

APPLICATION FOR CERTIFICATION
On Behalf of

Mad Catz, Inc.

Wii Wireless American P-Bass guitar controller

Model Number: 9666; 9656

FCC ID: P25G0MC9666H3008R

Prepared for : Mad Catz, Inc.
7480 Mission Valley Road, Suite 101, San Diego,
California, 92108

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block,
Shenzhen Science & Industrial Park,
Nantou, Shenzhen, Guangdong, China

Tel: (0755) 26639496

Report Number : ACS-F09016
Date of Test : Jan.15~17, 2009
Date of Report : Jan.20, 2009

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TEST REPORT CERTIFICATION

Applicant : Mad Catz, Inc.
 EUT Description : Wii Wireless American P-Bass guitar controller
 MODEL NO. : 9666; 9656
 FCC ID : P25G0MC9666H3008R
 POWER SUPPLY : DC 5V
 TEST VOLTAGE : DC 5V From Wii Input AC 120V/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2007

The device described above is tested by Audix Technology (Shenzhen) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits for radiated and conducted emissions.

The test results are contained in this test report and Audix Technology (Shenzhen) Co., Ltd. is assumed full responsibility for the accuracy and completeness of tests. Also, this report shows that EUT is technically compliant with FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shenzhen) Co., Ltd.

Date of Test : Jan.15~ 17, 2009

Prepared by : Edie Huang
 Edie Huang / Assistant

Reviewer : Jamy Yu
 Jamy Yu / Senior Engineer

Approved & Authorized Signer : Ken Lu
 Ken Lu / Manager



1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission Test	FCC Part 15C: 15.207 ANSI C63.4-2003	N/A
Radiated Emission Test	FCC Part 15C: 15.209 FCC Part 15C: 15.249 ANSI C63.4-2003	PASS
Band Edge Compliance Test	FCC Part 15: 15.249	PASS
20dB Bandwidth Test	FCC Part 15: 15.215	PASS
N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product name	:	Wii Wireless American P-Bass guitar controller
Model Number	:	9666; 9656 The model name is different.
Test Model	:	9666
FCC ID	:	P25G0MC9666H3008R
Operation frequency	:	2403.5MHz~2480.5MHz
Modulation	:	MSK
Power Supply	:	DC 5V From Wii (The supply voltage was varied between 85% and 115% of the nominal rated (120V/60Hz) supply voltage. And all the emissions include fundamental emissions had no change. So only the nominal power supply test data were recorded.)
Applicant	:	Mad Catz, Inc. 7480 Mission Valley Road, Suite 101, San Diego, California, 92108
Date of Test	:	Jan.15~17, 2009
Date of Receipt	:	Jan.13, 2009
Sample Type	:	Prototype production
Note: This EUT has two parts, one is controller, the other one is dongle. We test dongle in this report.		

2.2. Tested Supporting System Details

2.2.1.Wii

Manufacturer	:	Nintendo
M/N	:	RVL-001

2.2.2.TV

EMC CODE	:	ACS-EMC-TV01T
M/N	:	1419A
Manufacturer	:	TCL
Power cord	:	Unshielded,Undetachabled, 1.8m

2.3. Test Facility

Site Description

- Name of Firm : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China
- 3m Anechoic Chamber : Jun. 13, 2006 File on Federal Communication Commission
Registration Number: 90454
- 3m & 10m Anechoic Chamber : Jan. 31, 2007 File on Federal Communication Commission
Registration Number: 794232
- EMC Lab. : Accredited by DATech, German
Registration Number: DAT-P-091/99-01
Dec. 20, 2007
- Accredited by NVLAP, USA
NVLAP Code: 200372-0
Apr.01, 2008

2.4. Test Uncertainty(95% confidence levels, k=2)

No.	Test Item	Uncertainty	Memo
1	Uncertainty for Radiation Emission test in 3m chamber	3.86 dB	Polarize: V
		4.3 dB	Polarize: H
2	Uncertainty for DC power test	0.056 %	
3	Uncertainty for test site temperature and humidity	0.1°C	
		1%	

3. POWER LINE CONDUCTED EMISSION TEST

According to Paragraph (f) of FCC Part 15 section 15.207, Tests to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

4. RADIATED EMISSION TEST

4.1. Test Equipment

Frequency rang: 30~1000MHz

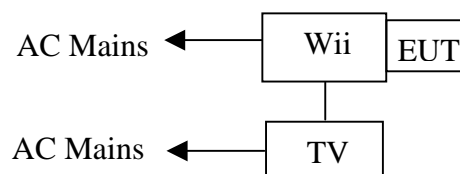
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Dec.05,08	1/2 Year
2.	EMI Spectrum	Agilent	E4407B	MY41440292	May 10, 08	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May 10, 08	1 Year
4.	Amplifier	HP	8447D	2648A04738	Nov.04, 08	1/2 Year
5.	Bilog Antenna	Schaffner	CBL6111C	2768	Nov.10, 08	1 Year
6.	RF Cable	JINGCHENG	JBV400	3# Chamber No.1	Nov.01, 08	1/2 Year
7.	RF Cable	JINGCHENG	JBV400	3# Chamber No.2	Nov.01, 08	1/2 Year
8.	RF Cable	JINGCHENG	JBV400	3# Chamber No.3	Nov.01, 08	1/2 Year
9.	RF Cable	JINGCHENG	JBV400	3# Chamber No.4	Nov.01, 08	1/2 Year
10.	Coaxial Switch	Anritsu	MP59B	M73989	Nov.01, 08	1/2 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May,10, 08	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	May, 27, 08	1.5 Year
3.	Horn Antenna	EMCO	3116	00060088	May, 27, 08	1Year
4.	Amplifier	Agilent	8449B	3008A02495	Nov, 06.08	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May,28, 08	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX 102	271471/4	May,28, 08	1 Year
7.	RF Cable	Hubersuhner	SUCOFLEX 102	29086/2	May,28, 08	1 Year

4.2. Block Diagram of Test Setup

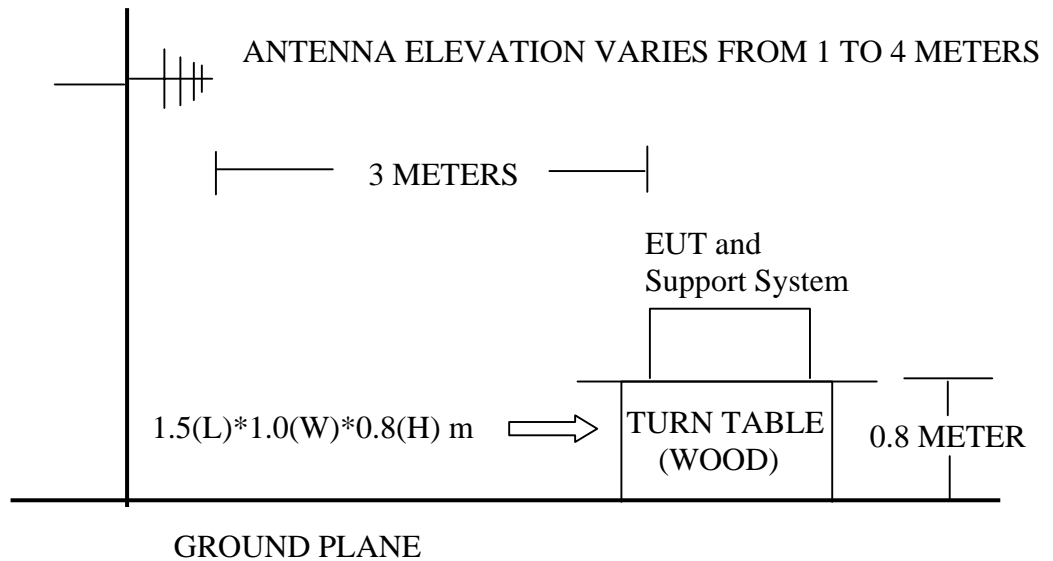
4.2.1. Block Diagram of connection between EUT and simulators



(EUT: Wii Wireless American P-Bass guitar controller)

4.2.2. Anechoic Chamber Setup Diagram

ANTENNA TOWER



4.3. Radiated Emission Limit Standard: FCC 15.209 and 15.249

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000MHz	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	
Field Strength of Fundamental emission for 2.4GHz-2.4835GHz	3	94.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average) 114.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak)	
Field Strength of Harmonics	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark :
- (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
 - (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.4. EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4.1. Wii Wireless American P-Bass guitar controller (EUT)

Model Number : 9666; 9656

Serial Number : N/A

4.4.2. Support Equipment: As Tested Supporting System Detail, in Section 2.2.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown in Section 4.2..

4.5.2. Let the EUT worked in test mode (Running) and tested it.

4.6. Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission Test.

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz.

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

4.7. Radiated Emission Test Results

PASS.

All the emissions from 30MHz to 25GHz were comply with the 15.209 and 15.249 Limit.

Test Frequency: 30MHz-1000MHz

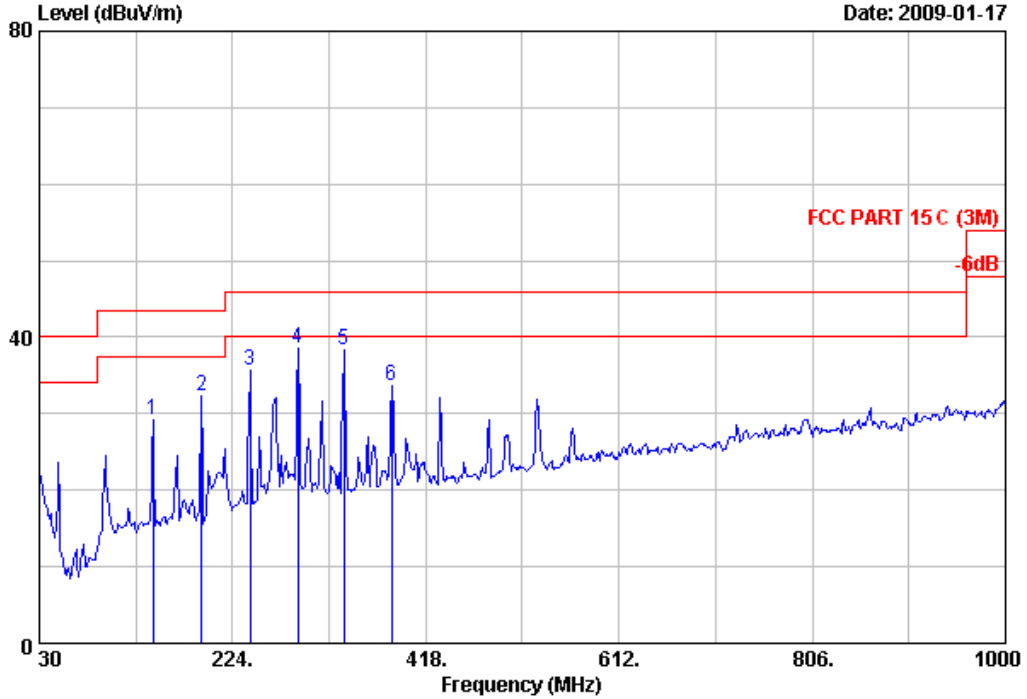


No.6,Ke Feng Road,Block 52,
Shenzhen Science&Industry Park
Nantou Shenzhen,Guangdong,China
Tel:+86-755-26639495
Fax:+86-755-26632877
Postcode:518057

Data: 1

File: D:\2009 Report Data\M\MAD CATZ\ACS9QH003.EM6 (2)

Date: 2009-01-17



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m CBL6111C Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23°C/54% Engineer : Power
EUT : Wii Wireless American P-Bass guitar Controller
Power Rating : DC 5V from Wii input AC 120V/60Hz
Test Mode : Running

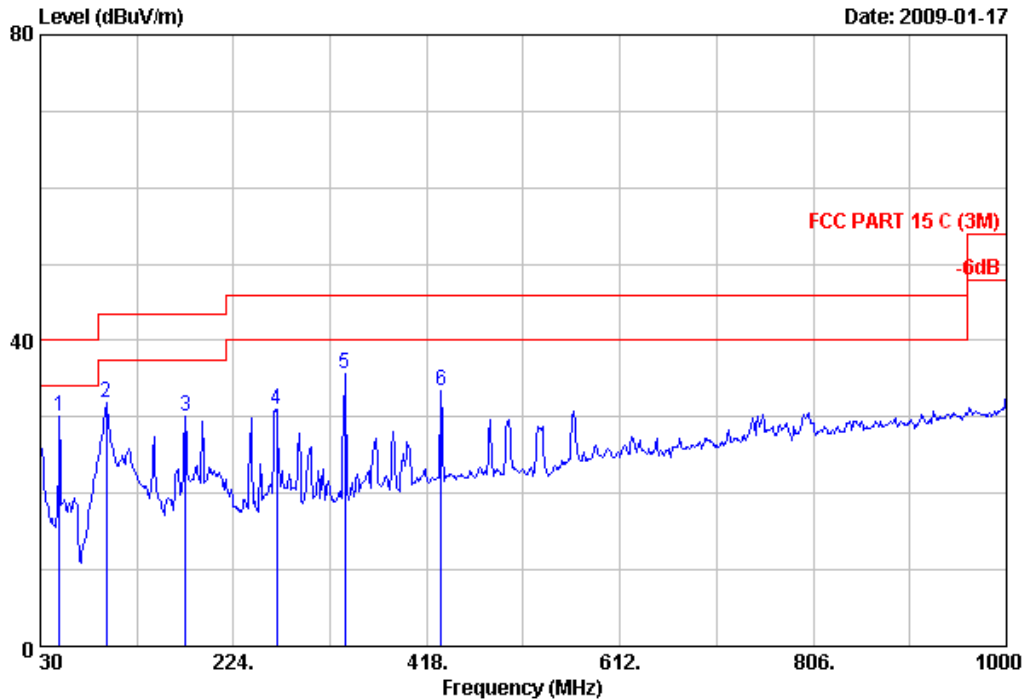
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	144.460	11.78	1.15	16.21	29.14	43.50	14.36	QP
2	192.960	9.63	1.36	21.37	32.36	43.50	11.14	QP
3	241.460	11.80	1.57	22.35	35.72	46.00	10.28	QP
4	289.960	13.43	1.79	23.31	38.53	46.00	7.47	QP
5	335.550	14.53	1.96	21.79	38.28	46.00	7.72	QP
6	384.050	15.72	2.14	15.80	33.66	46.00	12.34	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Nantou Shenzhen,Guangdong, China
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Fax:+86-755-26632877
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Site no. : 3m Chamber Data no. : 2
 Dis. / Ant. : 3m CBL6111C Ant. pol. : VERTICAL
 Limit : FCC PART 15 C (3M)
 Env. / Ins. : 23°C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar Controller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test Mode : Running

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	49.400	9.57	0.61	19.95	30.13	40.00	9.87	QP
2	95.960	9.74	0.91	21.24	31.89	43.50	11.61	QP
3	175.500	9.64	1.28	19.22	30.14	43.50	13.36	QP
4	267.650	13.39	1.69	15.88	30.96	46.00	15.04	QP
5	335.550	14.53	1.96	19.05	35.54	46.00	10.46	QP
6	432.550	16.90	2.30	14.16	33.36	46.00	12.64	QP

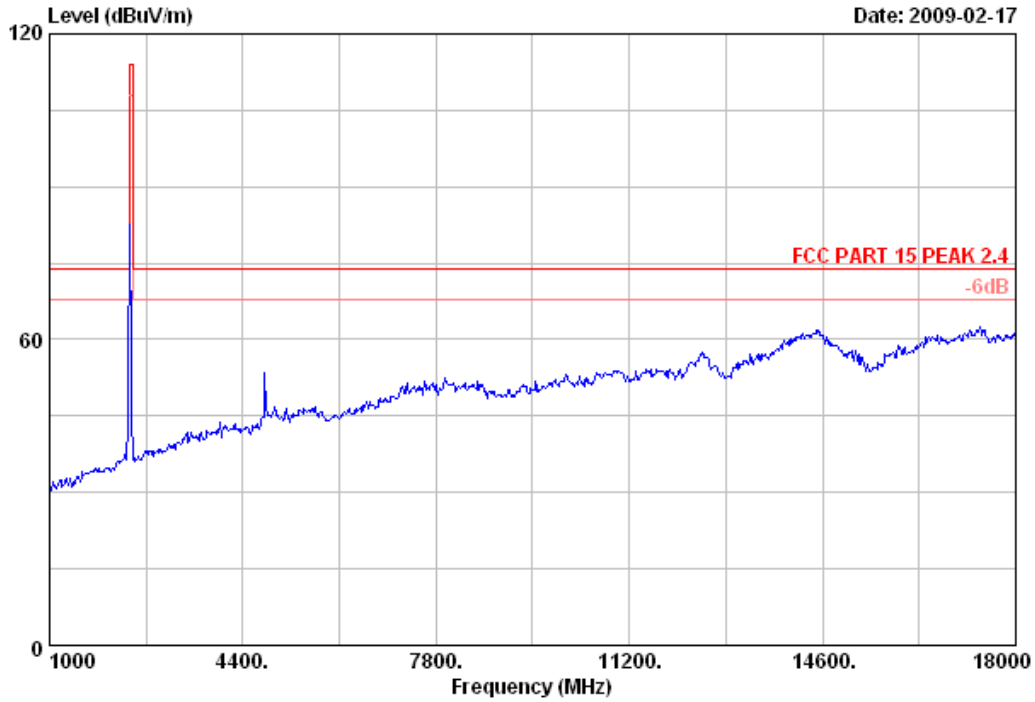
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Test Frequency: 1GHz-18GHz



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

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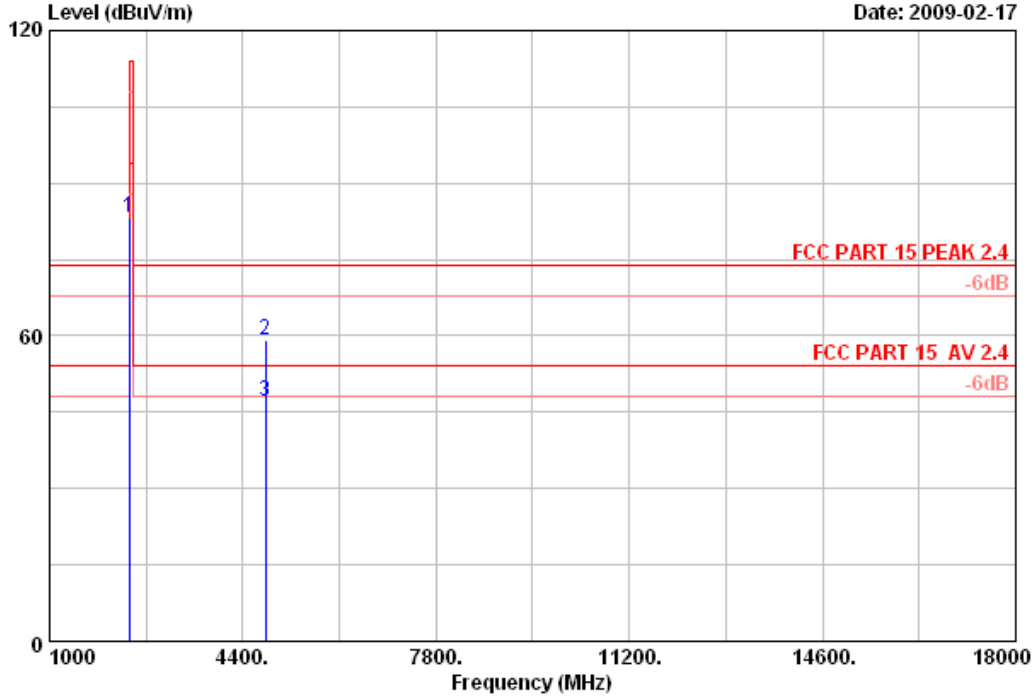


Site no. : 3# Chamber Data no. : 1
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : 23°C/54% Engineer : Power
EUT : Wii Wireless American P-Bass guitar conttoller
Power Rating : DC 5V from Wii input AC 120V/60Hz
Test mode : TX 2403.5MHz
Memo : 9666 (Dongle)



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou,ShenZhen,GuangDong,China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
 Postcode:518057

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Site no. : 3# Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23*C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar conttoller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2403.5MHz
 Memo : 9666 (Dongle)

	Ant.	Cable	Amp	Emission		Limits	Margin	Remark	
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	(dBuV/m)	(dB)		
1	2403.500	28.48	6.73	35.12	83.18	83.27	114.00	30.73	Peak
2	4807.000	34.36	10.54	34.60	48.96	59.26	74.00	14.74	Peak
3	4807.000	34.36	10.54	34.60	36.73	47.03	54.00	6.97	Average

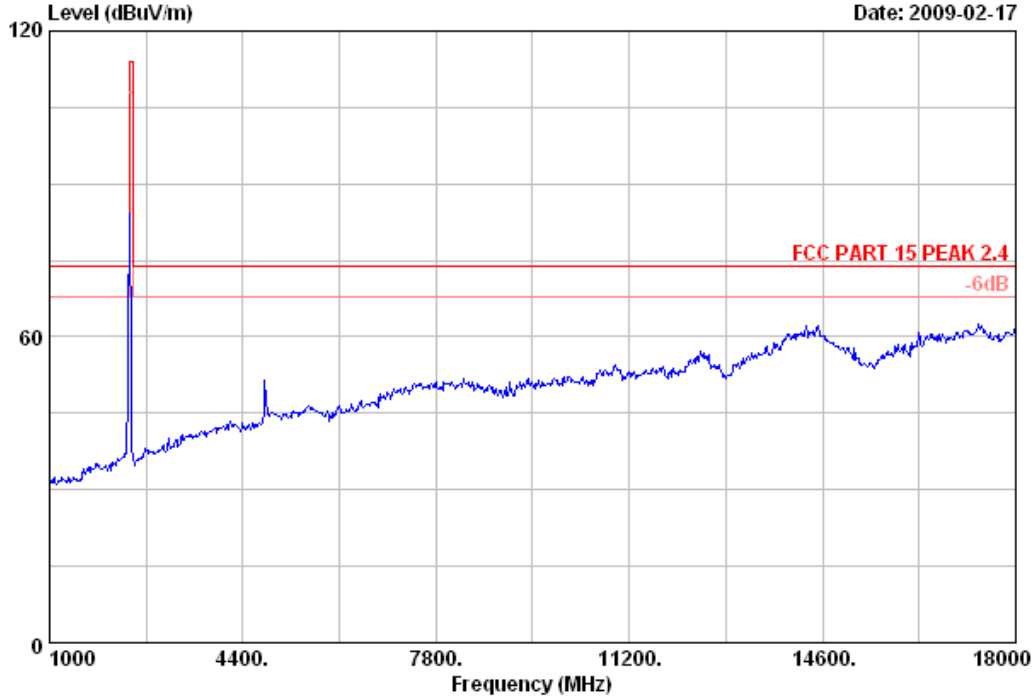
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou,ShenZhen,GuangDong,China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
 Postcode:518057

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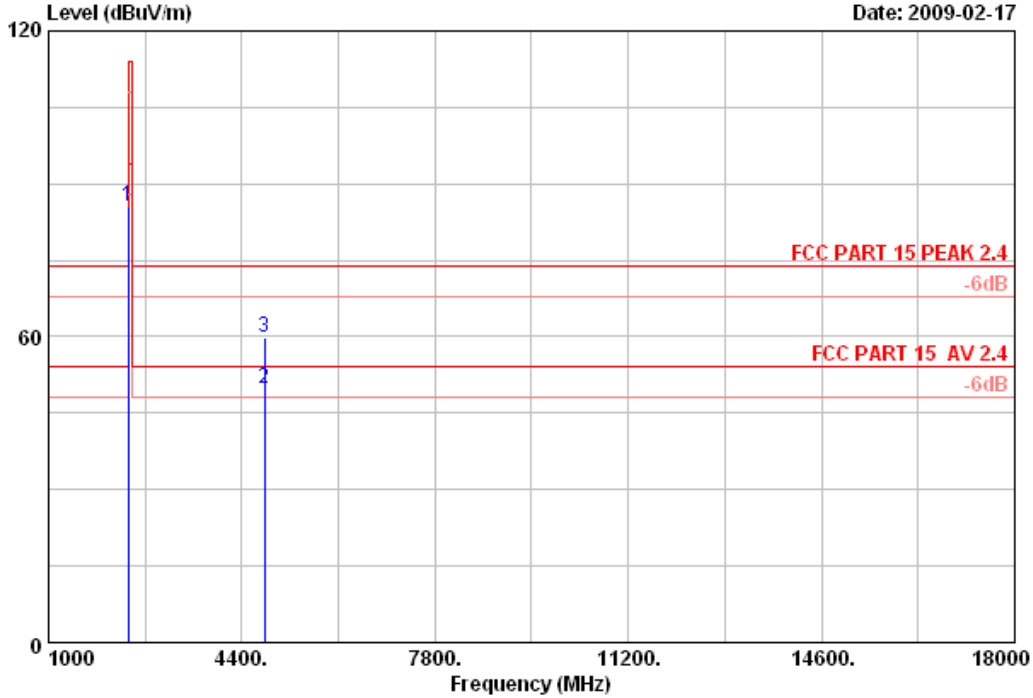


Site no.	: 3# Chamber	Data no.	: 3
Dis. / Ant.	: 3m 3115	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15 PEAK 2.4		
Env. / Ins.	: 23°C/54%	Engineer	: Power
EUT	: Wii Wireless American P-Bass guitar controller		
Power Rating	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: TX 2403.5MHz		
Memo	: 9666 (Dongle)		



No.6 Ke Feng Road,Block 52,
Shenzhen Science & Industry Park
Noutou,Shenzhen,GuangDong,China
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Site no. : 3# Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23*C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar controller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2403.5MHz
 Memo : 9666 (Dongle)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2403.500	28.48	6.73	35.12	85.54	85.63	114.00	28.37	Peak
2	4806.000	34.36	10.54	34.60	39.57	49.87	54.00	4.13	Average
3	4806.000	34.36	10.54	34.60	49.39	59.69	74.00	14.31	Peak

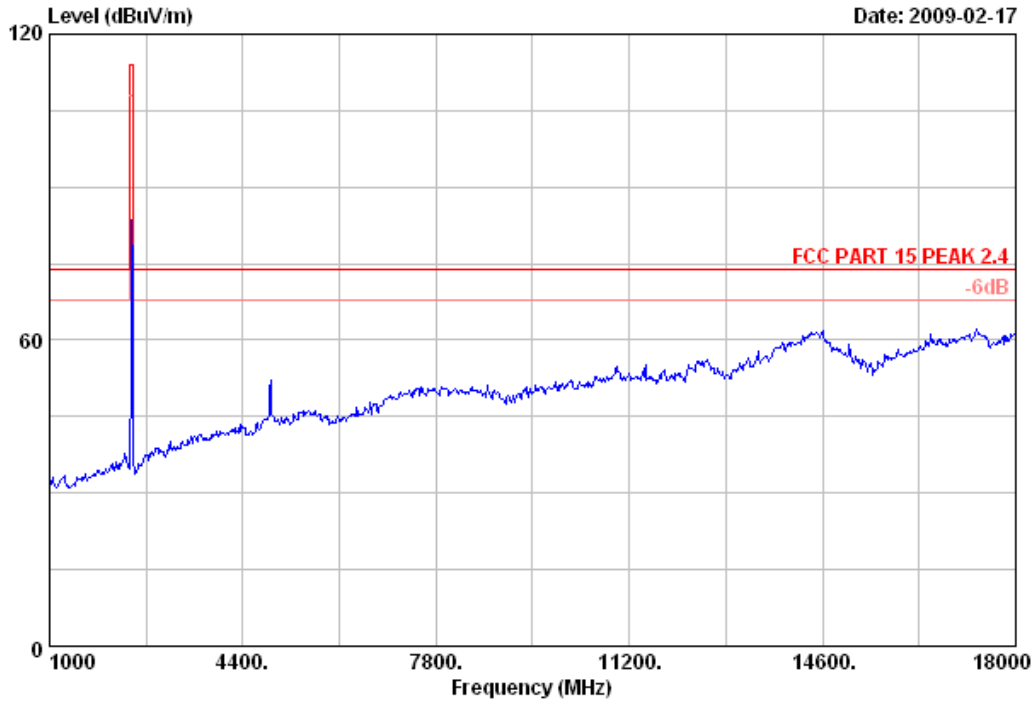
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

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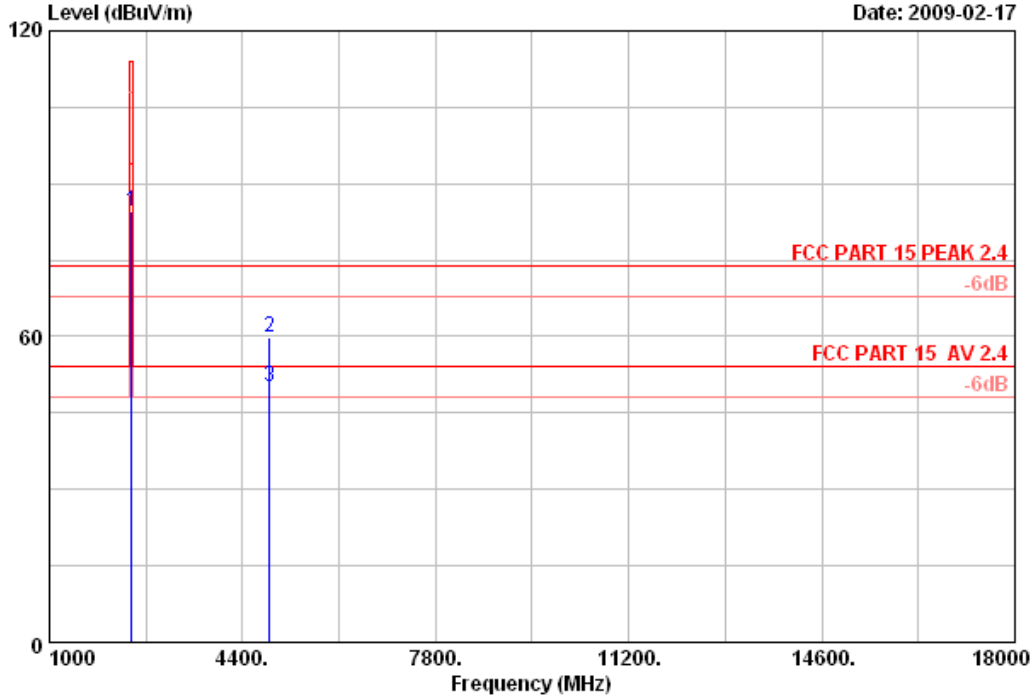


Site no. : 3# Chamber Data no. : 5
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : 23*C/54% Engineer : Power
EUT : Wii Wireless American P-Bass guitar controller
Power Rating : DC 5V from Wii input AC 120V/60Hz
Test mode : TX 2441.5MHz
Memo : 9666 (Dongle)



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou, ShenZhen, GuangDong, China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
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Site no. : 3# Chamber Data no. : 6
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23*C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar conttoller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2441.5MHz
 Memo : 9666 (Dongle)

	Freq.	Ant.	Cable	Amp	Emission		Limits	Margin	Remark
	(MHz)	Factor	Loss	Factor	Reading	Level	(dBuV/m)	(dB)	
		(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2441.000	28.53	6.80	35.11	84.43	84.65	114.00	29.35	Peak
2	4882.000	34.78	10.57	34.58	49.00	59.77	74.00	14.23	Peak
3	4882.000	34.78	10.57	34.58	39.29	50.06	54.00	3.94	Average

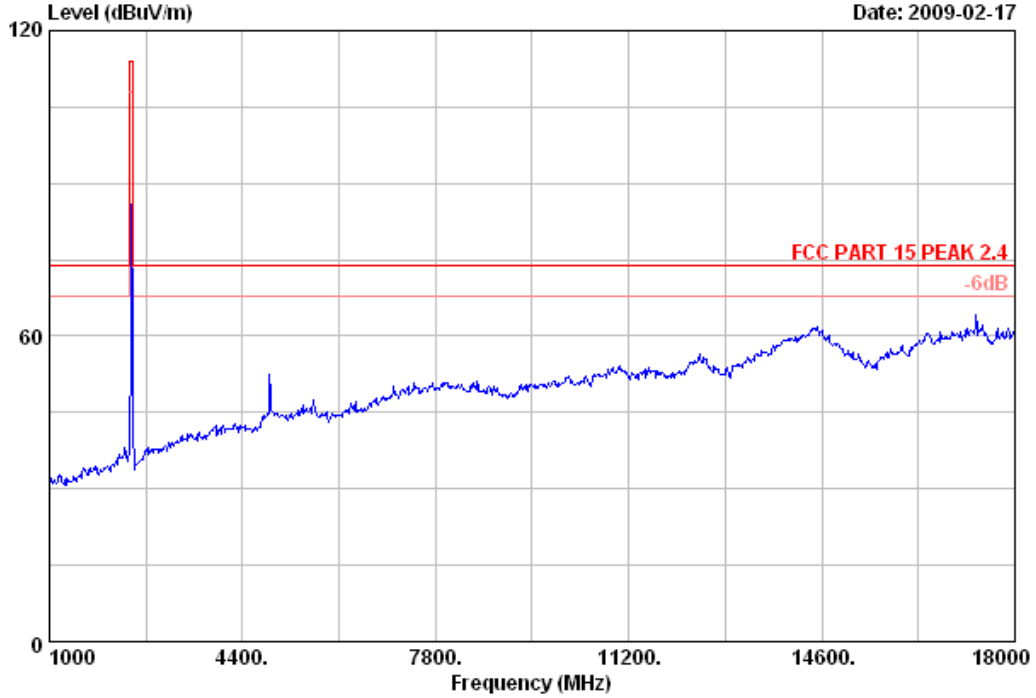
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
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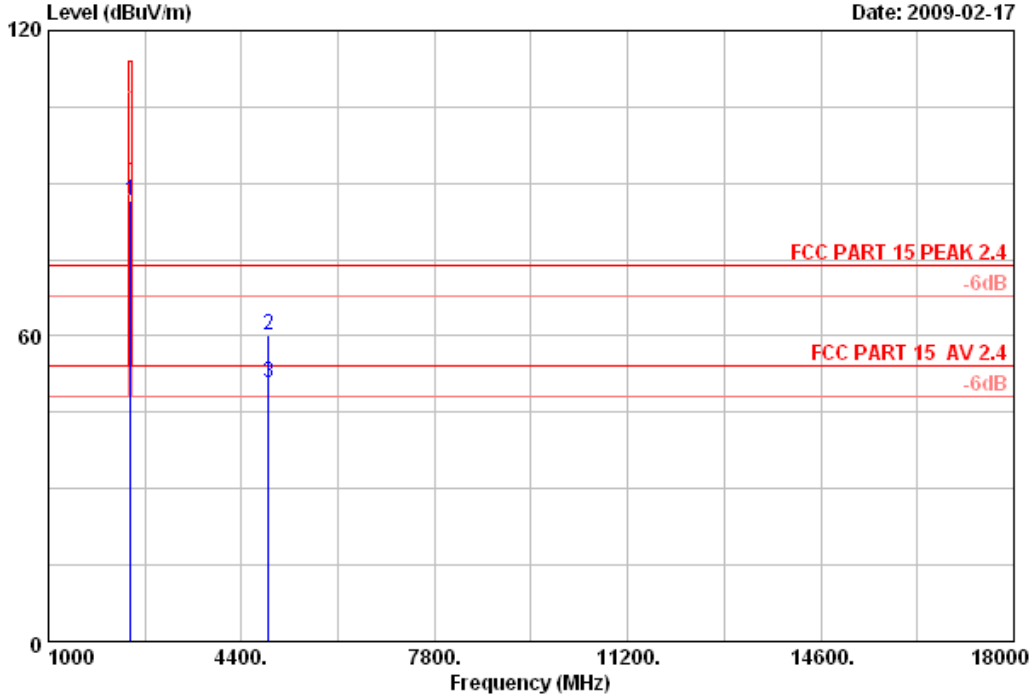


Site no. : 3# Chamber Data no. : 7
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : 23*C/54% Engineer : Power
EUT : Wii Wireless American P-Bass guitar controller
Power Rating : DC 5V from Wii input AC 120V/60Hz
Test mode : TX 2441.5MHz
Memo : 9666 (Dongle)



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou, ShenZhen, GuangDong, China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
 Postcode:518057

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Site no. : 3# Chamber Data no. : 8
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23*C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar controller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2441.5MHz
 Memo : 9666 (Dongle)

	Ant.	Cable	Amp	Emission		Limits	Margin	Remark
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	(dBuV/m)	(dB)	
1	28.53	6.80	35.11	86.33	86.55	114.00	27.45	Peak
2	34.78	10.57	34.58	49.39	60.16	74.00	13.84	Peak
3	34.78	10.57	34.58	39.98	50.75	54.00	3.25	Average

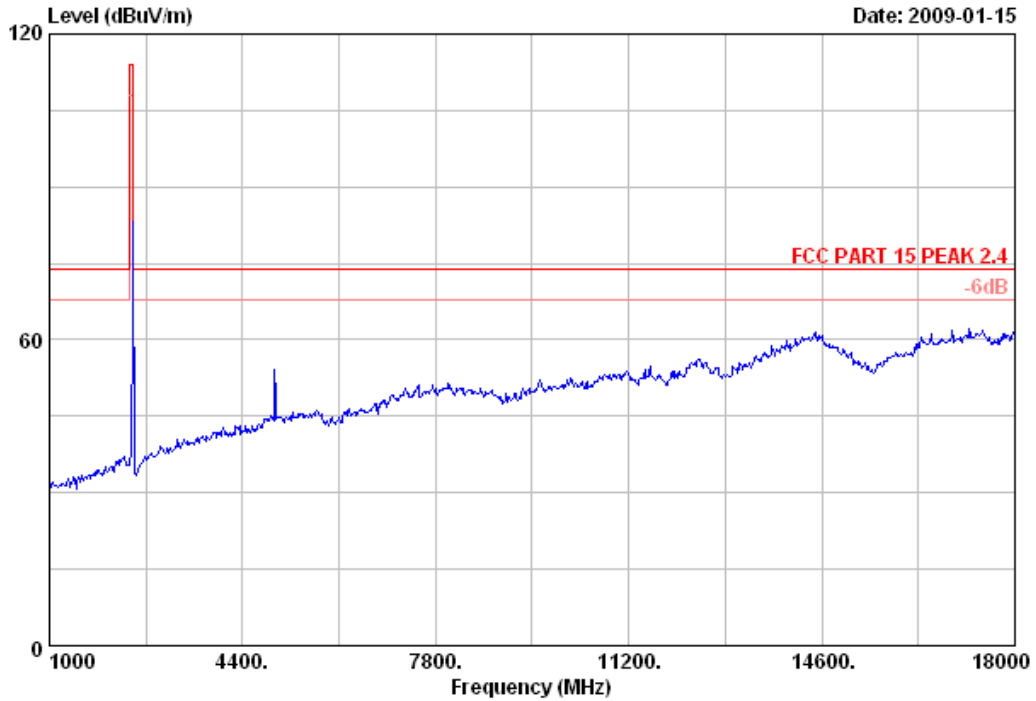
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 9 File: E:\2009 report data\MMad Catz\ACS90H003.EM6 (28)

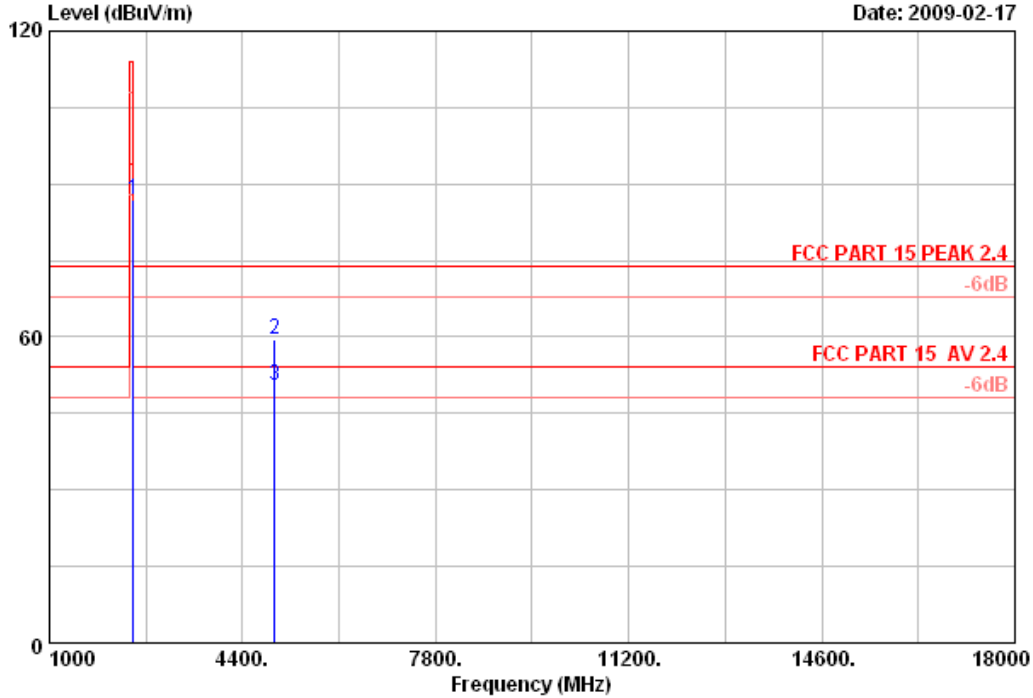


Site no. : 3# Chamber Data no. : 9
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : 23*C/54% Engineer : Power
EUT : Wii Wireless American P-Bass guitar conttoller
Power Rating : DC 5V from Wii input AC 120V/60Hz
Test mode : TX 2480.5MHz
Memo : 9666 (Dongle)



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou, ShenZhen, GuangDong, China
 Tel:+86-755-26639495-7
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Data: 10 File: E:\2009 report data\MMad Catz\ACS9QH003.EM6 (28)



Site no. : 3# Chamber Data no. : 10
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23*C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar conttoller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2480.5MHz
 Memo : 9666 (Dongle)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.000	28.58	6.87	35.10	86.58	86.93	114.00	27.07	Peak
2	4960.000	35.29	10.59	34.56	48.13	59.45	74.00	14.55	Peak
3	4960.000	35.29	10.59	34.56	39.28	50.60	54.00	3.40	Average

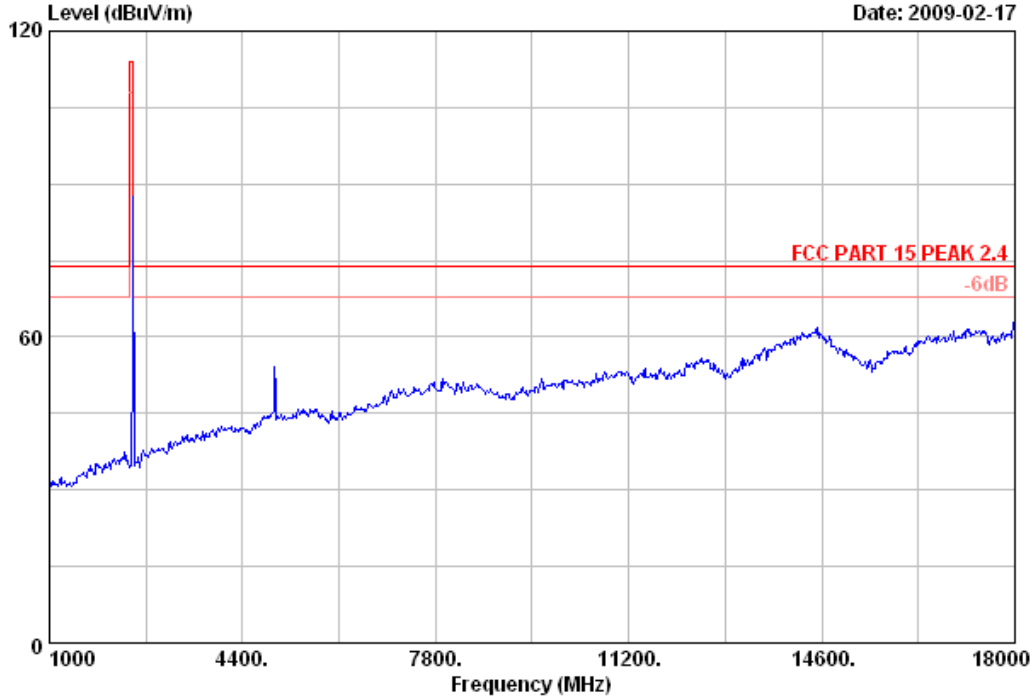
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
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Data: 11 File: E:\2009 report data\MMad Catz\ACS9QH003.EM6 (28)

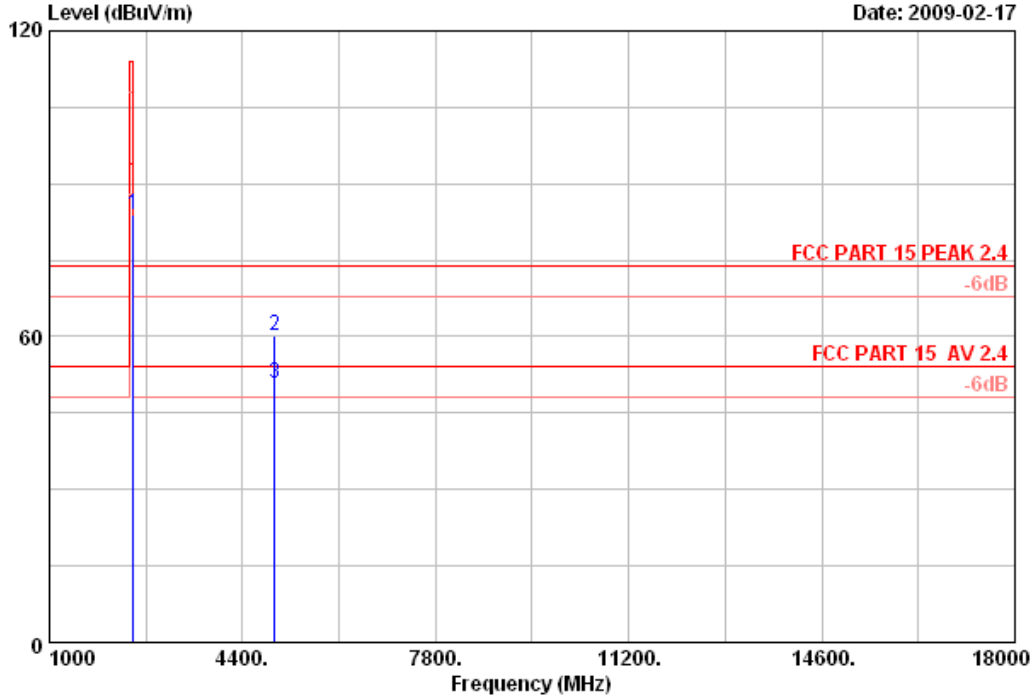


Site no. : 3# Chamber Data no. : 11
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4
Env. / Ins. : 23*C/54% Engineer : Power
EUT : Wii Wireless American P-Bass guitar controller
Power Rating : DC 5V from Wii input AC 120V/60Hz
Test mode : TX 2480.5MHz
Memo : 9666 (Dongle)



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 12 File: E:\2009 report data\MMad Catz\ACS90H003.EM6 (28)



Site no. : 3# Chamber Data no. : 12
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23*C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar conttoller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2480.5MHz
 Memo : 9666 (Dongle)

	Freq.	Ant.	Cable	Amp	Emission		Limits	Margin	Remark
	(MHz)	Factor	Loss	Factor	Reading	Level	(dBuV/m)	(dB)	
		(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.000	28.58	6.87	35.10	83.40	83.75	114.00	30.25	Peak
2	4960.000	35.29	10.59	34.56	48.96	60.28	74.00	13.72	Peak
3	4960.000	35.29	10.59	34.56	39.63	50.95	54.00	3.05	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

5. BAND EDGE COMPLIANCE TEST

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,10, 08	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	May, 27, 08	1.5 Year
3	Amplifier	Agilent	8449B	3008A02495	Nov 6.08	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May,28, 08	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX 102	271471/4	May,28, 08	1 Year
6	RF Cable	Hubersuhner	SUCOFLEX 102	29086/2	May,28, 08	1 Year

5.2. Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in section 15.209, which is the lesser attenuation.

5.3. Test Produce

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upperband-edges of the emission:
 - (a) PEAK: RBW=VBW=1MHz, PK detector, Sweep=AUTO

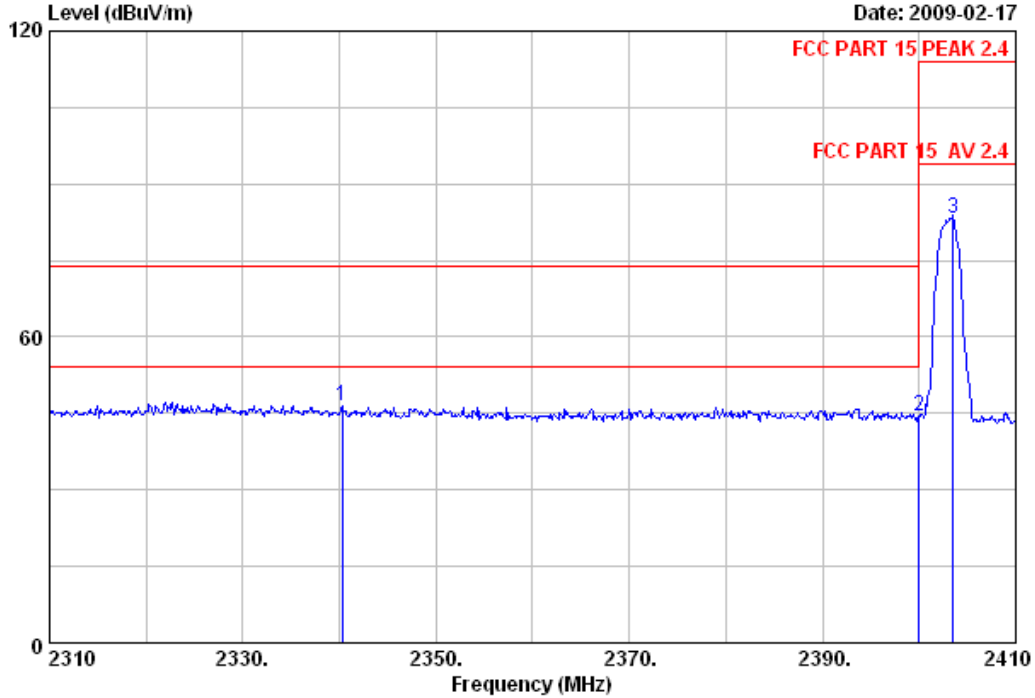
5.4. Test Results

Pass (The testing data was attached in the next pages.)



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou,ShenZhen,GuangDong,China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
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Data: 13 File: E:\2009 report data\M\Mad Catz\ACS90H003.EM6 (28)



Site no. : 3# Chamber Data no. : 13
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23°C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar controller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2403.5MHz
 Memo : 9666 (Dongle)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2340.300	28.38	6.67	35.13	46.56	46.48	74.00	27.52	Peak
2	2400.000	28.46	6.73	35.12	44.40	44.47	74.00	29.53	Peak
3	2403.500	28.48	6.73	35.12	83.12	83.21	114.00	30.79	Peak

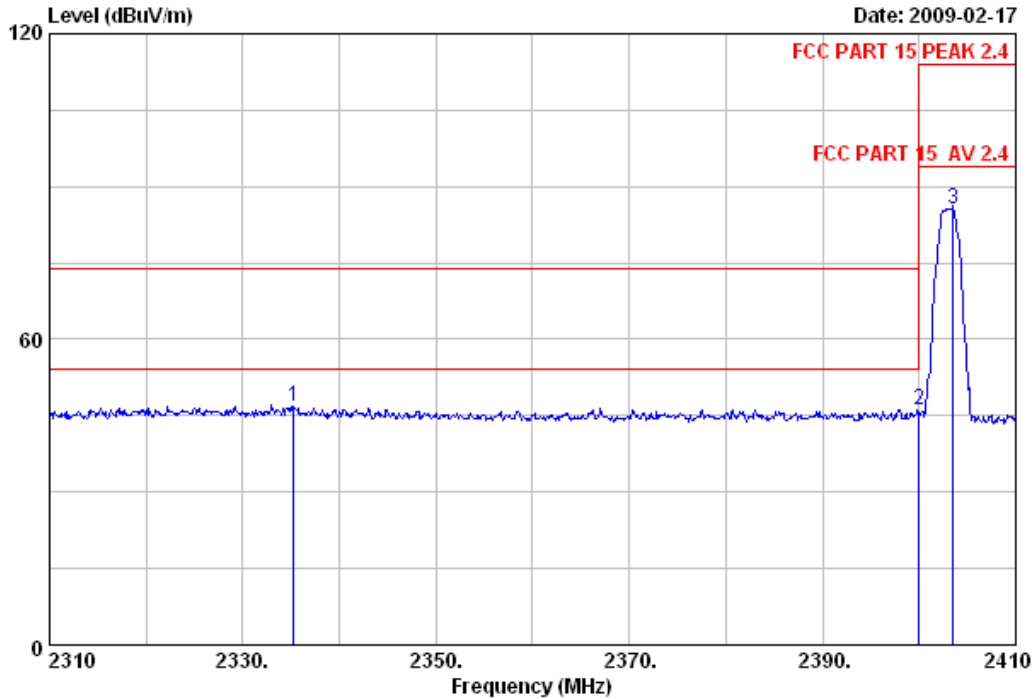
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou, ShenZhen, GuangDong, China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
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Data: 14 File: E:\2009 report data\M\Mad Catz\ACS90H003.EM6 (28)



Site no. : 3# Chamber Data no. : 14
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23°C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar conttoller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2403.5MHz
 Memo : 9666 (Dongle)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 2335.300	28.38	6.65	35.13	46.92	46.82	74.00	27.18	Peak
2 2400.000	28.46	6.73	35.12	46.08	46.15	74.00	27.85	Peak
3 2403.500	28.48	6.73	35.12	85.50	85.59	114.00	28.41	Peak

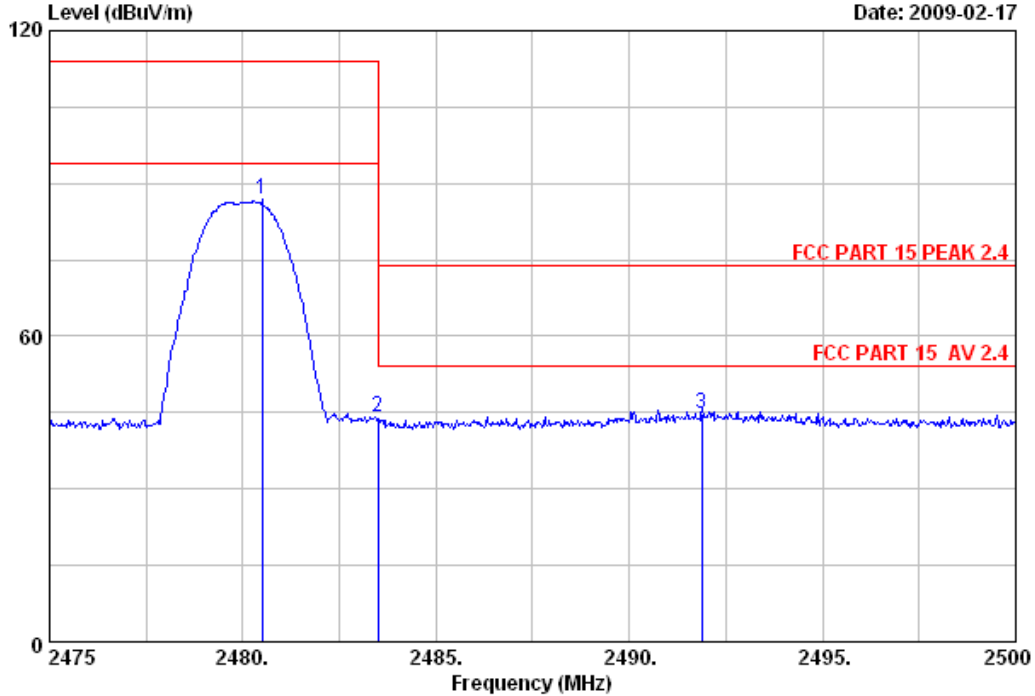
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
 ShenZhen Science & Industry Park
 Noutou, ShenZhen, GuangDong, China
 Tel:+86-755-26639495-7
 Fax:+86-755-26632877
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Data: 15 File: E:\2009 report data\M\Mad Catz\ACS90H003.EM6 (28)



Site no. : 3# Chamber Data no. : 15
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23°C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar conttoller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2480.5MHz
 Memo : 9666 (Dongle)

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission		Limits (dBuV/m)	Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)			
1 2480.500	28.58	6.87	35.10	86.67	87.02	114.00	26.98	Peak
2 2483.500	28.58	6.87	35.10	43.92	44.27	74.00	29.73	Peak
3 2491.875	28.60	6.91	35.10	44.36	44.77	74.00	29.23	Peak

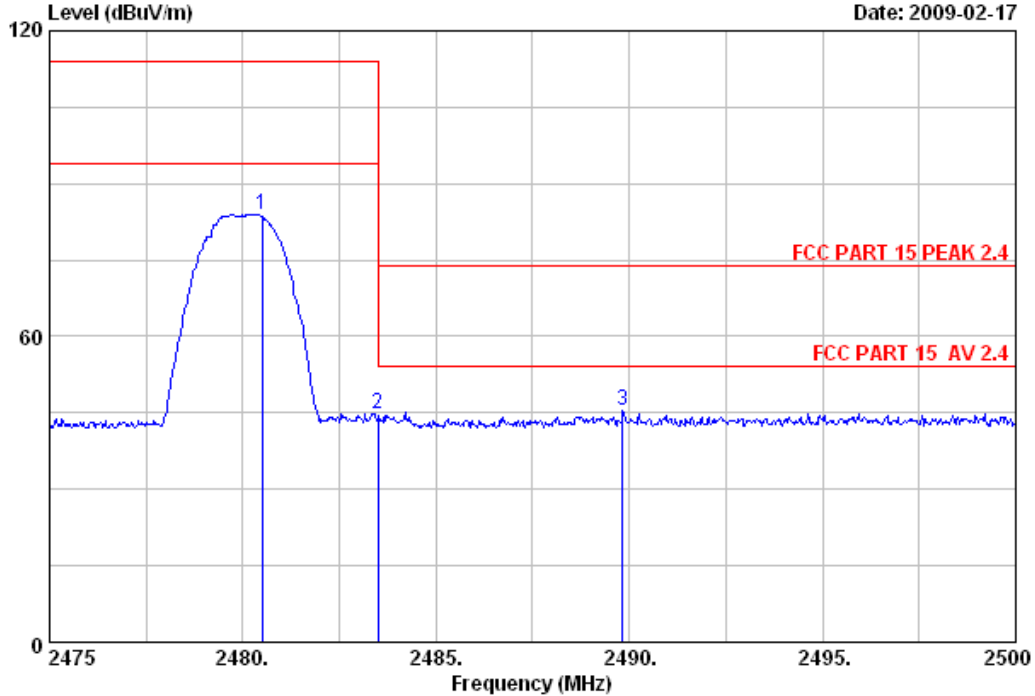
Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,Block 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
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Data: 16 File: E:\2009 report data\M\Mad Catz\ACS90H003.EM6 (28)



Site no. : 3# Chamber Data no. : 16
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART 15 PEAK 2.4
 Env. / Ins. : 23°C/54% Engineer : Power
 EUT : Wii Wireless American P-Bass guitar controller
 Power Rating : DC 5V from Wii input AC 120V/60Hz
 Test mode : TX 2480.5MHz
 Memo : 9666 (Dongle)
 Controller

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.500	28.58	6.87	35.10	83.44	83.79	114.00	30.21	Peak
2	2483.500	28.58	6.87	35.10	44.54	44.89	74.00	29.11	Peak
3	2489.825	28.60	6.91	35.10	45.21	45.62	74.00	28.38	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

6. 20DB BANDWIDTH TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,10, 08	1 Year
2	Attenuator	Agilent	8491B	MY39262165	May,28, 08	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,28, 08	1Year

6.2. Test Information

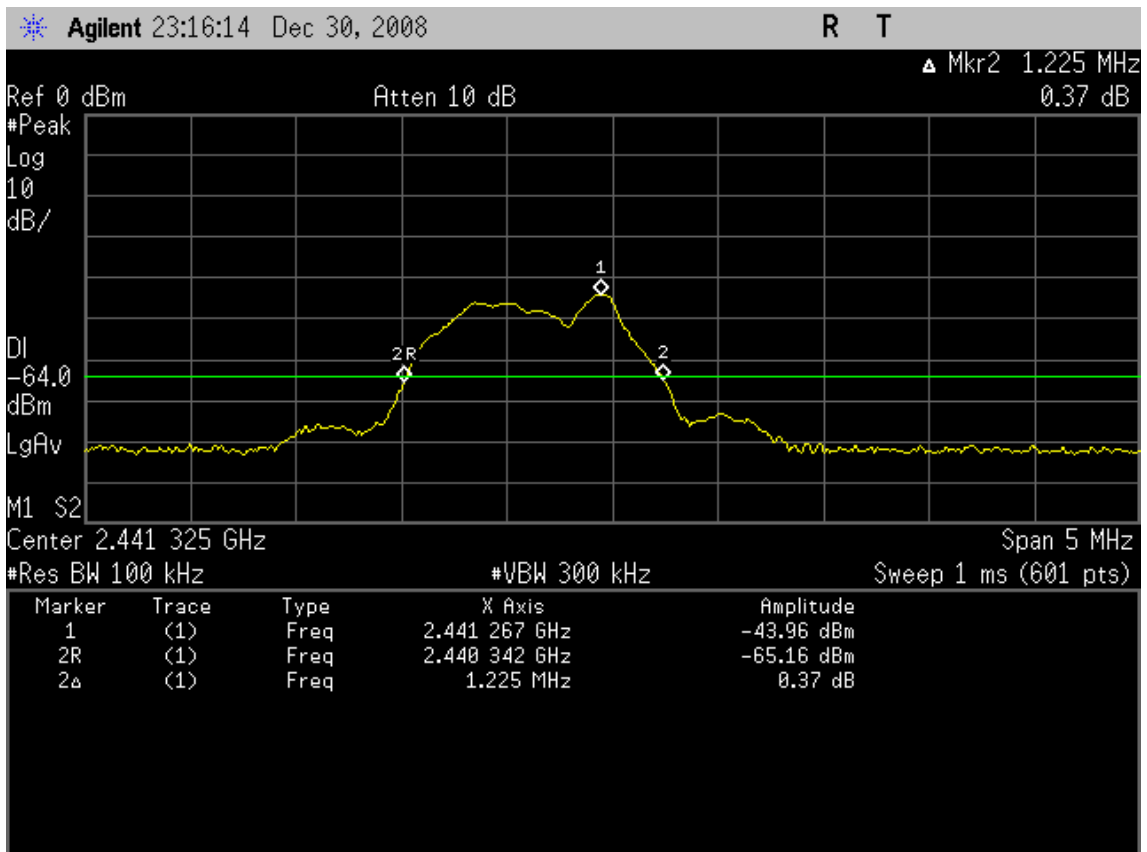
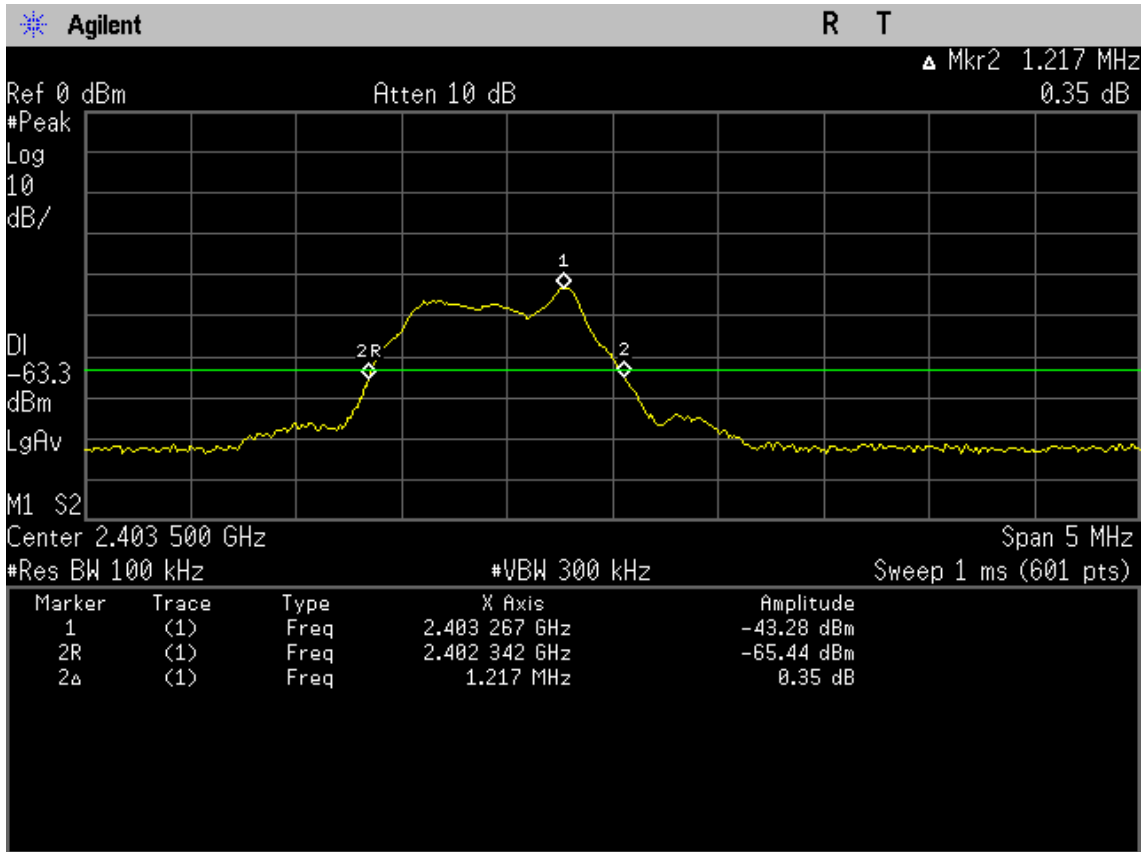
EUT:	Wii Wireless American P-Bass guitar controller
M/N:	9666
Test Date:	Jan.15, 2009
Ambient Temperature:	23°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.215
Test mode:	Transmitting
Test Frequency:	Low: 2403.5MHz Mid: 2441.5MHz High: 2480.51MHz
Test By:	Power

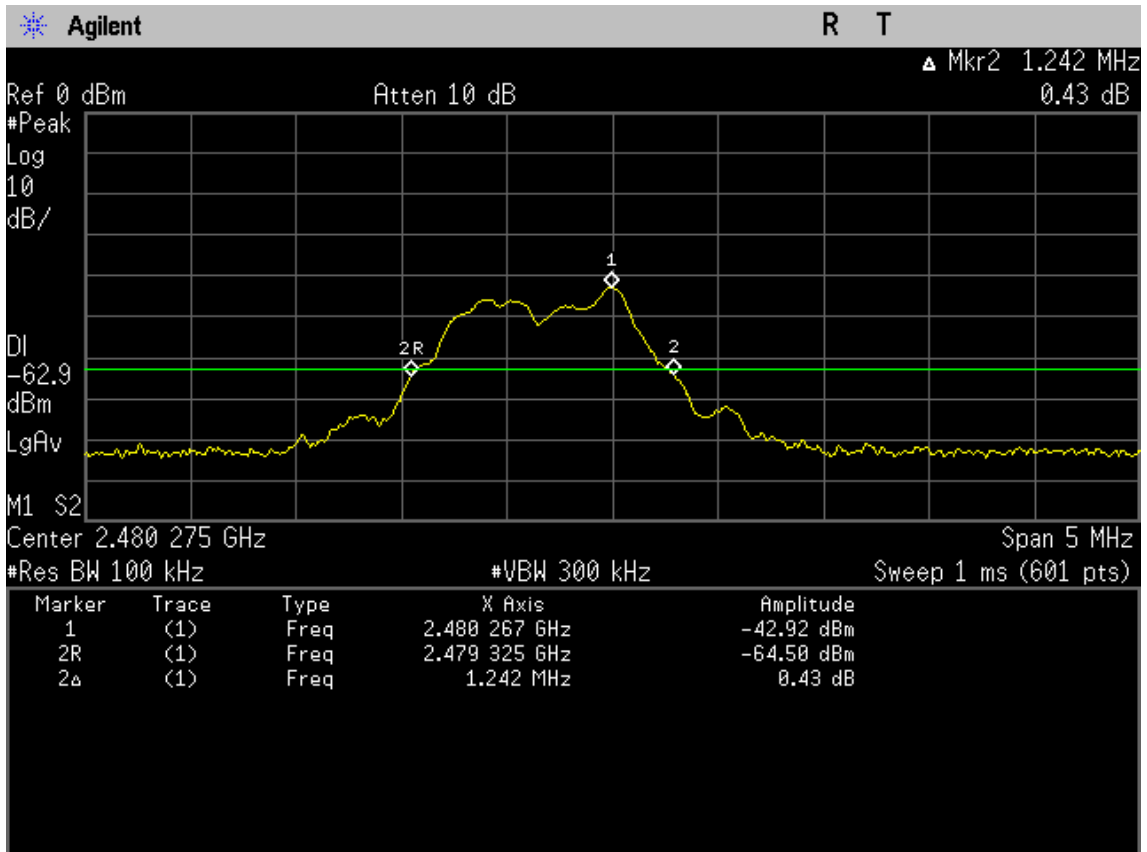
6.3. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

6.4. Test Results

CH	20dB Bandwidth (MHz)	Limit (MHz)	Conclusion
(Low)	1.217	---	PASS
(Mid)	1.225	---	PASS
(High)	1.242	---	PASS





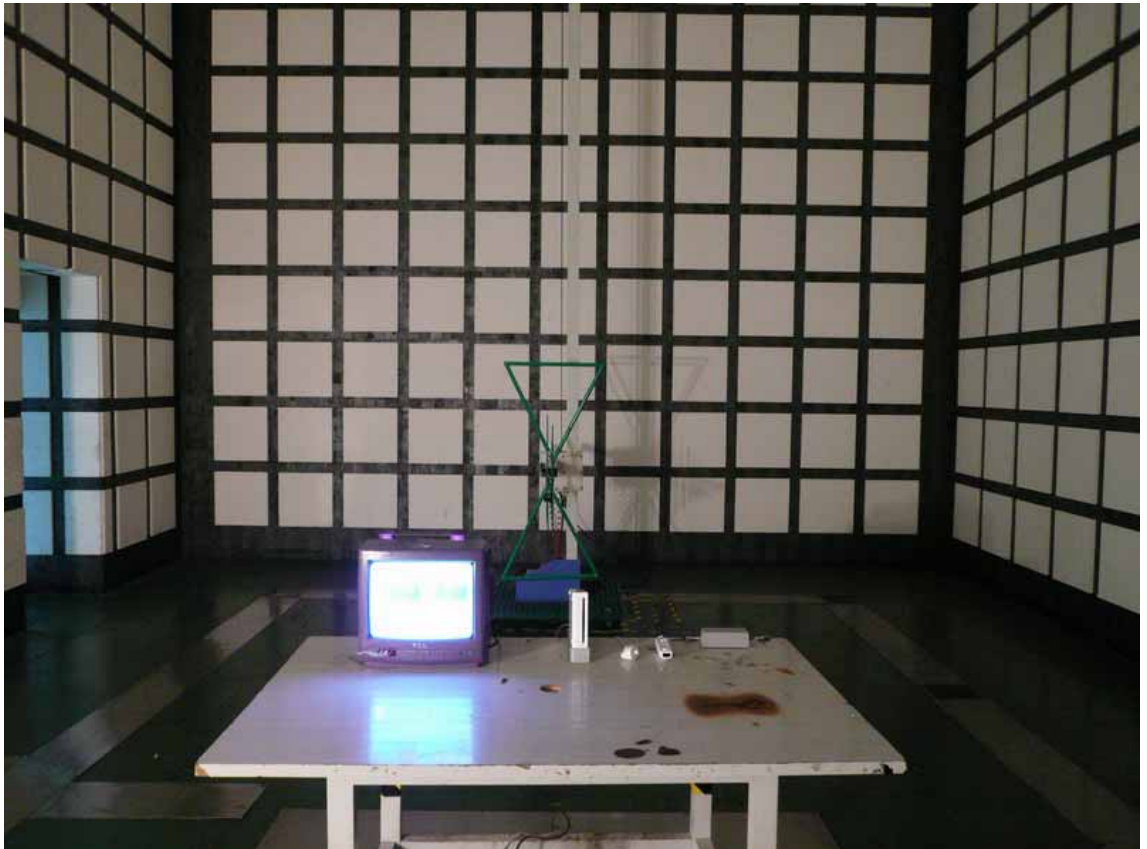
7. DEVIATION TO TEST SPECIFICATIONS

[NONE]

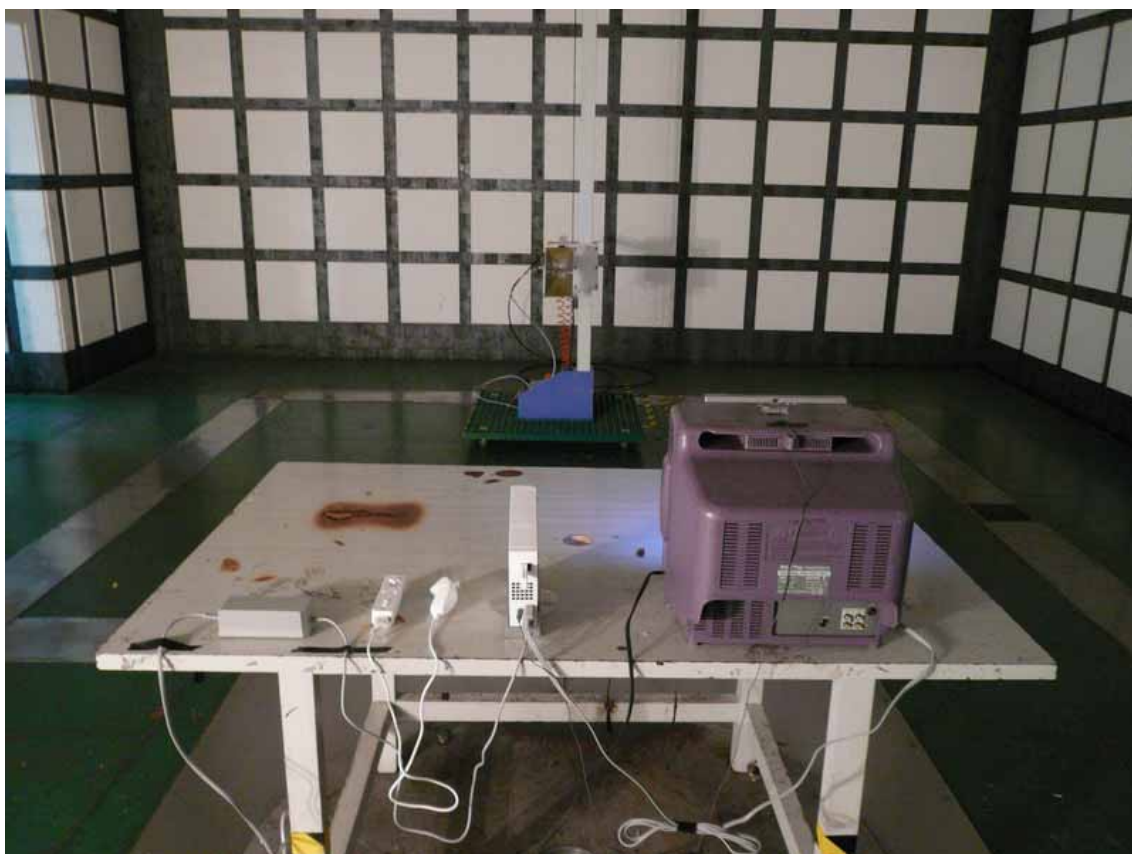
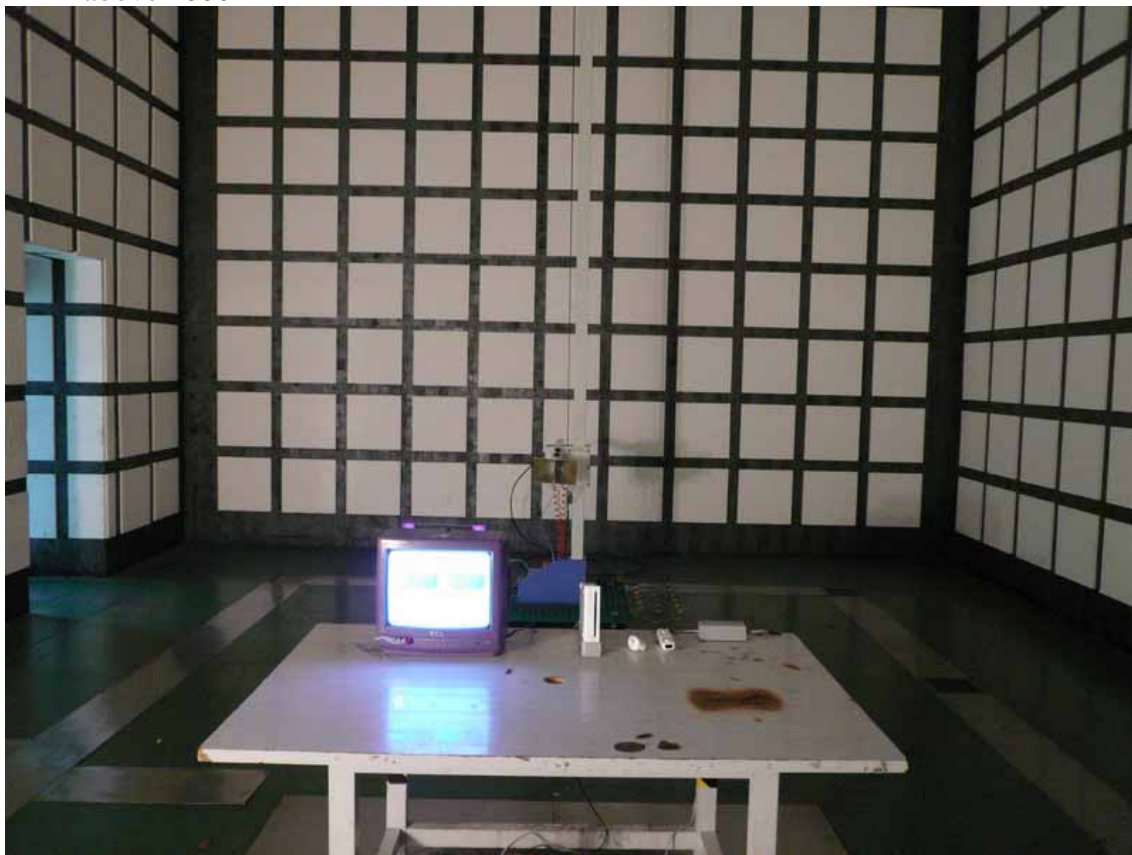
8. PHOTOGRAPH OF TEST

8.1. Photos of Radiated Emission Test (In Anechoic Chamber)

30~1000MHz



above 1000MHz



9. PHOTOGRAPH OF EUT

Figure 1
General Appearance of the EUT



Figure 2
General Appearance of the EUT



Figure 3
General Appearance of the EUT

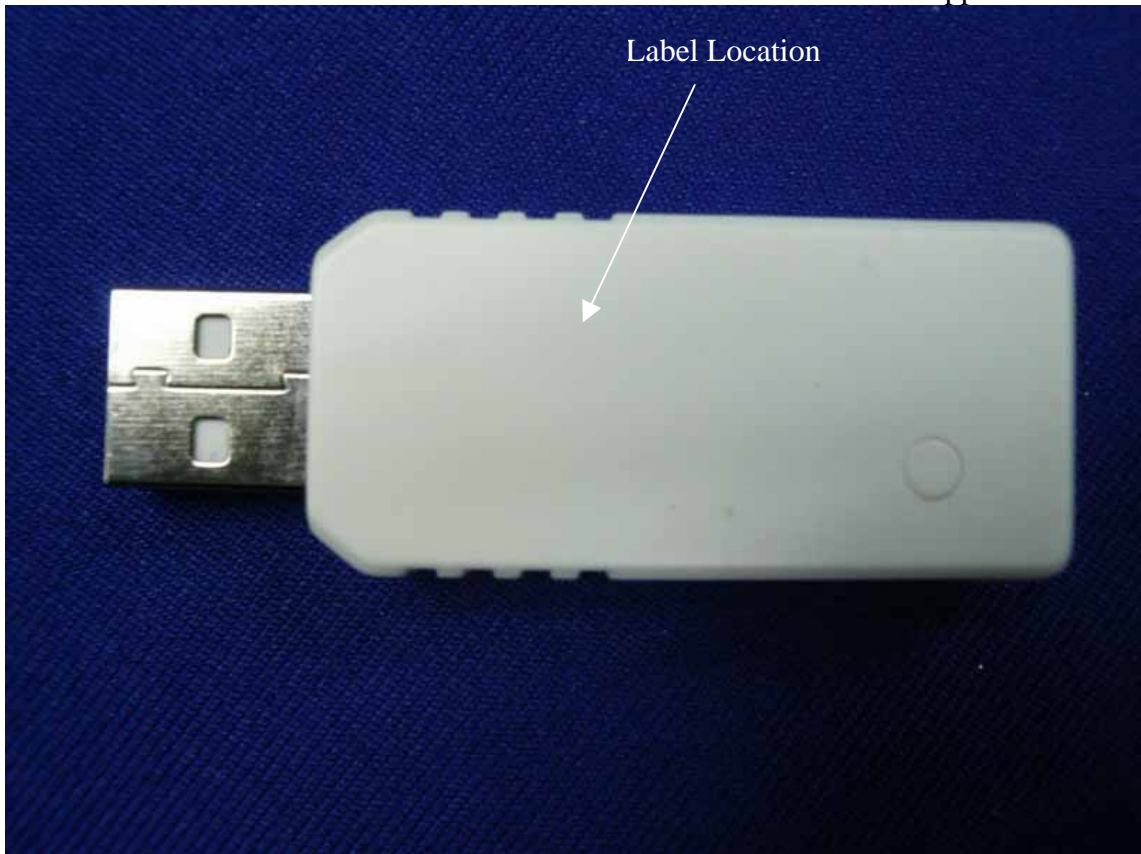


Figure 4
Inside of the EUT



Figure 5
Inside of the EUT



Figure 6
Inside of the EUT

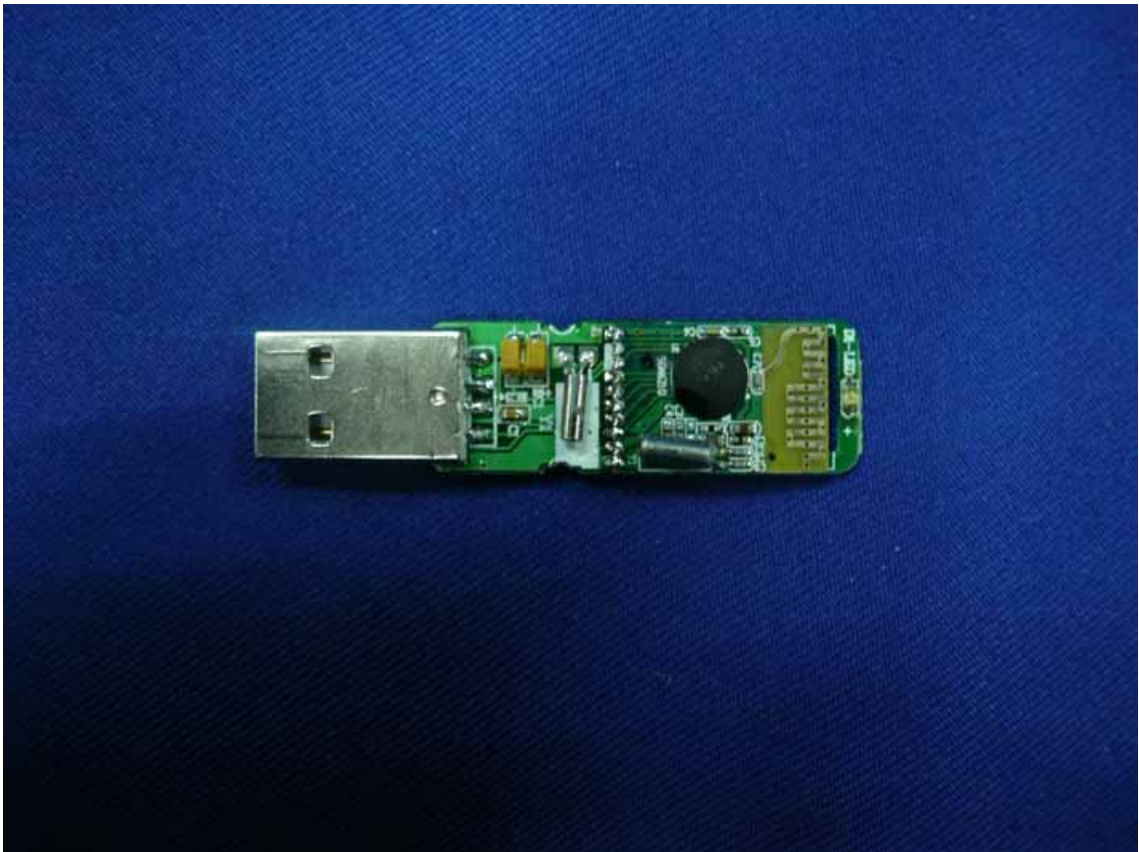


Figure 7
Inside of the EUT

