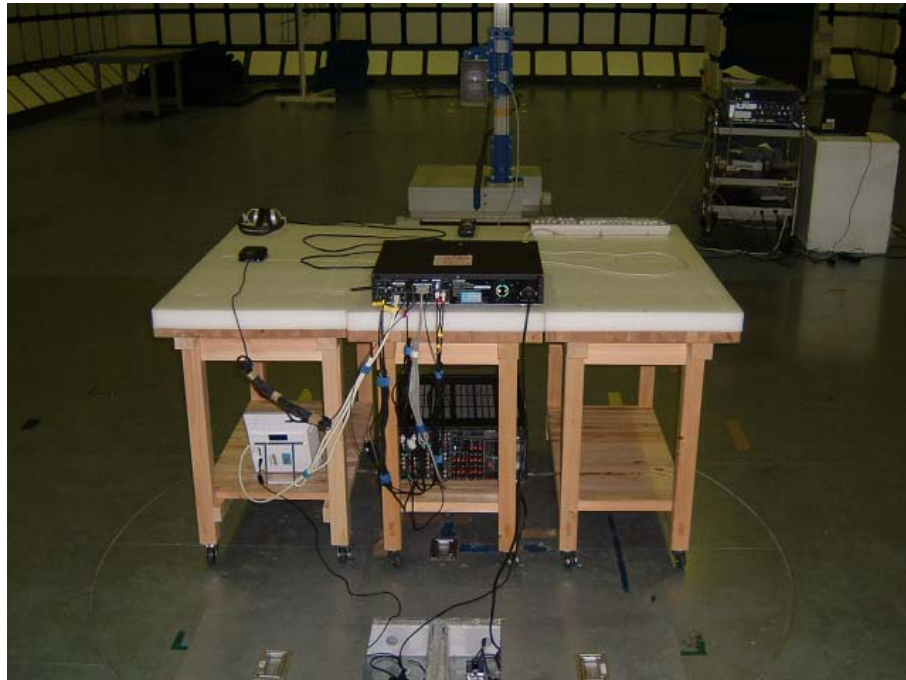


Spurious Emission (Radiated)

Front



Rear



Worst Case Main Antenna Position (Y-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)
MSA-04	Spectrum Analyzer	Agilent	E4448A	1-6	2005/05/19 * 12
MCC-06	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	1-6	2005/02/03 * 12
MCC-35	Microwave Cable	Mitachi Industrial	U.FL-2LP-066-A-(200)	1-6	2004/07/22 * 12
MAT-22	Attenuator(10dB)(above 1GHz)	Orient Microwave	BX10-0476-00	1-6	2005/03/16 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	8	2005/04/11 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	7	2005/02/02 * 12
MRENT-14	Spectrum Analyzer	Advantest	R3273	7	2005/07/11
MCC-13	Coaxial Cable	Fujikura/Agilent	-	7	2005/02/24 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	7 (EUT)	2005/02/04 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	7 (AE)	2005/02/04 * 12
MTA-06	Termination	MCL	BTRM-50	7 (AE)	2005/02/03 * 12
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	8, 7	2004/11/13 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	8, 7	2004/11/12 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	8	2004/08/26 * 12
MPA-01	Pre Amplifier	Agilent	8449B	8	2005/02/05 * 12
MAT-20	Attenuator(10dB)(above 1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-110	8	2005/01/11 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	8	2004/09/18 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	8	2005/02/03 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	8	2005/01/10 * 12
MHA-01	Horn Antenna	EMCO	3160-09	8	2005/01/10 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	8	2004/12/19 * 12
MPA-04	Pre Amplifier	Agilent	8447D	8	2005/05/24 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	8	2004/12/16 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	8	2004/10/14 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	8	2004/10/14 * 12

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

Test Item:

- 1: 6dB Bandwidth
- 2: Maximum Peak Output Power
- 3: Conducted Spurious Emission
- 4: Conducted Emission Band Edge
- 5: Power Density
- 6: 99% Occupied Bandwidth
- 7: Conducted emission,
- 8: Radiated Spurious Emission

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APPENDIX 3: Data of EMI test

Conducted Emission
IEEE802.11g ch6 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 10:15:05

Applicant	: YAMAHA CORPORATION	Report No.	: 251E0258-HO
Kind of EUT	: Digital Audio Server	Power	: AC120V / 60Hz
Model No.	: MCX-2000	Temp°C/Humi%	: 23deg. C / 61%
Serial No.	: Y010305PR	Operator	: Makoto Kosaka

Mode / Remarks : Tx 11g ch6 communication

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	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
0.15000	43.9	----	0.2	44.1	----	66.0	----	21.9	----	N
0.15000	43.6	----	0.2	43.8	----	66.0	----	22.2	----	L
0.18507	47.6	42.9	0.4	48.0	43.3	64.3	54.3	16.3	11.0	N
0.18507	47.1	42.4	0.4	47.5	42.8	64.3	54.3	16.8	11.5	L
0.43798	37.8	----	0.3	38.1	----	57.1	----	19.0	----	N
0.43798	35.4	----	0.3	35.7	----	57.1	----	21.4	----	L
0.55611	35.5	----	0.4	35.9	----	56.0	----	20.1	----	N
0.55611	35.5	----	0.4	35.9	----	56.0	----	20.1	----	L
3.48898	15.6	----	0.6	16.2	----	56.0	----	39.8	----	N
3.48898	15.6	----	0.6	16.2	----	56.0	----	39.8	----	L
4.97295	22.2	----	0.8	23.0	----	56.0	----	33.0	----	N
4.97295	21.5	----	0.8	22.3	----	56.0	----	33.7	----	L
10.02305	19.8	----	1.2	21.0	----	60.0	----	39.0	----	N
10.02305	19.3	----	1.2	20.5	----	60.0	----	39.5	----	L
17.01403	19.7	----	1.5	21.2	----	60.0	----	38.8	----	N
17.01403	18.6	----	1.5	20.1	----	60.0	----	39.9	----	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.

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(01.06.05)

Conducted Emission
IEEE802.11b ch2 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 10:42:49

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR

Report No. : 251E0258-HO
 Power : AC120V / 60Hz
 Temp°C/Humi% : 23deg.C / 61%
 Operator : Makoto Kosaka

Mode / Remarks : Tx 11b ch2 communication

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

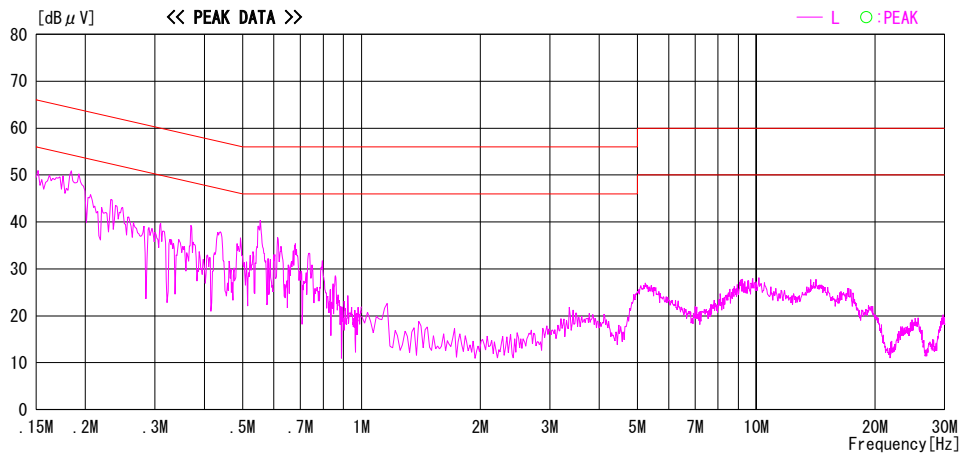
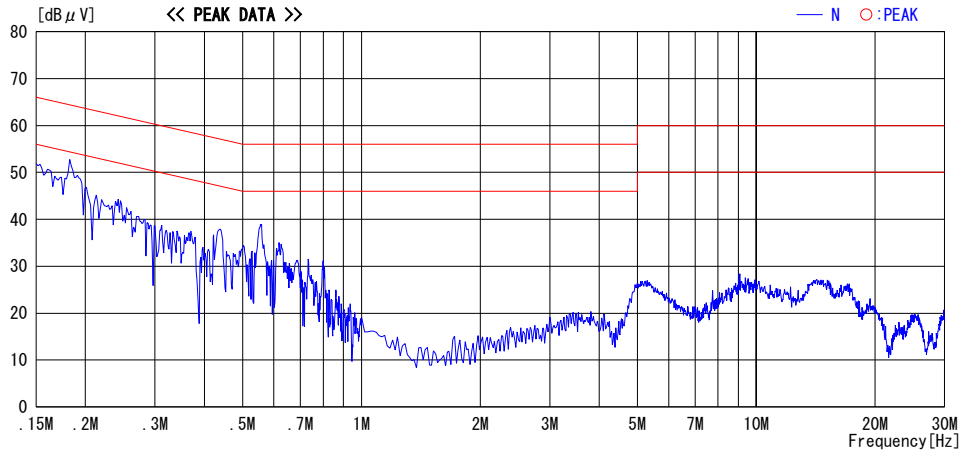


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11b ch6 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 10:54:10

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR

Report No. : 251E0258-HO
 Power : AC120V / 60Hz
 Temp°C/Humi% : 23deg.C / 61%
 Operator : Makoto Kosaka

Mode / Remarks : Tx 11b ch6 communication

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

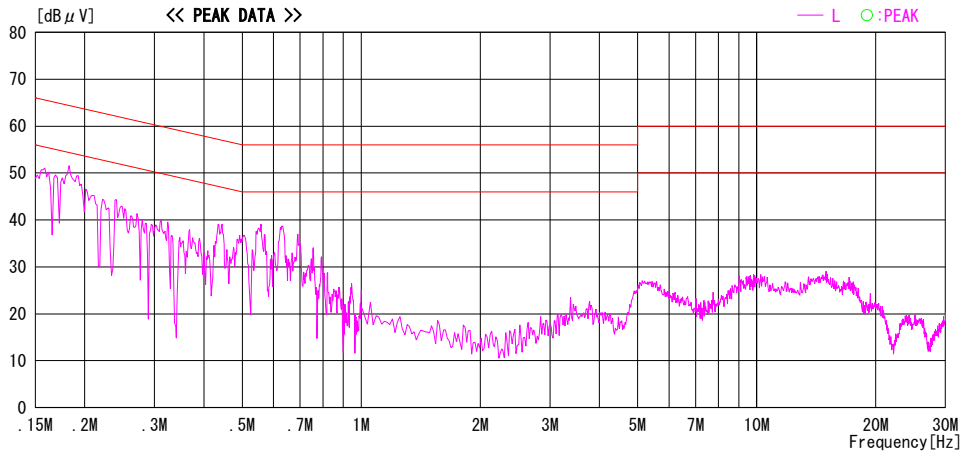
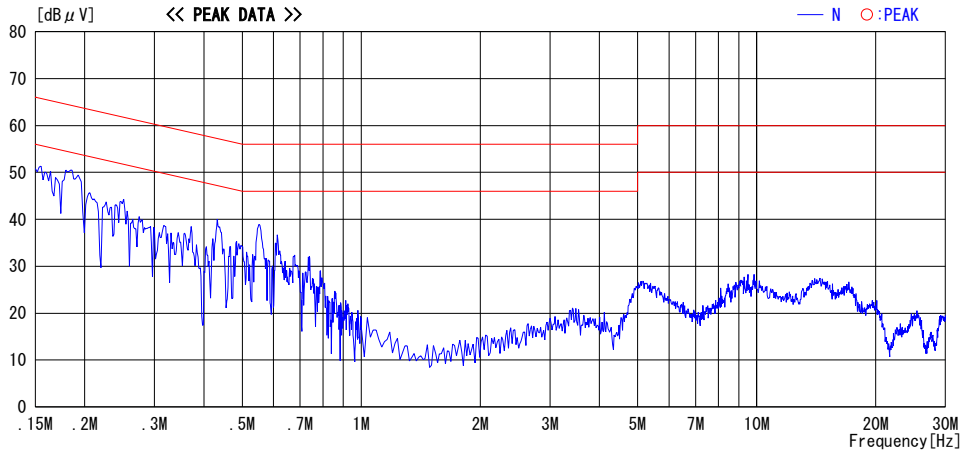


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C. F (LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11b ch10 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 10:59:43

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR

Report No. : 251E0258-HO
 Power : AC120V / 60Hz
 Temp°C/Humi% : 23deg.C / 61%
 Operator : Makoto Kosaka

Mode / Remarks : Tx 11b ch10 communication

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

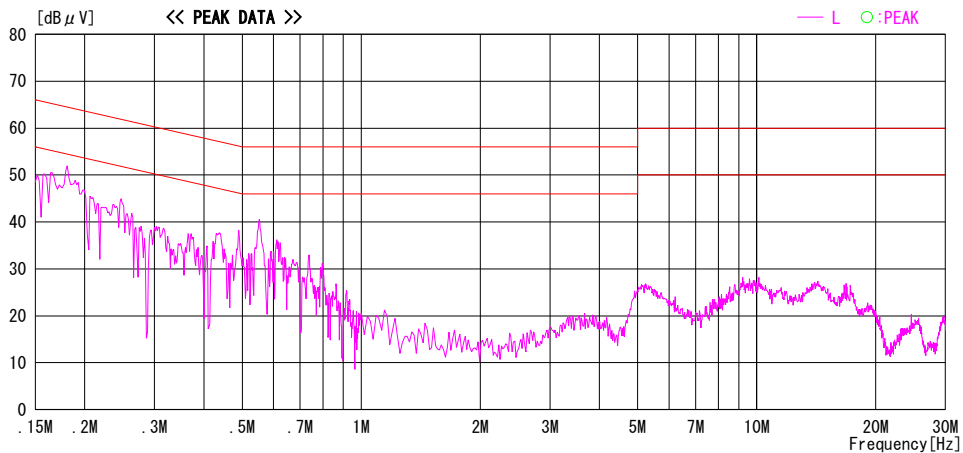
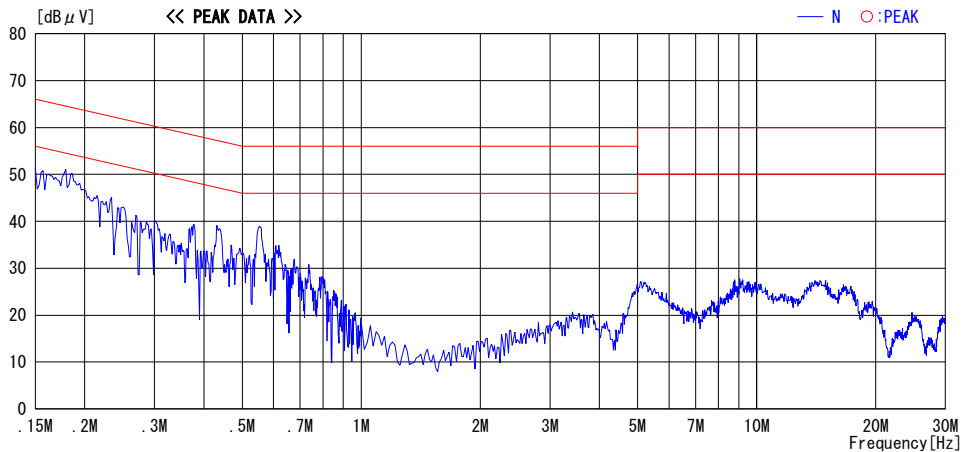


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11b ch6 Sub Antenna

**This channel is the final data since the noise level in ch2 and ch10 were equivalent to ch6.*

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 11:07:16

Applicant	: YAMAHA CORPORATION	Report No.	: 25IE0258-HO
Kind of EUT	: Digital Audio Server	Power	: AC120V / 60Hz
Model No.	: MCX-2000	Temp°C/Humi%	: 23deg.C / 61%
Serial No.	: Y010305PR	Operator	: Makoto Kosaka

Mode / Remarks : Tx 11b ch6 communication Sub Antenna

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

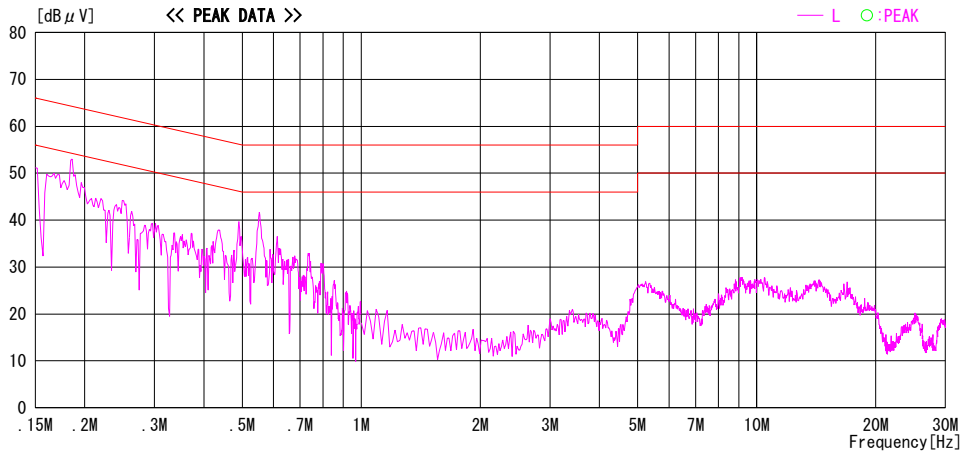
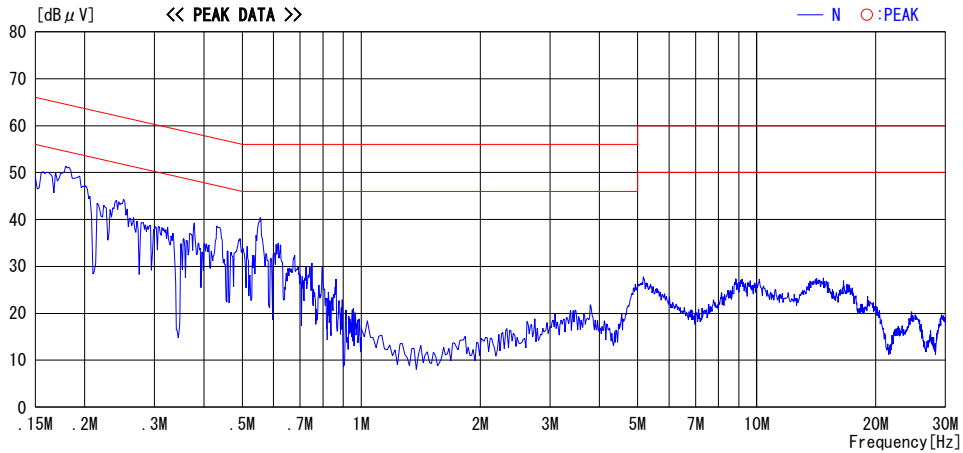


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C. F (LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11g ch2 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 10:25:01

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR

Report No. : 25IE0258-HO
 Power : AC120V / 60Hz
 Temp°C/Humi% : 23deg. C / 61%
 Operator : Makoto Kosaka

Mode / Remarks : Tx 11g ch2 communication

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

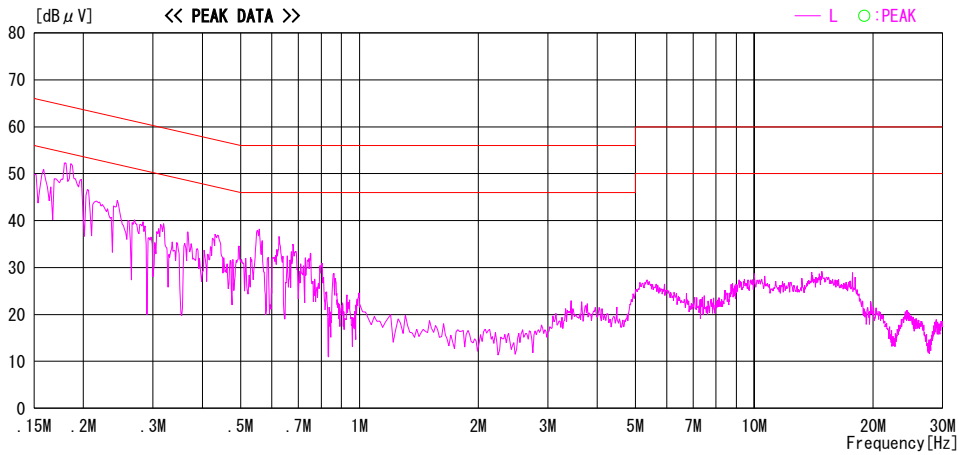
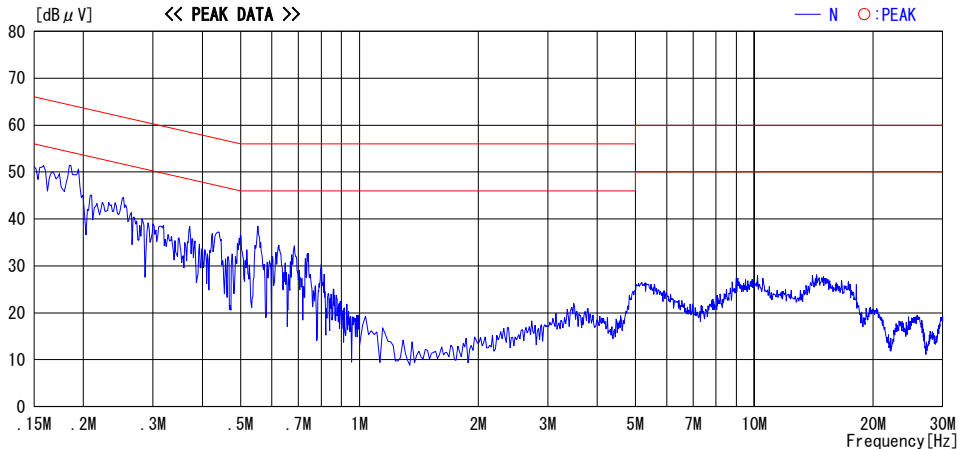


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C. F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11g ch6 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 10:15:05

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR

Report No. : 251E0258-HO
 Power : AC120V / 60Hz
 Temp°C/Humi% : 23deg.C / 61%
 Operator : Makoto Kosaka

Mode / Remarks : Tx 11g ch6 communication

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

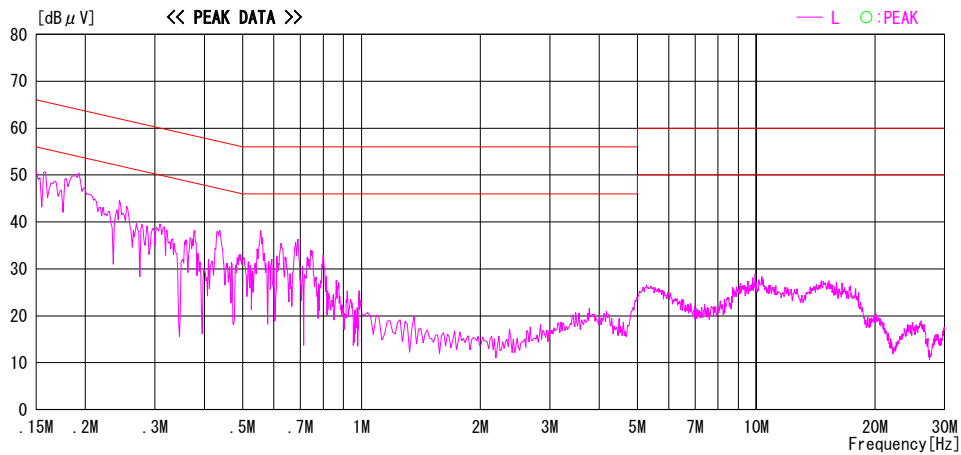
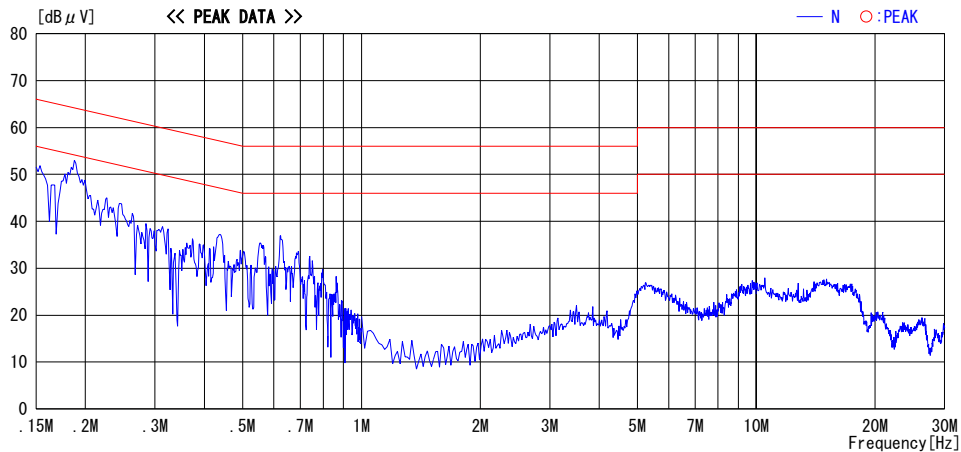


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11g ch10 Main Antenna
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 10:35:52

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR

Report No. : 25IE0258-HO
 Power : AC120V / 60Hz
 Temp°C/Humi% : 23deg.C / 61%
 Operator : Makoto Kosaka

Mode / Remarks : Tx 11g ch10 communication

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

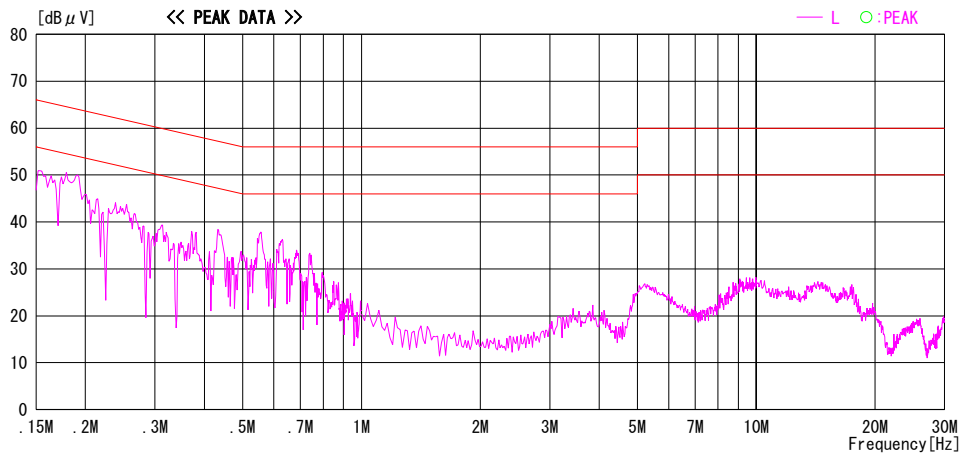
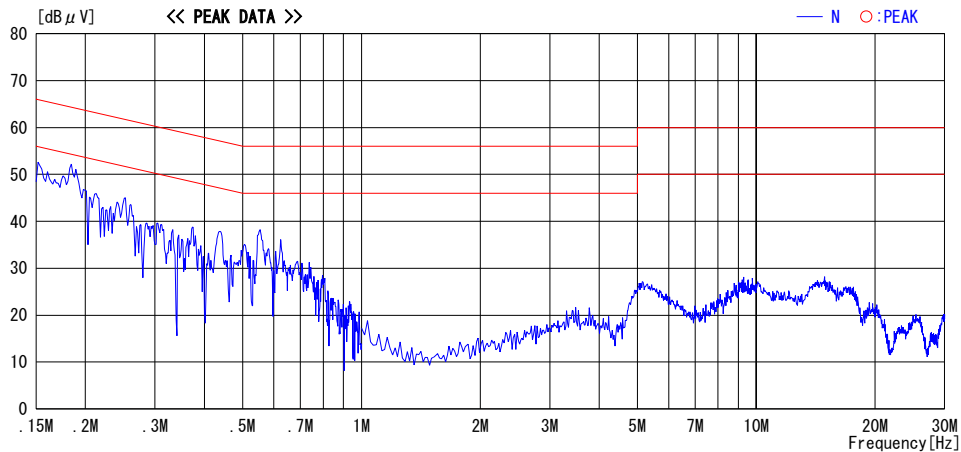


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

Conducted Emission
IEEE802.11g ch6 Sub Antenna

**This channel is the final data since the noise level in ch2 and ch10 were equivalent to ch6.*

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/21 11:13:54

Applicant : YAMAHA CORPORATION	Report No. : 25IE0258-HO
Kind of EUT : Digital Audio Server	Power : AC120V / 60Hz
Model No. : MCX-2000	Temp°C/Humi% : 23deg.C / 61%
Serial No. : Y010305PR	Operator : Makoto Kosaka

Mode / Remarks : Tx 11g ch6 communication Sub Antenna

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

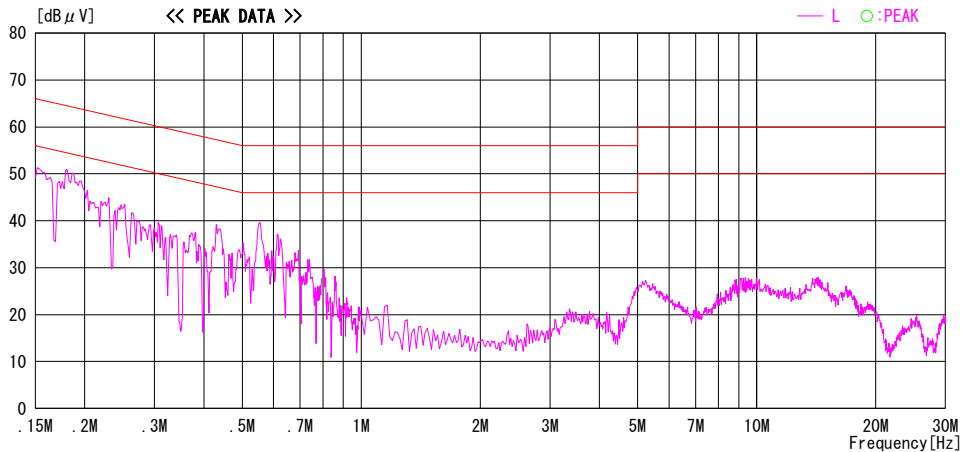
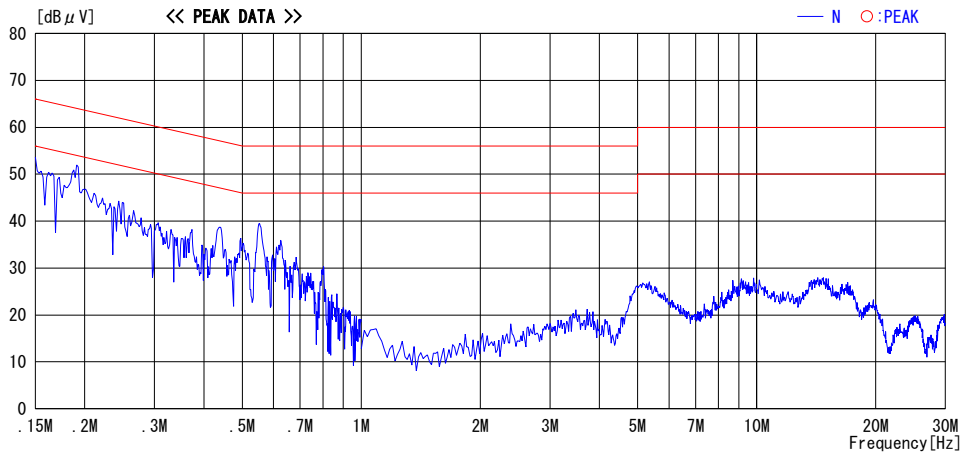


CHART:WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION:RESULT=READING+C. F(LISN LOSS+CABLE LOSS)
 Except for the above table : adequate margin data below the limits.

6dB Bandwidth

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

Company	: YAMAHA CORPORATION	REPORT NO	: 25IE0258-HO
Equipment	: Digital Audio Server	REGULATION	: Fcc Part15 Subpart C 15.247(a)(2)
Model	: MCX-2000	TEST DISTANCE	: -
Sample No.	: Y010305PR	DATE	: 07/11/2005
Power	: AC120V/60Hz	TEMPERATURE	: 23°C
Mode	: Tx (ch2,6,10)	HUMIDITY	: 60%
FCC ID	: A6RMCX2000A	ENGINEER	: Yutaka Yoshida
IC No.	: 740B-MCX2000A		

IEEE802.11b Main Antenna

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2417.0	11.742	500.0
Mid	2437.0	11.419	500.0
High	2457.0	11.803	500.0

IEEE802.11g Main Antenna

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2417.0	16.582	500.0
Mid	2437.0	16.598	500.0
High	2457.0	16.598	500.0

UL Apex Co., Ltd.

Head Office EMC Lab.

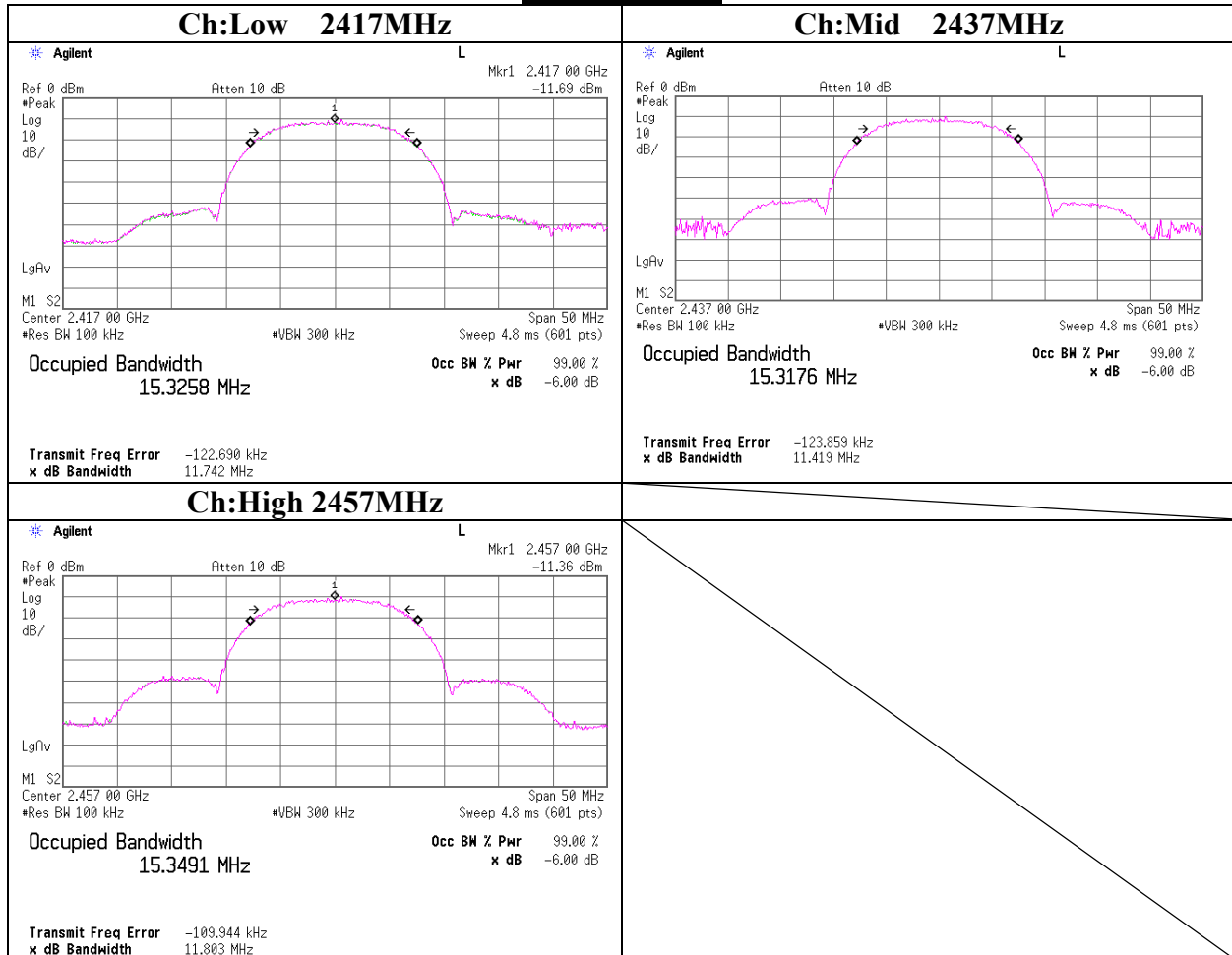
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

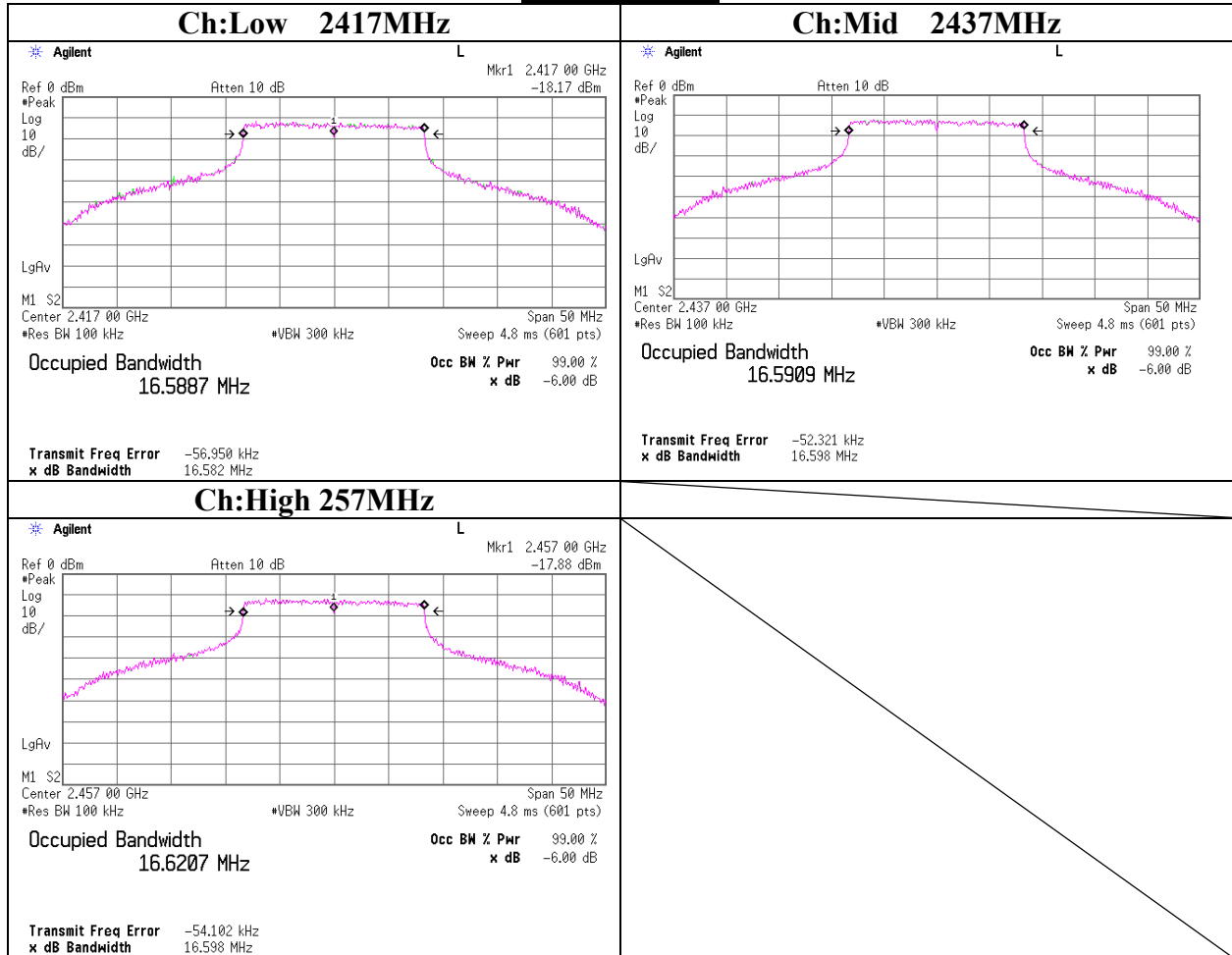
Facsimile : +81 596 24 8124

MF060b(01.06.05)

6dB Bandwidth
[IEEE802.11b]



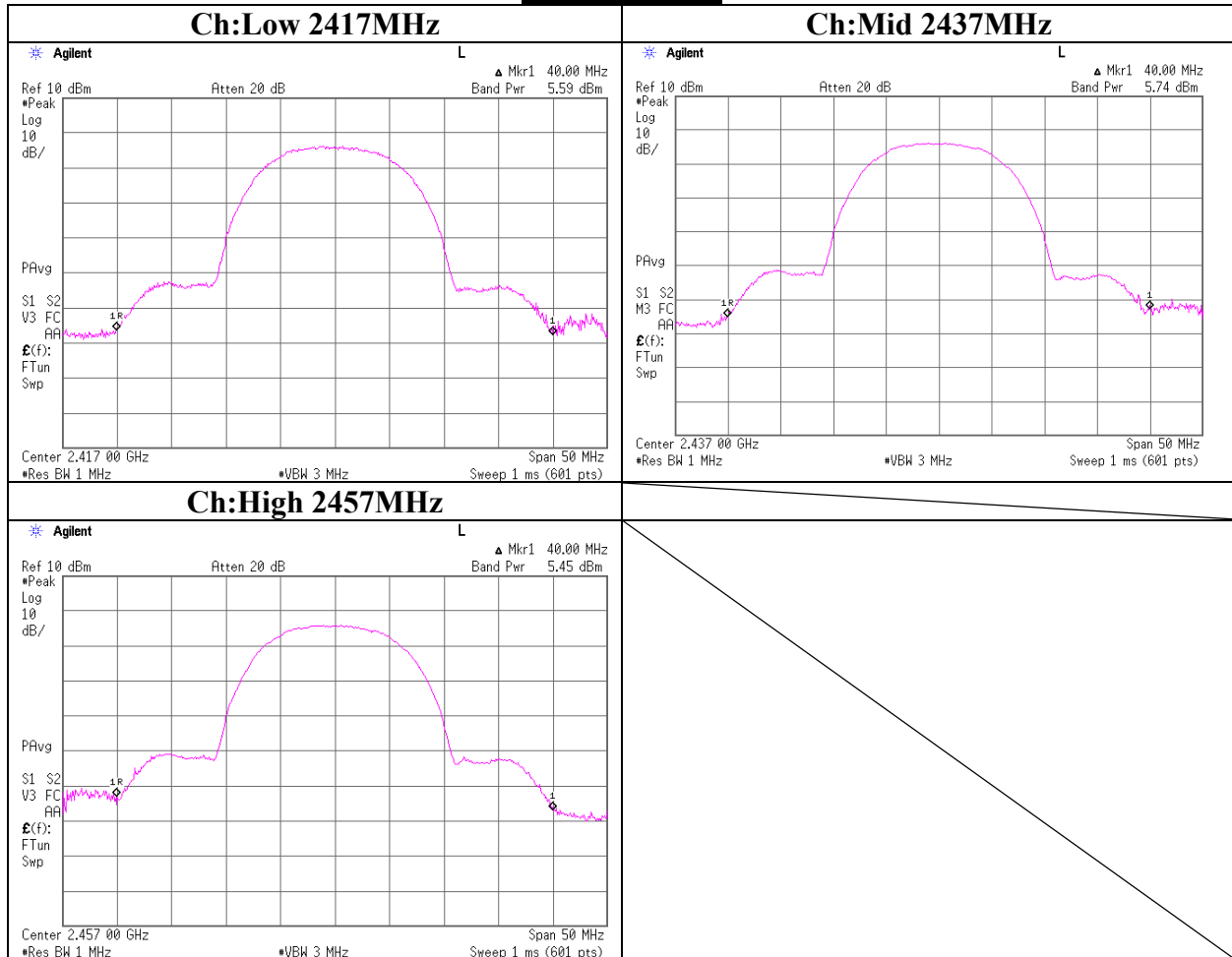
6dB Bandwidth
[IEEE802.11g]



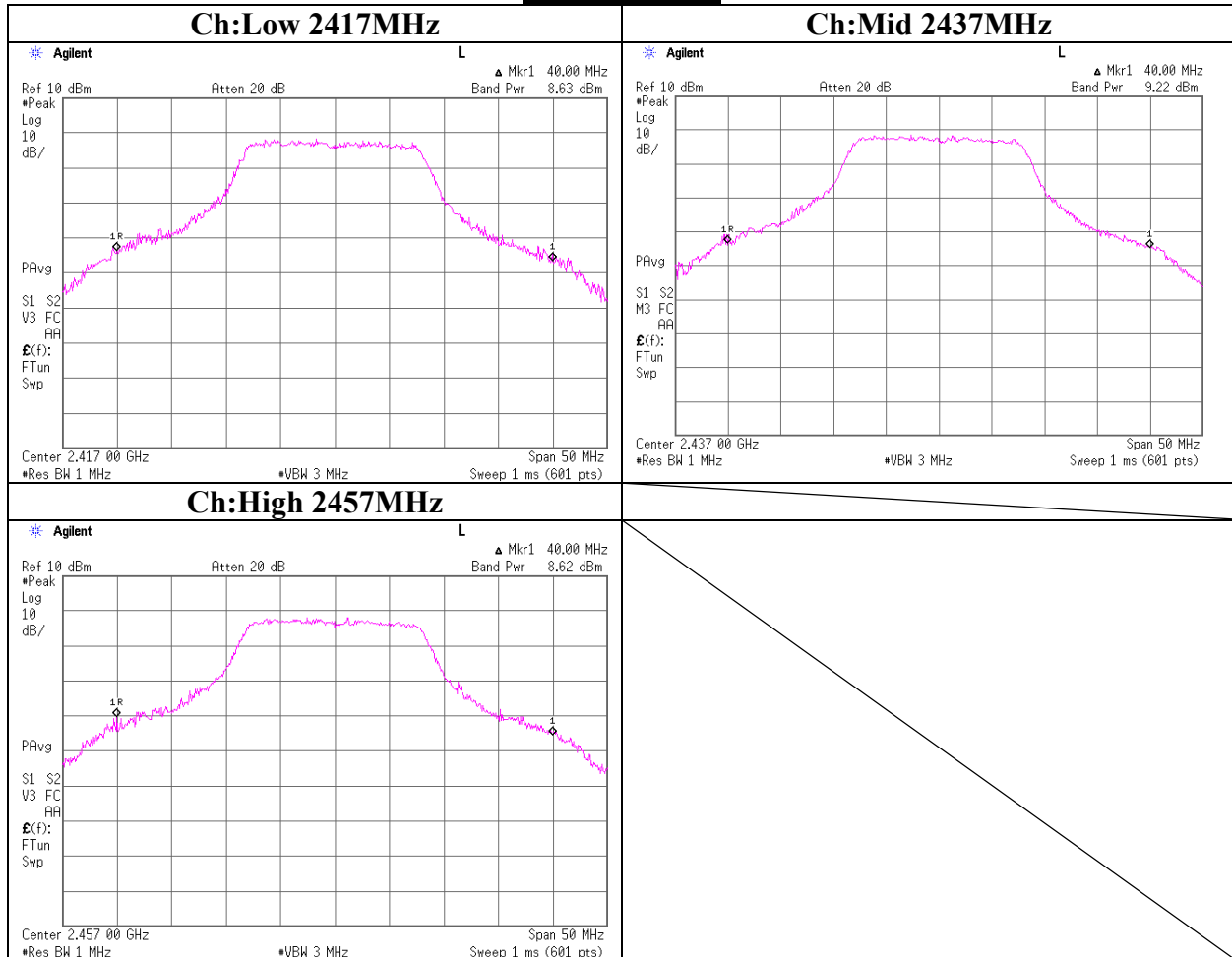
Maximum Peak OutPut Power

								UL Apex Co., Ltd.	
								Head Office EMC Lab. No.3 Shielded Room	
Company	: YAMAHA CORPORATION			REPORT NO	: 25IE0258-HO				
Equipment	: Digital Audio Server			REGULATION	: Fcc Part 15 Subpart C 15.247(b)(3)				
Model	: MCX-2000			TEST DISTANCE	: -				
Sample No.	: Y010305PR			DATE	: 07/11/2005				
Power	: AC120V/60Hz			TEMPERATURE	: 23°C				
Mode	: Tx (ch2,6,10)			HUMIDITY	: 60%				
FCC ID	: A6RMCX2000A			ENGINEER	: Yutaka Yoshida				
IC No.	: 740B-MCX2000A								
[IEEE802.11b]		Main Antenna							
Ch	Freq.	S/A	Cable	Atten.	Result	Limit	Margin		
		Reading	Loss			(1W)			
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]		
Low	2417.0	5.59	1.05	10.00	16.64	30.00	13.36		
Mid	2437.0	5.74	1.04	10.00	16.78	30.00	13.22		
High	2457.0	5.45	0.99	10.00	16.44	30.00	13.56		
Sample Calculation:									
Result = Reading + Cable Loss + Attenuator									
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.									
[IEEE802.11g]		Main Antenna							
Ch	Freq.	S/A	Cable	Atten.	Result	Limit	Margin		
		Reading	Loss			(1W)			
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]		
Low	2417.0	8.63	1.05	10.00	19.68	30.00	10.32		
Mid	2437.0	9.22	1.04	10.00	20.26	30.00	9.74		
High	2457.0	8.62	0.99	10.00	19.61	30.00	10.39		
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
[IEEE802.11b]



Maximum Peak OutPut Power
[IEEE802.11g]



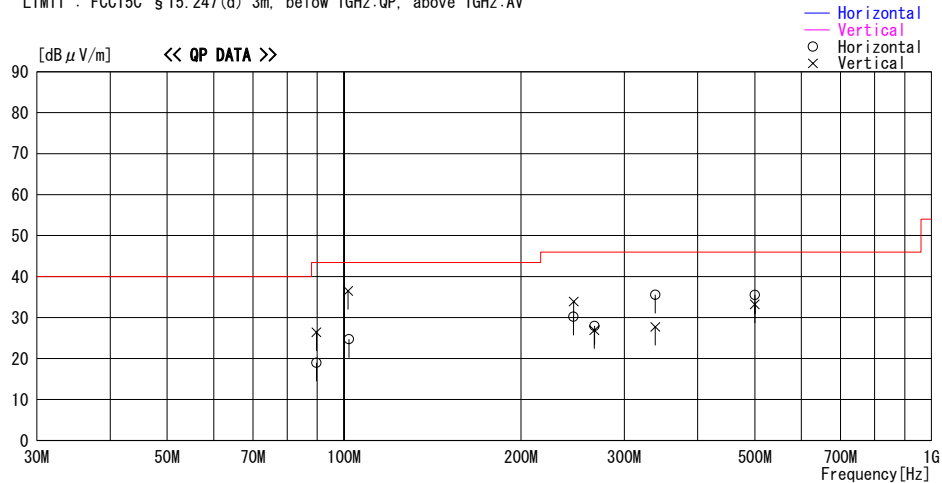
Radiated Spurious Emission(below 1GHz)
IEEE802.11b Transmitting ch 2, 2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 00:33:48

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b Transmitting ch02 Main Antenna / Ant-MAX-axis (H:Y, V:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.708	30.5	QP	8.3	-19.8	19.0	82	270	Hori.	43.5	24.5
89.705	37.9	QP	8.3	-19.8	26.4	89	100	Vert.	43.5	17.1
101.595	45.8	QP	10.4	-19.7	36.5	360	100	Vert.	43.5	7.0
101.962	33.9	QP	10.5	-19.7	24.7	76	299	Hori.	43.5	18.8
245.724	30.3	QP	17.4	-17.5	30.2	296	200	Hori.	46.0	15.8
245.889	34.0	QP	17.4	-17.5	33.9	153	100	Vert.	46.0	12.1
266.564	25.7	QP	18.5	-17.3	26.9	360	100	Vert.	46.0	19.1
266.693	26.8	QP	18.5	-17.3	28.0	115	297	Hori.	46.0	18.0
338.664	36.6	QP	16.0	-17.0	35.6	290	100	Hori.	46.0	10.4
338.680	28.7	QP	16.0	-17.0	27.7	298	268	Vert.	46.0	18.3
500.071	34.0	QP	18.6	-17.1	35.5	205	100	Hori.	46.0	10.5
500.068	31.7	QP	18.6	-17.1	33.2	360	117	Vert.	46.0	12.8

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

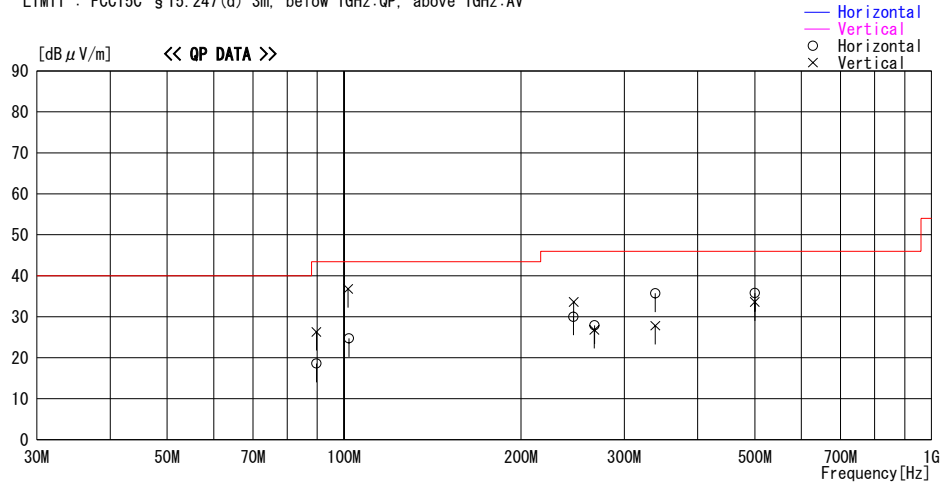
Radiated Spurious Emission (below 1GHz)
IEEE802.11b Transmitting ch 6, 2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 00:08:49

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b Transmitting ch06 Main Antenna / Ant-MAX-axis (H:Y, V:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.703	37.8	QP	8.3	-19.8	26.3	96	100	Vert.	43.5	17.2
89.709	30.1	QP	8.3	-19.8	18.6	79	268	Hori.	43.5	24.9
101.591	46.1	QP	10.4	-19.7	36.8	360	100	Vert.	43.5	6.7
101.963	33.9	QP	10.5	-19.7	24.7	69	301	Hori.	43.5	18.8
245.715	30.1	QP	17.4	-17.5	30.0	292	201	Hori.	46.0	16.0
245.895	33.7	QP	17.4	-17.5	33.6	155	100	Vert.	46.0	12.4
266.569	25.6	QP	18.5	-17.3	26.8	360	100	Vert.	46.0	19.2
266.694	26.7	QP	18.5	-17.3	27.9	123	297	Hori.	46.0	18.1
338.666	36.7	QP	16.0	-17.0	35.7	290	100	Hori.	46.0	10.3
338.669	28.8	QP	16.0	-17.0	27.8	296	270	Vert.	46.0	18.2
500.072	34.3	QP	18.6	-17.1	35.8	193	100	Hori.	46.0	10.2
500.070	32.1	QP	18.6	-17.1	33.6	360	118	Vert.	46.0	12.4

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

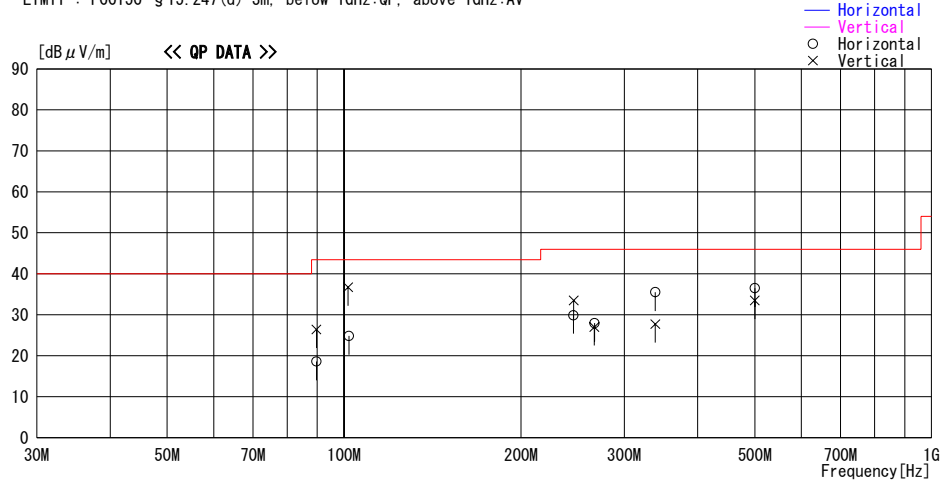
Radiated Spurious Emission (below 1GHz)
IEEE802.11b Transmitting ch10, 2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 23:40:35

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b Transmitting ch10 Main Antenna / Ant-MAX-axis (H:Y, V:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.708	30.1	QP	8.3	-19.8	18.6	80	269	Hori.	43.5	24.9
89.705	37.9	QP	8.3	-19.8	26.4	101	100	Vert.	43.5	17.1
101.596	46.0	QP	10.4	-19.7	36.7	360	100	Vert.	43.5	6.8
101.964	34.0	QP	10.5	-19.7	24.8	80	300	Hori.	43.5	18.7
245.714	30.0	QP	17.4	-17.5	29.9	295	202	Hori.	46.0	16.1
245.898	33.6	QP	17.4	-17.5	33.5	157	100	Vert.	46.0	12.5
266.699	26.8	QP	18.5	-17.3	28.0	120	297	Hori.	46.0	18.0
266.563	25.8	QP	18.5	-17.3	27.0	360	100	Vert.	46.0	19.0
338.665	36.5	QP	16.0	-17.0	35.5	290	100	Hori.	46.0	10.5
338.668	28.7	QP	16.0	-17.0	27.7	299	295	Vert.	46.0	18.3
500.067	35.0	QP	18.6	-17.1	36.5	200	100	Hori.	46.0	9.5
500.068	32.0	QP	18.6	-17.1	33.5	360	120	Vert.	46.0	12.5

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

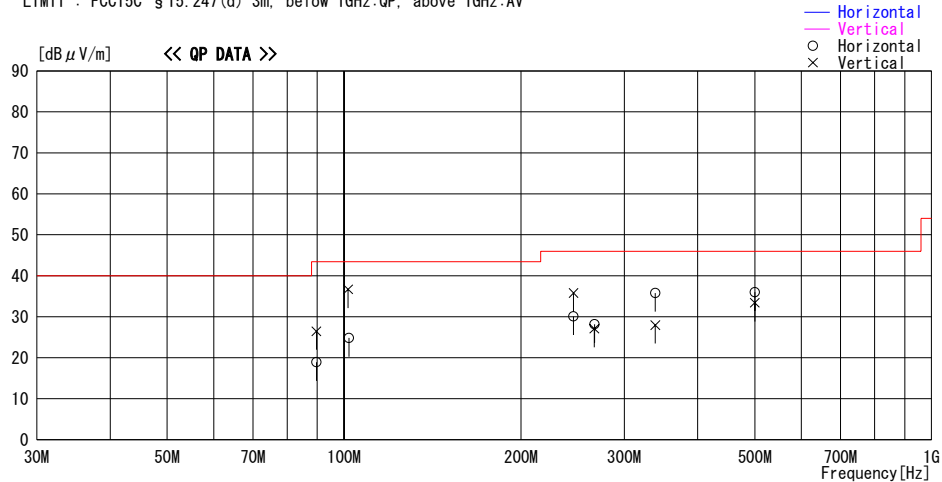
Radiated Spurious Emission (below 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 21:11:36

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g Transmitting ch02 Main Antenna / Ant-MAX-axis (H:Y, V:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
89.709	30.4	QP	8.3	-19.8	18.9	78	269	Hori.	43.5	24.6
89.704	38.0	QP	8.3	-19.8	26.5	99	100	Vert.	43.5	17.1
101.595	46.0	QP	10.4	-19.7	36.7	359	100	Vert.	43.5	6.8
101.964	34.0	QP	10.5	-19.7	24.8	79	302	Hori.	43.5	18.7
245.869	35.9	QP	17.4	-17.5	35.8	150	100	Vert.	46.0	10.2
245.714	30.2	QP	17.4	-17.5	30.1	294	202	Hori.	46.0	15.9
266.562	25.9	QP	18.5	-17.3	27.1	360	100	Vert.	46.0	18.9
266.698	27.0	QP	18.5	-17.3	28.2	119	298	Hori.	46.0	17.8
338.665	36.8	QP	16.0	-17.0	35.8	289	100	Hori.	46.0	10.2
338.670	29.0	QP	16.0	-17.0	28.0	297	271	Vert.	46.0	18.0
500.069	34.5	QP	18.6	-17.1	36.0	198	100	Hori.	46.0	10.0
500.069	31.9	QP	18.6	-17.1	33.4	360	119	Vert.	46.0	12.6

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

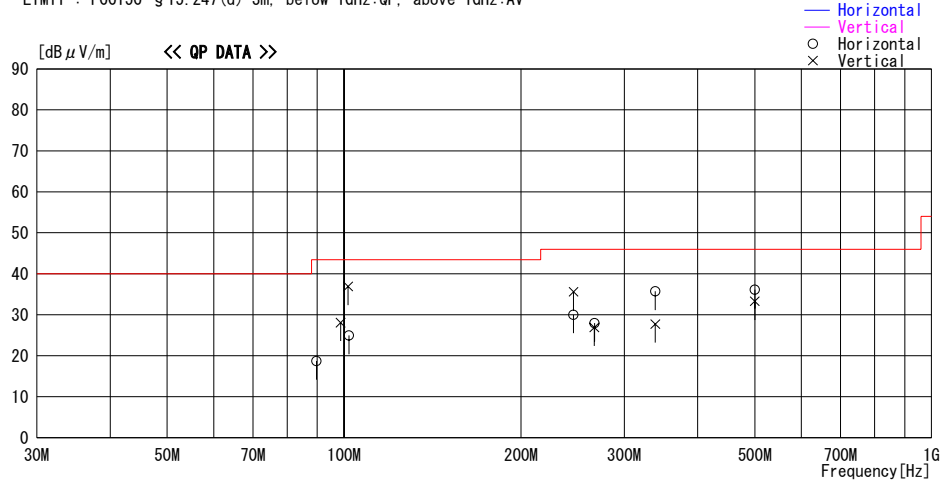
Radiated Spurious Emission (below 1GHz)
IEEE802.11g Transmitting ch 6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 22:50:08

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g Transmitting ch06 Main Antenna / Ant-MAX-axis (H:Y, V:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.708	30.2	QP	8.3	-19.8	18.7	80	267	Hori.	43.5	24.8
98.705	37.9	QP	10.0	-19.8	28.1	100	100	Vert.	43.5	15.4
101.594	46.2	QP	10.4	-19.7	36.9	359	100	Vert.	43.5	6.6
101.963	34.1	QP	10.5	-19.7	24.9	76	301	Hori.	43.5	18.6
245.713	30.1	QP	17.4	-17.5	30.0	205	296	Hori.	46.0	16.0
245.868	35.7	QP	17.4	-17.5	35.6	150	100	Vert.	46.0	10.4
266.569	25.7	QP	18.5	-17.3	26.9	360	100	Vert.	46.0	19.1
266.690	26.8	QP	18.5	-17.3	28.0	119	299	Hori.	46.0	18.0
338.662	36.7	QP	16.0	-17.0	35.7	285	100	Hori.	46.0	10.3
338.669	28.7	QP	16.0	-17.0	27.7	296	270	Vert.	46.0	18.3
500.068	34.6	QP	18.6	-17.1	36.1	200	100	Hori.	46.0	9.9
500.069	31.8	QP	18.6	-17.1	33.3	360	120	Vert.	46.0	12.7

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

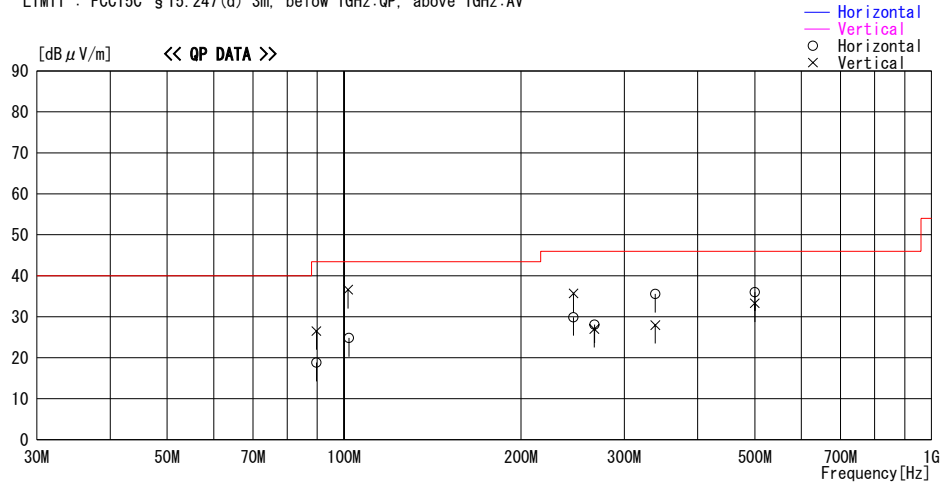
Radiated Spurious Emission (below 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 23:20:00

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g Transmitting ch10 Main Antenna / Ant-MAX-axis (H:Y, V:X)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.709	30.3	QP	8.3	-19.8	18.8	77	268	Hori.	43.5	24.7
89.705	38.0	QP	8.3	-19.8	26.5	94	100	Vert.	43.5	17.0
101.595	45.9	QP	10.4	-19.7	36.6	359	100	Vert.	43.5	6.9
101.963	34.0	QP	10.5	-19.7	24.8	80	300	Hori.	43.5	18.7
245.713	30.0	QP	17.4	-17.5	29.9	297	203	Hori.	46.0	16.1
245.867	35.8	QP	17.4	-17.5	35.7	150	100	Vert.	46.0	10.3
266.697	26.9	QP	18.5	-17.3	28.1	120	300	Hori.	46.0	17.9
266.564	25.8	QP	18.5	-17.3	27.0	360	100	Vert.	46.0	19.0
338.663	36.6	QP	16.0	-17.0	35.6	294	100	Hori.	46.0	10.4
338.668	29.0	QP	16.0	-17.0	28.0	295	270	Vert.	46.0	18.0
500.068	34.5	QP	18.6	-17.1	36.0	199	100	Hori.	46.0	10.0
500.068	31.8	QP	18.6	-17.1	33.3	359	120	Vert.	46.0	12.7

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

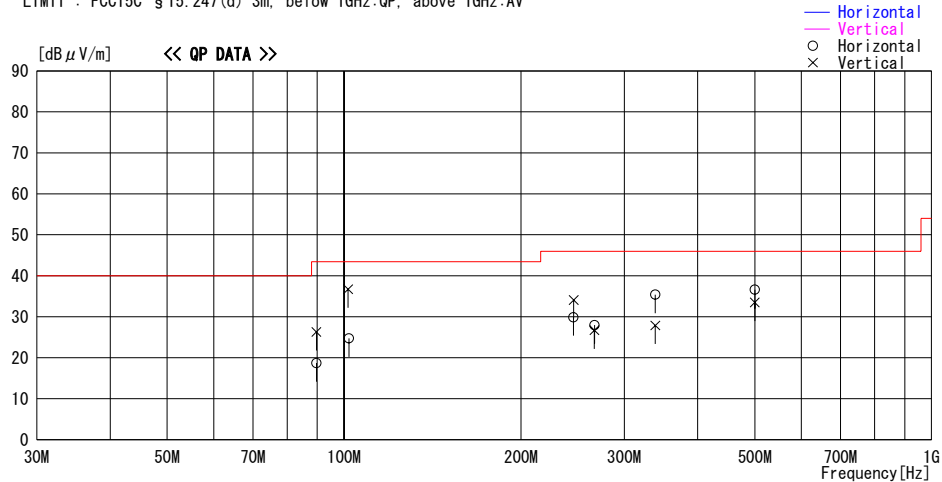
Radiated Spurious Emission (below 1GHz)
IEEE802.11b Transmitting ch 2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 01:25:57

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b Transmitting ch02 Sub Antenna

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.708	30.2	QP	8.3	-19.8	18.7	79	271	Hori.	43.5	24.8
89.706	37.8	QP	8.3	-19.8	26.3	102	100	Vert.	43.5	17.2
101.595	46.0	QP	10.4	-19.7	36.7	360	100	Vert.	43.5	6.8
101.961	33.9	QP	10.5	-19.7	24.7	83	301	Hori.	43.5	18.8
245.723	30.0	QP	17.4	-17.5	29.9	296	203	Hori.	46.0	16.1
245.891	34.2	QP	17.4	-17.5	34.1	150	100	Vert.	46.0	11.9
266.693	26.8	QP	18.5	-17.3	28.0	121	296	Hori.	46.0	18.0
266.593	25.5	QP	18.5	-17.3	26.7	360	100	Vert.	46.0	19.3
338.656	36.4	QP	16.0	-17.0	35.4	285	100	Hori.	46.0	10.6
338.667	28.9	QP	16.0	-17.0	27.9	290	267	Vert.	46.0	18.1
500.068	35.1	QP	18.6	-17.1	36.6	200	100	Hori.	46.0	9.4
500.069	32.0	QP	18.6	-17.1	33.5	360	119	Vert.	46.0	12.5

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

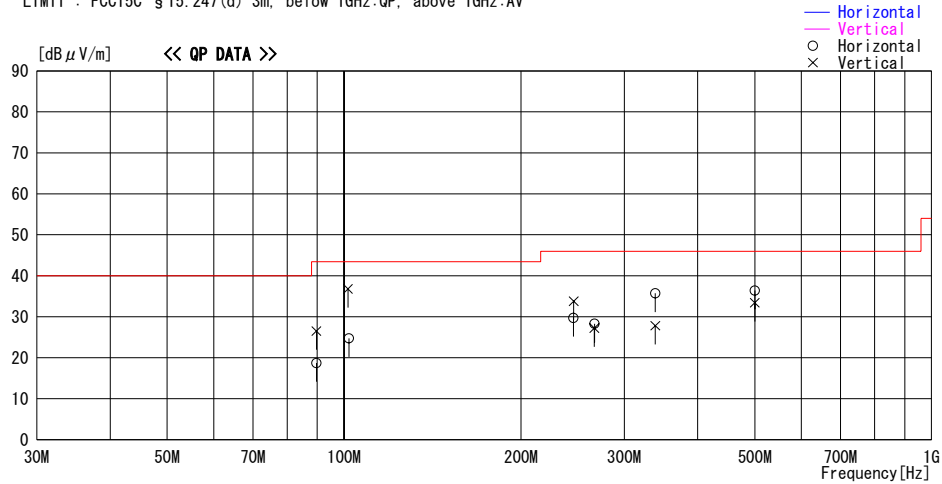
Radiated Spurious Emission (below 1GHz)
IEEE802.11b Transmitting ch 6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 01:46:51

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b Transmitting ch06 Sub Antenna

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.710	30.2	QP	8.3	-19.8	18.7	79	267	Hori.	43.5	24.8
89.706	38.0	QP	8.3	-19.8	26.5	93	100	Vert.	43.5	17.0
101.563	46.1	QP	10.4	-19.7	36.8	360	100	Vert.	43.5	6.7
101.958	33.9	QP	10.5	-19.7	24.7	67	298	Hori.	43.5	18.8
245.734	29.8	QP	17.4	-17.5	29.7	294	204	Hori.	46.0	16.3
245.873	33.9	QP	17.4	-17.5	33.8	148	100	Vert.	46.0	12.2
266.568	26.0	QP	18.5	-17.3	27.2	360	100	Vert.	46.0	18.8
266.695	27.1	QP	18.5	-17.3	28.3	123	300	Hori.	46.0	17.7
338.670	36.7	QP	16.0	-17.0	35.7	288	100	Hori.	46.0	10.3
338.668	28.8	QP	16.0	-17.0	27.8	294	267	Vert.	46.0	18.2
500.071	34.9	QP	18.6	-17.1	36.4	197	100	Hori.	46.0	9.6
500.070	31.9	QP	18.6	-17.1	33.4	360	117	Vert.	46.0	12.6

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

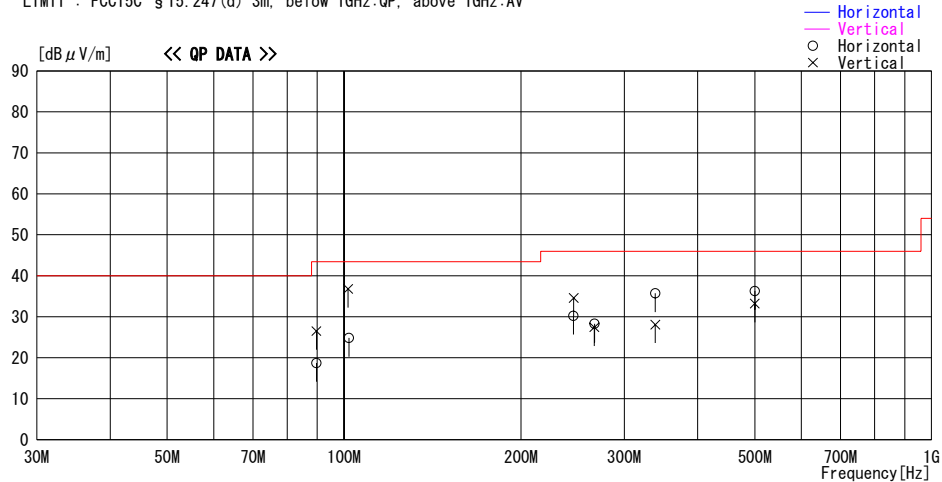
Radiated Spurious Emission (below 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 02:05:34

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11b Transmitting ch10 Sub Antenna

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.711	30.2	QP	8.3	-19.8	18.7	76	267	Hori.	43.5	24.8
89.706	38.0	QP	8.3	-19.8	26.5	97	100	Vert.	43.5	17.0
101.596	46.1	QP	10.4	-19.7	36.8	360	100	Vert.	43.5	6.7
101.961	34.0	QP	10.5	-19.7	24.8	82	302	Hori.	43.5	18.7
245.721	30.3	QP	17.4	-17.5	30.2	296	201	Hori.	46.0	15.8
245.891	34.7	QP	17.4	-17.5	34.6	156	100	Vert.	46.0	11.4
266.689	27.1	QP	18.5	-17.3	28.3	120	297	Hori.	46.0	17.7
266.571	26.2	QP	18.5	-17.3	27.4	285	100	Vert.	46.0	18.6
338.656	36.7	QP	16.0	-17.0	35.7	293	100	Hori.	46.0	10.3
338.667	29.1	QP	16.0	-17.0	28.1	296	268	Vert.	46.0	17.9
500.070	34.8	QP	18.6	-17.1	36.3	196	100	Hori.	46.0	9.7
500.069	31.7	QP	18.6	-17.1	33.2	360	119	Vert.	46.0	12.8

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

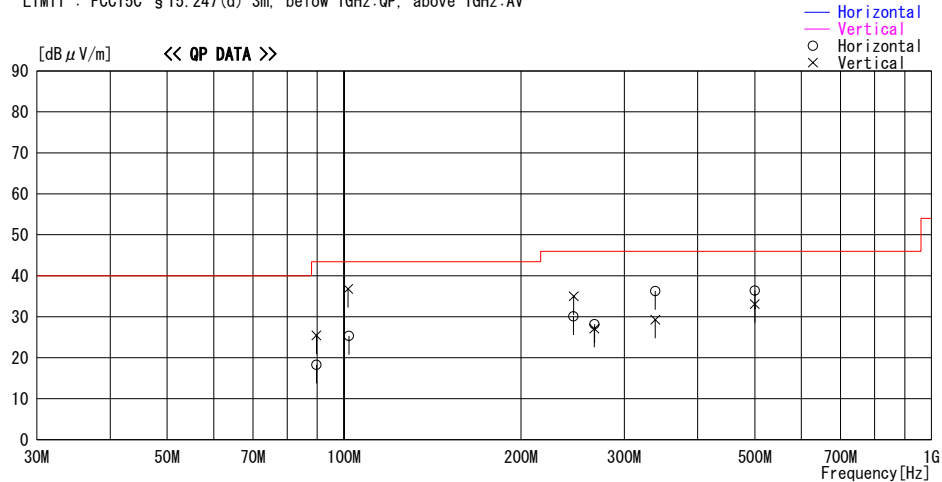
Radiated Spurious Emission (below 1GHz)
IEEE802.11g Transmitting ch 2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 03:10:31

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g Transmitting ch02 Sub Antenna

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.710	29.8	QP	8.3	-19.8	18.3	87	269	Hori.	43.5	25.2
89.705	36.9	QP	8.3	-19.8	25.4	86	100	Vert.	43.5	18.1
101.596	46.1	QP	10.4	-19.7	36.8	360	100	Vert.	43.5	6.7
101.960	34.5	QP	10.5	-19.7	25.3	82	304	Hori.	43.5	18.2
245.721	30.2	QP	17.4	-17.5	30.1	289	203	Hori.	46.0	15.9
245.890	35.1	QP	17.4	-17.5	35.0	156	100	Vert.	46.0	11.0
266.693	27.0	QP	18.5	-17.3	28.2	130	279	Hori.	46.0	17.8
266.573	25.9	QP	18.5	-17.3	27.1	360	100	Vert.	46.0	18.9
338.656	37.3	QP	16.0	-17.0	36.3	284	100	Hori.	46.0	9.7
338.670	30.3	QP	16.0	-17.0	29.3	285	267	Vert.	46.0	16.7
500.071	34.9	QP	18.6	-17.1	36.4	197	100	Hori.	46.0	9.6
500.070	31.6	QP	18.6	-17.1	33.1	360	118	Vert.	46.0	12.9

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

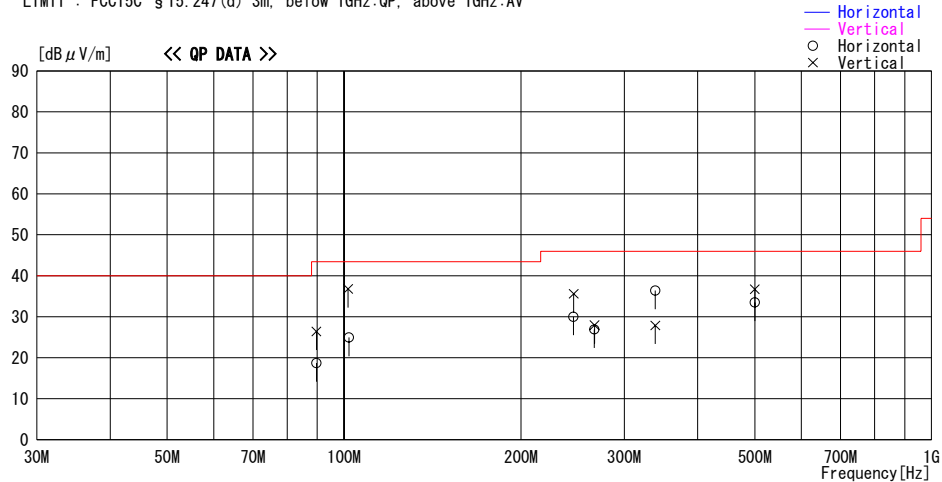
Radiated Spurious Emission (below 1GHz)
IEEE802.11g Transmitting ch 6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 02:46:06

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g Transmitting ch06 Sub Antenna

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.709	30.2	QP	8.3	-19.8	18.7	87	269	Hori.	43.5	24.8
89.703	37.9	QP	8.3	-19.8	26.4	95	100	Vert.	43.5	17.1
101.596	46.1	QP	10.4	-19.7	36.8	360	100	Vert.	43.5	6.7
101.961	34.1	QP	10.5	-19.7	24.9	80	298	Hori.	43.5	18.6
245.721	30.1	QP	17.4	-17.5	30.0	297	203	Hori.	46.0	16.0
245.890	35.7	QP	17.4	-17.5	35.6	153	100	Vert.	46.0	10.4
266.693	26.8	QP	18.5	-17.3	28.0	360	100	Vert.	46.0	18.0
266.567	25.7	QP	18.5	-17.3	26.9	118	296	Hori.	46.0	19.1
338.671	37.4	QP	16.0	-17.0	36.4	290	100	Hori.	46.0	9.6
338.668	28.9	QP	16.0	-17.0	27.9	293	268	Vert.	46.0	18.1
500.070	35.2	QP	18.6	-17.1	36.7	194	100	Vert.	46.0	9.3
500.071	32.0	QP	18.6	-17.1	33.5	360	117	Hori.	46.0	12.5

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

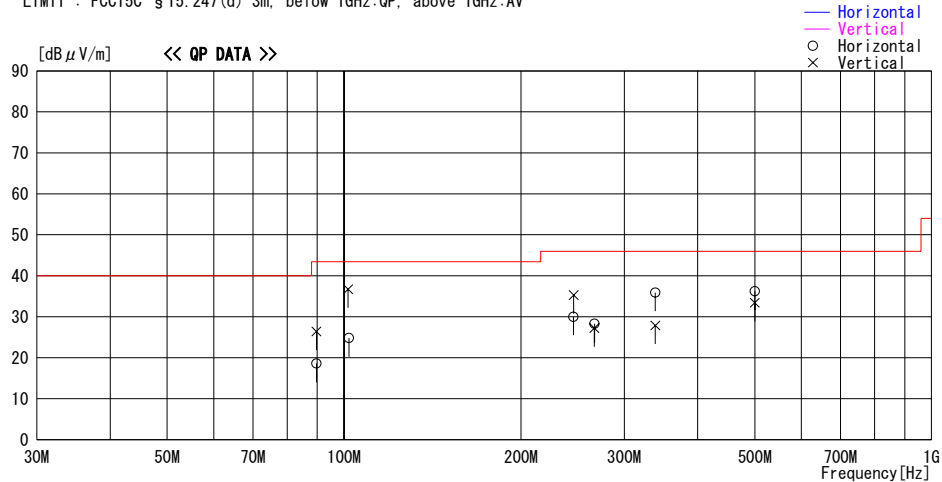
Radiated Spurious Emission (below 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/21 02:24:07

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : IEEE802.11g Transmitting ch10 Sub Antenna

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
89.710	30.1	QP	8.3	-19.8	18.6	79	270	Hori.	43.5	24.9
89.706	37.9	QP	8.3	-19.8	26.4	84	100	Vert.	43.5	17.1
101.596	46.0	QP	10.4	-19.7	36.7	360	100	Vert.	43.5	6.8
101.958	34.0	QP	10.5	-19.7	24.8	82	304	Hori.	43.5	18.7
245.721	30.1	QP	17.4	-17.5	30.0	298	205	Hori.	46.0	16.0
245.886	35.4	QP	17.4	-17.5	35.3	154	100	Vert.	46.0	10.7
266.570	26.0	QP	18.5	-17.3	27.2	360	100	Vert.	46.0	18.8
266.689	27.1	QP	18.5	-17.3	28.3	125	297	Hori.	46.0	17.7
338.667	36.9	QP	16.0	-17.0	35.9	296	100	Hori.	46.0	10.1
338.669	28.9	QP	16.0	-17.0	27.9	298	268	Vert.	46.0	18.1
500.070	34.7	QP	18.6	-17.1	36.2	196	100	Hori.	46.0	9.8
500.071	31.9	QP	18.6	-17.1	33.4	360	121	Vert.	46.0	12.6

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

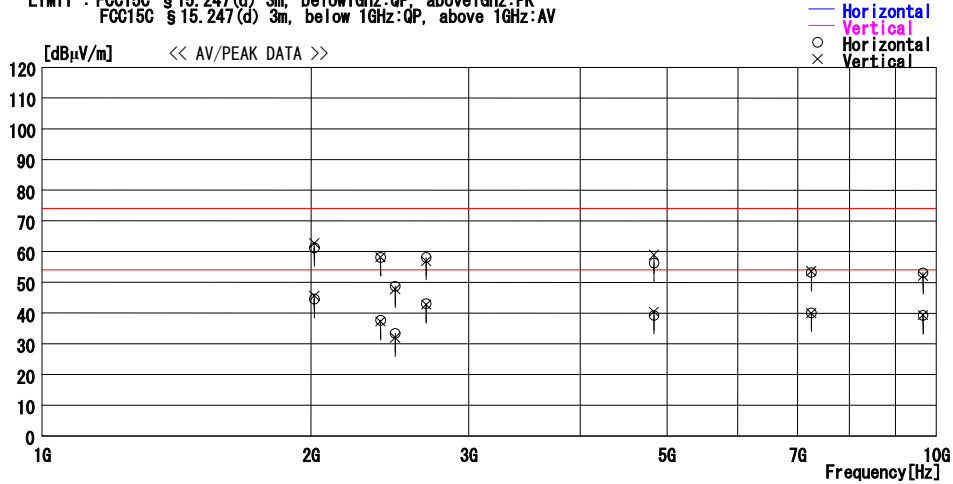
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/07/08 09:32:16

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 24deg. C / 54%
Operator : Kenichi Adachi

Mode / Remarks: 11b Transmitting ch2 3Mbps Main Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
2016.060	62.7	PK	31.5	-33.0	61.2	0	100	Hori.	74.0	12.8
2016.060	64.2	PK	31.5	-33.0	62.7	0	100	Vert.	74.0	11.3
2016.060	47.1	AV	31.5	-33.0	45.6	0	100	Vert.	54.0	8.4
2016.060	46.0	AV	31.5	-33.0	44.5	0	100	Hori.	54.0	9.5
2390.000	60.0	PK	30.9	-32.8	58.1	0	100	Hori.	74.0	15.9
2390.000	60.1	PK	30.9	-32.8	58.2	0	100	Vert.	74.0	15.8
2390.000	39.1	AV	30.9	-32.8	37.2	0	100	Vert.	54.0	16.8
2390.000	39.6	AV	30.9	-32.8	37.7	0	100	Hori.	54.0	16.3
2483.500	50.7	PK	30.8	-32.8	48.7	0	100	Hori.	74.0	25.3
2483.500	49.8	PK	30.8	-32.8	47.8	0	100	Vert.	74.0	26.2
2483.500	33.9	AV	30.8	-32.8	31.9	0	100	Vert.	54.0	22.1
2483.500	35.3	AV	30.8	-32.8	33.3	0	100	Hori.	54.0	20.7
2688.000	58.2	PK	31.4	-32.7	56.9	0	100	Vert.	74.0	17.1
2688.000	44.1	AV	31.4	-32.7	42.8	0	100	Vert.	54.0	11.2
2688.000	44.4	AV	31.4	-32.7	43.1	0	100	Hori.	54.0	10.9
2688.000	59.4	PK	31.4	-32.7	58.1	0	100	Hori.	74.0	15.9
4833.971	50.8	PK	35.1	-29.6	56.3	0	100	Hori.	74.0	17.7
4833.971	53.4	PK	35.1	-29.6	58.9	0	100	Vert.	74.0	15.1
4833.971	34.9	AV	35.1	-29.6	40.4	0	100	Vert.	54.0	13.6
4833.971	33.7	AV	35.1	-29.6	39.2	0	100	Hori.	54.0	14.8
7250.450	44.4	PK	37.7	-28.9	53.2	0	100	Hori.	74.0	20.8
7250.450	44.8	PK	37.7	-28.9	53.6	0	100	Vert.	74.0	20.4

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE-ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/08 09:32:16

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 24deg.C / 54%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch2 3Mbps Main Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
7250.450	31.2	AV	37.7	-28.9	40.0	0	100	Vert.	54.0	14.0
7250.450	31.3	AV	37.7	-28.9	40.1	0	100	Hori.	54.0	13.9
9667.981	45.0	PK	36.3	-28.2	53.1	0	100	Hori.	74.0	20.9
9667.981	44.0	PK	36.3	-28.2	52.1	0	100	Vert.	74.0	21.9
9667.981	31.2	AV	36.3	-28.2	39.3	0	100	Vert.	54.0	14.7
9667.981	31.2	AV	36.3	-28.2	39.3	0	100	Hori.	54.0	14.7

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

Company	: YAMAHA CORPORATION	REPORT NO	: 25IE0258-HO
Equipment	: Digital Audio Server	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: MCX-2000	TEST DISTANCE	: 3m
Sample No.	: Y010305PR	DATE	: 07/18/2005
Power	: AC 120 V / 60 Hz	TEMPERATURE	: 24deg.C
Mode	: Wireless LAN, 11b, Tx: ch.02	HUMIDITY	: 54%
Remarks	: Ant-max-axis (Hor.: Y, Ver.: X)	ENGINEER	: Kenichi Adachi

20dBc(Fundamental 2417MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter Loss [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2417.0	100.2	96.1	30.9	36.4	3.3	9.9	107.9	103.8	-	-	-
2	2400.0	63.1	59.6	30.9	36.4	3.3	9.9	70.8	67.3	Funda-20dB	17.1	16.5

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

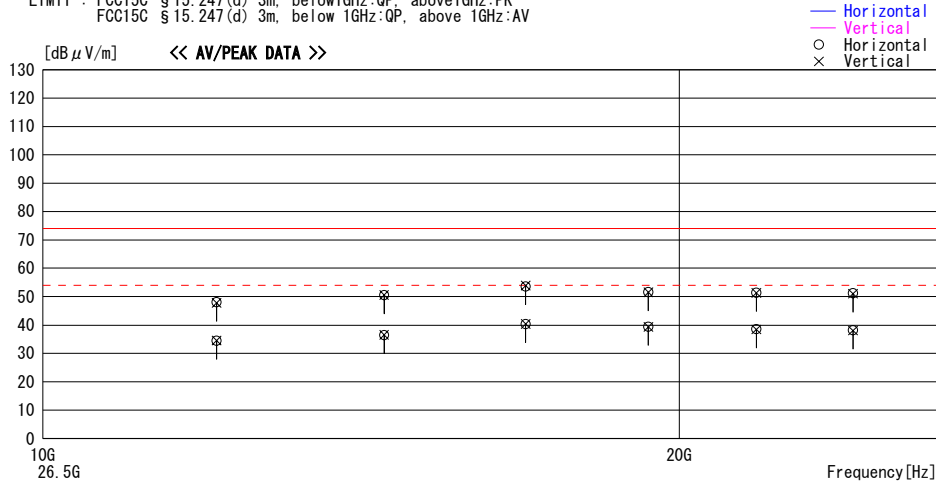
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 07:20:38

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch02 3Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
12085.000	45.5	PK	41.4	-38.8	48.1	0	100	Hori.	74.0	25.9
12085.000	31.8	AV	41.4	-38.8	34.4	0	100	Hori.	54.0	19.6
12085.000	45.2	PK	41.4	-38.8	47.8	0	100	Vert.	74.0	26.2
12085.000	31.9	AV	41.4	-38.8	34.5	0	100	Vert.	54.0	19.5
14502.000	46.0	PK	41.9	-37.4	50.5	0	100	Hori.	74.0	23.5
14502.000	31.9	AV	41.9	-37.4	36.4	0	100	Hori.	54.0	17.6
14502.000	46.1	PK	41.9	-37.4	50.6	0	100	Vert.	74.0	23.4
14502.000	32.0	AV	41.9	-37.4	36.5	0	100	Vert.	54.0	17.5
16919.000	45.3	PK	44.6	-36.3	53.6	0	100	Hori.	74.0	20.4
16919.000	32.0	AV	44.6	-36.3	40.3	0	100	Hori.	54.0	13.7
16919.000	45.6	PK	44.6	-36.3	53.9	0	100	Vert.	74.0	20.1
16919.000	32.1	AV	44.6	-36.3	40.4	0	100	Vert.	54.0	13.6
19336.000	46.0	PK	41.6	-36.0	51.6	0	100	Hori.	74.0	22.4
19336.000	33.8	AV	41.6	-36.0	39.4	0	100	Hori.	54.0	14.6
19336.000	45.9	PK	41.6	-36.0	51.5	0	100	Vert.	74.0	22.5
19336.000	33.7	AV	41.6	-36.0	39.3	0	100	Vert.	54.0	14.7
21753.000	46.8	PK	40.5	-35.9	51.4	0	100	Hori.	74.0	22.6
21753.000	33.9	AV	40.5	-35.9	38.5	0	100	Hori.	54.0	15.5
21753.000	46.7	PK	40.5	-35.9	51.3	0	100	Vert.	74.0	22.7
21753.000	33.8	AV	40.5	-35.9	38.4	0	100	Vert.	54.0	15.6
24170.000	47.0	PK	41.0	-36.8	51.2	0	100	Hori.	74.0	22.8
24170.000	33.9	AV	41.0	-36.8	38.1	0	100	Hori.	54.0	15.9

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 07:20:38

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch02 3Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
24170.000	46.8	PK	41.0	-36.8	51.0	0	100	Vert.	74.0	23.0
24170.000	33.8	AV	41.0	-36.8	38.0	0	100	Vert.	54.0	16.0

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

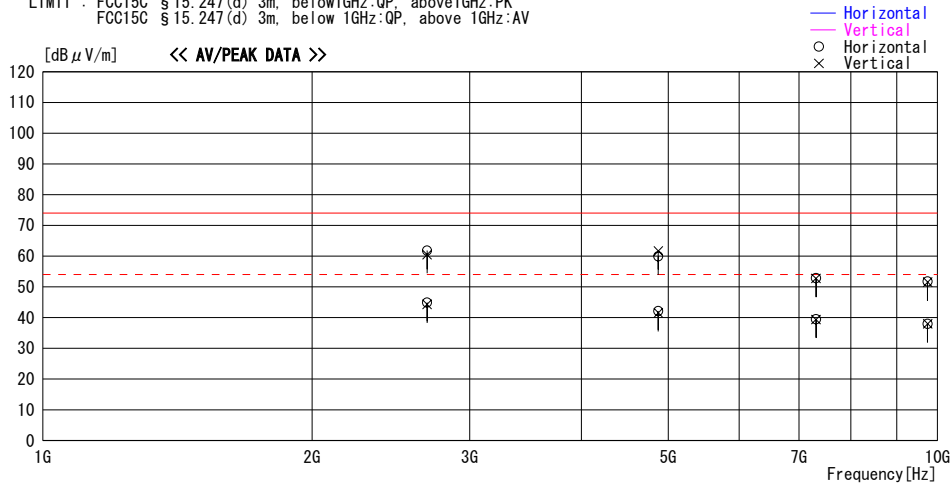
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/18 13:39:48

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch06 Main(Rear) Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2688.000	54.2	PK	31.4	-23.8	61.8	0	100	Hori.	74.0	12.2
2688.000	37.3	AV	31.4	-23.8	44.9	0	100	Hori.	54.0	9.1
2688.000	52.9	PK	31.4	-23.8	60.5	0	100	Vert.	74.0	13.5
2688.000	36.7	AV	31.4	-23.8	44.3	0	100	Vert.	54.0	9.7
4873.940	55.7	PK	35.3	-31.1	59.9	200	110	Hori.	74.0	14.1
4873.940	37.9	AV	35.3	-31.1	42.1	200	110	Hori.	54.0	11.9
4873.988	57.5	PK	35.3	-31.1	61.7	170	100	Vert.	74.0	12.3
4873.988	37.3	AV	35.3	-31.1	41.5	170	100	Vert.	54.0	12.5
7311.000	45.8	PK	37.7	-30.7	52.8	0	100	Hori.	74.0	21.2
7311.000	32.5	AV	37.7	-30.7	39.5	0	100	Hori.	54.0	14.5
7311.000	45.7	PK	37.7	-30.7	52.7	0	100	Vert.	74.0	21.3
7311.000	32.4	AV	37.7	-30.7	39.4	0	100	Vert.	54.0	14.6
9748.125	45.9	PK	36.2	-30.6	51.5	160	150	Vert.	74.0	22.5
9748.125	32.4	AV	36.2	-30.6	38.0	160	150	Vert.	54.0	16.0
9748.159	46.1	PK	36.2	-30.6	51.7	185	100	Hori.	74.0	22.3
9748.159	32.4	AV	36.2	-30.6	38.0	185	100	Hori.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Main Antenna

DATA OF SPURIOUS EMISSIONS(1GHz to 10GHz) (20dBc)

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

Company	: YAMAHA CORPORATION	REPORT NO	: 25IE0258-HO
Equipment	: Digital Audio Server	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: MCX-2000	TEST DISTANCE	: 3m
Sample No.	: Y010305PR	DATE	: 07/18/2005
Power	: AC 120 V / 60 Hz	TEMPERATURE	: 23deg.C
Mode	: Wireless LAN, 11b, Tx: ch.06	HUMIDITY	: 60%
Remarks	: Ant-max-axis (Hor.: Y, Ver.: X)	ENGINEER	: Kenichi Adachi

20dBc(Fundamental 2437MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter Loss [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2438.3	100.2	99.8	30.9	36.4	2.7	10.0	107.4	107.0	-	-	-
2	2016.0	60.7	61.6	31.5	36.4	2.3	10.0	68.1	69.0	Funda-20dB	19.3	18.0

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

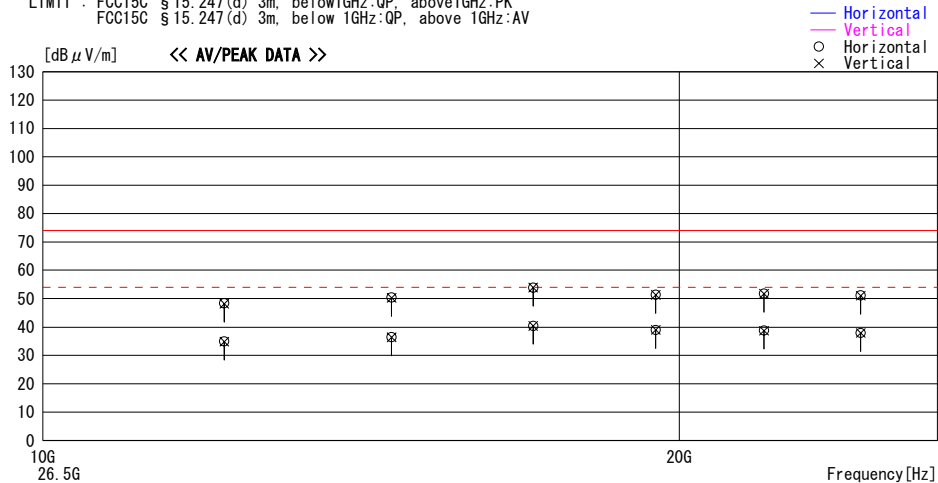
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 07:14:50

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch06 3Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
12185.000	45.5	PK	41.5	-38.6	48.4	0	100	Hori.	74.0	25.6
12185.000	32.0	AV	41.5	-38.6	34.9	0	100	Hori.	54.0	19.1
12185.000	45.3	PK	41.5	-38.6	48.2	0	100	Vert.	74.0	25.8
12185.000	31.9	AV	41.5	-38.6	34.8	0	100	Vert.	54.0	19.2
14622.000	46.0	PK	42.1	-37.7	50.4	0	100	Hori.	74.0	23.6
14622.000	32.0	AV	42.1	-37.7	36.4	0	100	Hori.	54.0	17.6
14622.000	45.9	PK	42.1	-37.7	50.3	0	100	Vert.	74.0	23.7
14622.000	31.9	AV	42.1	-37.7	36.3	0	100	Vert.	54.0	17.7
17059.000	45.4	PK	44.6	-36.2	53.8	0	100	Hori.	74.0	20.2
17059.000	32.0	AV	44.6	-36.2	40.4	0	100	Hori.	54.0	13.6
17059.000	45.5	PK	44.6	-36.2	53.9	0	100	Vert.	74.0	20.1
17059.000	32.0	AV	44.6	-36.2	40.4	0	100	Vert.	54.0	13.6
19496.000	46.0	PK	41.4	-36.0	51.4	0	100	Hori.	74.0	22.6
19496.000	33.5	AV	41.4	-36.0	38.9	0	100	Hori.	54.0	15.1
19496.000	45.9	PK	41.4	-36.0	51.3	0	100	Vert.	74.0	22.7
19496.000	33.6	AV	41.4	-36.0	39.0	0	100	Vert.	54.0	15.0
21933.000	46.8	PK	40.5	-35.5	51.8	0	100	Hori.	74.0	22.2
21933.000	33.8	AV	40.5	-35.5	38.8	0	100	Hori.	54.0	15.2
21933.000	46.7	PK	40.5	-35.5	51.7	0	100	Vert.	74.0	22.3
21933.000	33.7	AV	40.5	-35.5	38.7	0	100	Vert.	54.0	15.3
24370.000	46.9	PK	41.1	-36.9	51.1	0	100	Hori.	74.0	22.9
24370.000	33.7	AV	41.1	-36.9	37.9	0	100	Hori.	54.0	16.1

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 07:14:50

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch06 3Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
24370.000	46.8	PK	41.1	-36.9	51.0	0	100	Vert.	74.0	23.0
24370.000	33.7	AV	41.1	-36.9	37.9	0	100	Vert.	54.0	16.1

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

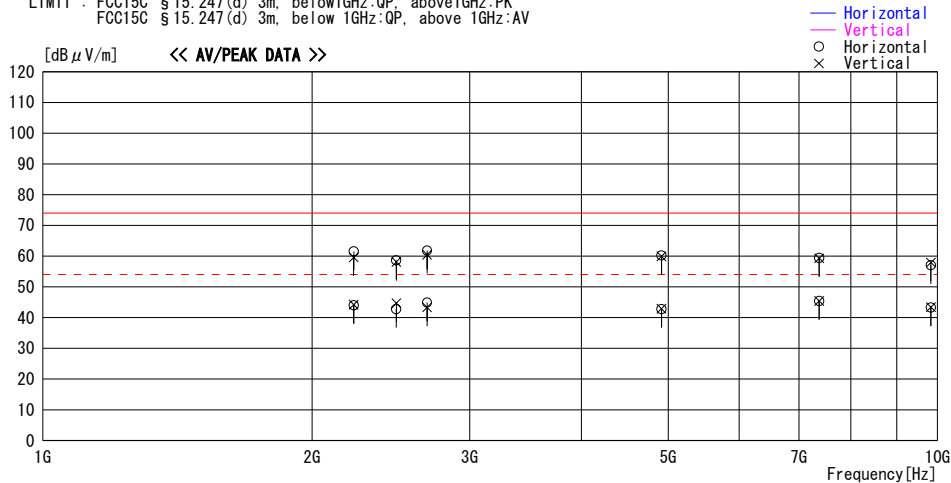
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/18 14:28:22

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 Main(Rear) Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2225.849	52.3	PK	31.2	-23.9	59.6	170	100	Vert.	74.0	14.4
2225.849	36.9	AV	31.2	-23.9	44.2	170	100	Vert.	54.0	9.8
2226.022	54.2	PK	31.2	-23.9	61.5	160	155	Hori.	74.0	12.5
2226.022	36.7	AV	31.2	-23.9	44.0	160	155	Hori.	54.0	10.0
2483.600	51.7	PK	30.8	-23.9	58.6	180	100	Hori.	74.0	15.4
2483.600	35.9	AV	30.8	-23.9	42.8	180	100	Hori.	54.0	11.2
2483.850	51.2	PK	30.8	-23.9	58.1	170	100	Vert.	74.0	15.9
2483.850	37.8	AV	30.8	-23.9	44.7	170	100	Vert.	54.0	9.3
2688.030	54.2	PK	31.4	-23.8	61.8	0	100	Hori.	74.0	12.2
2688.030	37.3	AV	31.4	-23.8	44.9	0	100	Hori.	54.0	9.1
2688.030	52.8	PK	31.4	-23.8	60.4	0	100	Vert.	74.0	13.6
2688.030	35.7	AV	31.4	-23.8	43.3	0	100	Vert.	54.0	10.7
4914.116	55.4	PK	35.5	-31.0	59.9	10	100	Vert.	74.0	14.1
4914.116	38.4	AV	35.5	-31.0	42.9	10	100	Vert.	54.0	11.1
4914.138	55.7	PK	35.5	-31.0	60.2	200	100	Hori.	74.0	13.8
4914.138	38.3	AV	35.5	-31.0	42.8	200	100	Hori.	54.0	11.2
7371.000	52.2	PK	37.8	-30.6	59.4	0	100	Hori.	74.0	14.6
7371.000	38.2	AV	37.8	-30.6	45.4	0	100	Hori.	54.0	8.6
7371.000	52.1	PK	37.8	-30.6	59.3	0	100	Vert.	74.0	14.7
7371.000	38.2	AV	37.8	-30.6	45.4	0	100	Vert.	54.0	8.6
9827.984	51.3	PK	36.2	-30.5	57.0	165	100	Hori.	74.0	17.0
9827.984	37.6	AV	36.2	-30.5	43.3	165	100	Hori.	54.0	10.7

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/18 14:28:22

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 Main(Rear) Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
9828.124	52.2	PK	36.2	-30.5	57.9	185	100	Vert.	74.0	16.1
9828.124	37.7	AV	36.2	-30.5	43.4	185	100	Vert.	54.0	10.6

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

Company	: YAMAHA CORPORATION	REPORT NO	: 25IE0258-HO
Equipment	: Digital Audio Server	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: MCX-2000	TEST DISTANCE	: 3m
Sample No.	: Y010305PR	DATE	: 07/18/2005
Power	: AC 120 V / 60 Hz	TEMPERATURE	: 23deg C
Mode	: Wireless LAN, 11b, Tx: ch.10	HUMIDITY	: 60%
Remarks	: Ant-max-axis (Hor.: Y, Ver.: X)	ENGINEER	: Kenichi Adachi

20dBc(Fundamental 2457MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter Loss [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2458.9	100.6	97.1	30.9	36.4	2.6	10.0	107.7	104.2	-	-	-
2	2015.9	60.5	59.6	31.5	36.4	2.3	10.0	67.9	67.0	Funda-20dB	19.8	17.2

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

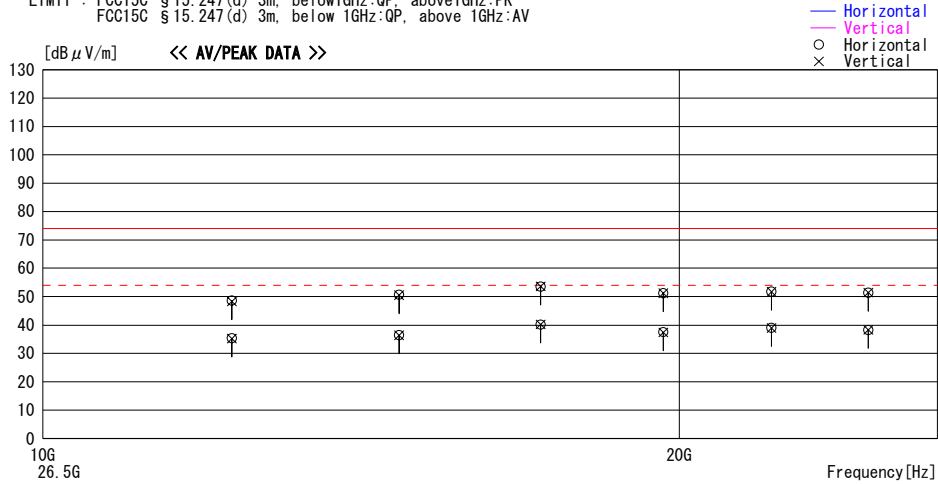
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:59:42

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 3Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBμV]	DET	Antenna		Level [dBμV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBμV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
12285.000	45.6	PK	41.5	-38.5	48.6	0	100	Hori.	74.0	25.4
12285.000	32.3	AV	41.5	-38.5	35.3	0	100	Hori.	54.0	18.7
12285.000	45.3	PK	41.5	-38.5	48.3	0	100	Vert.	74.0	25.7
12285.000	32.2	AV	41.5	-38.5	35.2	0	100	Vert.	54.0	18.8
14742.000	46.2	PK	42.3	-37.8	50.7	0	100	Hori.	74.0	23.3
14742.000	31.9	AV	42.3	-37.8	36.4	0	100	Hori.	54.0	17.6
14742.000	46.0	PK	42.3	-37.8	50.5	0	100	Vert.	74.0	23.5
14742.000	31.8	AV	42.3	-37.8	36.3	0	100	Vert.	54.0	17.7
17199.000	45.3	PK	44.5	-36.3	53.5	0	100	Hori.	74.0	20.5
17199.000	31.9	AV	44.5	-36.3	40.1	0	100	Hori.	54.0	13.9
17199.000	45.4	PK	44.5	-36.3	53.6	0	100	Vert.	74.0	20.4
17199.000	32.0	AV	44.5	-36.3	40.2	0	100	Vert.	54.0	13.8
19656.000	46.0	PK	41.3	-36.1	51.2	0	100	Hori.	74.0	22.8
19656.000	32.3	AV	41.3	-36.1	37.5	0	100	Hori.	54.0	16.5
19656.000	46.0	PK	41.3	-36.1	51.2	0	100	Vert.	74.0	22.8
19656.000	32.2	AV	41.3	-36.1	37.4	0	100	Vert.	54.0	16.6
22113.000	46.7	PK	40.5	-35.4	51.8	0	100	Hori.	74.0	22.2
22113.000	33.9	AV	40.5	-35.4	39.0	0	100	Hori.	54.0	15.0
22113.000	46.6	PK	40.5	-35.4	51.7	0	100	Vert.	74.0	22.3
22113.000	33.8	AV	40.5	-35.4	38.9	0	100	Vert.	54.0	15.1
24570.000	47.0	PK	41.1	-36.7	51.4	0	100	Hori.	74.0	22.6
24570.000	33.8	AV	41.1	-36.7	38.2	0	100	Hori.	54.0	15.8

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:59:42

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 3Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
24570.000	47.0	PK	41.1	-36.7	51.4	0	100	Vert.	74.0	22.6
24570.000	33.9	AV	41.1	-36.7	38.3	0	100	Vert.	54.0	15.7

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

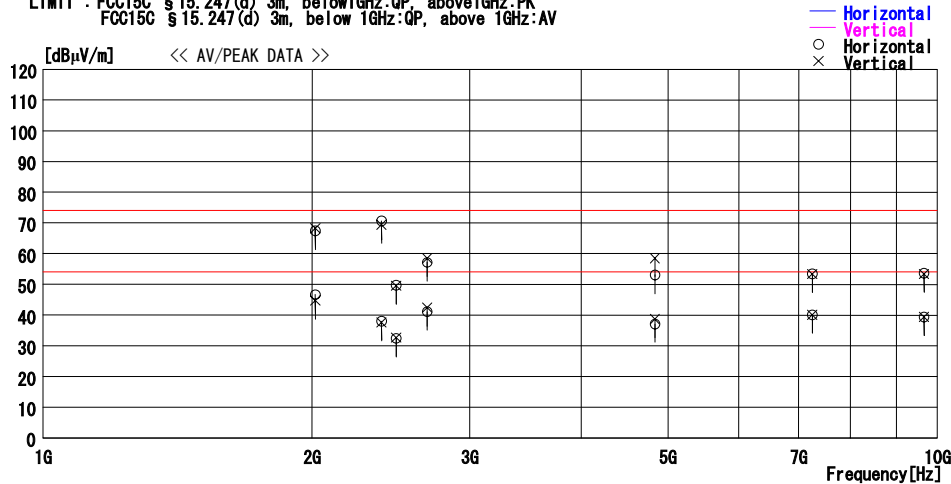
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/07/08 14:41:06

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 24deg. C / 54%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch2 8Mbps Main Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
2016.017	68.9	PK	31.5	-33.0	67.4	0	100	Hori.	74.0	6.6
2016.017	68.7	PK	31.5	-33.0	68.2	0	100	Vert.	74.0	5.8
2016.017	48.2	AV	31.5	-33.0	48.7	0	100	Hori.	54.0	7.3
2016.017	46.2	AV	31.5	-33.0	44.7	0	100	Vert.	54.0	9.3
2390.000	72.5	PK	30.9	-32.8	70.6	0	100	Hori.	74.0	3.4
2390.000	71.3	PK	30.9	-32.8	69.4	0	100	Vert.	74.0	4.6
2390.000	39.9	AV	30.9	-32.8	38.0	0	100	Hori.	54.0	16.0
2390.000	39.5	AV	30.9	-32.8	37.6	0	100	Vert.	54.0	16.4
2483.500	51.7	PK	30.8	-32.8	49.7	0	100	Hori.	74.0	24.3
2483.500	51.5	PK	30.8	-32.8	49.5	0	100	Vert.	74.0	24.5
2483.500	34.4	AV	30.8	-32.8	32.4	0	100	Hori.	54.0	21.6
2483.500	34.6	AV	30.8	-32.8	32.6	0	100	Vert.	54.0	21.4
2688.000	42.4	AV	31.4	-32.7	41.1	0	100	Hori.	54.0	12.9
2688.000	43.7	AV	31.4	-32.7	42.4	0	100	Vert.	54.0	11.6
2688.000	58.4	PK	31.4	-32.7	57.1	0	100	Hori.	74.0	16.9
2688.000	58.8	PK	31.4	-32.7	58.5	0	100	Vert.	74.0	15.5
4834.100	31.6	AV	35.1	-29.6	37.1	0	100	Hori.	54.0	16.9
4834.100	33.2	AV	35.1	-29.6	38.7	0	100	Vert.	54.0	15.3
4834.100	47.5	PK	35.1	-29.6	53.0	0	100	Hori.	74.0	21.0
4834.100	53.0	PK	35.1	-29.6	58.5	0	100	Vert.	74.0	15.5
7250.298	31.3	AV	37.7	-28.9	40.1	0	100	Hori.	54.0	13.9
7250.298	31.3	AV	37.7	-28.9	40.1	0	100	Vert.	54.0	13.9

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE-ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/08 14:41:06

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 24deg. C / 54%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch2 8Mbps Main Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
7250.298	44.6	PK	37.7	-28.9	53.4	0	100	Hori.	74.0	20.6
7250.298	44.5	PK	37.7	-28.9	53.3	0	100	Vert.	74.0	20.7
9668.000	31.3	AV	36.3	-28.2	39.4	0	100	Hori.	54.0	14.6
9668.000	31.3	AV	36.3	-28.2	39.4	0	100	Vert.	54.0	14.6
9668.000	45.5	PK	36.3	-28.2	53.6	0	100	Hori.	74.0	20.4
9668.000	45.2	PK	36.3	-28.2	53.3	0	100	Vert.	74.0	20.7

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

Company	: YAMAHA CORPORATION	REPORT NO	: 25IE0258-HO
Equipment	: Digital Audio Server	REGULATION	: Fcc Part 15 Subpart C 15.247(d)
Model	: MCX-2000	TEST DISTANCE	: 3m
Sample No.	: Y010305PR	DATE	: 07/08/2005
Power	: AC 120 V / 60 Hz	TEMPERATURE	: 23degC
Mode	: Wireless LAN, 11g Tx: ch.02	HUMIDITY	: 60%
Remarks	: Ant-max-axis (Hor.: X, Ver.: Y)	ENGINEER	: Kenichi Adachi

20dBc(Fundamental 2417MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter Loss [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2417.0	93.3	96.9	30.9	36.4	3.2	10.0	101.0	104.6	-	-	-
2	2400.0	64.4	62.8	30.9	36.4	3.1	10.0	72.0	70.4	Funda-20dB	9.0	14.2

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

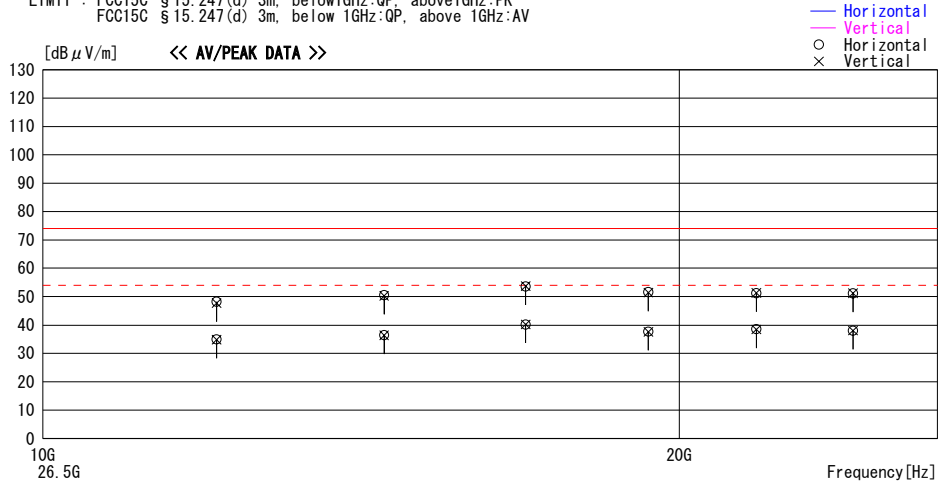
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:05:22

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch02 8Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
12085.000	45.6	PK	41.4	-38.8	48.2	0	100	Hori.	74.0	25.8
12085.000	32.3	AV	41.4	-38.8	34.9	0	100	Hori.	54.0	19.1
12085.000	45.1	PK	41.4	-38.8	47.7	0	100	Vert.	74.0	26.3
12085.000	32.2	AV	41.4	-38.8	34.8	0	100	Vert.	54.0	19.2
14502.000	46.0	PK	41.9	-37.4	50.5	0	100	Hori.	74.0	23.5
14502.000	31.9	AV	41.9	-37.4	36.4	0	100	Hori.	54.0	17.6
14502.000	45.8	PK	41.9	-37.4	50.3	0	100	Vert.	74.0	23.7
14502.000	31.8	AV	41.9	-37.4	36.3	0	100	Vert.	54.0	17.7
16919.000	45.3	PK	44.6	-36.3	53.6	0	100	Hori.	74.0	20.4
16919.000	31.9	AV	44.6	-36.3	40.2	0	100	Hori.	54.0	13.8
16919.000	45.4	PK	44.6	-36.3	53.7	0	100	Vert.	74.0	20.3
16919.000	31.9	AV	44.6	-36.3	40.2	0	100	Vert.	54.0	13.8
19336.000	46.0	PK	41.6	-36.0	51.6	0	100	Hori.	74.0	22.4
19336.000	32.1	AV	41.6	-36.0	37.7	0	100	Hori.	54.0	16.3
19336.000	45.8	PK	41.6	-36.0	51.4	0	100	Vert.	74.0	22.6
19336.000	32.0	AV	41.6	-36.0	37.6	0	100	Vert.	54.0	16.4
21753.000	46.6	PK	40.5	-35.9	51.2	0	100	Hori.	74.0	22.8
21753.000	33.9	AV	40.5	-35.9	38.5	0	100	Hori.	54.0	15.5
21753.000	46.7	PK	40.5	-35.9	51.3	0	100	Vert.	74.0	22.7
21753.000	33.8	AV	40.5	-35.9	38.4	0	100	Vert.	54.0	15.6
24170.000	46.9	PK	41.0	-36.8	51.1	0	100	Hori.	74.0	22.9
24170.000	33.8	AV	41.0	-36.8	38.0	0	100	Hori.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:05:22

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch02 8Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
24170.000	47.0	PK	41.0	-36.8	51.2	0	100	Vert.	74.0	22.8
24170.000	33.8	AV	41.0	-36.8	38.0	0	100	Vert.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

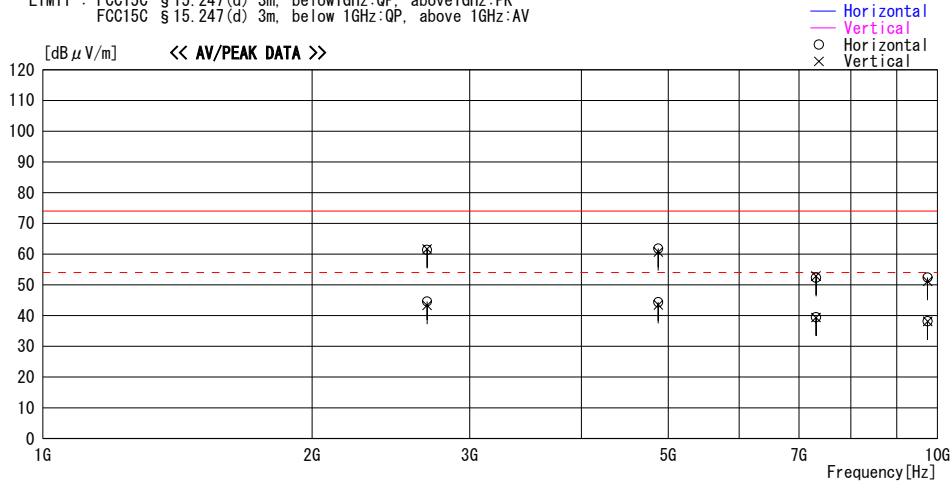
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/18 11:38:24

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 23deg. C / 60%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch06 Main(Rear) Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2688.000	53.8	PK	31.4	-23.8	61.4	0	100	Hori.	74.0	12.6
2688.000	37.0	AV	31.4	-23.8	44.6	0	100	Hori.	54.0	9.4
2688.000	54.1	PK	31.4	-23.8	61.7	0	100	Vert.	74.0	12.3
2688.000	35.7	AV	31.4	-23.8	43.3	0	100	Vert.	54.0	10.7
4873.954	57.6	PK	35.3	-31.1	61.8	20	140	Hori.	74.0	12.2
4873.954	40.2	AV	35.3	-31.1	44.4	20	140	Hori.	54.0	9.6
4874.068	56.5	PK	35.3	-31.1	60.7	80	100	Vert.	74.0	13.3
4874.068	39.3	AV	35.3	-31.1	43.5	80	100	Vert.	54.0	10.5
7311.000	45.3	PK	37.7	-30.7	52.3	0	100	Hori.	74.0	21.7
7311.000	32.5	AV	37.7	-30.7	39.5	0	100	Hori.	54.0	14.5
7311.000	45.8	PK	37.7	-30.7	52.8	0	100	Vert.	74.0	21.2
7311.000	32.4	AV	37.7	-30.7	39.4	0	100	Vert.	54.0	14.6
9747.637	46.8	PK	36.2	-30.6	52.4	40	100	Hori.	74.0	21.6
9747.637	32.6	AV	36.2	-30.6	38.2	40	100	Hori.	54.0	15.8
9747.959	45.5	PK	36.2	-30.6	51.1	200	100	Vert.	74.0	22.9
9747.959	32.5	AV	36.2	-30.6	38.1	200	100	Vert.	54.0	15.9

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Main Antenna

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

Company	: YAMAHA CORPORATION	REPORT NO	: 25IE0258-HO
Equipment	: Digital Audio Server	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: MCX-2000	TEST DISTANCE	: 3m
Sample No.	: Y010305PR	DATE	: 07/18/2005
Power	: AC 120 V / 60 Hz	TEMPERATURE	: 23deg.C
Mode	: Wireless LAN, 11g, Tx: ch.06	HUMIDITY	: 60%
Remarks	: Ant-max-axis (Hor.: Y, Ver.: X)	ENGINEER	: Kenichi Adachi

20dBc(Fundamental 2437MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter Loss [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2436.9	99.1	98.3	30.9	36.4	2.7	10.0	106.3	105.5	-	-	-
2	2016.0	60.6	58.3	31.5	36.4	2.3	10.0	68.0	65.7	Funda-20dB	18.3	19.8

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

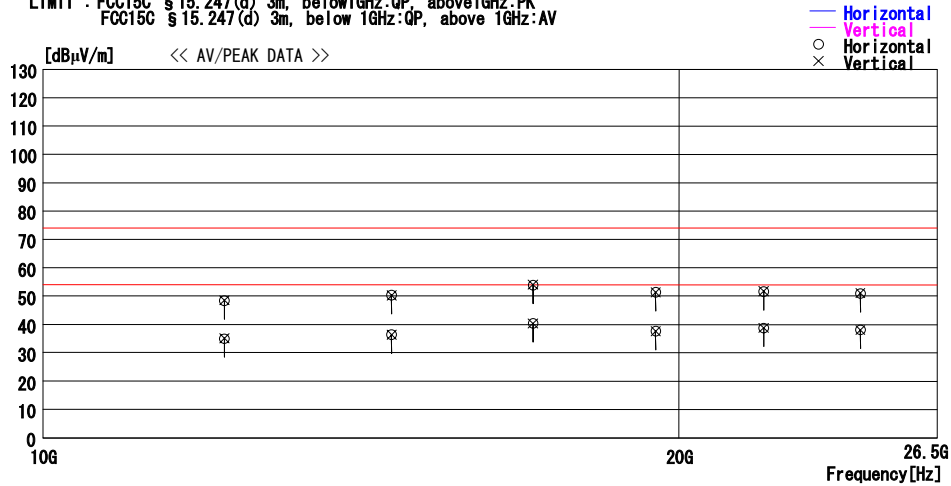
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:20:45

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg.C / 52%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch06 8Mbps Main Antenna

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit		Margin
			Factor [dB/m]	Loss&Gain [dB]					[dBuV/m]	[dB]	
12185.000	45.5	PK	41.5	-38.6	48.4	0	100	Hori.	74.0	25.6	
12185.000	32.1	AV	41.5	-38.6	35.0	0	100	Hori.	54.0	19.0	
12185.000	45.6	PK	41.5	-38.6	48.5	0	100	Vert.	74.0	25.5	
12185.000	32.2	AV	41.5	-38.6	35.1	0	100	Vert.	54.0	18.9	
14622.000	46.0	PK	42.1	-37.7	50.4	0	100	Hori.	74.0	23.6	
14622.000	32.0	AV	42.1	-37.7	36.4	0	100	Hori.	54.0	17.6	
14622.000	45.9	PK	42.1	-37.7	50.3	0	100	Vert.	74.0	23.7	
14622.000	31.9	AV	42.1	-37.7	36.3	0	100	Vert.	54.0	17.7	
17059.000	45.4	PK	44.6	-36.2	53.8	0	100	Hori.	74.0	20.2	
17059.000	32.0	AV	44.6	-36.2	40.4	0	100	Hori.	54.0	13.6	
17059.000	45.6	PK	44.6	-36.2	54.0	0	100	Vert.	74.0	20.0	
17059.000	31.9	AV	44.6	-36.2	40.3	0	100	Vert.	54.0	13.7	
19496.000	46.0	PK	41.4	-36.0	51.4	0	100	Hori.	74.0	22.6	
19496.000	32.3	AV	41.4	-36.0	37.7	0	100	Hori.	54.0	16.3	
19496.000	45.9	PK	41.4	-36.0	51.3	0	100	Vert.	74.0	22.7	
19496.000	32.2	AV	41.4	-36.0	37.6	0	100	Vert.	54.0	16.4	
21933.000	46.6	PK	40.5	-35.5	51.6	0	100	Hori.	74.0	22.4	
21933.000	33.7	AV	40.5	-35.5	38.7	0	100	Hori.	54.0	15.3	
21933.000	46.7	PK	40.5	-35.5	51.7	0	100	Vert.	74.0	22.3	
21933.000	33.8	AV	40.5	-35.5	38.8	0	100	Vert.	54.0	15.2	
24370.000	46.7	PK	41.1	-36.9	50.9	0	100	Hori.	74.0	23.1	
24370.000	33.9	AV	41.1	-36.9	38.1	0	100	Hori.	54.0	15.9	

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:20:45

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch06 8Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
24370.000	46.8	PK	41.1	-36.9	51.0	0	100	Vert.	74.0	23.0
24370.000	33.8	AV	41.1	-36.9	38.0	0	100	Vert.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

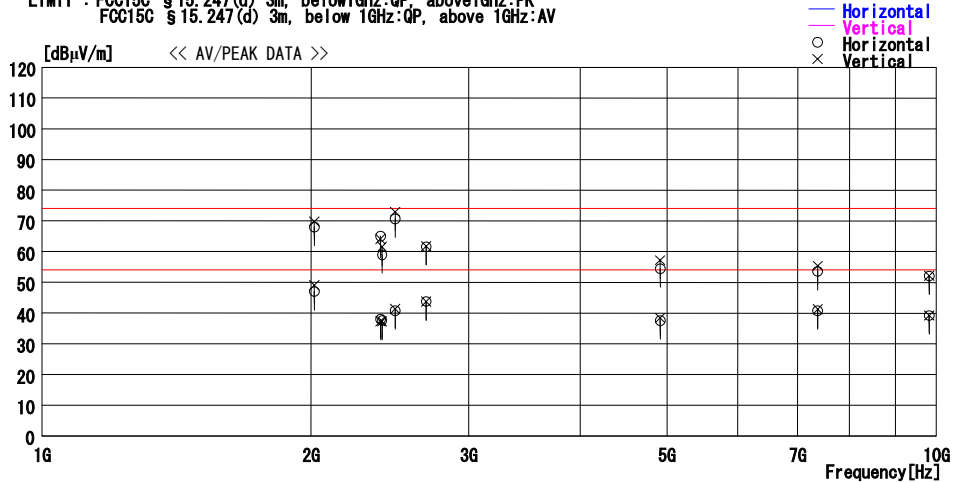
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/07/08 14:41:06

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 24deg.C / 54%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch10 8Mbps Main Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
2016.055	69.5	PK	31.5	-33.0	68.0	0	100	Hori.	74.0	6.0
2016.055	71.3	PK	31.5	-33.0	69.8	0	100	Vert.	74.0	4.2
2016.055	48.5	AV	31.5	-33.0	47.0	0	100	Hori.	54.0	7.0
2016.055	50.5	AV	31.5	-33.0	49.0	0	100	Vert.	54.0	5.0
2390.000	66.9	PK	30.9	-32.8	65.0	0	100	Hori.	74.0	9.0
2390.000	66.0	PK	30.9	-32.8	64.1	0	100	Vert.	74.0	9.9
2390.000	39.9	AV	30.9	-32.8	38.0	0	100	Hori.	54.0	16.0
2390.000	39.2	AV	30.9	-32.8	37.3	0	100	Vert.	54.0	16.7
2400.000	60.9	PK	30.9	-32.8	59.0	0	100	Hori.	74.0	15.0
2400.000	63.4	PK	30.9	-32.8	61.5	0	100	Vert.	74.0	12.5
2400.000	39.5	AV	30.9	-32.8	37.6	0	100	Hori.	54.0	16.4
2400.000	39.2	AV	30.9	-32.8	37.3	0	100	Vert.	54.0	16.7
2483.500	72.7	PK	30.8	-32.8	70.7	0	100	Hori.	74.0	3.3
2483.500	74.9	PK	30.8	-32.8	72.9	0	100	Vert.	74.0	1.1
2483.500	42.8	AV	30.8	-32.8	40.8	0	100	Hori.	54.0	13.2
2483.500	43.3	AV	30.8	-32.8	41.3	0	100	Vert.	54.0	12.7
2688.000	62.9	PK	31.4	-32.7	61.6	0	100	Hori.	74.0	12.4
2688.000	63.1	PK	31.4	-32.7	61.8	0	100	Vert.	74.0	12.2
2688.000	45.1	AV	31.4	-32.7	43.8	0	100	Hori.	54.0	10.2
2688.000	45.0	AV	31.4	-32.7	43.7	0	100	Vert.	54.0	10.3
4914.000	31.5	AV	35.5	-29.5	37.5	0	100	Hori.	54.0	16.5
4914.000	32.4	AV	35.5	-29.5	38.4	0	100	Vert.	54.0	15.6

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE-ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/07/08 14:41:06

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 24deg. C / 54%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch10 8Mbps Main Antenna / Ant-MAX-axis (H:Y V:X)

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
4914.000	48.4	PK	35.5	-29.5	54.4	0	100	Hori.	74.0	19.6
4914.000	51.2	PK	35.5	-29.5	57.2	0	100	Vert.	74.0	16.8
7369.296	31.5	AV	37.8	-28.6	40.7	0	100	Hori.	54.0	13.3
7369.296	32.0	AV	37.8	-28.6	41.2	0	100	Vert.	54.0	12.8
7369.296	44.3	PK	37.8	-28.6	53.5	0	100	Hori.	74.0	20.5
7369.296	46.2	PK	37.8	-28.6	55.4	0	100	Vert.	74.0	18.6
9825.194	31.0	AV	36.2	-28.0	39.2	0	100	Hori.	54.0	14.8
9825.194	31.0	AV	36.2	-28.0	39.2	0	100	Vert.	54.0	14.8
9825.194	43.9	PK	36.2	-28.0	52.1	0	100	Hori.	74.0	21.9
9825.194	43.9	PK	36.2	-28.0	52.1	0	100	Vert.	74.0	21.9

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

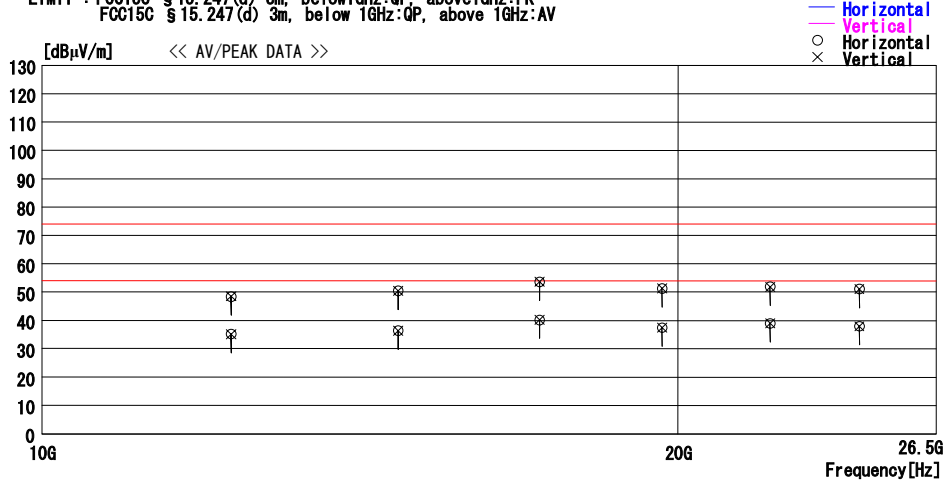
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:33:20

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch10 8Mbps Main Antenna

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
12285.000	45.4	PK	41.5	-38.5	48.4	0	100	Hori.	74.0	25.6
12285.000	32.2	AV	41.5	-38.5	35.2	0	100	Hori.	54.0	18.8
12285.000	45.5	PK	41.5	-38.5	48.5	0	100	Vert.	74.0	25.5
12285.000	32.1	AV	41.5	-38.5	35.1	0	100	Vert.	54.0	18.9
14742.000	46.0	PK	42.3	-37.8	50.5	0	100	Hori.	74.0	23.5
14742.000	31.9	AV	42.3	-37.8	36.4	0	100	Hori.	54.0	17.6
14742.000	45.9	PK	42.3	-37.8	50.4	0	100	Vert.	74.0	23.6
14742.000	31.8	AV	42.3	-37.8	36.3	0	100	Vert.	54.0	17.7
17199.000	45.4	PK	44.5	-36.3	53.6	0	100	Hori.	74.0	20.4
17199.000	32.0	AV	44.5	-36.3	40.2	0	100	Hori.	54.0	13.8
17199.000	45.5	PK	44.5	-36.3	53.7	0	100	Vert.	74.0	20.3
17199.000	32.0	AV	44.5	-36.3	40.2	0	100	Vert.	54.0	13.8
19656.000	46.0	PK	41.3	-36.1	51.2	0	100	Hori.	74.0	22.8
19656.000	32.3	AV	41.3	-36.1	37.5	0	100	Hori.	54.0	16.5
19656.000	46.1	PK	41.3	-36.1	51.3	0	100	Vert.	74.0	22.7
19656.000	32.3	AV	41.3	-36.1	37.5	0	100	Vert.	54.0	16.5
22113.000	46.8	PK	40.5	-35.4	51.9	0	100	Hori.	74.0	22.1
22113.000	33.9	AV	40.5	-35.4	39.0	0	100	Hori.	54.0	15.0
22113.000	46.7	PK	40.5	-35.4	51.8	0	100	Vert.	74.0	22.2
22113.000	33.8	AV	40.5	-35.4	38.9	0	100	Vert.	54.0	15.1
24370.000	46.9	PK	41.1	-36.9	51.1	0	100	Hori.	74.0	22.9
24370.000	33.8	AV	41.1	-36.9	38.0	0	100	Hori.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Main Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 06:33:20

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch10 8Mbps Main Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
24370.000	46.8	PK	41.1	-36.9	51.0	0	100	Vert.	74.0	23.0
24370.000	33.7	AV	41.1	-36.9	37.9	0	100	Vert.	54.0	16.1

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

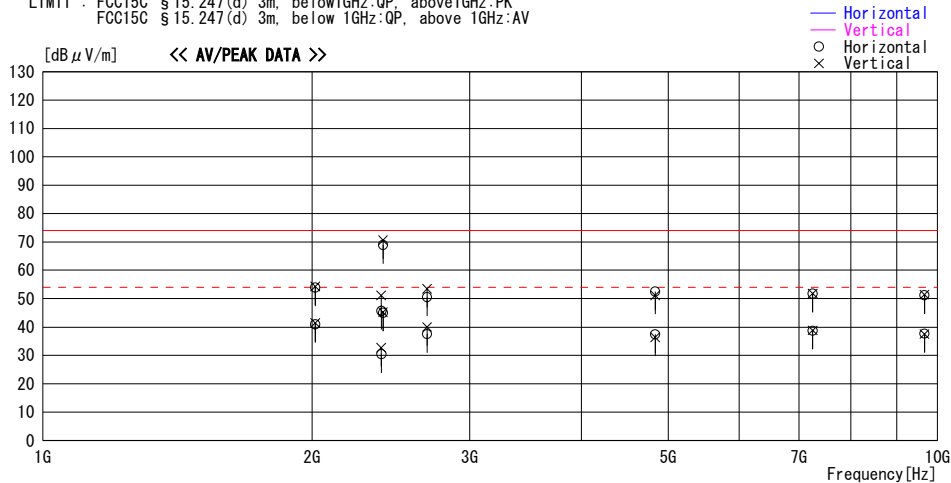
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 01:51:51

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch02 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2015.957	56.4	PK	31.5	-34.0	53.9	0	110	Hori.	74.0	20.1
2015.957	43.5	AV	31.5	-34.0	41.0	0	110	Hori.	54.0	13.0
2015.983	56.8	PK	31.5	-34.0	54.3	0	120	Vert.	74.0	19.7
2015.983	44.0	AV	31.5	-34.0	41.5	0	120	Vert.	54.0	12.5
2388.357	54.0	PK	30.9	-33.8	51.1	0	110	Vert.	74.0	22.9
2388.357	35.6	AV	30.9	-33.8	32.7	0	110	Vert.	54.0	21.3
2389.836	48.6	PK	30.9	-33.8	45.7	0	130	Hori.	74.0	28.3
2389.836	33.3	AV	30.9	-33.8	30.4	0	130	Hori.	54.0	23.6
2400.000	71.8	PK	30.9	-33.8	68.9	0	130	Hori.	74.0	5.1
2400.000	47.9	AV	30.9	-33.8	45.0	0	130	Hori.	54.0	9.0
2400.000	73.5	PK	30.9	-33.8	70.6	0	105	Vert.	74.0	3.4
2400.000	48.1	AV	30.9	-33.8	45.2	0	105	Vert.	54.0	8.8
2687.972	55.8	PK	31.4	-33.8	53.4	0	110	Vert.	74.0	20.6
2687.972	42.4	AV	31.4	-33.8	40.0	0	110	Vert.	54.0	14.0
2688.012	52.9	PK	31.4	-33.8	50.5	0	120	Hori.	74.0	23.5
2688.012	39.9	AV	31.4	-33.8	37.5	0	120	Hori.	54.0	16.5
4833.975	47.1	PK	35.1	-31.1	51.1	200	110	Vert.	74.0	22.9
4833.975	32.3	AV	35.1	-31.1	36.3	200	110	Vert.	54.0	17.7
4834.075	48.5	PK	35.1	-31.1	52.5	0	150	Hori.	74.0	21.5
4834.075	33.4	AV	35.1	-31.1	37.4	0	150	Hori.	54.0	16.6
7251.000	44.9	PK	37.7	-30.8	51.8	0	100	Hori.	74.0	22.2
7251.000	31.8	AV	37.7	-30.8	38.7	0	100	Hori.	54.0	15.3

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 01:51:51

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch02 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
7251.000	44.9	PK	37.7	-30.8	51.8	0	100	Vert.	74.0	22.2
7251.000	31.9	AV	37.7	-30.8	38.8	0	100	Vert.	54.0	15.2
9668.000	45.5	PK	36.3	-30.6	51.2	0	100	Hori.	74.0	22.8
9668.000	32.0	AV	36.3	-30.6	37.7	0	100	Hori.	54.0	16.3
9668.000	45.7	PK	36.3	-30.6	51.4	0	100	Vert.	74.0	22.6
9668.000	31.8	AV	36.3	-30.6	37.5	0	100	Vert.	54.0	16.5

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

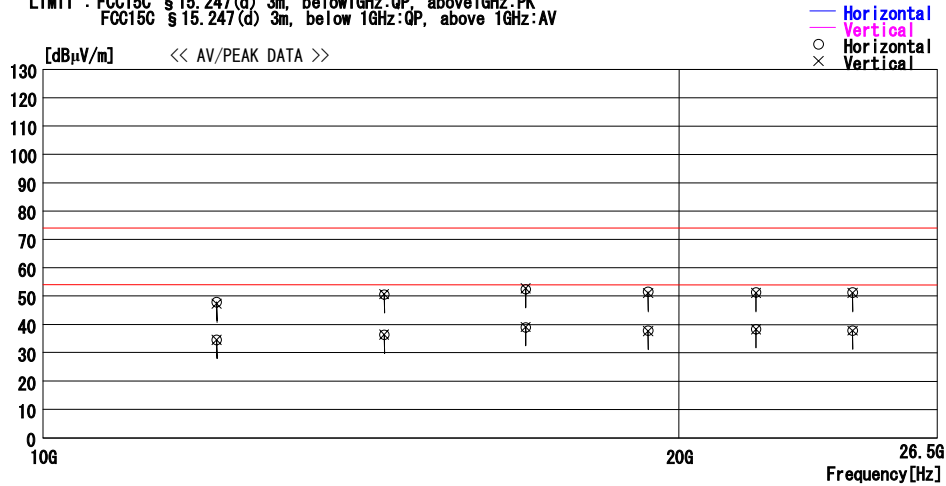
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 02:43:56

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch02 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit		Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]					[dBuV/m]	[dB]	
12085.000	45.3	PK	41.4	-38.8	47.9	0	100	Hori.	74.0	28.1	
12085.000	31.9	AV	41.4	-38.8	34.5	0	100	Hori.	54.0	19.5	
12085.000	44.7	PK	41.4	-38.8	47.3	0	100	Vert.	74.0	26.7	
12085.000	31.9	AV	41.4	-38.8	34.5	0	100	Vert.	54.0	19.5	
14502.000	46.1	PK	41.9	-37.4	50.6	0	100	Hori.	74.0	23.4	
14502.000	31.8	AV	41.9	-37.4	36.3	0	100	Hori.	54.0	17.7	
14502.000	46.2	PK	41.9	-37.4	50.7	0	100	Vert.	74.0	23.3	
14502.000	31.9	AV	41.9	-37.4	36.4	0	100	Vert.	54.0	17.6	
16919.000	45.2	PK	44.6	-37.4	52.4	0	100	Hori.	74.0	21.6	
16919.000	31.8	AV	44.6	-37.4	39.0	0	100	Hori.	54.0	15.0	
16919.000	45.5	PK	44.6	-37.4	52.7	0	100	Vert.	74.0	21.3	
16919.000	31.9	AV	44.6	-37.4	39.1	0	100	Vert.	54.0	14.9	
19336.000	45.9	PK	41.6	-36.0	51.5	0	100	Hori.	74.0	22.5	
19336.000	32.2	AV	41.6	-36.0	37.8	0	100	Hori.	54.0	16.2	
19336.000	45.4	PK	41.6	-36.0	51.0	0	100	Vert.	74.0	23.0	
19336.000	32.1	AV	41.6	-36.0	37.7	0	100	Vert.	54.0	16.3	
21753.000	46.7	PK	40.5	-35.9	51.3	0	100	Hori.	74.0	22.7	
21753.000	33.8	AV	40.5	-35.9	38.4	0	100	Hori.	54.0	15.6	
21753.000	46.5	PK	40.5	-35.9	51.1	0	100	Vert.	74.0	22.9	
21753.000	33.7	AV	40.5	-35.9	38.3	0	100	Vert.	54.0	15.7	
24170.000	47.0	PK	41.0	-36.8	51.2	0	100	Hori.	74.0	22.8	
24170.000	33.7	AV	41.0	-36.8	37.9	0	100	Hori.	54.0	16.1	

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 02:43:56

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch02 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
24170.000	46.9	PK	41.0	-36.8	51.1	0	100	Vert.	74.0	22.9
24170.000	33.6	AV	41.0	-36.8	37.8	0	100	Vert.	54.0	16.2

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

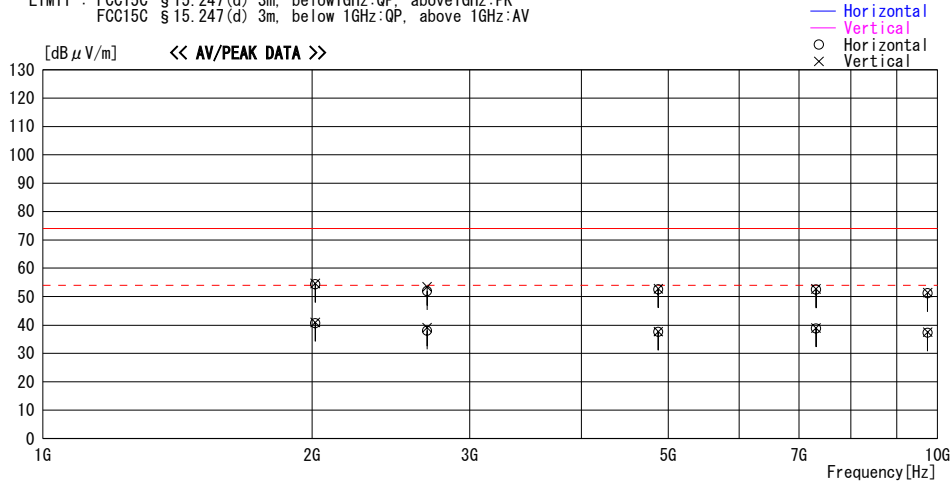
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 01:21:11

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch06 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2015.945	56.9	PK	31.5	-34.0	54.4	0	110	Hori.	74.0	19.6
2015.945	43.2	AV	31.5	-34.0	40.7	0	110	Hori.	54.0	13.3
2015.987	57.1	PK	31.5	-34.0	54.6	0	120	Vert.	74.0	19.4
2015.987	43.4	AV	31.5	-34.0	40.9	0	120	Vert.	54.0	13.1
2687.994	54.3	PK	31.4	-33.8	51.9	10	140	Hori.	74.0	22.1
2687.994	40.4	AV	31.4	-33.8	38.0	10	140	Hori.	54.0	16.0
2688.015	55.8	PK	31.4	-33.8	53.4	0	110	Vert.	74.0	20.6
2688.015	41.5	AV	31.4	-33.8	39.1	0	110	Vert.	54.0	14.9
4873.932	48.4	PK	35.3	-31.1	52.6	10	130	Hori.	74.0	21.4
4873.932	33.4	AV	35.3	-31.1	37.6	10	130	Hori.	54.0	16.4
4873.982	48.6	PK	35.3	-31.1	52.8	0	150	Vert.	74.0	21.2
4873.982	33.5	AV	35.3	-31.1	37.7	0	150	Vert.	54.0	16.3
7311.000	45.5	PK	37.7	-30.7	52.5	0	100	Hori.	74.0	21.5
7311.000	31.8	AV	37.7	-30.7	38.8	0	100	Hori.	54.0	15.2
7311.000	45.7	PK	37.7	-30.7	52.7	0	100	Vert.	74.0	21.3
7311.000	31.9	AV	37.7	-30.7	38.9	0	100	Vert.	54.0	15.1
9748.000	45.6	PK	36.2	-30.6	51.2	0	100	Hori.	74.0	22.8
9748.000	31.7	AV	36.2	-30.6	37.3	0	100	Hori.	54.0	16.7
9748.000	45.8	PK	36.2	-30.6	51.4	0	100	Vert.	74.0	22.6
9748.000	31.9	AV	36.2	-30.6	37.5	0	100	Vert.	54.0	16.5

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

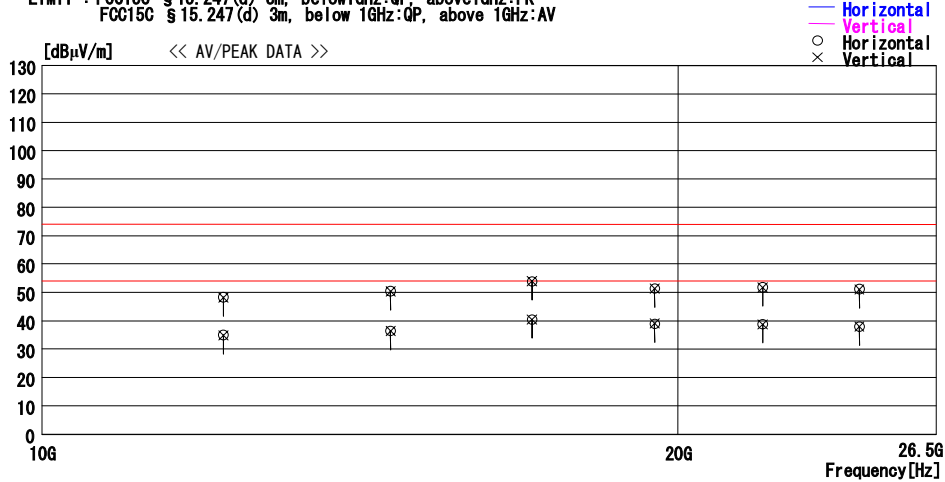
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 07:14:50

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks: 11b Transmitting ch06 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
12185.000	45.5	PK	41.5	-38.6	48.4	0	100	Hori.	74.0	25.6
12185.000	32.0	AV	41.5	-38.6	34.9	0	100	Hori.	54.0	19.1
12185.000	45.3	PK	41.5	-38.6	48.2	0	100	Vert.	74.0	25.8
12185.000	31.9	AV	41.5	-38.6	34.8	0	100	Vert.	54.0	19.2
14622.000	46.0	PK	42.1	-37.7	50.4	0	100	Hori.	74.0	23.6
14622.000	32.0	AV	42.1	-37.7	36.4	0	100	Hori.	54.0	17.6
14622.000	45.9	PK	42.1	-37.7	50.3	0	100	Vert.	74.0	23.7
14622.000	31.9	AV	42.1	-37.7	36.3	0	100	Vert.	54.0	17.7
17059.000	45.4	PK	44.6	-36.2	53.8	0	100	Hori.	74.0	20.2
17059.000	32.0	AV	44.6	-36.2	40.4	0	100	Hori.	54.0	13.6
17059.000	45.5	PK	44.6	-36.2	53.9	0	100	Vert.	74.0	20.1
17059.000	32.0	AV	44.6	-36.2	40.4	0	100	Vert.	54.0	13.6
19496.000	46.0	PK	41.4	-36.0	51.4	0	100	Hori.	74.0	22.6
19496.000	33.5	AV	41.4	-36.0	38.9	0	100	Hori.	54.0	15.1
19496.000	45.9	PK	41.4	-36.0	51.3	0	100	Vert.	74.0	22.7
19496.000	33.6	AV	41.4	-36.0	39.0	0	100	Vert.	54.0	15.0
21933.000	46.8	PK	40.5	-35.5	51.8	0	100	Hori.	74.0	22.2
21933.000	33.8	AV	40.5	-35.5	38.8	0	100	Hori.	54.0	15.2
21933.000	46.7	PK	40.5	-35.5	51.7	0	100	Vert.	74.0	22.3
21933.000	33.7	AV	40.5	-35.5	38.7	0	100	Vert.	54.0	15.3
24370.000	46.9	PK	41.1	-36.9	51.1	0	100	Hori.	74.0	22.9
24370.000	33.7	AV	41.1	-36.9	37.9	0	100	Hori.	54.0	16.1

CHART: WITH FACTOR ANT TYPE: -30MHz LOOP 30-300MHz BICONICAL 300MHz-1000MHz LOGPERIODIC 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 07:14:50

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks: 11b Transmitting ch06 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor [dB/m]	Gain [dB]						
24370.000	46.8	PK	41.1	-36.8	51.0	0	100	Vert.	74.0	23.0
24370.000	33.7	AV	41.1	-36.8	37.8	0	100	Vert.	54.0	16.1

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

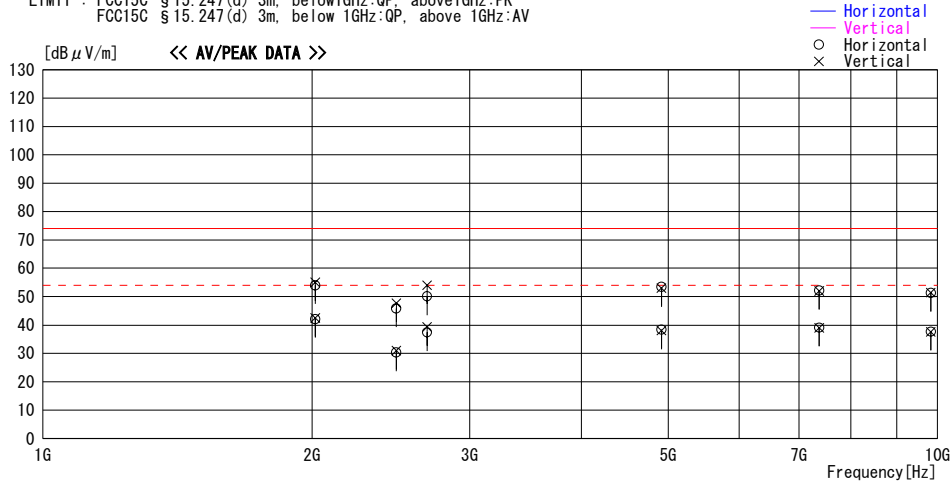
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 00:53:55

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2015.974	56.5	PK	31.5	-34.0	54.0	0	110	Hori.	74.0	20.0
2015.974	44.6	AV	31.5	-34.0	42.1	0	110	Hori.	54.0	11.9
2015.997	57.5	PK	31.5	-34.0	55.0	0	130	Vert.	74.0	19.0
2015.997	45.0	AV	31.5	-34.0	42.5	0	130	Vert.	54.0	11.5
2483.619	49.0	PK	30.8	-33.9	45.9	0	110	Hori.	74.0	28.1
2483.619	33.4	AV	30.8	-33.9	30.3	0	110	Hori.	54.0	23.7
2483.778	50.8	PK	30.8	-33.9	47.7	0	130	Vert.	74.0	26.3
2483.778	34.1	AV	30.8	-33.9	31.0	0	130	Vert.	54.0	23.0
2687.812	52.5	PK	31.4	-33.8	50.1	10	105	Hori.	74.0	23.9
2687.812	39.8	AV	31.4	-33.8	37.4	10	105	Hori.	54.0	16.6
2687.967	56.4	PK	31.4	-33.8	54.0	0	120	Vert.	74.0	20.0
2687.967	41.7	AV	31.4	-33.8	39.3	0	120	Vert.	54.0	14.7
4913.956	48.5	PK	35.5	-31.0	53.0	10	110	Vert.	74.0	21.0
4913.956	33.5	AV	35.5	-31.0	38.0	10	110	Vert.	54.0	16.0
4913.988	48.9	PK	35.5	-31.0	53.4	10	150	Hori.	74.0	20.6
4913.988	33.9	AV	35.5	-31.0	38.4	10	150	Hori.	54.0	15.6
7371.000	45.0	PK	37.8	-30.6	52.2	0	100	Hori.	74.0	21.8
7371.000	31.9	AV	37.8	-30.6	39.1	0	100	Hori.	54.0	14.9
7371.000	44.8	PK	37.8	-30.6	52.0	0	100	Vert.	74.0	22.0
7371.000	31.8	AV	37.8	-30.6	39.0	0	100	Vert.	54.0	15.0
9828.000	45.6	PK	36.2	-30.5	51.3	0	100	Hori.	74.0	22.7
9828.000	32.0	AV	36.2	-30.5	37.7	0	100	Hori.	54.0	16.3

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/20 00:53:55

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR
 Report No. : 251E0258-H0
 Power : AC120V / 60Hz
 Temp./Humi. : 26deg. C / 52%
 Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
 FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
9828.000	45.7	PK	36.2	-30.5	51.4	0	100	Vert.	74.0	22.6
9828.000	31.9	AV	36.2	-30.5	37.6	0	100	Vert.	54.0	16.4

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
 Except for the data below : adequate margin data below the limits.

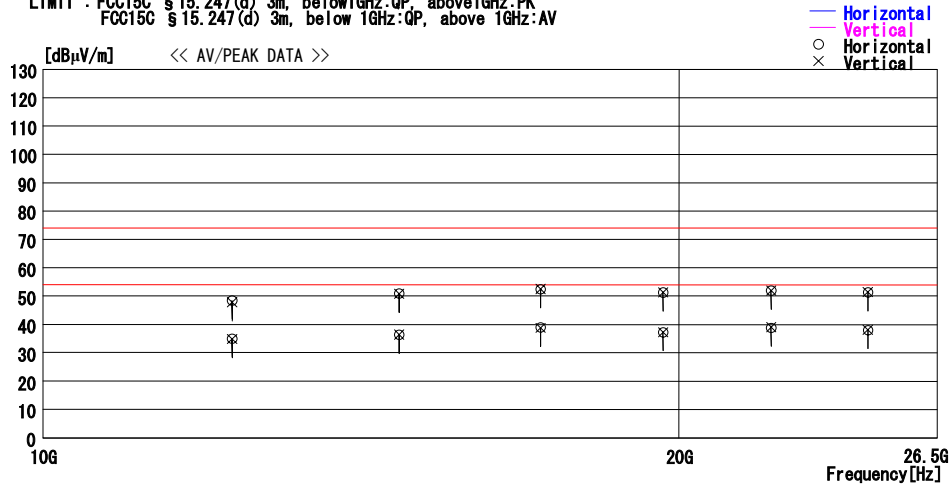
Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 03:49:59

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	Margin
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]
12285.000	45.5	PK	41.5	-38.5	48.5	0	100	Hori.	74.0	25.5
12285.000	32.0	AV	41.5	-38.5	35.0	0	100	Hori.	54.0	19.0
12285.000	44.8	PK	41.5	-38.5	47.8	0	100	Vert.	74.0	26.2
12285.000	31.8	AV	41.5	-38.5	34.8	0	100	Vert.	54.0	19.2
14742.000	46.4	PK	42.3	-37.8	50.9	0	100	Hori.	74.0	23.1
14742.000	31.8	AV	42.3	-37.8	36.3	0	100	Hori.	54.0	17.7
14742.000	46.3	PK	42.3	-37.8	50.8	0	100	Vert.	74.0	23.2
14742.000	31.9	AV	42.3	-37.8	36.4	0	100	Vert.	54.0	17.6
17199.000	45.3	PK	44.5	-37.4	52.4	0	100	Hori.	74.0	21.6
17199.000	31.8	AV	44.5	-37.4	38.9	0	100	Hori.	54.0	15.1
17199.000	45.4	PK	44.5	-37.4	52.5	0	100	Vert.	74.0	21.5
17199.000	31.7	AV	44.5	-37.4	38.8	0	100	Vert.	54.0	15.2
19656.000	46.0	PK	41.3	-36.1	51.2	0	100	Hori.	74.0	22.8
19656.000	32.1	AV	41.3	-36.1	37.3	0	100	Hori.	54.0	16.7
19656.000	46.1	PK	41.3	-36.1	51.3	0	100	Vert.	74.0	22.7
19656.000	32.0	AV	41.3	-36.1	37.2	0	100	Vert.	54.0	16.8
22113.000	46.8	PK	40.5	-35.4	51.9	0	100	Hori.	74.0	22.1
22113.000	33.7	AV	40.5	-35.4	38.8	0	100	Hori.	54.0	15.2
22113.000	46.8	PK	40.5	-35.4	51.9	0	100	Vert.	74.0	22.1
22113.000	33.9	AV	40.5	-35.4	39.0	0	100	Vert.	54.0	15.0
24570.000	46.9	PK	41.1	-36.7	51.3	0	100	Hori.	74.0	22.7
24570.000	33.6	AV	41.1	-36.7	38.0	0	100	Hori.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11b Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 03:49:59

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11b Transmitting ch10 3Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
24570.000	47.0	PK	41.1	-36.7	51.4	0	100	Vert.	74.0	22.6
24570.000	33.7	AV	41.1	-36.7	38.1	0	100	Vert.	54.0	15.9

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

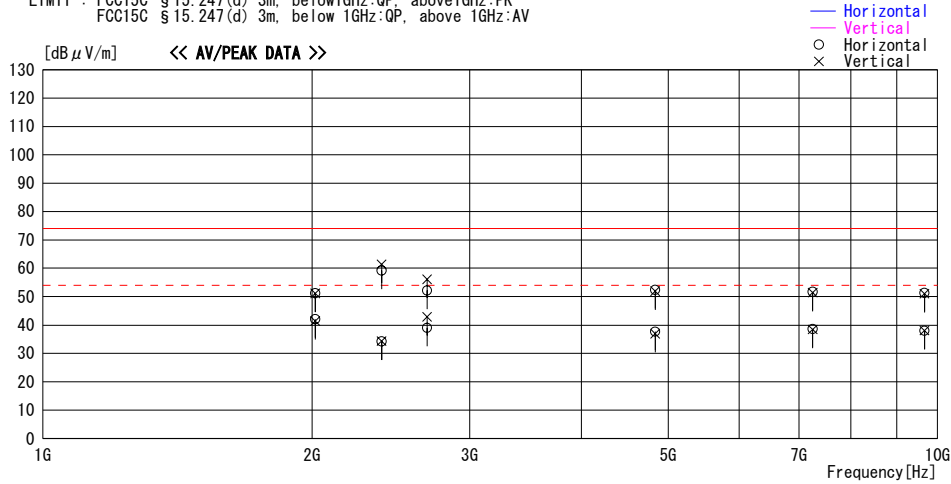
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/19 22:22:44

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch2 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
2015.795	53.7	PK	31.5	-34.0	51.2	0	120	Hori.	74.0	22.8
2015.795	44.6	AV	31.5	-34.0	42.1	0	120	Hori.	54.0	11.9
2015.993	53.6	PK	31.5	-34.0	51.1	0	125	Vert.	74.0	22.9
2015.993	43.9	AV	31.5	-34.0	41.4	0	125	Vert.	54.0	12.6
2390.000	62.1	PK	30.9	-33.8	59.2	0	100	Hori.	74.0	14.8
2390.000	37.1	AV	30.9	-33.8	34.2	0	100	Hori.	54.0	19.8
2390.000	64.3	PK	30.9	-33.8	61.4	0	100	Vert.	74.0	12.6
2390.000	37.2	AV	30.9	-33.8	34.3	0	100	Vert.	54.0	19.7
2688.000	54.6	PK	31.4	-33.8	52.2	0	100	Hori.	74.0	21.8
2688.000	41.4	AV	31.4	-33.8	39.0	0	100	Hori.	54.0	15.0
2688.000	58.5	PK	31.4	-33.8	56.1	0	100	Vert.	74.0	17.9
2688.000	45.3	AV	31.4	-33.8	42.9	0	100	Vert.	54.0	11.1
4833.982	47.9	PK	35.1	-31.1	51.9	10	110	Vert.	74.0	22.1
4833.982	32.9	AV	35.1	-31.1	36.9	10	110	Vert.	54.0	17.1
4833.992	33.7	AV	35.1	-31.1	37.7	0	155	Hori.	54.0	16.3
4833.992	48.4	PK	35.1	-31.1	52.4	0	155	Hori.	74.0	21.6
7251.000	44.8	PK	37.7	-30.8	51.7	0	100	Hori.	74.0	22.3
7251.000	31.7	AV	37.7	-30.8	38.6	0	100	Hori.	54.0	15.4
7251.000	44.5	PK	37.7	-30.8	51.4	0	100	Vert.	74.0	22.6
7251.000	31.5	AV	37.7	-30.8	38.4	0	100	Vert.	54.0	15.6
9668.000	45.6	PK	36.3	-30.6	51.3	0	100	Hori.	74.0	22.7
9668.000	32.3	AV	36.3	-30.6	38.0	0	100	Hori.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/19 22:22:44

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR

Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg.C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch2 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
9668.000	45.3	PK	36.3	-30.6	51.0	0	100	Vert.	74.0	23.0
9668.000	32.3	AV	36.3	-30.6	38.0	0	100	Vert.	54.0	16.0

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

Company : YAMAHA CORPORATION
Equipment : Digital Audio Server
Model : MCX-2000
Sample No. : Y010305PR
Power : AC 120 V / 60 Hz
Mode : Wireless LAN, 11g, Tx: ch.02
Remarks : Sub-antenna

REPORT NO : 25IE0258-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3m
DATE : 07/19/2005
TEMPERATURE : 26deg.C
HUMIDITY : 52%
ENGINEER : Kenichi Adachi

20dBc(Fundamental 2417MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter Loss [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR [dBuV]	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2417.0	102.8	101.9	30.9	36.4	2.7	0.0	100.0	99.1	-	-	-
2	2400.0	65.0	65.3	30.9	36.4	2.6	0.0	62.1	62.4	Funda-20dB	17.9	16.7

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

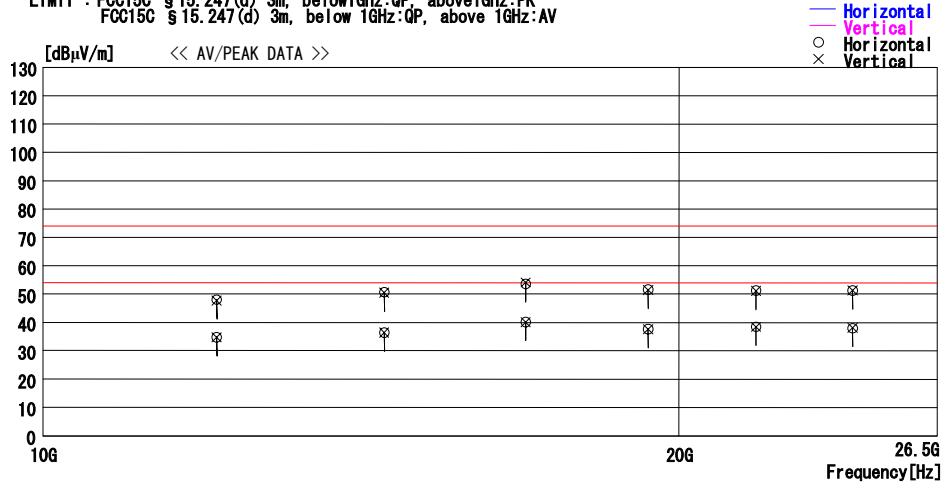
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 05:48:13

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch02 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
12085.000	45.5	PK	41.4	-38.8	48.1	0	100	Hori.	74.0	25.9
12085.000	32.2	AV	41.4	-38.8	34.8	0	100	Hori.	54.0	19.2
12085.000	45.1	PK	41.4	-38.8	47.7	0	100	Vert.	74.0	26.3
12085.000	32.1	AV	41.4	-38.8	34.7	0	100	Vert.	54.0	19.3
14502.000	46.2	PK	41.9	-37.4	50.7	0	100	Hori.	74.0	23.3
14502.000	31.9	AV	41.9	-37.4	36.4	0	100	Hori.	54.0	17.6
14502.000	46.0	PK	41.9	-37.4	50.5	0	100	Vert.	74.0	23.5
14502.000	31.9	AV	41.9	-37.4	36.4	0	100	Vert.	54.0	17.6
16919.000	45.3	PK	44.6	-36.3	53.6	0	100	Hori.	74.0	20.4
16919.000	31.9	AV	44.6	-36.3	40.2	0	100	Hori.	54.0	13.6
16919.000	45.8	PK	44.6	-36.3	54.1	0	100	Vert.	74.0	19.9
16919.000	31.8	AV	44.6	-36.3	40.1	0	100	Vert.	54.0	13.9
19336.000	46.0	PK	41.6	-36.0	51.6	0	100	Hori.	74.0	22.4
19336.000	32.1	AV	41.6	-36.0	37.7	0	100	Hori.	54.0	16.3
19336.000	45.8	PK	41.6	-36.0	51.4	0	100	Vert.	74.0	22.6
19336.000	32.0	AV	41.6	-36.0	37.6	0	100	Vert.	54.0	16.4
21753.000	46.6	PK	40.5	-35.9	51.2	0	100	Hori.	74.0	22.8
21753.000	33.9	AV	40.5	-35.9	38.5	0	100	Hori.	54.0	15.5
21753.000	46.5	PK	40.5	-35.9	51.1	0	100	Vert.	74.0	22.9
21753.000	33.8	AV	40.5	-35.9	38.4	0	100	Vert.	54.0	15.6
24170.000	47.0	PK	41.0	-36.8	51.2	0	100	Hori.	74.0	22.8
24170.000	33.8	AV	41.0	-36.8	38.0	0	100	Hori.	54.0	16.0

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch2,2417MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 05:48:13

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch02 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
24170.000	47.1	PK	41.0	-36.8	51.3	0	100	Vert.	74.0	22.7
24170.000	33.9	AV	41.0	-36.8	38.1	0	100	Vert.	54.0	15.9

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

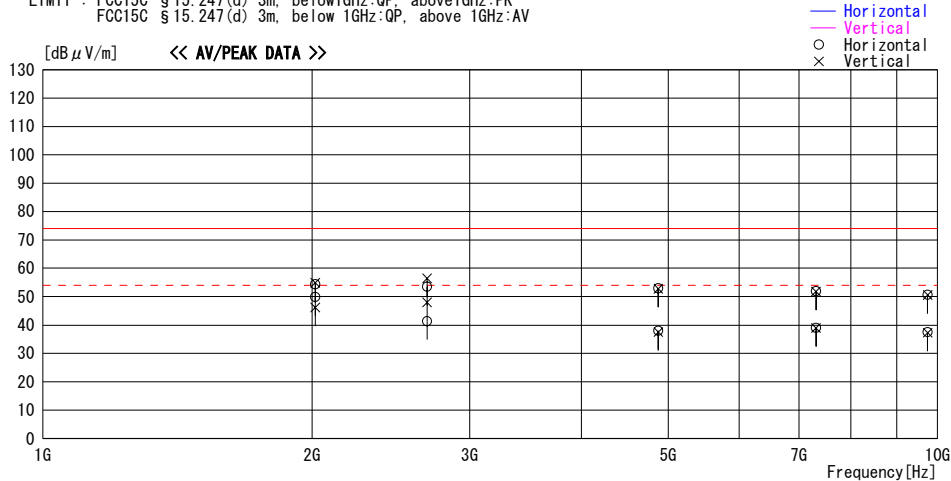
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/19 23:34:07

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch6 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2015.961	57.4	PK	31.5	-34.0	54.9	350	130	Vert.	74.0	19.1
2015.961	48.7	AV	31.5	-34.0	46.2	350	130	Vert.	54.0	7.8
2015.986	56.9	PK	31.5	-34.0	54.4	340	110	Hori.	74.0	19.6
2015.986	52.4	AV	31.5	-34.0	49.9	340	110	Hori.	54.0	4.1
2687.929	55.9	PK	31.4	-33.8	53.5	10	110	Hori.	74.0	20.5
2687.929	43.8	AV	31.4	-33.8	41.4	10	110	Hori.	54.0	12.6
2688.070	58.8	PK	31.4	-33.8	56.4	0	120	Vert.	74.0	17.6
2688.070	50.4	AV	31.4	-33.8	48.0	0	120	Vert.	54.0	6.0
4873.788	48.8	PK	35.3	-31.1	53.0	5	105	Hori.	74.0	21.0
4873.788	33.8	AV	35.3	-31.1	38.0	5	105	Hori.	54.0	16.0
4873.835	48.6	PK	35.3	-31.1	52.8	10	110	Vert.	74.0	21.2
4873.835	33.3	AV	35.3	-31.1	37.5	10	110	Vert.	54.0	16.5
7311.000	44.9	PK	37.7	-30.7	51.9	5	105	Hori.	74.0	22.1
7311.000	32.0	AV	37.7	-30.7	39.0	5	105	Hori.	54.0	15.0
7311.000	44.8	PK	37.7	-30.7	51.8	0	100	Vert.	74.0	22.2
7311.000	31.9	AV	37.7	-30.7	38.9	0	100	Vert.	54.0	15.1
9748.000	45.1	PK	36.2	-30.6	50.7	0	100	Hori.	74.0	23.3
9748.000	31.9	AV	36.2	-30.6	37.5	0	100	Hori.	54.0	16.5
9748.000	45.2	PK	36.2	-30.8	50.6	0	100	Vert.	74.0	23.4
9748.000	31.9	AV	36.2	-30.8	37.3	0	100	Vert.	54.0	16.7

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

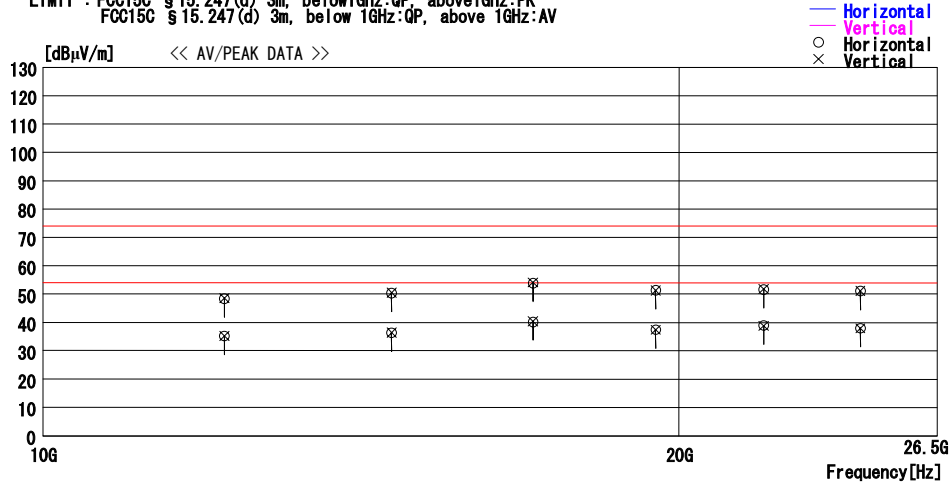
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 05:33:48

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 25IE0258-HO
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch06 8Mbps Sub Antenna

LIMIT : FCC15C § 15. 247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C § 15. 247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit		Margin [dB]
			Factor [dB/m]	Loss&Gain [dB]					[dBuV/m]	[dB]	
12185.000	45.5	PK	41.5	-38.6	48.4	0	100	Hori.	74.0	25.6	
12185.000	32.3	AV	41.5	-38.6	35.2	0	100	Hori.	54.0	18.8	
12185.000	45.7	PK	41.5	-38.6	48.6	0	100	Vert.	74.0	25.4	
12185.000	32.3	AV	41.5	-38.6	35.2	0	100	Vert.	54.0	18.8	
14622.000	46.0	PK	42.1	-37.7	50.4	0	100	Hori.	74.0	23.6	
14622.000	31.9	AV	42.1	-37.7	36.3	0	100	Hori.	54.0	17.7	
14622.000	46.1	PK	42.1	-37.7	50.5	0	100	Vert.	74.0	23.5	
14622.000	32.0	AV	42.1	-37.7	36.4	0	100	Vert.	54.0	17.6	
17059.000	45.4	PK	44.6	-36.2	53.8	0	100	Hori.	74.0	20.2	
17059.000	31.8	AV	44.6	-36.2	40.2	0	100	Hori.	54.0	13.8	
17059.000	45.7	PK	44.6	-36.2	54.1	0	100	Vert.	74.0	19.9	
17059.000	32.0	AV	44.6	-36.2	40.4	0	100	Vert.	54.0	13.6	
19496.000	46.0	PK	41.4	-36.0	51.4	0	100	Hori.	74.0	22.6	
19496.000	32.1	AV	41.4	-36.0	37.5	0	100	Hori.	54.0	16.5	
19496.000	45.8	PK	41.4	-36.0	51.2	0	100	Vert.	74.0	22.8	
19496.000	32.0	AV	41.4	-36.0	37.4	0	100	Vert.	54.0	16.6	
21933.000	46.6	PK	40.5	-35.5	51.6	0	100	Hori.	74.0	22.4	
21933.000	33.9	AV	40.5	-35.5	38.9	0	100	Hori.	54.0	15.1	
21933.000	46.8	PK	40.5	-35.5	51.8	0	100	Vert.	74.0	22.2	
21933.000	33.8	AV	40.5	-35.5	38.8	0	100	Vert.	54.0	15.2	
24370.000	46.9	PK	41.1	-36.9	51.1	0	100	Hori.	74.0	22.9	
24370.000	33.8	AV	41.1	-36.9	38.0	0	100	Hori.	54.0	16.0	

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch6,2437MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 05:33:48

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch06 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
24370.000	46.9	PK	41.1	-36.9	51.1	0	100	Vert.	74.0	22.9
24370.000	33.7	AV	41.1	-36.9	37.9	0	100	Vert.	54.0	16.1

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

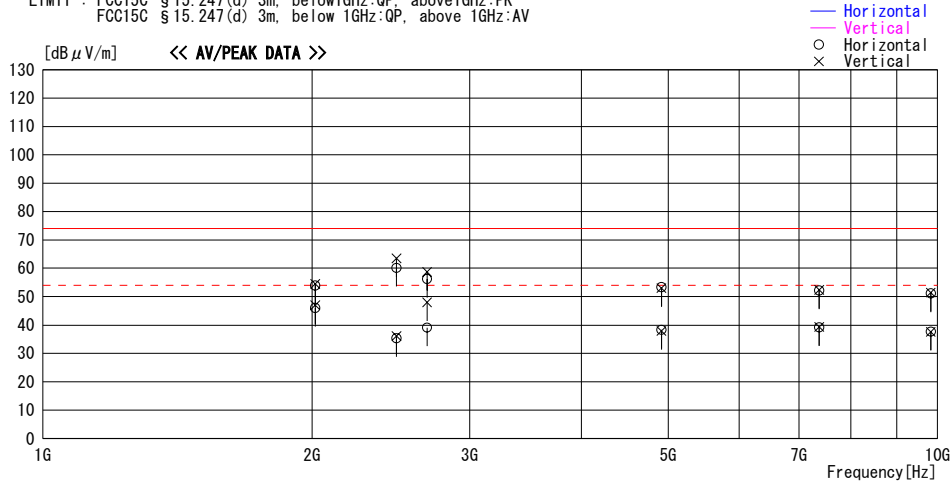
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 00:16:34

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch10 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]						
2015.976	57.0	PK	31.5	-34.0	54.5	350	130	Vert.	74.0	19.5
2015.976	49.5	AV	31.5	-34.0	47.0	350	130	Vert.	54.0	7.0
2015.984	56.4	PK	31.5	-34.0	53.9	355	120	Hori.	74.0	20.1
2015.984	48.5	AV	31.5	-34.0	46.0	355	120	Hori.	54.0	8.0
2483.962	63.2	PK	30.8	-33.9	60.1	0	120	Hori.	74.0	13.9
2483.962	38.4	AV	30.8	-33.9	35.3	0	120	Hori.	54.0	18.7
2484.386	66.6	PK	30.8	-33.9	63.5	0	110	Vert.	74.0	10.5
2484.386	39.2	AV	30.8	-33.9	36.1	0	110	Vert.	54.0	17.9
2688.018	58.6	PK	31.4	-33.8	56.2	0	110	Hori.	74.0	17.8
2688.018	41.5	AV	31.4	-33.8	39.1	0	110	Hori.	54.0	14.9
2688.059	61.1	PK	31.4	-33.8	58.7	0	120	Vert.	74.0	15.3
2688.059	50.4	AV	31.4	-33.8	48.0	0	120	Vert.	54.0	6.0
4913.856	48.5	PK	35.5	-31.0	53.0	0	120	Vert.	74.0	21.0
4913.856	33.4	AV	35.5	-31.0	37.9	0	120	Vert.	54.0	16.1
4913.963	33.8	AV	35.5	-31.0	38.3	0	110	Hori.	54.0	15.7
4913.963	48.8	PK	35.5	-31.0	53.3	0	110	Hori.	74.0	20.7
7371.000	45.0	PK	37.8	-30.6	52.2	0	110	Hori.	74.0	21.8
7371.000	32.0	AV	37.8	-30.6	39.2	0	110	Hori.	54.0	14.8
7371.000	45.2	PK	37.8	-30.6	52.4	0	120	Vert.	74.0	21.6
7371.000	32.1	AV	37.8	-30.6	39.3	0	120	Vert.	54.0	14.7
9828.000	45.4	PK	36.2	-30.5	51.1	0	110	Hori.	74.0	22.9
9828.000	32.0	AV	36.2	-30.5	37.7	0	110	Hori.	54.0	16.3

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 00:16:34

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

Mode / Remarks : 11g Transmitting ch10 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
9828.000	45.7	PK	36.2	-30.5	51.4	0	120	Vert.	74.0	22.6
9828.000	31.9	AV	36.2	-30.5	37.6	0	120	Vert.	54.0	16.4

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

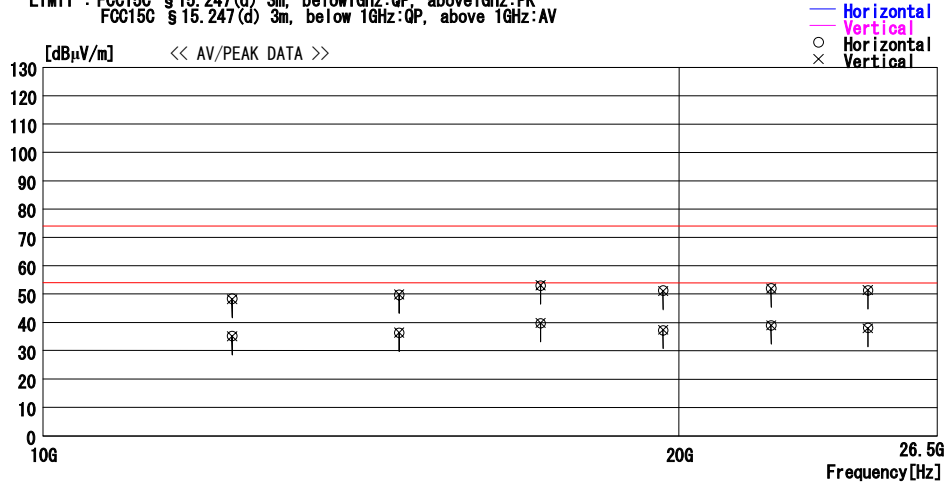
Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/07/20 04:49:36

Applicant : YAMAHA CORPORATION
 Kind of EUT : Digital Audio Server
 Model No. : MCX-2000
 Serial No. : Y010305PR
 Report No. : 25IE0258-HO
 Power : AC120V / 60Hz
 Temp./Humi. : 26deg. C / 52%
 Operator : Kenichi Adachi

Mode / Remarks: 11g Transmitting ch10 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:PK
 FCC15C § 15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
12285.000	45.4	PK	41.5	-38.5	48.4	0	100	Hori.	74.0	25.6
12285.000	32.2	AV	41.5	-38.5	35.2	0	100	Hori.	54.0	18.8
12285.000	45.2	PK	41.5	-38.5	48.2	0	100	Vert.	74.0	25.8
12285.000	32.1	AV	41.5	-38.5	35.1	0	100	Vert.	54.0	18.9
14742.000	45.3	PK	42.3	-37.8	49.8	0	100	Hori.	74.0	24.2
14742.000	31.8	AV	42.3	-37.8	36.3	0	100	Hori.	54.0	17.7
14742.000	45.4	PK	42.3	-37.8	49.9	0	100	Vert.	74.0	24.1
14742.000	31.9	AV	42.3	-37.8	36.4	0	100	Vert.	54.0	17.6
17199.000	44.8	PK	44.5	-36.3	53.0	0	100	Hori.	74.0	21.0
17199.000	31.5	AV	44.5	-36.3	39.7	0	100	Hori.	54.0	14.3
17199.000	44.9	PK	44.5	-36.3	53.1	0	100	Vert.	74.0	20.9
17199.000	31.6	AV	44.5	-36.3	39.8	0	100	Vert.	54.0	14.2
19856.000	46.0	PK	41.3	-36.1	51.2	0	100	Hori.	74.0	22.8
19856.000	32.1	AV	41.3	-36.1	37.3	0	100	Hori.	54.0	16.7
19856.000	45.8	PK	41.3	-36.1	51.0	0	100	Vert.	74.0	23.0
19856.000	32.2	AV	41.3	-36.1	37.4	0	100	Vert.	54.0	16.6
22113.000	46.9	PK	40.5	-35.4	52.0	0	100	Hori.	74.0	22.0
22113.000	33.9	AV	40.5	-35.4	39.0	0	100	Hori.	54.0	15.0
22113.000	46.8	PK	40.5	-35.4	51.9	0	100	Vert.	74.0	22.1
22113.000	33.8	AV	40.5	-35.4	38.9	0	100	Vert.	54.0	15.1
24570.000	46.9	PK	41.1	-36.7	51.3	0	100	Hori.	74.0	22.7
24570.000	33.7	AV	41.1	-36.7	38.1	0	100	Hori.	54.0	15.9

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
 CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
 Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(above 1GHz)
IEEE802.11g Transmitting ch10,2457MHz Sub Antenna
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/07/20 04:49:36

Applicant : YAMAHA CORPORATION
Kind of EUT : Digital Audio Server
Model No. : MCX-2000
Serial No. : Y010305PR
Report No. : 251E0258-H0
Power : AC120V / 60Hz
Temp./Humi. : 26deg. C / 52%
Operator : Kenichi Adachi

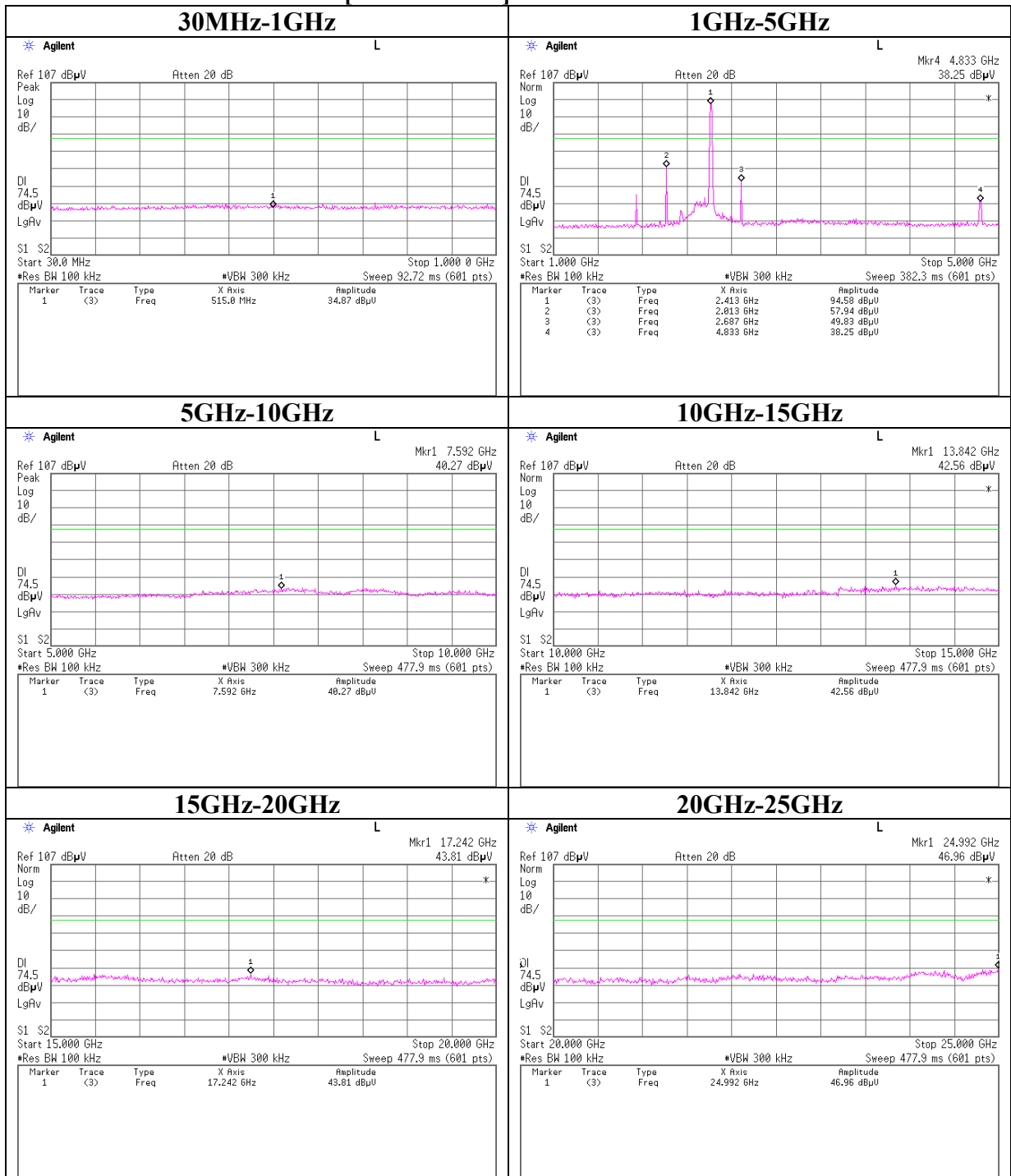
Mode / Remarks : 11g Transmitting ch10 8Mbps Sub Antenna

LIMIT : FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:PK
FCC15C § 15.247 (d) 3m, below 1GHz:QP, above 1GHz:AV

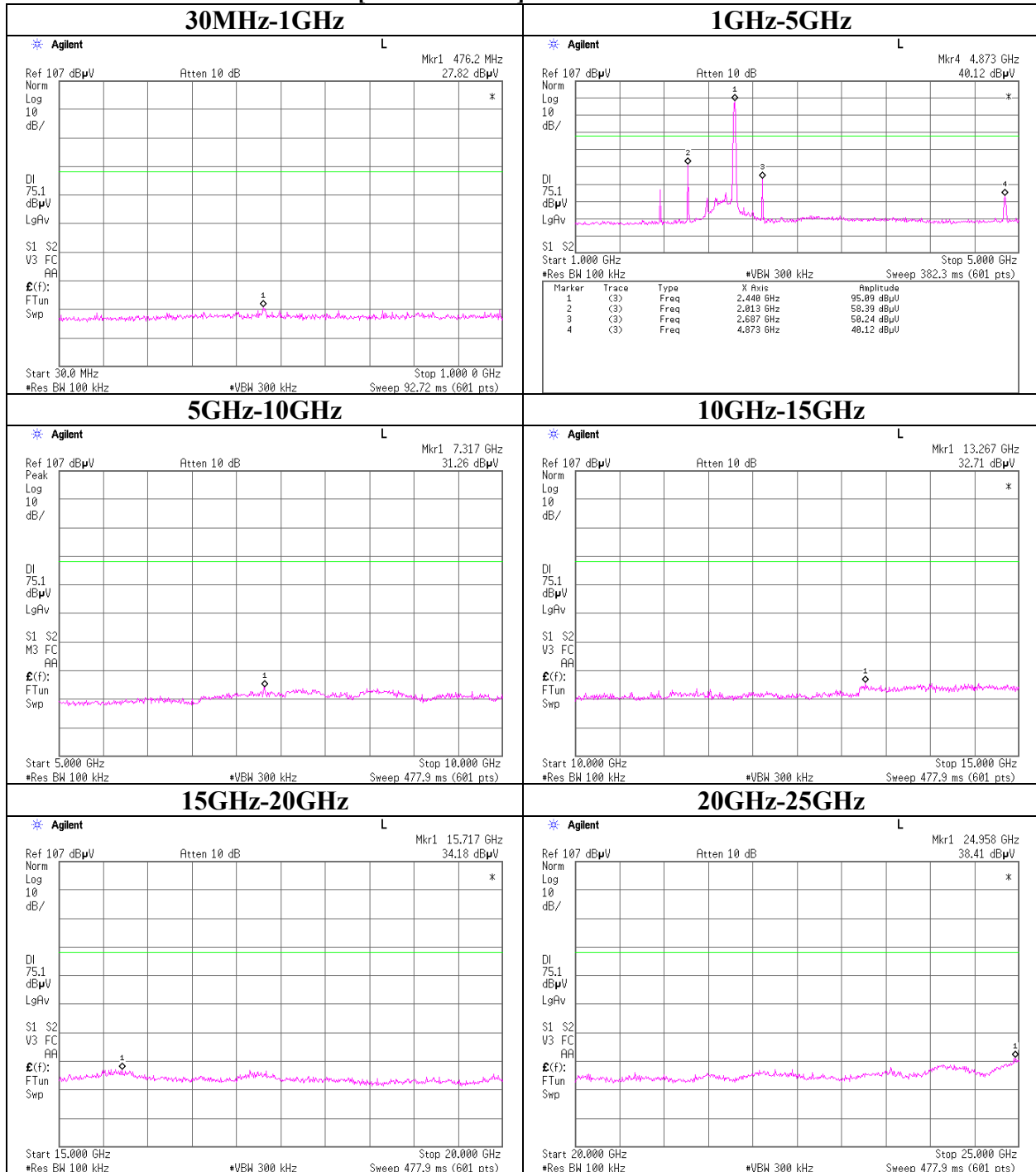
Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
24570.000	47.0	PK	41.1	-36.7	51.4	0	100	Vert.	74.0	22.6
24570.000	33.5	AV	41.1	-36.7	37.9	0	100	Vert.	54.0	16.1

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - AMP. GAIN
Except for the data below : adequate margin data below the limits.

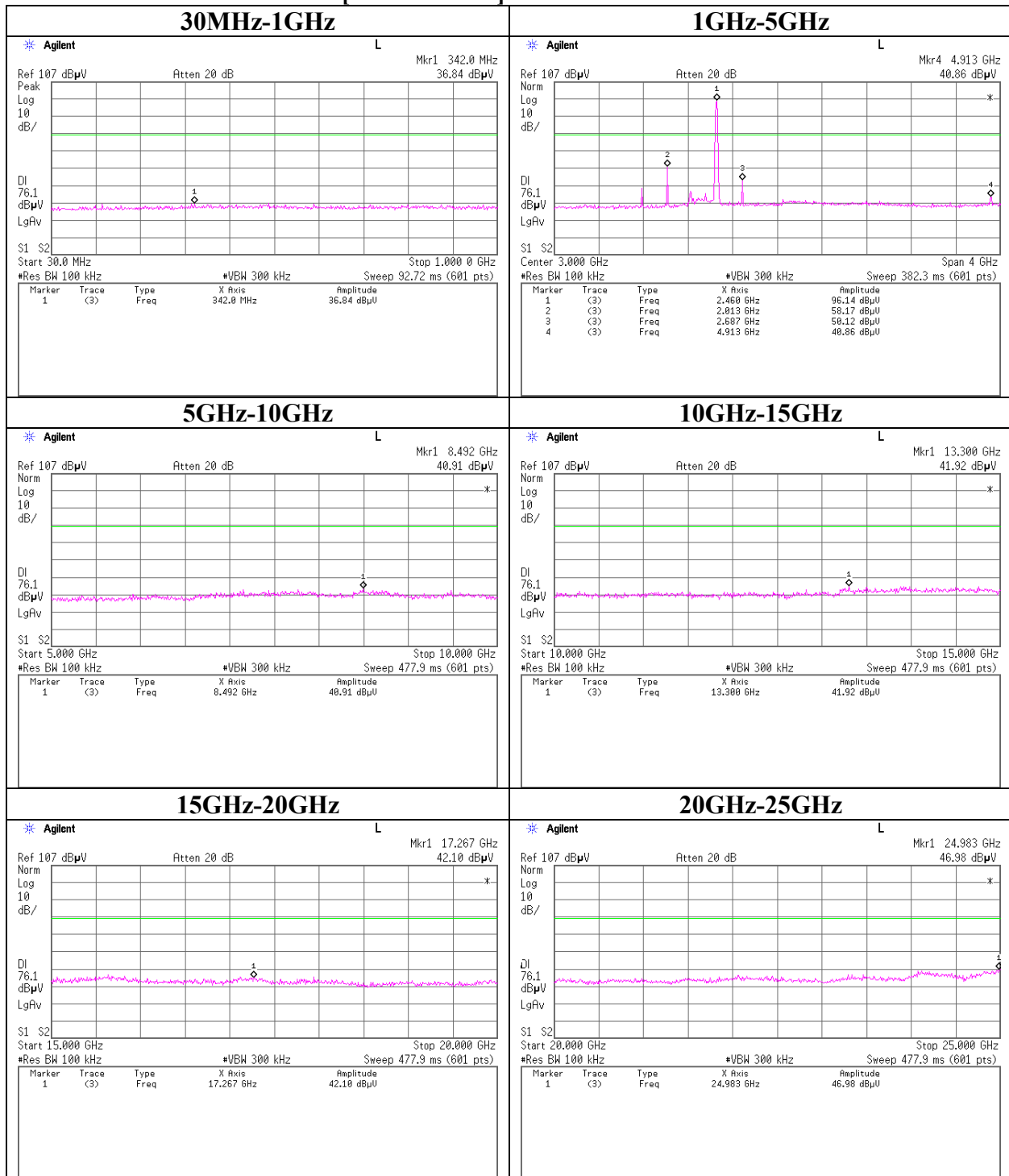
Conducted Spurious Emission
[IEEE802.11b] ch2 2417MHz



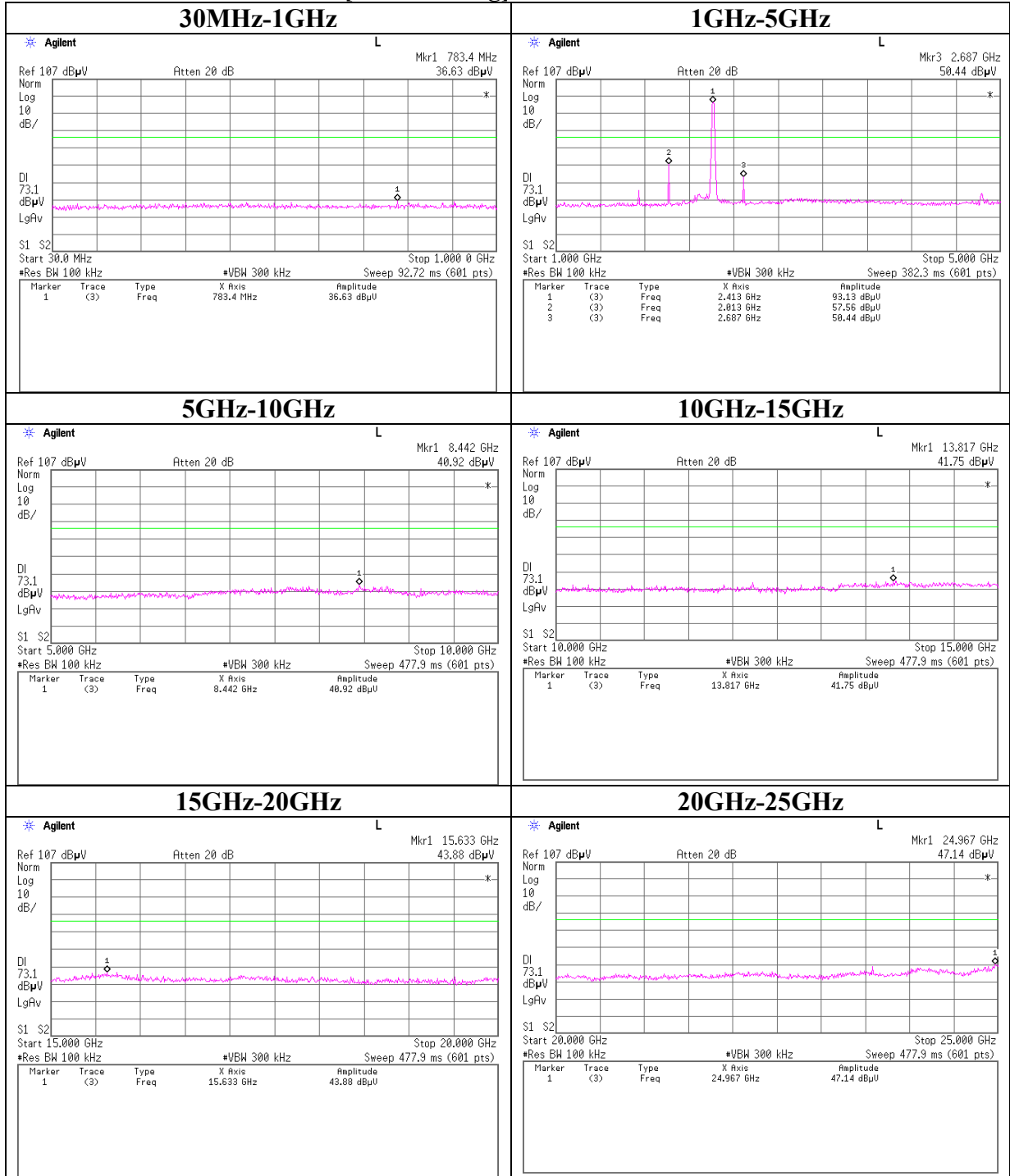
Conducted Spurious Emission
[IEEE802.11b] ch6 2437MHz



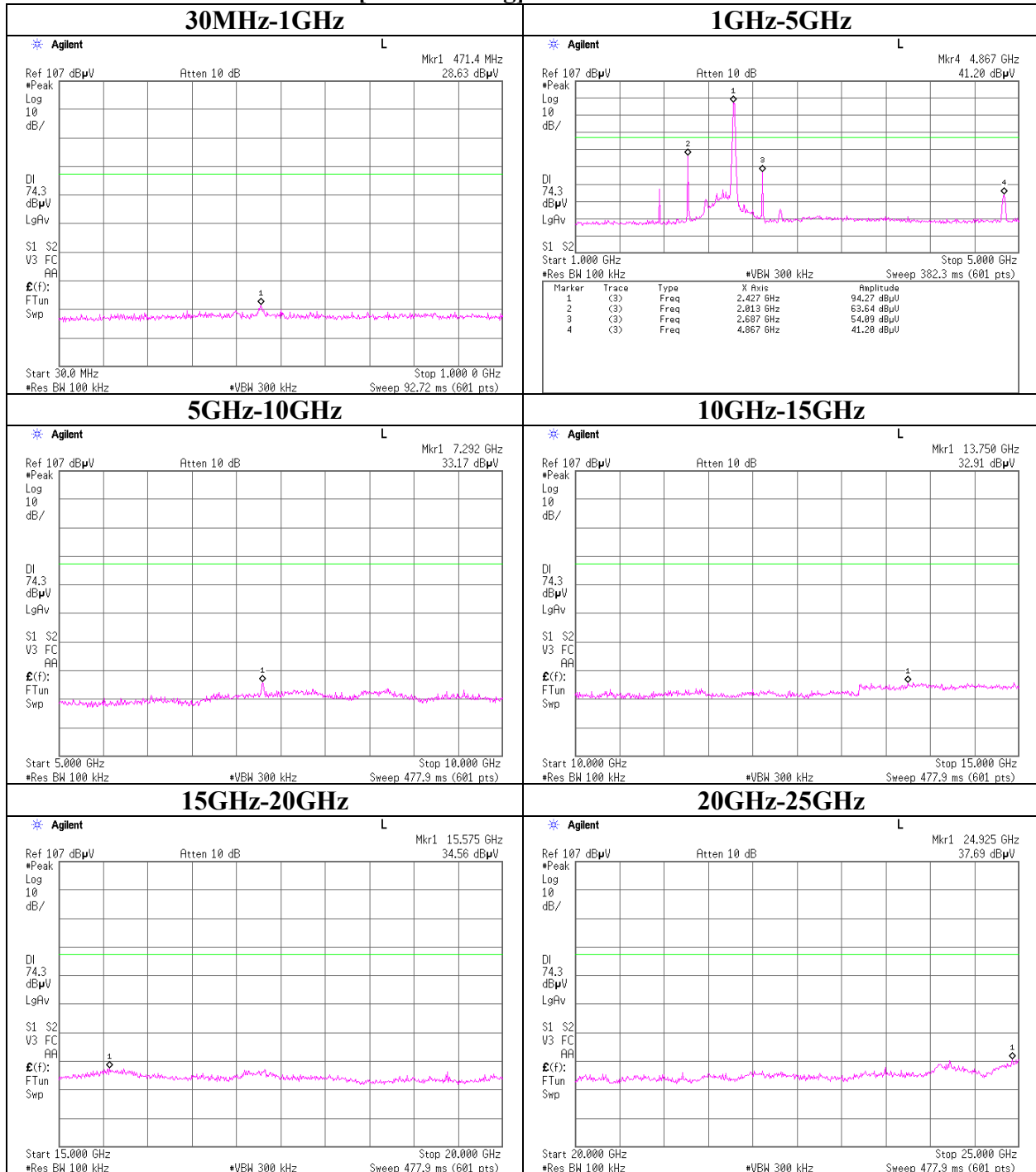
Conducted Spurious Emission
[IEEE802.11b] ch10 2457MHz



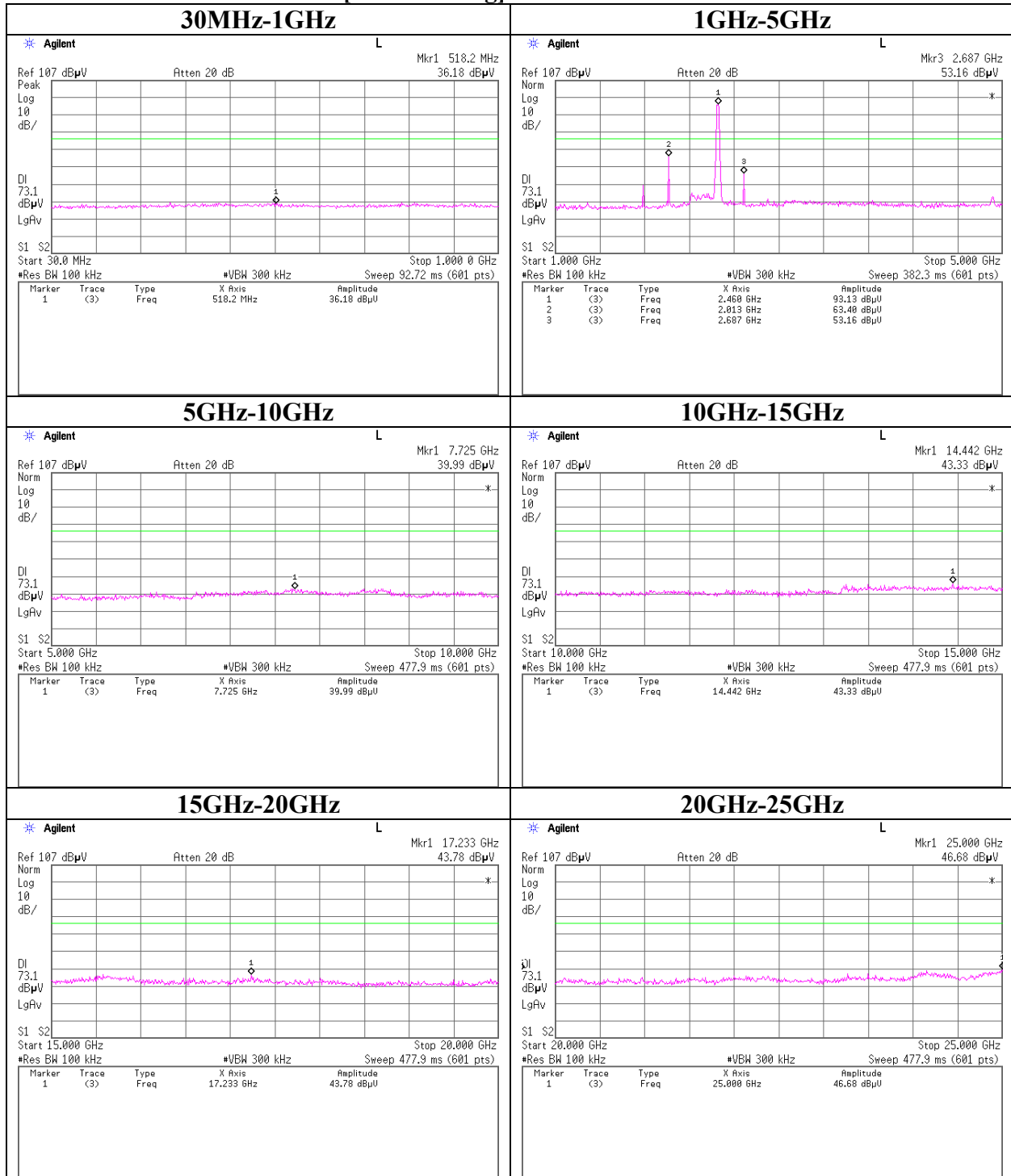
Conducted Spurious Emission
[IEEE802.11g] ch2 2417MHz



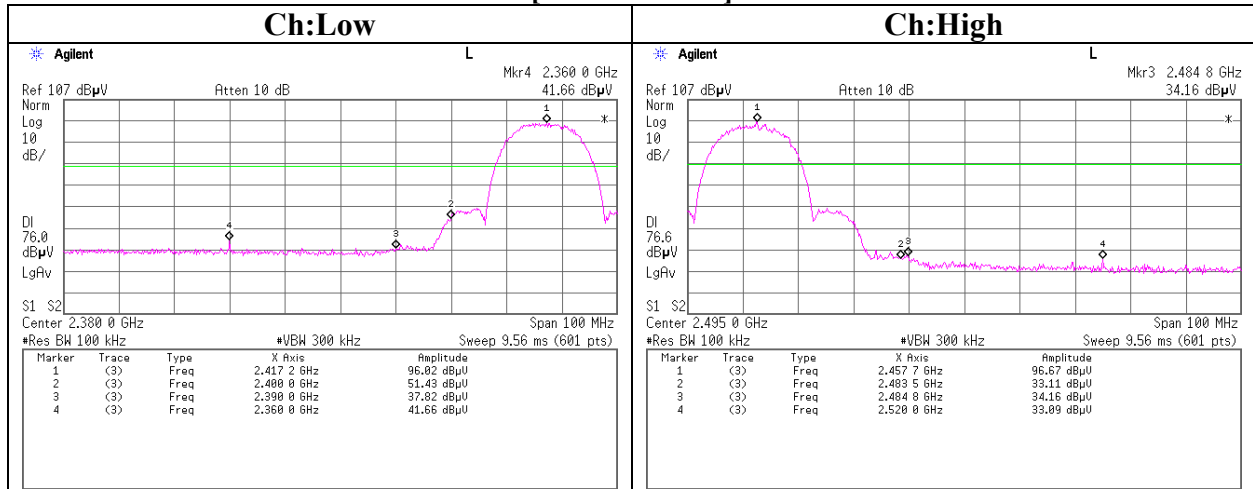
Conducted Spurious Emission
[IEEE802.11g] ch6 2437MHz



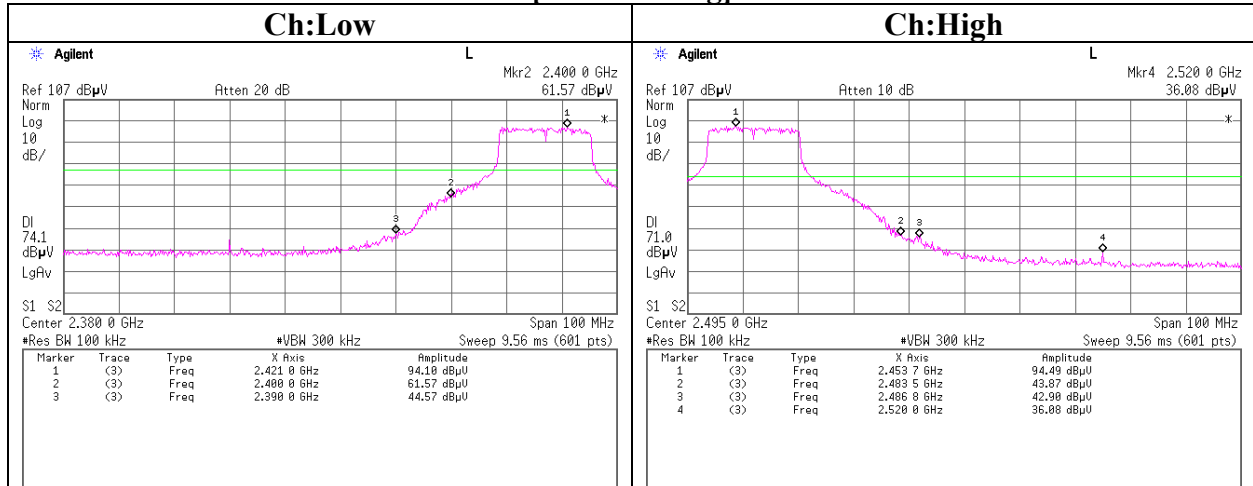
Conducted Spurious Emission
[IEEE802.11g] ch10 2457MHz



Conducted emission Band Edge compliance
[IEEE802.11b]



[IEEE802.11g]



Power Density

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

COMPANY : YAMAHA CORPORATION	REPORT NO : 25IE0258-HO
EQUIPMENT : Digital Audio Server	REGULATION : Fcc Part15 Subpart C 15.247(e)
MODEL : MCX-2000	TEST DISTANCE : -
SAMPLE NO. : Y010305PR	DATE : 07/11/2005
POWER : AC120V/60Hz	TEMPERATURE : 23°C
MODE : Tx (ch2,6,10)	HUMIDITY : 60%
FCC ID : A6RMCX2000A	ENGINEER : Yutaka Yoshida
IC No. : 740B-MCX2000A	

[IEEE802.11b]

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2417.0	-22.52	1.1	10.0	-11.5	8.0	19.5
Mid	2437.0	-23.97	1.0	10.0	-12.9	8.0	20.9
High	2457.0	-21.62	1.0	10.0	-10.6	8.0	18.6

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

[IEEE802.11g]

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2417.0	-24.44	1.1	10.0	-13.4	8.0	21.4
Mid	2437.0	-22.39	1.0	10.0	-11.4	8.0	19.4
High	2457.0	-24.52	1.0	10.0	-13.5	8.0	21.5

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

UL Apex Co., Ltd.

Head Office EMC Lab.

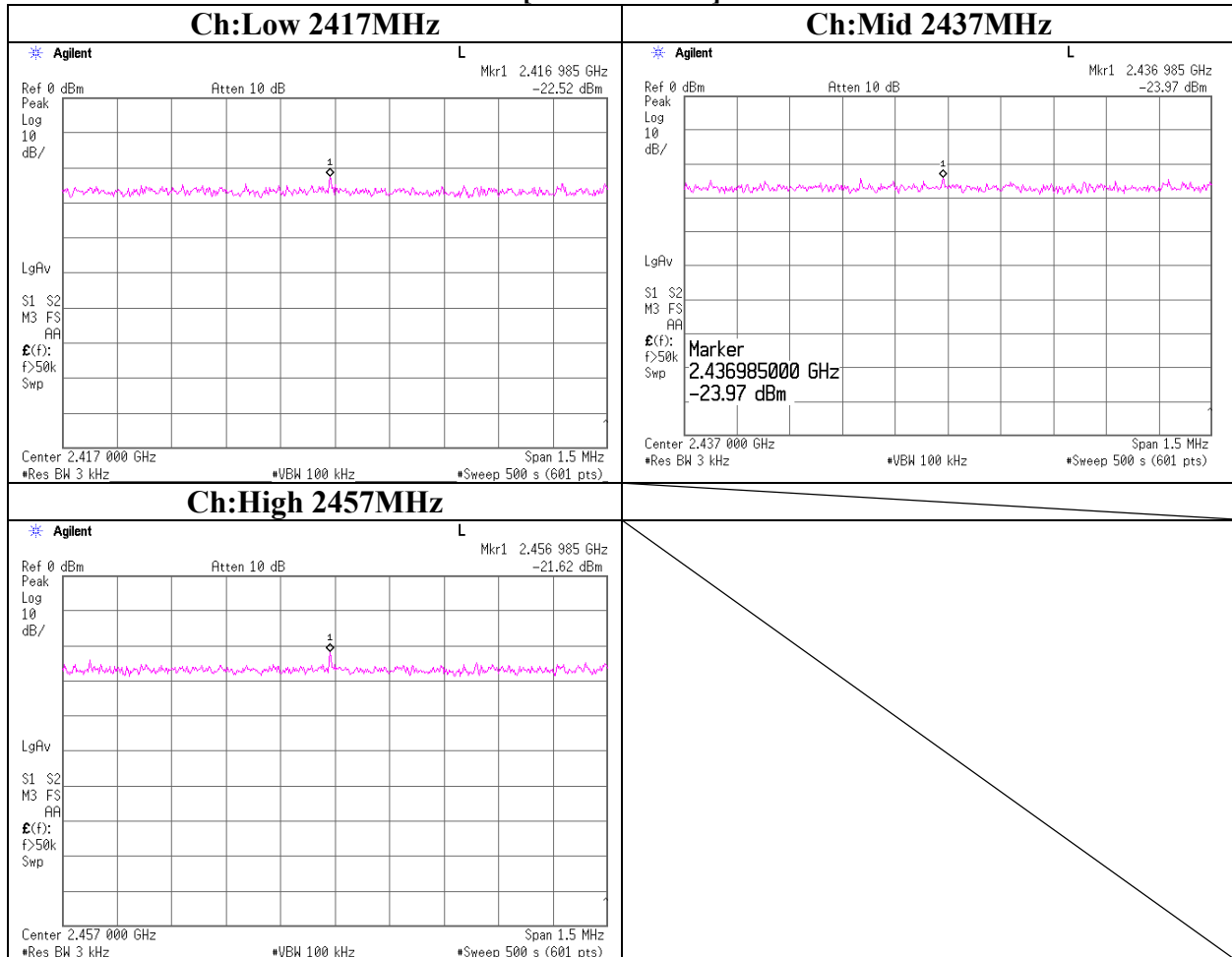
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

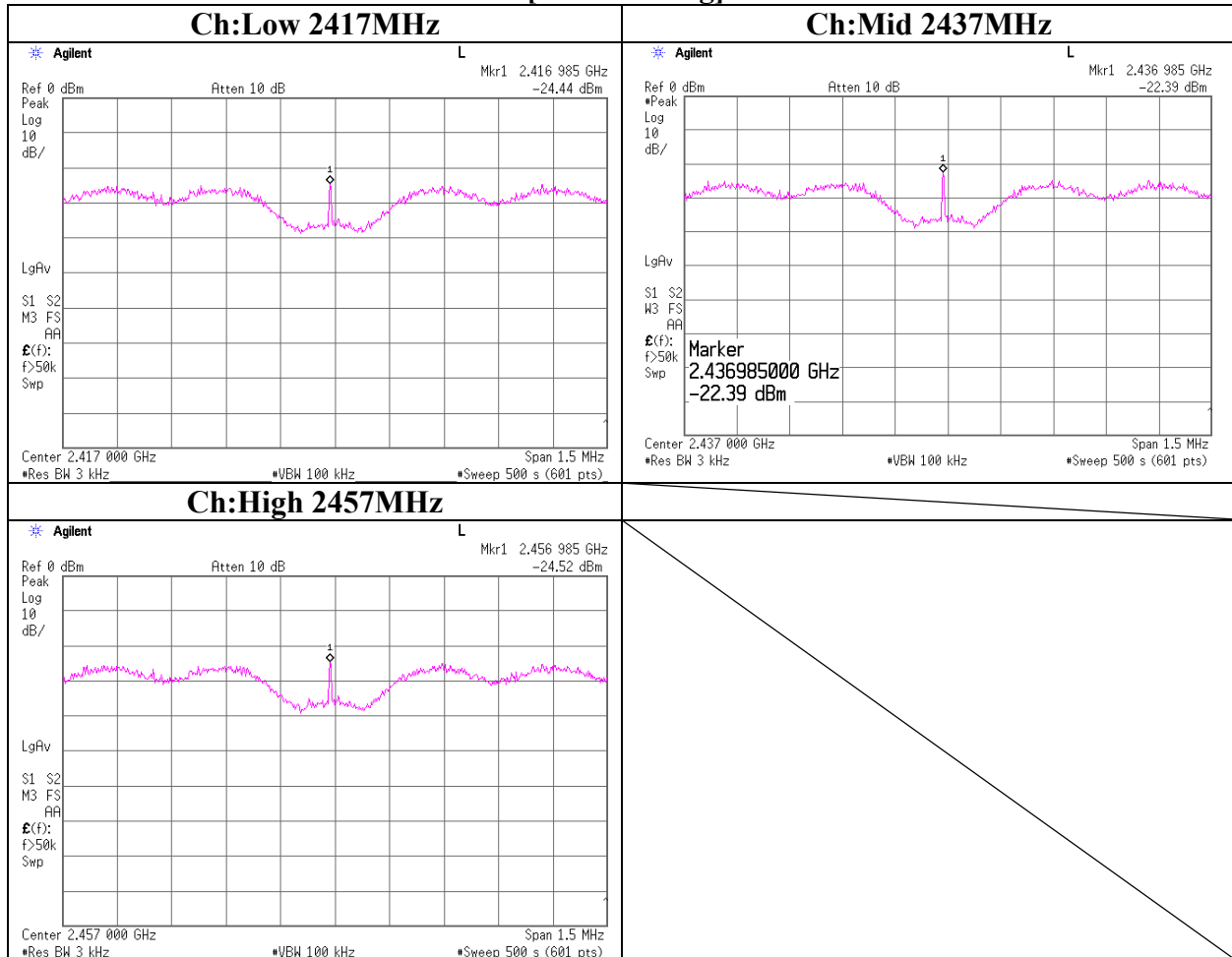
Facsimile : +81 596 24 8124

MF060b(01.06.05)

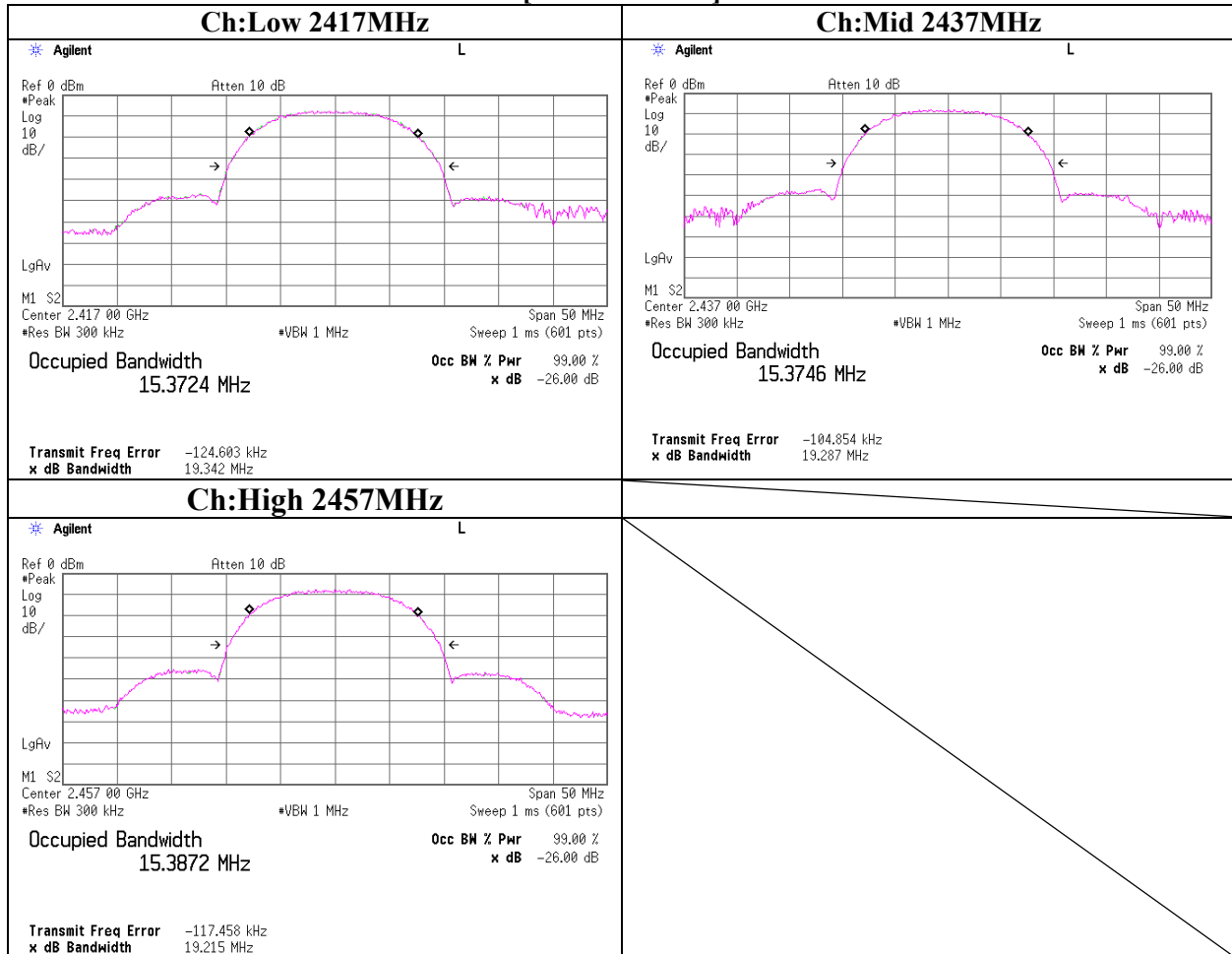
Power Density
[IEEE802.11b]



Power Density
[IEEE802.11g]



99% Occupied Bandwidth
[IEEE802.11b]



99% Occupied Bandwidth
[IEEE802.11g]

