

APPLICATION FOR CERTIFICATION  
On Behalf of

Mad Catz, Inc.

Wireless FightPad for PS3

Model Number: 8828

FCC ID: P25G0MC8828S4608R

Prepared for : Mad Catz, Inc.  
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California, 92108

Prepared By : Audix Technology (Shenzhen) Co., Ltd.  
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Report Number : ACS-F08442  
Date of Test : Nov.04~06, 2008  
Date of Report : Nov.19, 2008

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## TEST REPORT CERTIFICATION

Applicant : Mad Catz, Inc.  
 EUT Description : Wireless FightPad for PS3  
 MODEL NO. : 8828  
 FCC ID : P25G0MC8828S4608R  
 POWER SUPPLY : DC 5V  
 TEST VOLTAGE : DC 5V From PS3 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 : Nov.04~06, 2008

Prepared by : Edie Huang  
 Edie Huang / Assistant

Reviewer : Jamy Yu  
 Jamy Yu / Senior Engineer

Approved & Authorized Signer : Ken Lu  
 Ken Lu / Deputy 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	PASS
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

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

Product name	:	Wireless FightPad for PS3
Model Number	:	8828
FCC ID	:	P25G0MC8828S4608R
Operation frequency	:	2403MHz~2480MHz
Modulation	:	GFSK
Power Supply	:	DC 5V From PS3 AC120V/60Hz (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	:	Nov.04~06, 2008
Date of Receipt	:	Nov.03, 2008
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. TV

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

#### 2.2.2. PS3

Manufacturer	:	SONY
S/N	:	02-27430423-6785596-CECHC04

### 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.	Item	MU	Remark
1.	Uncertainty for Conducted Emission Test	2.02dB	
2.	Uncertainty for Radiation Emission test in 3m chamber	3.44 dB	Polarize: V
		3.96 dB	Polarize: H
3.	Uncertainty for Radiation Emission test in 10m chamber	3.86dB	Distance: 10m Polarize: V
		4.18dB	Distance: 10m Polarize: H
		4.02dB	Distance: 3m Polarize: V
		4.36dB	Distance: 3m Polarize: H

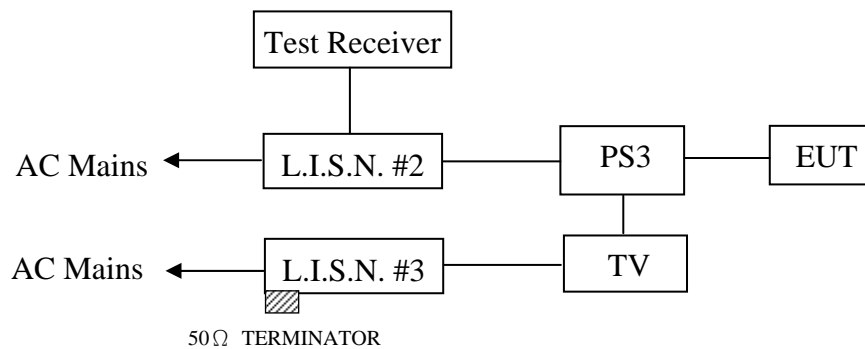
### 3. POWER LINE CONDUCTED EMISSION TEST

#### 3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	844077/020	Mar.07, 08	1 Year
2.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May 10,08	1 Year
3.	L.I.S.N.#3	EMCO	3825/2	9006-1660	May 10,08	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May 10,08	1 Year
5.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	Jul.08, 08	1/2 Year
6.	Coaxial Switch	Anritsu	MP59B	M55367	Jul.08, 08	1/2 Year
7.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100340	Jul.08, 08	1/2 Year

#### 3.2. Block Diagram of Test Setup

##### 3.2.1. Block diagram of connection between the EUT and simulators



*(EUT: Wireless FightPad for PS3)*

#### 3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

#### 3.4. Configuration of EUT on Test

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

##### 3.4.1. Wireless FightPad for PS3 (EUT)

Model Number : 8828

Serial Number : N/A

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

### 3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT as shown in Section 3.2..
- 3.5.2. Turned on the power of all equipment.
- 3.5.3. Let the EUT worked in test modes (Running) and tested it.

### 3.6. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PS3 connected to the power mains through a line impedance stabilization network (L.I.S.N. 2#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#3). Power on the Wii and let it work normally, we use a test software, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS10) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test result are reported on Section 3.7.

### 3.7. Power Line Conducted Emission Test Results

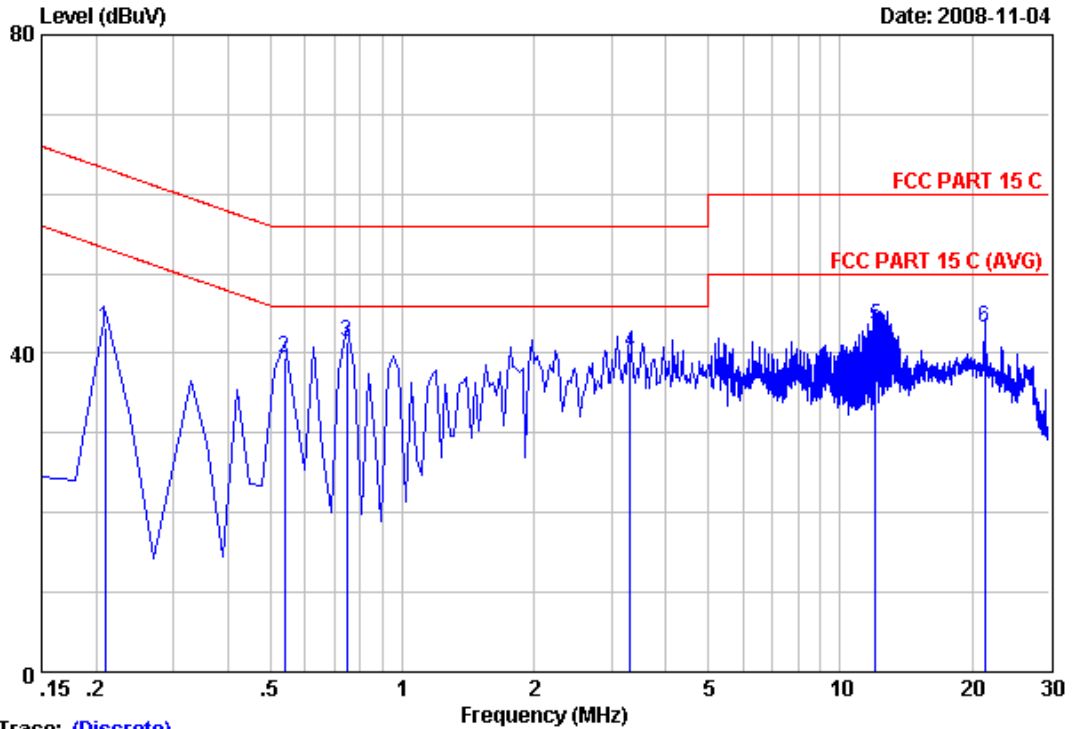
**PASS.** (All emissions not reported below are too low against the prescribed limits.)





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Data: 3 File: D:\DATA\2008 Report\M\MAD CATZ\ACS8QH219.EMI (4)



Trace: (Discrete)  
 Site no :Audix No.1 Conduction Data no :3  
 Dis./Ant. :-- KNW407 1# VA LISN phase:  
 Limit :FCC PART 15 C  
 Env./Ins. :29.5\*C/55% ESHS 10 Engineer :Power  
 EUT :Wireless FightPad for PS3 M/N:8828  
 Power Rating :DC 5V from PS3 AC 120V/60Hz  
 Test Mode :Running  
 Memo :Dongle

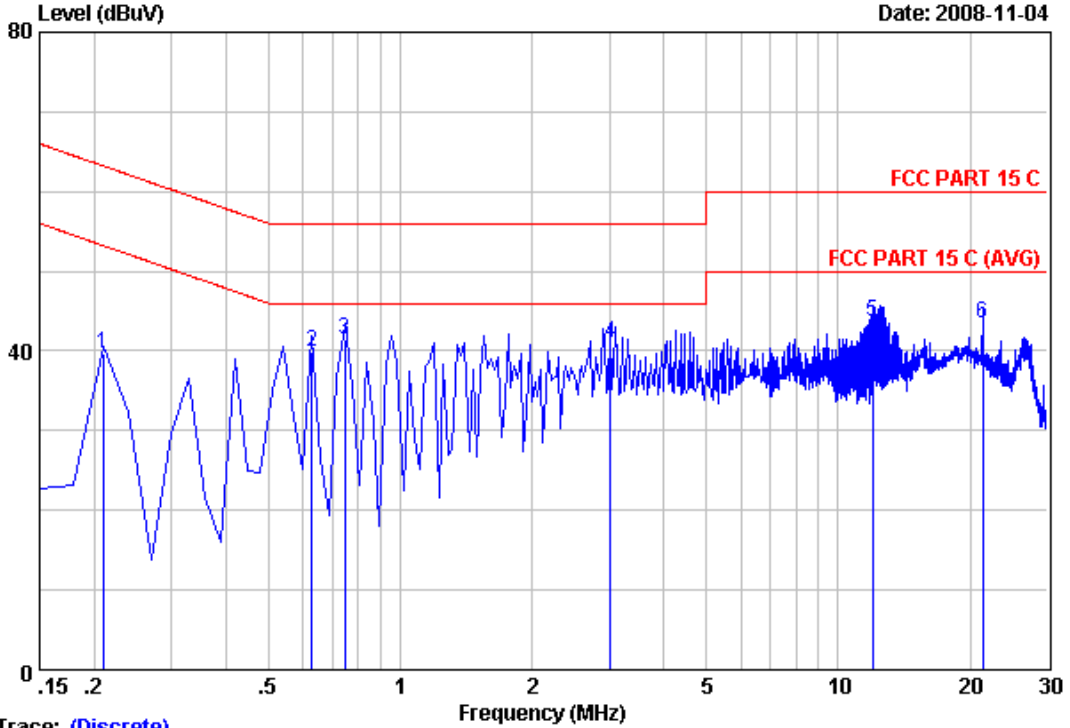
No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.21	0.29	10.15	32.73	43.17	63.22	20.05	QP
2	0.54	0.20	10.14	29.13	39.47	56.00	16.53	QP
3	0.75	0.18	10.14	31.13	41.45	56.00	14.55	QP
4	3.31	0.10	10.17	29.92	40.19	56.00	15.81	QP
5	12.03	0.25	10.26	32.99	43.50	60.00	16.50	QP
6	21.37	0.46	10.38	32.43	43.27	60.00	16.73	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.  
 2.If the average limit is met when using a quasi-peak detector.  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.



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Data: 4 File: D:\DATA\2008 Report\M\MAD CATZ\ACS8QH219.EMI (4) Date: 2008-11-04



Trace: (Discrete)  
 Site no :Audix No.1 Conduction Data no :4  
 Dis./Ant. :-- KNW407 1# VB LISN phase:  
 Limit :FCC PART 15 C  
 Env./Ins. :29.5\*C/55% ESHS 10 Engineer :Power  
 EUT :Wireless FightPad for PS3 M/N:8828  
 Power Rating :DC 5V from PS3 AC 120V/60Hz  
 Test Mode :Running  
 Memo :Dongle

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.21	0.11	10.15	29.34	39.60	63.22	23.62	QP
2	0.63	0.13	10.14	29.68	39.95	56.00	16.05	QP
3	0.75	0.10	10.14	31.11	41.35	56.00	14.65	QP
4	3.02	0.03	10.17	30.84	41.04	56.00	14.96	QP
5	12.00	0.17	10.26	33.26	43.69	60.00	16.31	QP
6	21.40	0.45	10.37	32.62	43.44	60.00	16.56	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.  
 2.If the average limit is met when using a quasi-peak detector.  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.

## 4. RADIATED EMISSION TEST

### 4.1. Test Equipment

Frequency rang: 30~1000MHz

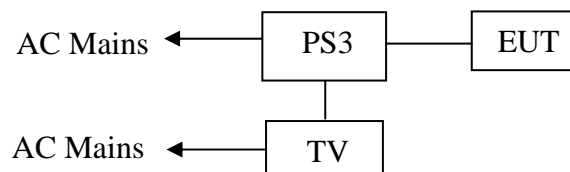
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Jun.09, 08	1/2 Year
2.	EMI Spectrum	Agilent	E7403A	MY42000106	May 10, 08	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	May 10, 08	1 Year
4.	Amplifier	HP	8447D	2648A04738	Jul.08.08	1/2 Year
5.	Bilog Antenna	Schaffner	CBL6112D	25237	Feb.21, 08	1 Year
6.	RF Cable	JINGCHENG	KLMR400	3# Chamber No.1	Jul.08.08	1/2 Year
7.	RF Cable	JINGCHENG	JB Y400	3# Chamber No.2	Jul.08.08	1/2 Year
8.	RF Cable	JINGCHENG	JB Y400	3# Chamber No.3	Jul.08.08	1/2 Year
9.	RF Cable	JINGCHENG	JB Y400	3# Chamber No.4	Jul.08.08	1/2 Year
10.	Coaxial Switch	Anritsu	MP59B	M73989	Jul.08.08	1/2 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 10, 08	1 Year
2.	Amp	HP	8449B	3008A00863	May 10, 08	1 Year
3.	Antenna	EMCO	3115	9607-4877	May 27, 08	1.5 Year
4.	Antenna	EMCO	3116	00060088	May 28, 07	1.5Year
5.	RF Cable	Hubersuhner	SUCOFLEX1 02	271473/4	May,28, 08	1Year
6.	RF Cable	Hubersuhner	SUCOFLEX 102	29091/2	May,28, 08	1Year
7.	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May,28, 08	1Year

### 4.2. Block Diagram of Test Setup

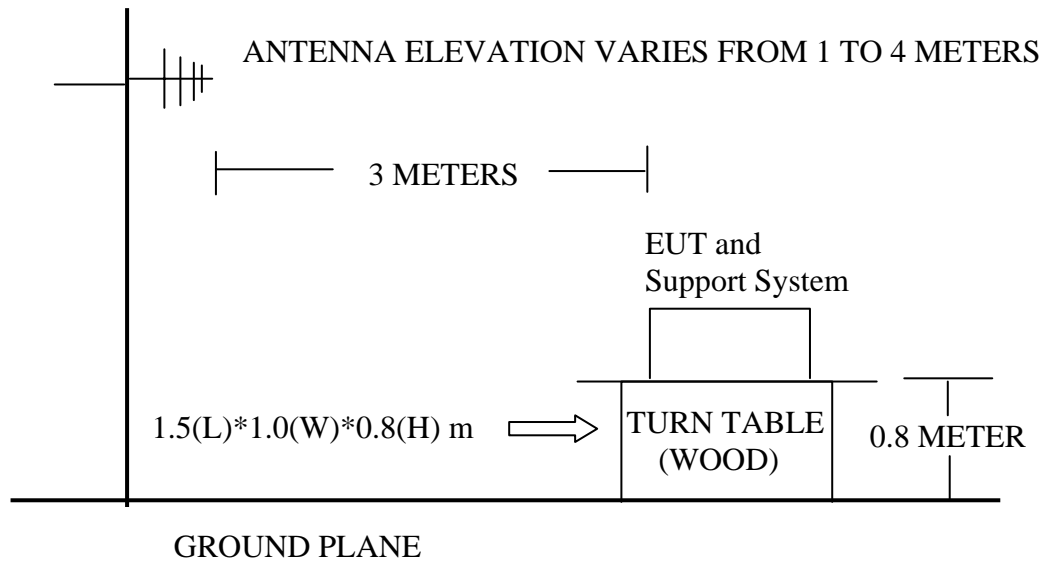
#### 4.2.1. Block Diagram of connection between EUT and simulators



*(EUT: Wireless FightPad for PS3)*

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 960MHz	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. Wireless FightPad for PS3 (EUT)

Model Number : 8828  
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 modes (Tx Mode) 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 VBW is set at 1MHz and RBW is set at 1MHz,PK detector for peak emissions measurement above 1GHz.

The duty cycle factor was used to calculate Average Level above 1 GHz:

$$\text{Average level} = \text{PK measured level} - \text{duty cycle factor}$$

The frequency range from 30MHz to 10<sup>th</sup> 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.**

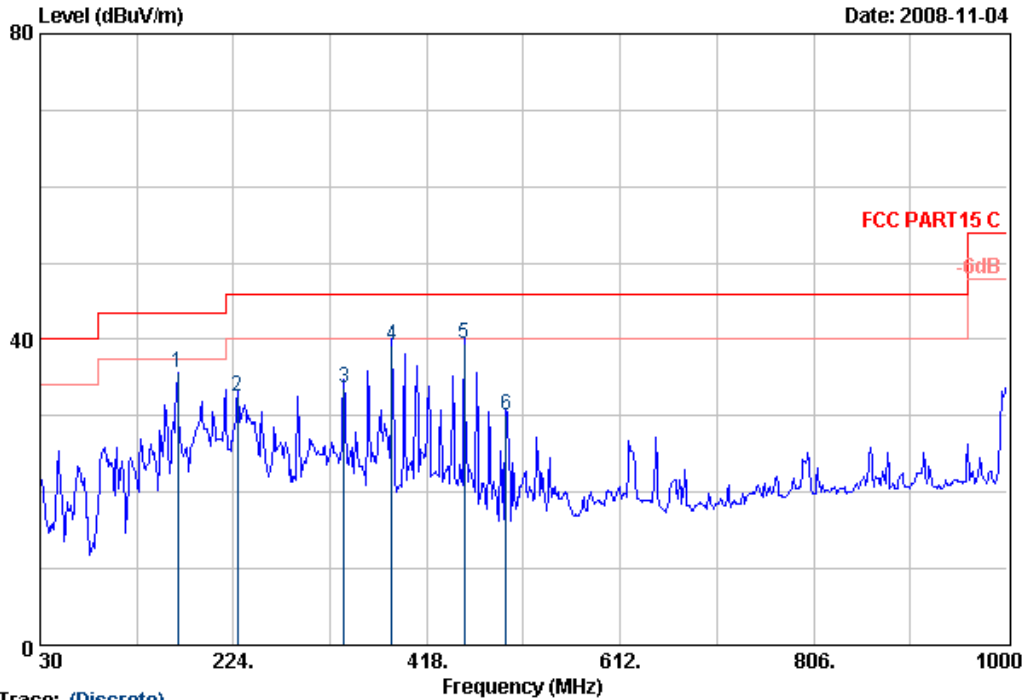
All the emissions from 30MHz to 25GHz were comply with the 15.209 and 15.249 Limit.

Test Frequency: 30MHz-1000MHz



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Data: 3 File: D:\2008 Report Data\M\MADCATZ\ACS8QH219.EMI (6)



Trace: (Discrete)  
Site no. : 3# Chamber Radiation Data no. : 3  
Dis. / Ant. : 3m CBL6112D Ant. pol. : HORIZONTAL  
Limit : FCC PART15 C  
Env. / Ins. : 29.5°C/55% ESVS 20 Engineer : Flame  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V From PS3 AC 120V/60Hz  
Test Mode : Running  
Memo : Dongle

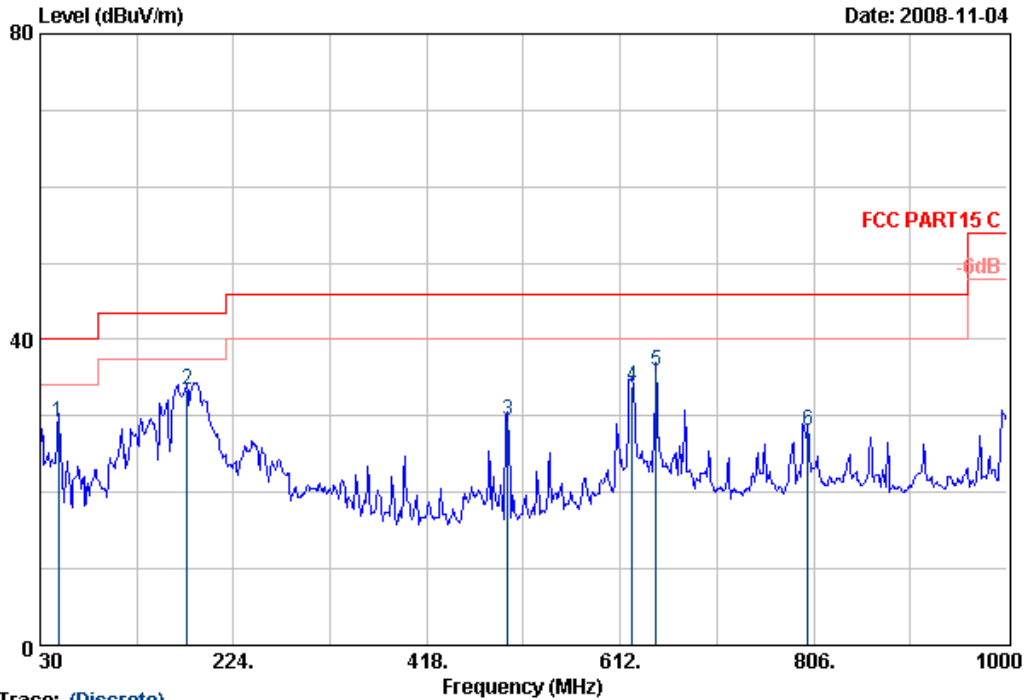
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	167.74	8.52	1.25	25.86	35.63	43.50	7.87	QP
2	227.88	9.04	1.40	22.07	32.51	46.00	13.49	QP
3	334.58	12.53	1.74	19.43	33.70	46.00	12.30	QP
4	383.08	13.61	1.78	23.76	39.15	46.00	6.85	QP
5	455.83	15.10	1.97	22.38	39.45	46.00	6.55	QP
6	497.54	15.63	2.04	12.35	30.02	46.00	15.98	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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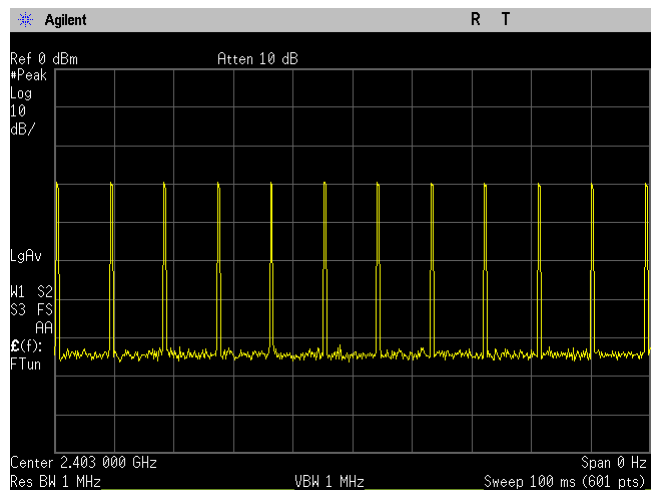
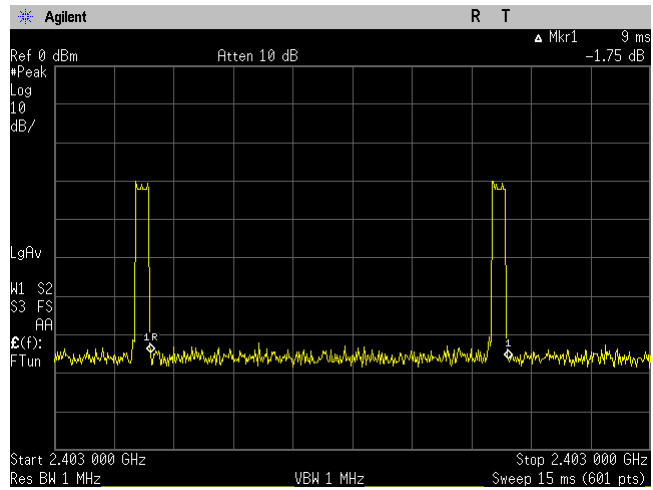
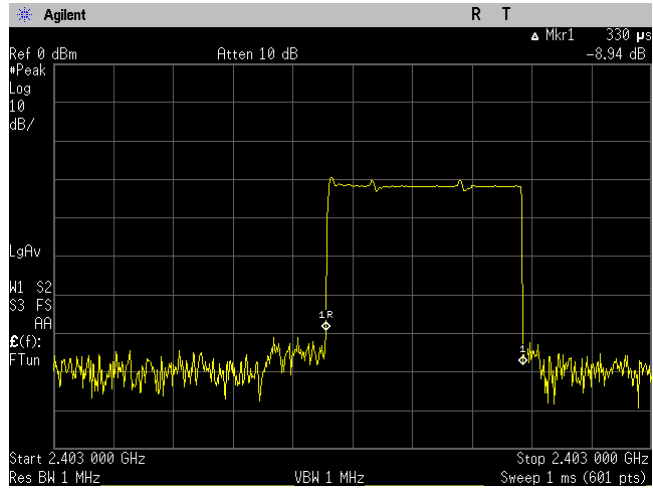
Trace: (Discrete)  
 Site no. : 3# Chamber Radiation Data no. : 4  
 Dis. / Ant. : 3m CBL6112D Ant. pol. : VERTICAL  
 Limit : FCC PART15 C  
 Env. / Ins. : 29.5\*C/55% ESVS 20 Engineer : Flame  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V From PS3 AC 120V/60Hz  
 Test Mode : Running  
 Memo : Dongle

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	48.43	8.72	0.85	19.67	29.24	40.00	10.76	QP
2	177.44	8.43	1.27	23.73	33.43	43.50	10.07	QP
3	499.48	15.62	2.02	11.87	29.51	46.00	16.49	QP
4	623.64	17.09	2.37	14.49	33.95	46.00	12.05	QP
5	647.89	17.25	2.20	16.44	35.89	46.00	10.11	QP
6	800.18	18.45	2.61	6.93	27.99	46.00	18.01	QP

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

Duty cycle=Tx on/Tx on+Tx off=0.33/9=3.67%

Duty Factor=20log(1/Duty cleye)= 28.71

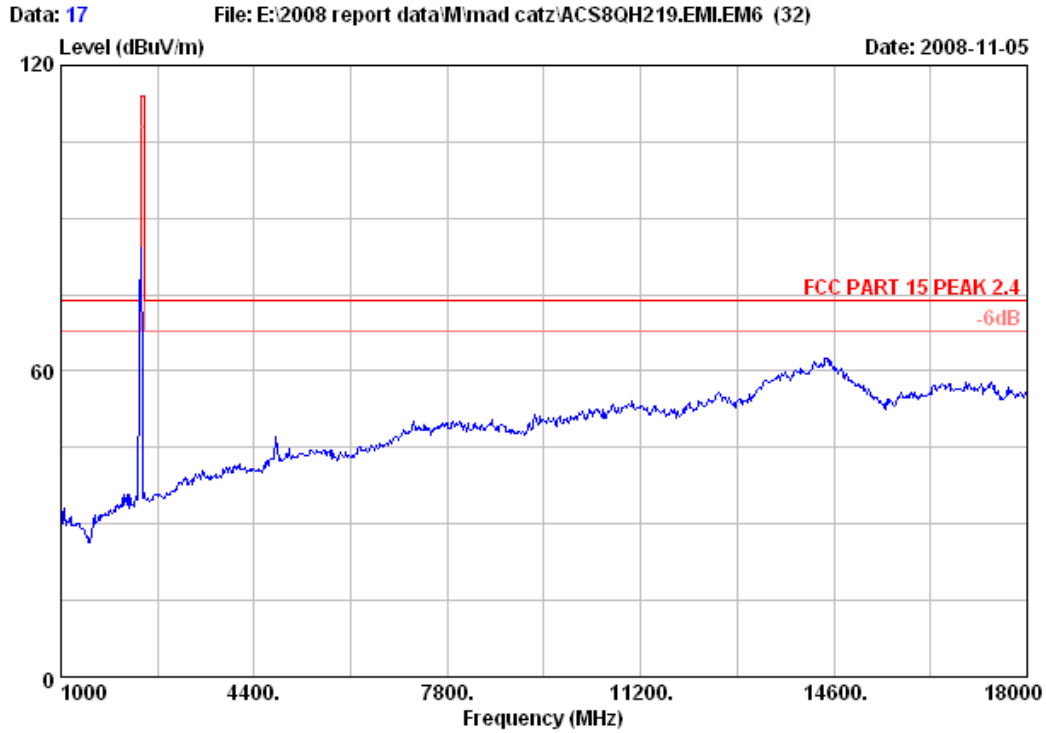




Test Frequency: 1GHz-18



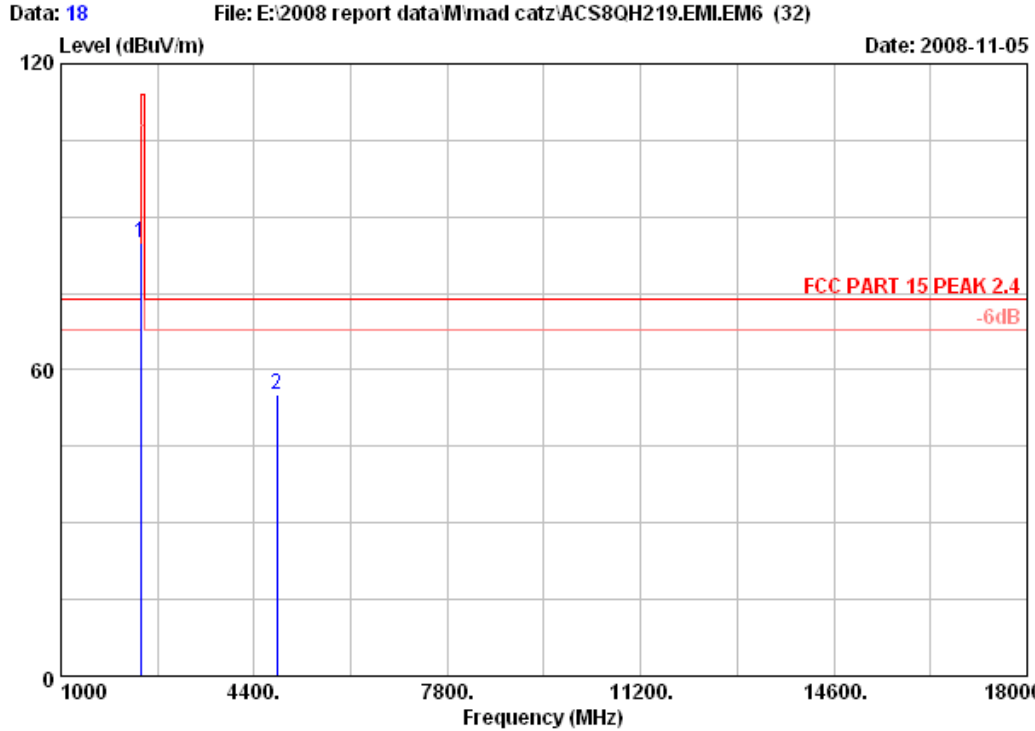
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Site no. : 3# Chamber Data no. : 17  
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2403MHz  
 Memo : Dongle



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Postcode:518057



Site no. : 3# Chamber Data no. : 18  
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2403MHz  
 Memo : Dongle

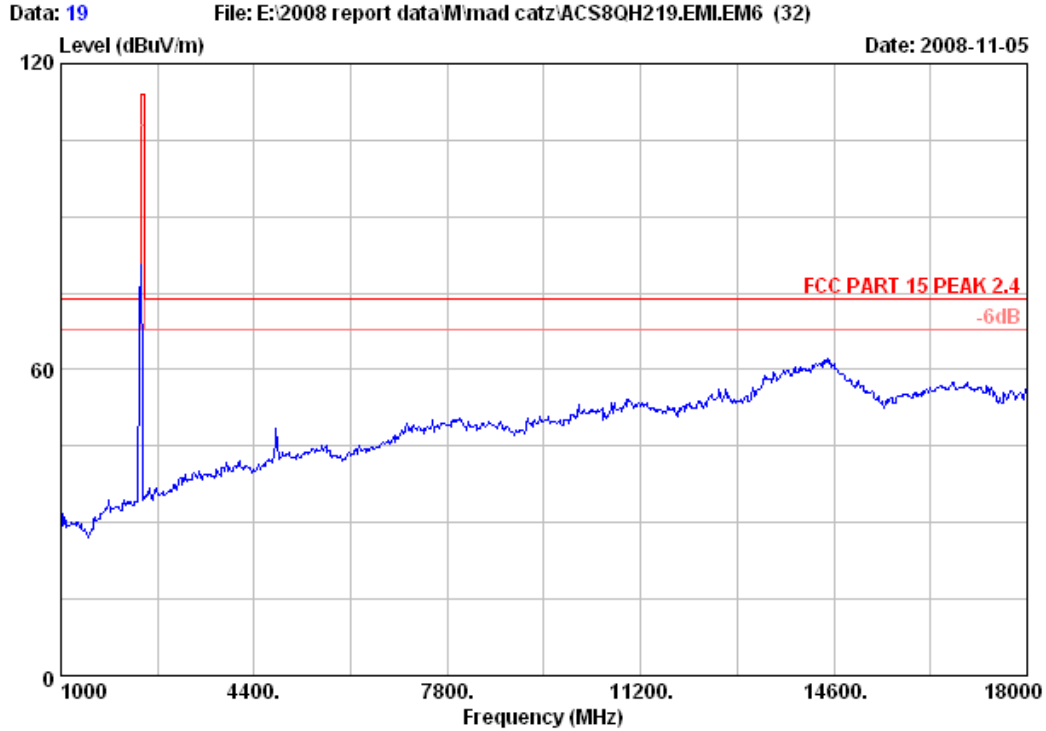
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2403.300	28.48	6.73	35.95	85.69	84.95	114.00	29.05	Peak
2	4806.530	34.36	10.54	35.23	45.51	55.18	74.00	18.82	Peak

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.

Frequency (MHz)	PK Level (dBuV/m)	Duty cycle factor (dB)	Average Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2403.3	84.69	28.71	55.98	94	38.02
4806.53	45.51	28.71	16.8	54	37.2



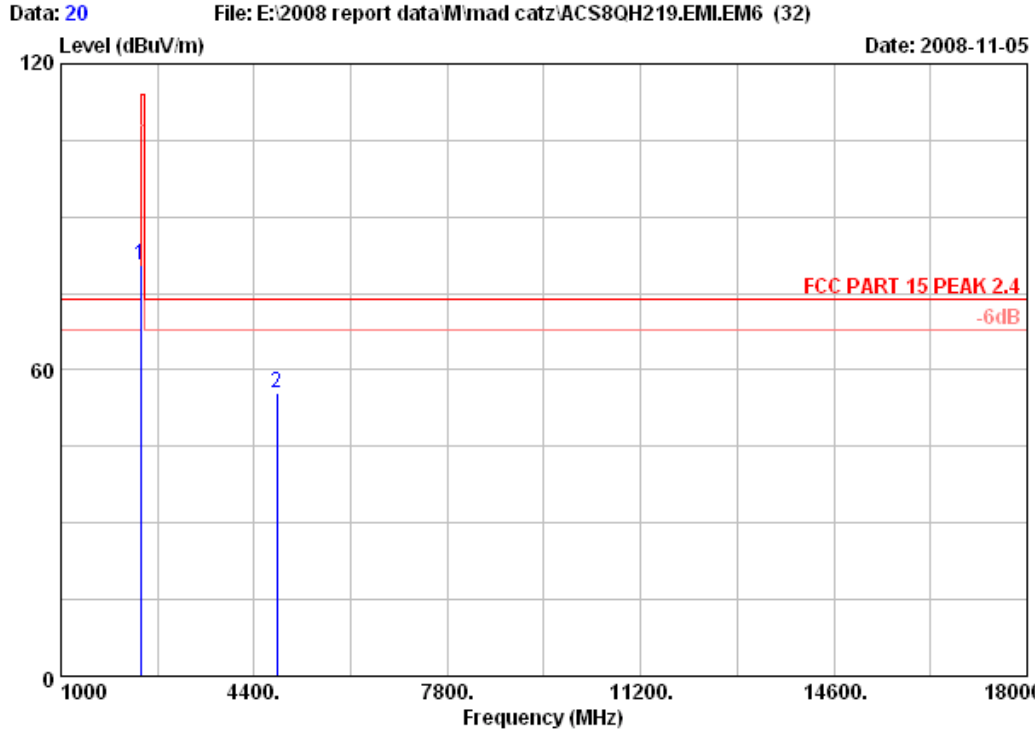
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 Fax:+86-755-26632877  
 Postcode:518057



Site no. : 3# Chamber Data no. : 19  
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2403MHz  
 Memo : Dongle



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Postcode:518057



Site no. : 3# Chamber Data no. : 20  
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
Limit : FCC PART 15 PEAK 2.4  
Env. / Ins. : 23°C/54% Engineer : Power  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V from PS3 &C 120V/60Hz  
Test mode : Tx 2403MHz  
Memo : Dongle

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2403.300	28.48	6.73	35.95	81.21	80.47	114.00	33.53	Peak
2	4806.680	34.36	10.54	35.23	45.94	55.61	74.00	18.39	Peak

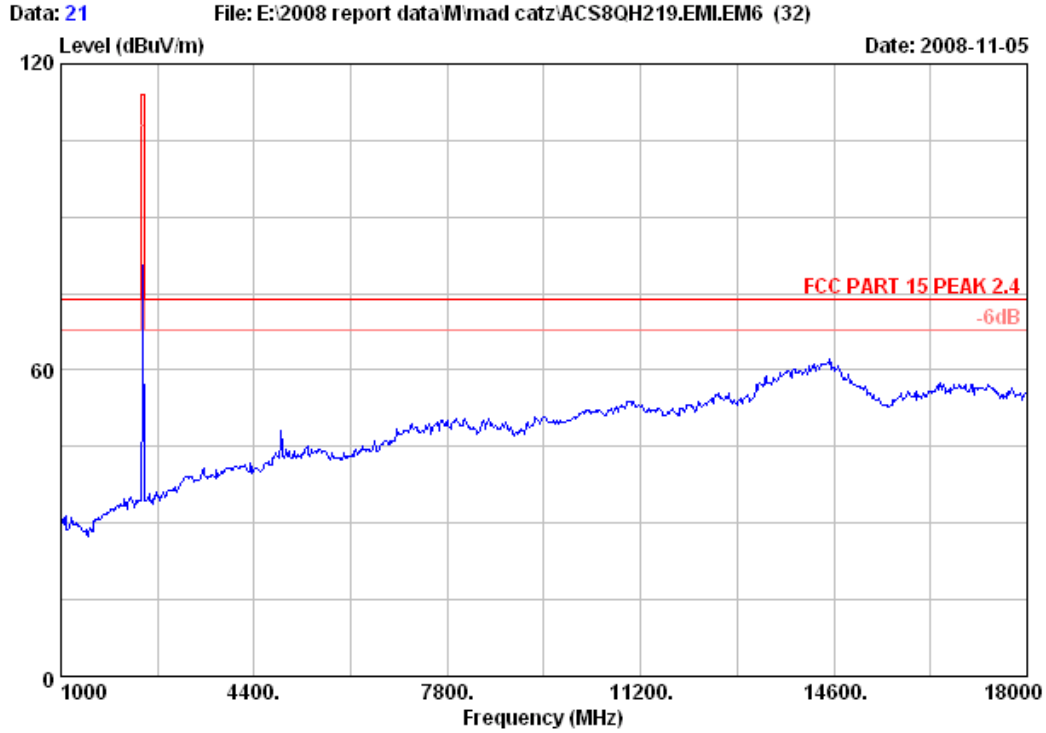
Remarks:

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

Frequency (MHz)	PK Level (dBuV/m)	Duty cycle factor (dB)	Average Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2403.3	80.21	28.71	51.5	94	42.5
4806.68	55.61	28.71	26.9	54	27.1



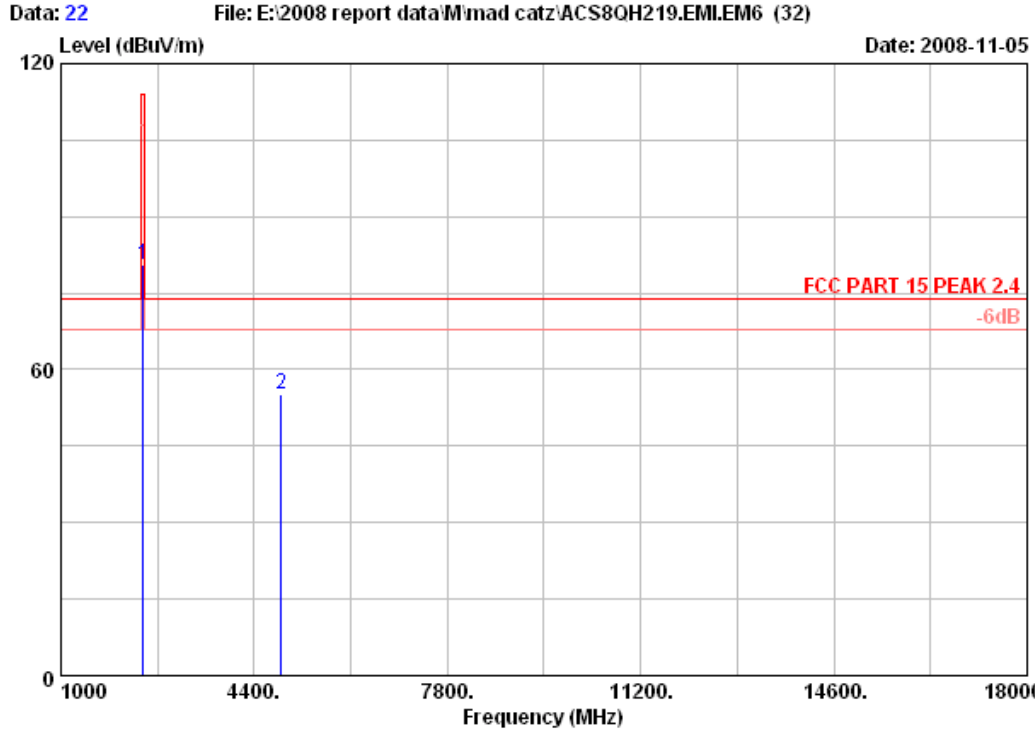
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Postcode:518057



Site no. : 3# Chamber Data no. : 21  
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
Limit : FCC PART 15 PEAK 2.4  
Env. / Ins. : 23°C/54% Engineer : Power  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V from PS3 AC 120V/60Hz  
Test mode : Tx 2441MHz  
Memo : Dongle



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Site no. : 3# Chamber Data no. : 22  
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
Limit : FCC PART 15 PEAK 2.4  
Env. / Ins. : 23\*C/54% Engineer : Power  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V from PS3 AC 120V/60Hz  
Test mode : Tx 2441MHz  
Memo : Dongle

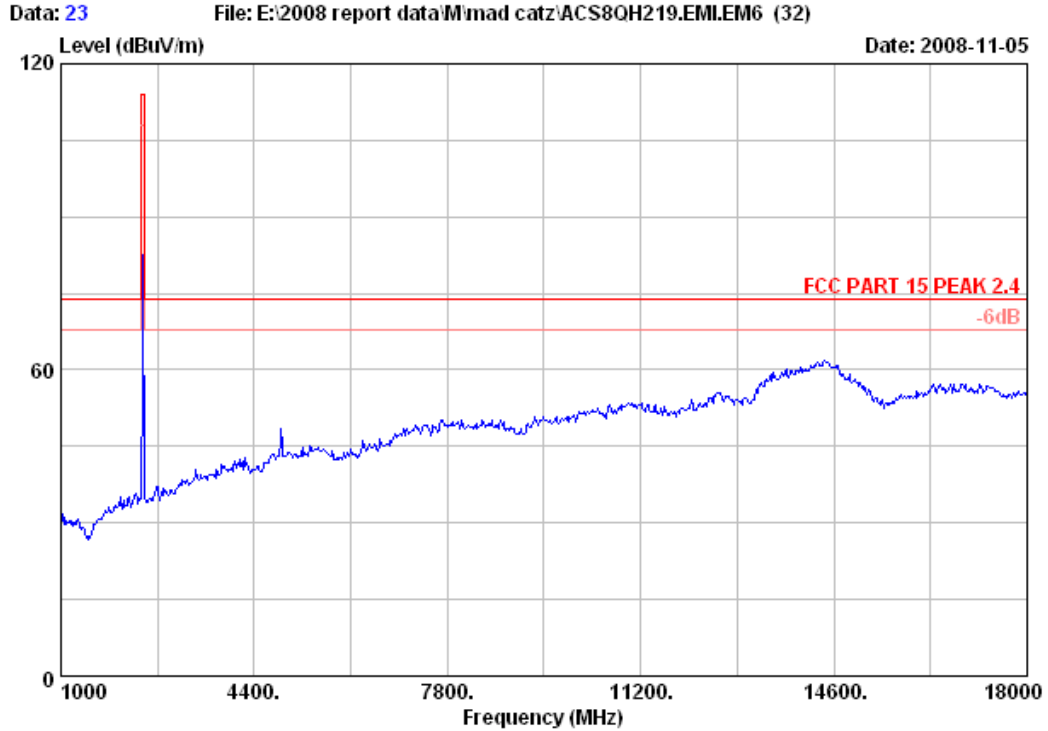
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.320	28.53	6.80	35.96	81.14	80.51	114.00	33.49	Peak
2	4882.700	34.78	10.57	35.13	44.84	55.06	74.00	18.94	Peak

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.

Frequency (MHz)	PK Level (dBuV/m)	Duty cycle factor (dB)	Average Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2441.32	80.51	28.71	51.8	94	42.2
4882.70	55.06	28.71	26.35	54	27.65



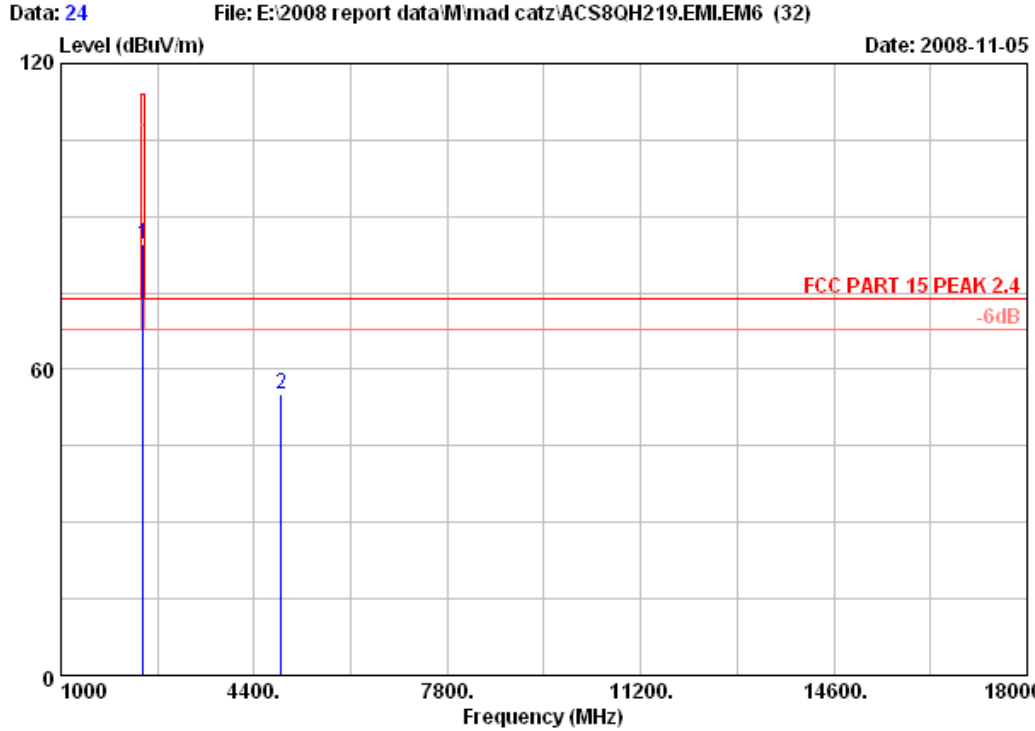
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Site no. : 3# Chamber Data no. : 23  
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 PEAK 2.4  
Env. / Ins. : 23°C/54% Engineer : Power  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V from PS3 AC 120V/60Hz  
Test mode : Tx 2441MHz  
Memo : Dongle



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Site no. : 3# Chamber Data no. : 24  
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2441MHz  
 Memo : Dongle

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.300	28.53	6.80	35.96	85.03	84.40	114.00	29.60	Peak
2	4881.300	34.78	10.57	35.13	44.81	55.03	74.00	18.97	Peak

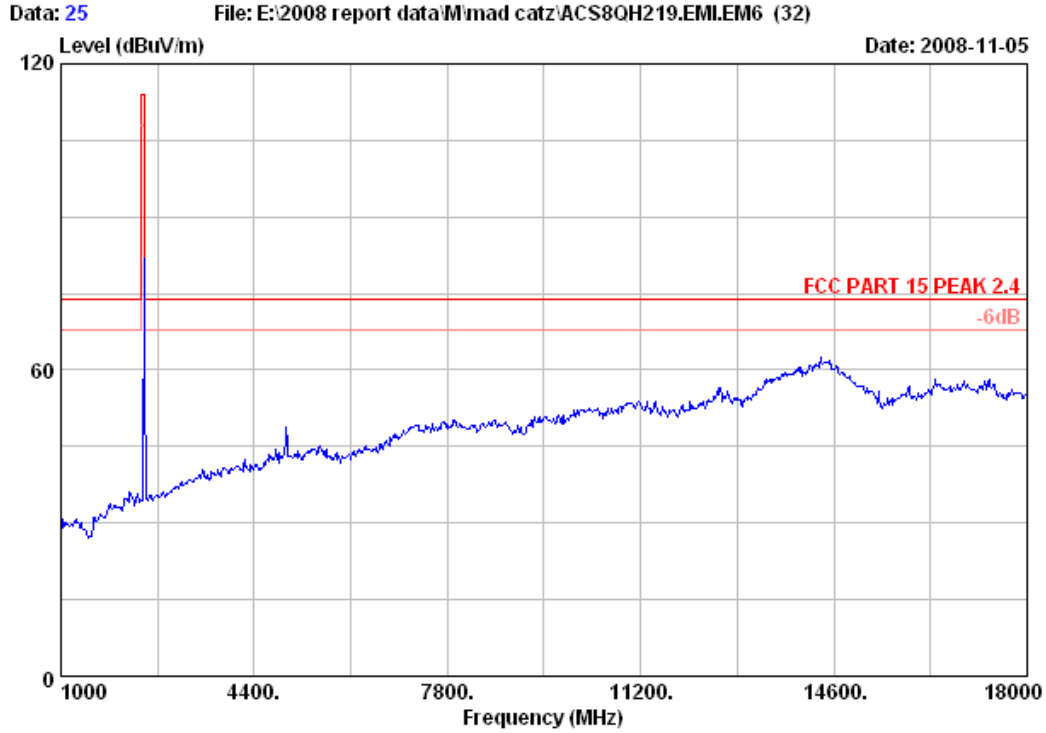
Remarks:  
 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency (MHz)	PK Level (dBuV/m)	Duty cycle factor (dB)	Average Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2441.30	84.40	28.71	55.69	94	38.31
4881.30	55.03	28.71	26.32	54	27.68





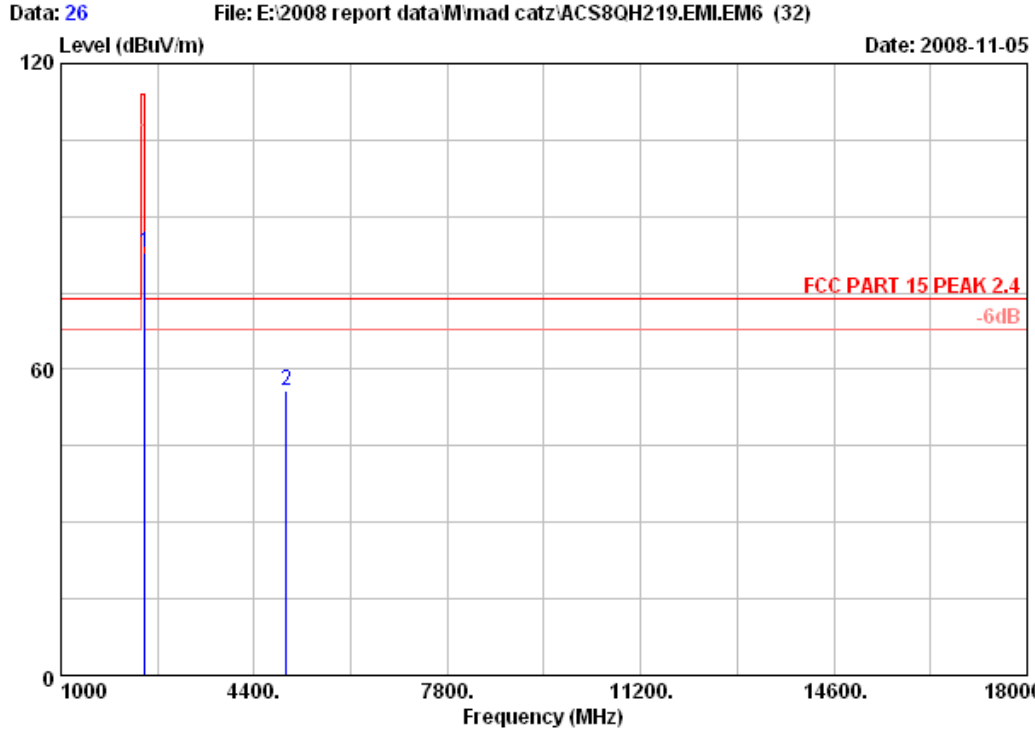
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Site no. : 3# Chamber Data no. : 25  
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 PEAK 2.4  
Env. / Ins. : 23°C/54% Engineer : Power  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V from PS3 &C 120V/60Hz  
Test mode : Tx 2480MHz  
Memo : Dongle



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Site no. : 3# Chamber Data no. : 26  
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2480MHz  
 Memo : Dongle

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.350	28.58	6.87	35.96	83.55	83.04	114.00	30.96	Peak
2	4960.320	35.29	10.59	35.10	45.09	55.87	74.00	18.13	Peak

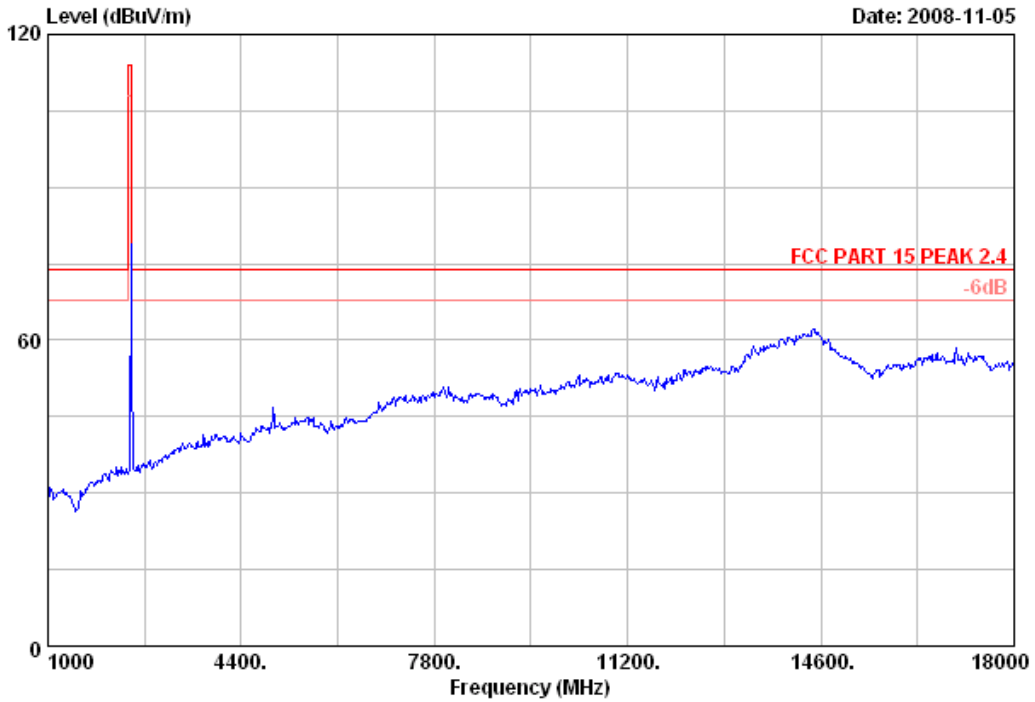
Remarks:  
 1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Freque ncy (MHz)	PK Level (dBuV/m)	Duty cycle factor (dB)	Average Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2480.35	83.04	28.71	54.33	94	39.67
4960.32	55.87	28.71	27.16	54	26.84



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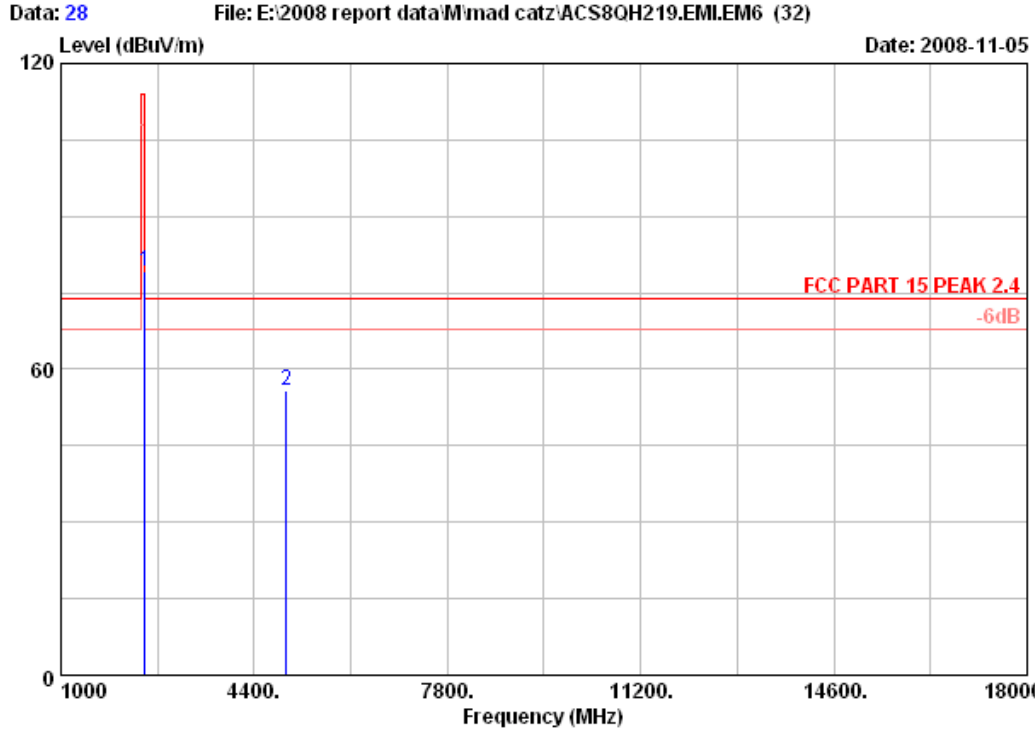
Data: 27 File: E:\2008 report data\M\mad catz\ACS80H219.EMLEM6 (32) Date: 2008-11-05



Site no. : 3# Chamber Data no. : 27  
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
Limit : FCC PART 15 PEAK 2.4  
Env. / Ins. : 23°C/54% Engineer : Power  
EUT : Wireless FightPad for PS3 M/N:8828  
Power Rating : DC 5V from PS3 AC 120V/60Hz  
Test mode : Tx 2480MHz  
Memo : Dongle



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Site no. : 3# Chamber Data no. : 28  
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating : DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2480MHz  
 Memo : Dongle

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBUV)	Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2480.330	28.58	6.87	35.96	79.80	79.29	114.00	34.71	Peak
2	4960.530	35.29	10.59	35.10	44.90	55.68	74.00	18.32	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.

Frequency (MHz)	PK Level (dBUV/m)	Duty cycle factor (dB)	Average Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)
2480.33	79.29	28.71	50.58	94	43.42
4960.53	55.68	28.71	26.97	54	27.03

## 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	HP	8449B	3008A00863	May,10, 08	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX 102	271473/4	May,28, 08	1Year
6	RF Cable	Hubersuhner	SUCOFLEX 102	29091/2	May,28, 08	1Year
7	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May,28, 08	1Year

### 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
  - (b) AVERAGE: RBW=1MHz / VBW=10Hz / PK detector Sweep=AUTO

### 5.4. Test Results

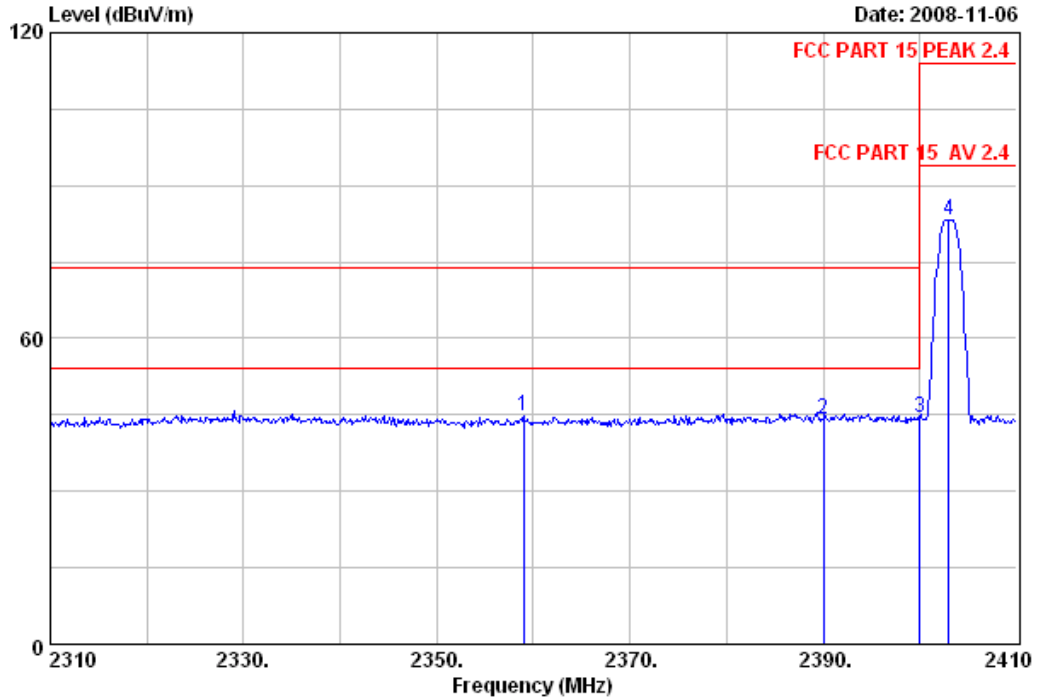
Pass (The testing data was attached in the next pages.)

All the PK Level comply with Average limit. So the average level are deemed to comply with average limit



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Data: 30 File: E:\2008 report data\Mmad catz\ACS80H219.EMI (32)



Site no. : 3# Chamber Data no. : 30  
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating: DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2403MHz  
 Memo : Dongle

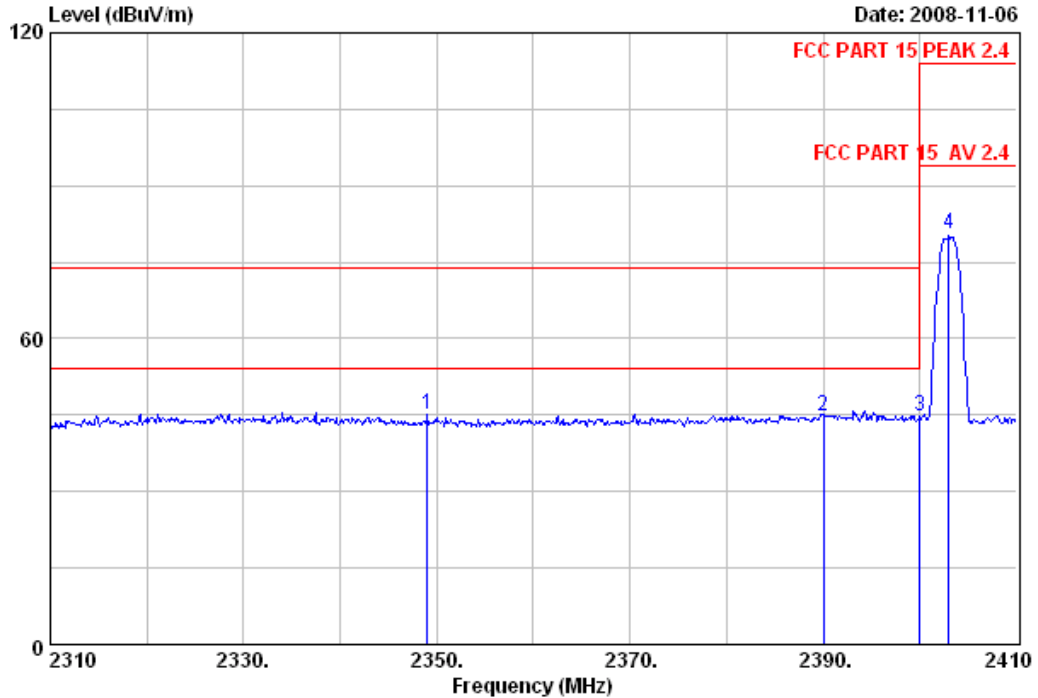
	Ant.	Cable	Amp	Emission		Limits	Margin	Remark
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	(dBuV/m)	(dB)	
1	28.41	6.69	35.99	45.55	44.66	74.00	29.34	Peak
2	28.46	6.71	35.95	45.06	44.28	74.00	29.72	Peak
3	28.46	6.73	35.95	45.11	44.35	74.00	29.65	Peak
4	28.48	6.73	35.95	83.99	83.25	114.00	30.75	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.



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Data: 29 File: E:\2008 report data\Mmad catz\ACS80H219.EMI (32)



Site no. : 3# Chamber Data no. : 29  
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating: DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2403MHz  
 Memo : Dongle

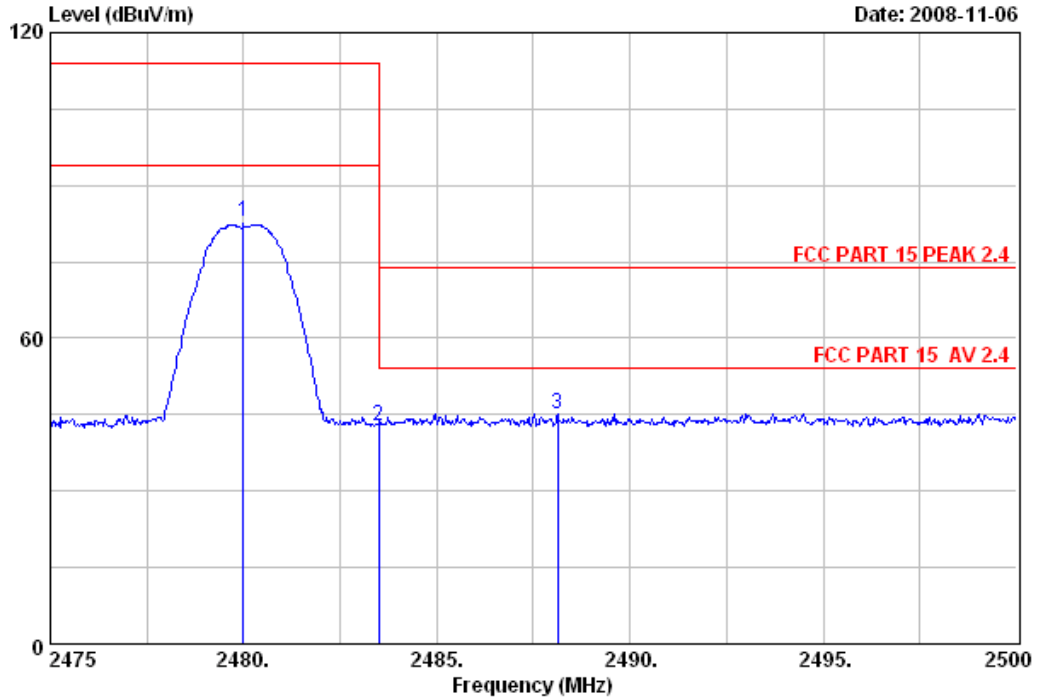
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2349.00	28.38	6.67	35.99	46.03	45.09	74.00	28.91	Peak
2	2390.00	28.46	6.71	35.95	45.68	44.90	74.00	29.10	Peak
3	2400.00	28.46	6.73	35.95	45.47	44.71	74.00	29.29	Peak
4	2403.00	28.48	6.73	35.95	81.35	80.61	114.00	33.39	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.



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Data: 32 File: E:\2008 report data\M\mad catz\ACS80H219.EMI (32)



Site no. : 3# Chamber Data no. : 32  
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating: DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2480MHz  
 Memo : Dongle

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
					Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
1	2480.00	28.58	6.87	35.96	83.42	82.91	114.00	31.09	Peak
2	2483.50	28.58	6.87	35.96	43.39	42.88	74.00	31.12	Peak
3	2488.13	28.60	6.87	35.96	45.62	45.13	74.00	28.87	Peak

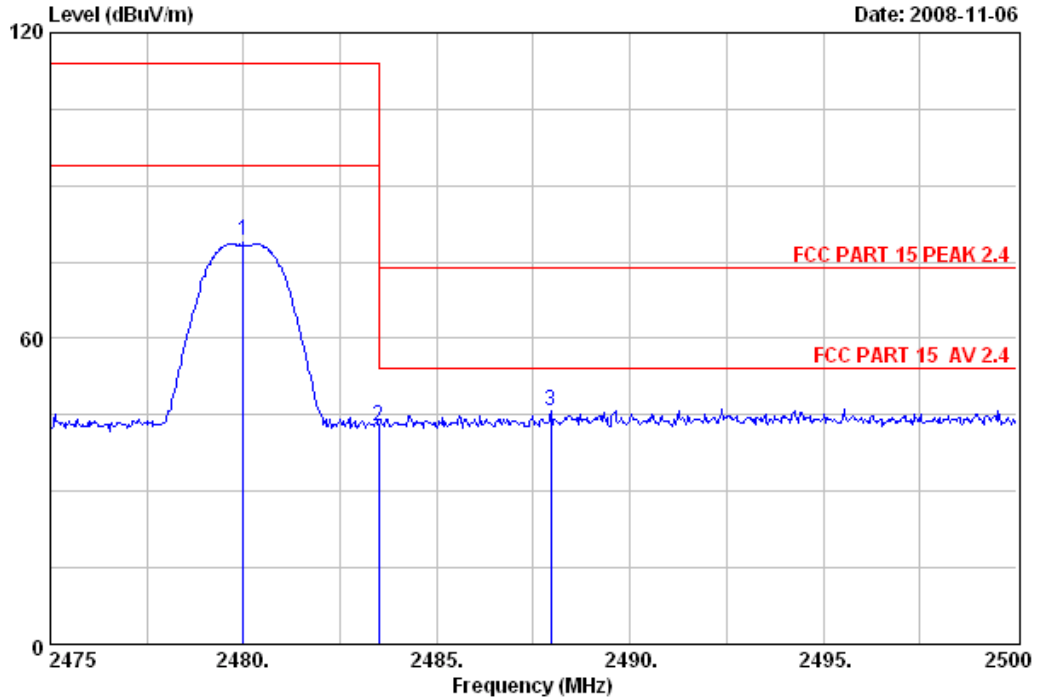
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.





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Data: 31 File: E:\2008 report data\Mmad catz\ACS80H219.EMI (32)



Site no. : 3# Chamber Data no. : 31  
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 PEAK 2.4  
 Env. / Ins. : 23°C/54% Engineer : Power  
 EUT : Wireless FightPad for PS3 M/N:8828  
 Power Rating: DC 5V from PS3 AC 120V/60Hz  
 Test mode : Tx 2480MHz  
 Memo : 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	2480.00	28.58	6.87	35.96	79.68	79.17	114.00	34.83	Peak
2	2483.50	28.58	6.87	35.96	43.26	42.75	74.00	31.25	Peak
3	2487.95	28.60	6.87	35.96	46.27	45.78	74.00	28.22	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	Bilog Antenna	Schaffner	CBL6112D	25238	Feb,21, 08	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX 102	2861812	May,28, 08	1Year

### 6.2. Test Information

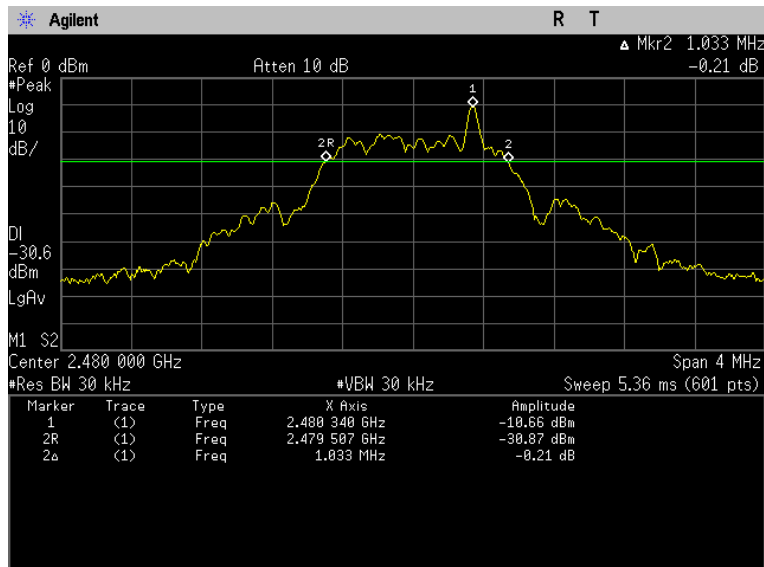
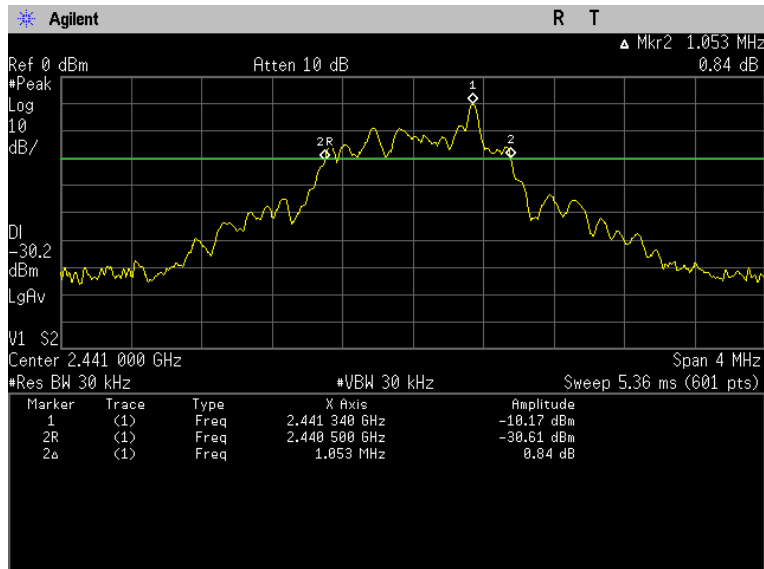
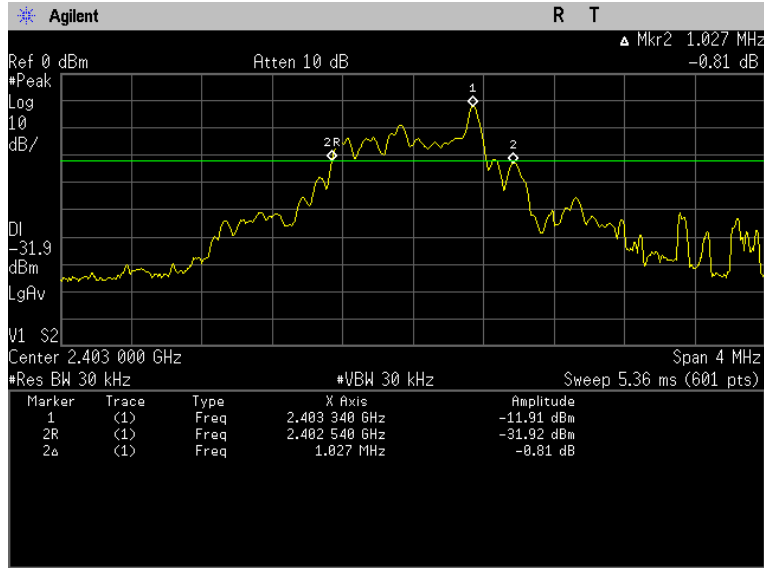
EUT:	Wireless FightPad for PS3
M/N:	8828
Test Date:	Nov.06, 2008
Ambient Temperature:	23°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.215
Test mode:	Transmitting
Test Frequency:	Low: 2403MHz Mid: 2441MHz High: 2480MHz
Test By:	Power

### 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 (kHz)	Limit (kHz)	Conclusion
(Low)	1027	---	PASS
(Mid)	1053	---	PASS
(High)	1033	---	PASS



## **7. DEVIATION TO TEST SPECIFICATIONS**

[ NONE ]

## 8. PHOTOGRAPH OF TEST

### 8.1. Photos of Power Line Conducted Emission Test





## 8.2. Photos of Radiated Emission Test (In Anechoic Chamber)

30~1000MHz





above 1000MHz





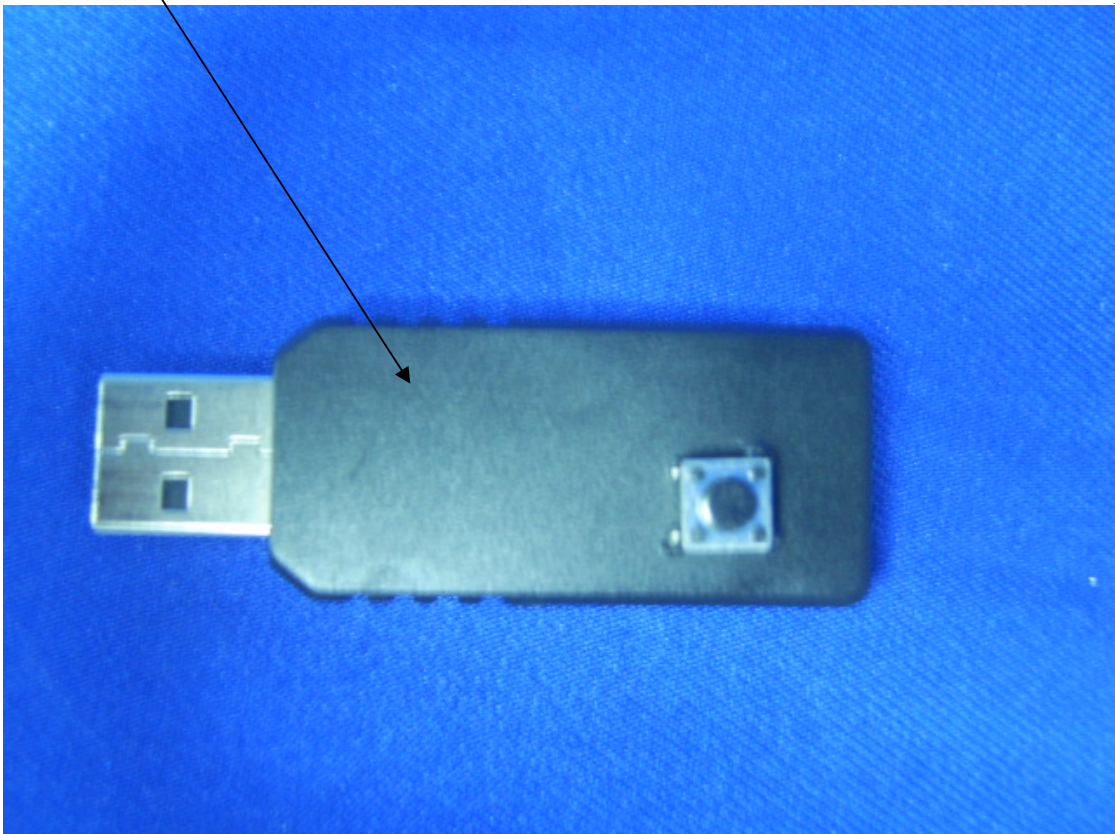
## 9. PHOTOGRAPH OF EUT

**Figure 1**  
General Appearance of the EUT



Label Location

**Figure 2**  
General Appearance

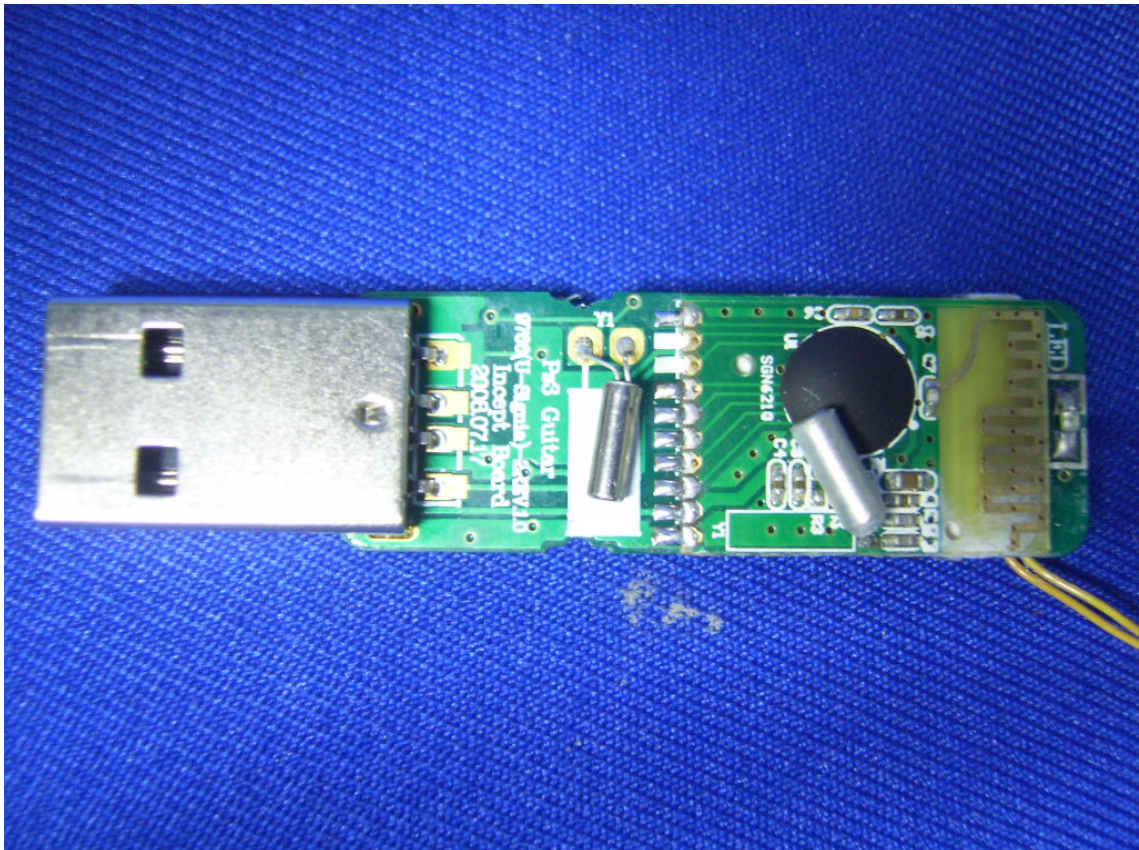




**Figure 3**  
Inside of the EUT

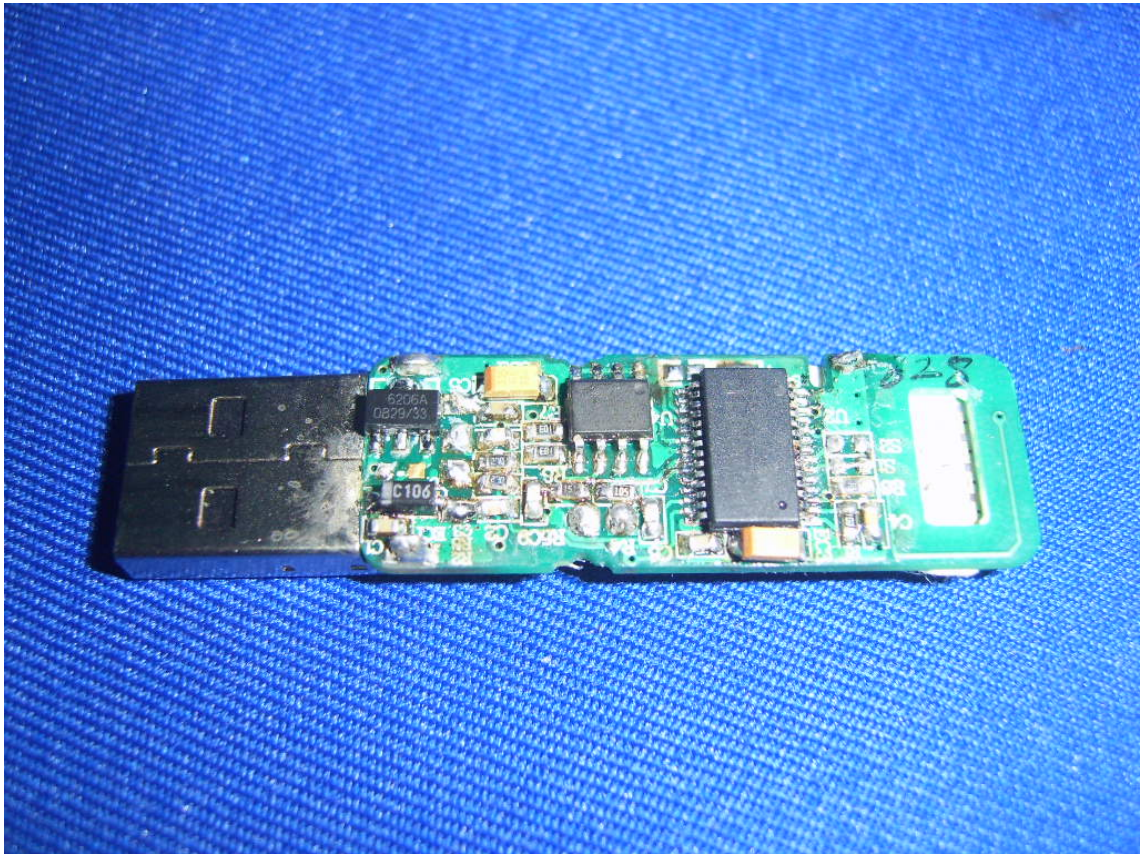


**Figure 4**  
Inside of the EUT

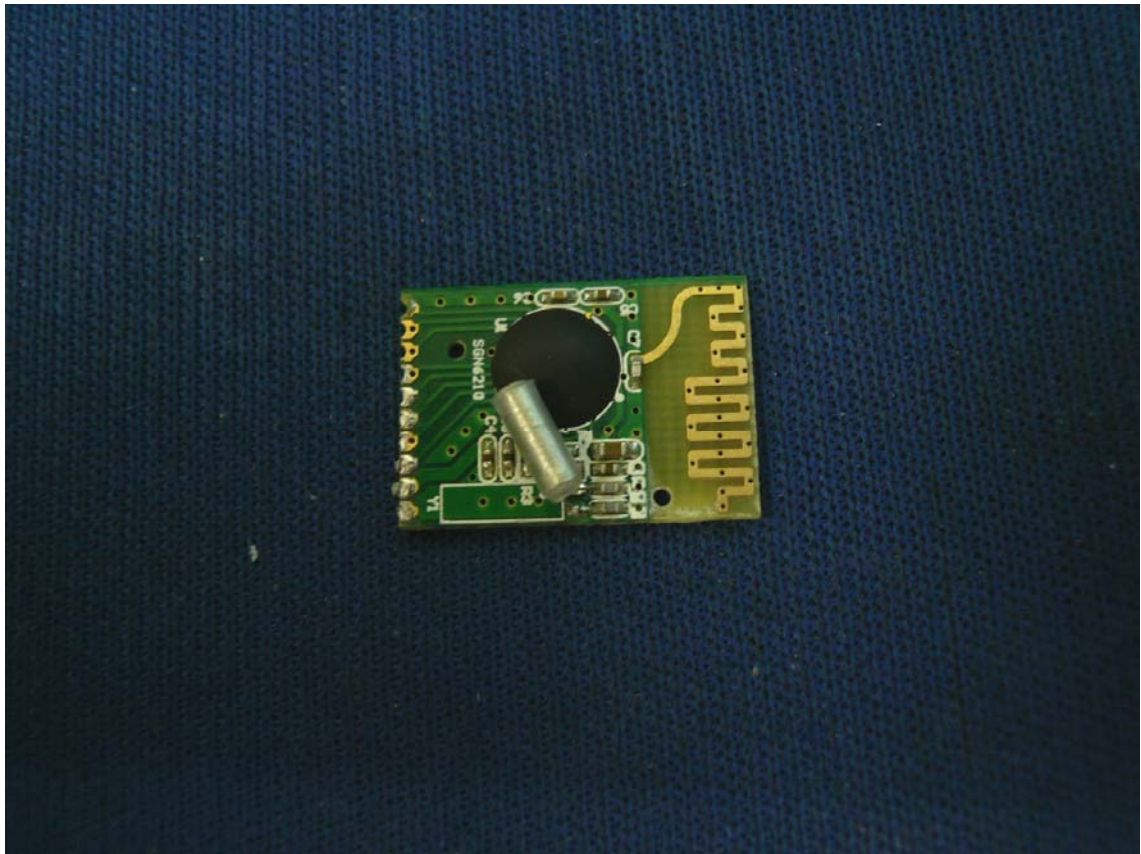




**Figure 5**  
Inside of the EUT



**Figure 6**  
Inside of the EUT



**Figure 7**  
Inside of the EUT

