APPLICATION FOR CERTIFICATION

On Behalf of

Harmonix Music Systems, Inc.

P9 Wii Ringo Wireless Drum Dongle

Model Number: WDMSELEA3B

FCC ID: VFRWDMSELEA3B

Prepared for : Harmonix Music Systems, Inc.
675 Massachusetts Avenue, 6th Floor, Cambridge, MA 02139 US

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
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Report Number	:	ACS-F09105
Date of Test	:	May.12, 2009
Date of Report	:	Jun.09, 2009

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TEST REPORT CERTIFICATION

Applicant	:	Harmonix Music Systems, Inc.
Manufacturer	:	Early Light International Co., Ltd.
EUT Description	:	P9 Wii Ringo Wireless Drum Dongle
FCC ID	:	VFRWDMSELEA3B

(A) MODEL NO. : WDMSELEA3B
(B) SERIAL NO. : N/A
(C) POWER SUPPLY : DC 5V
(D) TEST VOLTAGE : DC 5V From Wii Input AC 120V/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2008

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 both 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 these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the 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: May.12, 2009

Prepared by: Daisy Ye
Daisy Ye / Assistant

Reviewer: Jamy Yu
Jamy Yu / Senior Engineer

AUDIX® 信華科技(深圳)有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章
Stamp only for EMC Dept. Report
Signature: Ken Lu 6/18 09

Approved & Authorized Signer:
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 15: 15.207 ANSI C63.4: 2003 DA 00-705	PASS
Radiated Emission Test	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.4: 2003 DA 00-705	PASS
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) DA 00-705	PASS
20dB Bandwidth Test	FCC Part 15: 15.215 DA 00-705	PASS
Number Of Hopping Frequency Test	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Dwell Time Test	FCC Part 15: 15.247(a)(1)(iii) DA 00-705	PASS
Maximum Peak Output Power Test	FCC Part 15: 15.247(b)(1) DA 00-705	PASS
Band Edge Compliance Test	FCC Part 15: 15.247(d) DA 00-705	PASS
Antenna requirement	FCC Part 15: 15.203	PASS
N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

Description	:	P9 Wii Ringo Wireless Drum Dongle
Model Number	:	WDMSELEA3B
FCC ID	:	VFRWDMSELEA3B
Operation frequency	:	2.408GHz-----2.476GHz
Operation Channel	:	16 Channels
Modulation Technology	:	GFSK
Output power	:	-0.17dBm (maximum measured)
Antenna Assembly Gain	:	Integrated PCB antenna with 0dBi gain (maximum)
Power Supply	:	DC 5V From Wii Input AC 120V/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	:	Harmonix Music Systems, Inc. 675 Massachusetts Avenue, 6th Floor, Cambridge, MA 02139 US
Manufacturer	:	Early Light International Co., Ltd. Early Light International Centre, No.9 Ka Fu Close, Sheung Shui, N.T., Hong Kong
Date of Test	:	May.12, 2009
Date of Receipt	:	May.09, 2009
Sample Type	:	Prototype production

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. Wii

S/N	:	LJH11347884

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	:	Mar.31, 2009 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 Feb. 02, 2009 Accredited by NVLAP, USA NVLAP Code: 200372-0 Apr. 01, 2009

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

Item	MU	Remark
Uncertainty for Power point Conducted Emissions Test	2.88dB	
Uncertainty for Radiation Emission test in 3m chamber(30MHz to 1GHz)	3.86dB	Polarize: V
	4.3dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber(1GHz to 25GHz)	2.78dB	Polarize: H
	2.82dB	Polarize: V
Uncertainty for radio frequency	1×10^{-9}	
Uncertainty for conducted RF Power	0.34dB	
Uncertainty for temperature	0.2℃	
Uncertainty for humidity	1%	
Uncertainty for DC and low frequency voltages	0.06%	

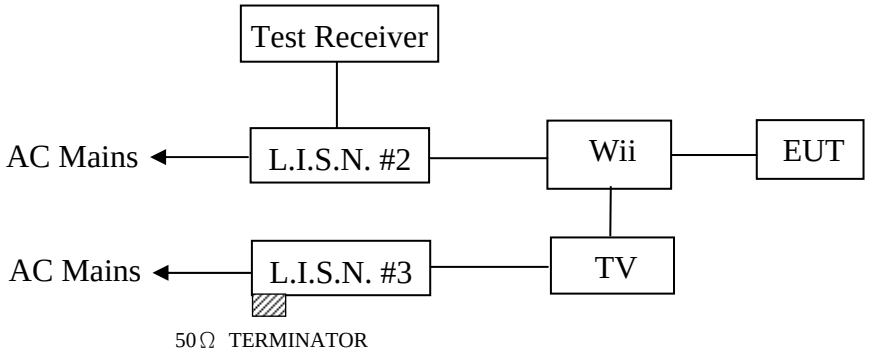
3. POWER LINE CONDUCTED EMISSION TEST

3.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Test Receiver	Rohde & Schwarz	ESCI	100843	Oct.24, 08	1 Year
2	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May.08, 09	1 Year
3	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 09	1 Year
4	Terminator	Hubersuhner	50Ω	No. 1	May.08, 09	1 Year
5	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 09	1Year
6	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 09	1 Year
7	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 09	1 Year

3.2.Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and Supporting System



(EUT: P9 Wii Ringo Wireless Drum Dongle)

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. P9 Wii Ringo Wireless Drum Dongle (EUT)

Model Number : WDMSELEA3B
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 and simulator as shown as Section 3.2.

3.5.2. Turned on the power of all equipment.

3.5.3. Let the EUT worked in test modes (Tx Mode) and measured it.

3.6. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via Wii 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, 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 ESCI) is set at 9kHz.

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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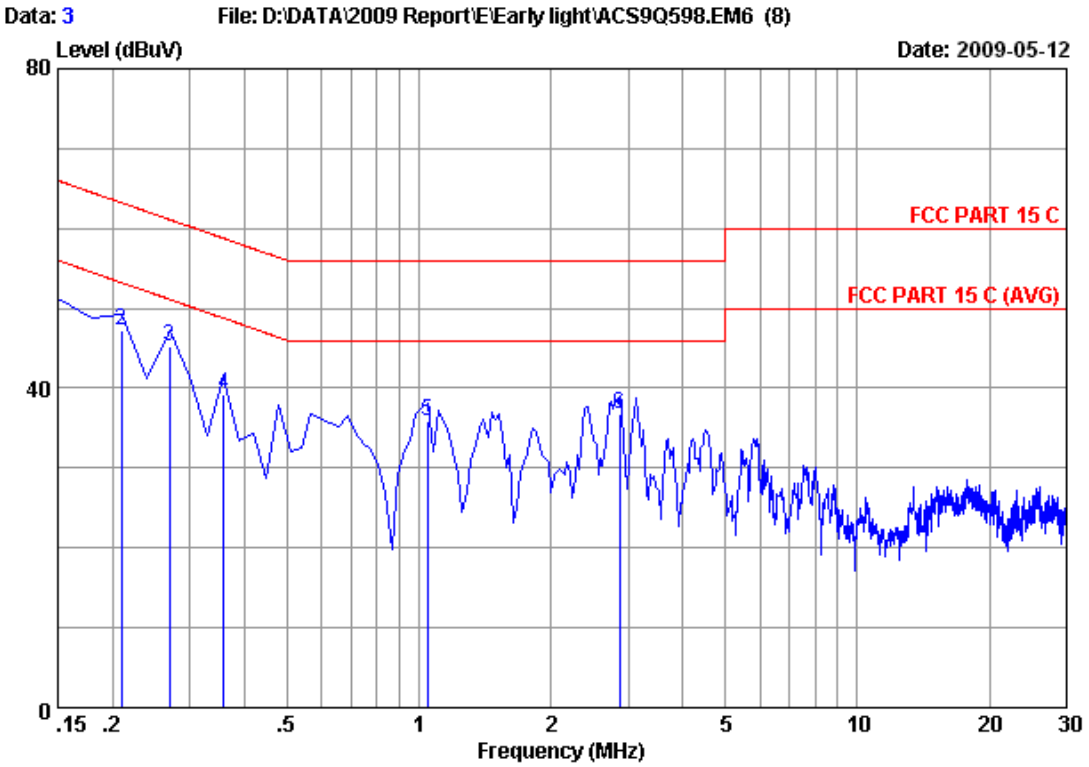

Site no :Audix No.1 Conduction Data no :3
Dis./Ant. :** KNW407 1# VA
Limit :FCC PART 15 C
Env./Ins. :Temp:23'C Humi:54% Engineer :Power
EUT :P9 Wii Ringo Wireless Drum Dongle
Power Rating :DC 5V From Wii Input AC 120V/60Hz
Test Mode :Tx Mode
:M/N:WDMSELEA3B

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.26	9.67	39.23	49.16	66.00	16.84	QP
2	0.20970	0.29	9.91	37.06	47.26	63.22	15.96	QP
3	0.26940	0.27	9.89	34.99	45.15	61.14	15.99	QP
4	0.35895	0.24	9.88	29.21	39.33	58.75	19.42	QP
5	1.046	0.10	9.89	25.98	35.97	56.00	20.03	QP
6	2.866	0.10	9.91	26.80	36.81	56.00	19.19	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading
2.If the average limit is met when useing a quasi-peak detector.
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

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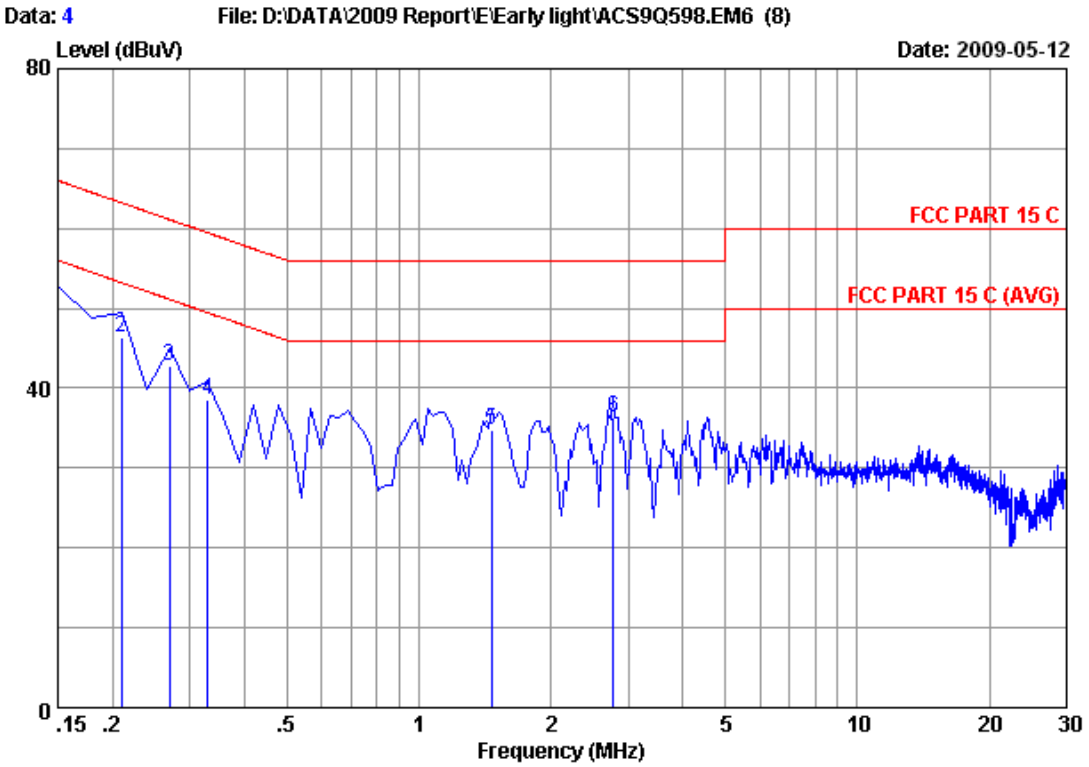


Site no :Audix No.1 Conduction Data no :4
Dis./Ant. :** KNW407 1# VB
Limit :FCC PART 15 C
Env./Ins. :Temp:23'C Humi:54% Engineer :Power
EUT :P9 Wii Ringo Wireless Drum Dongle
Power Rating :DC 5V From Wii Input AC 120V/60Hz
Test Mode :Tx Mode
:M/N:WDMSELEA3B

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.24	9.67	39.74	49.65	66.00	16.35	QP
2	0.20970	0.11	9.91	36.24	46.26	63.22	16.96	QP
3	0.26940	0.13	9.89	32.70	42.72	61.14	18.42	QP
4	0.32910	0.15	9.88	28.54	38.57	59.47	20.90	QP
5	1.463	0.06	9.90	24.84	34.80	56.00	21.20	QP
6	2.777	0.03	9.91	26.35	36.29	56.00	19.71	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading
2.If the average limit is met when useing 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

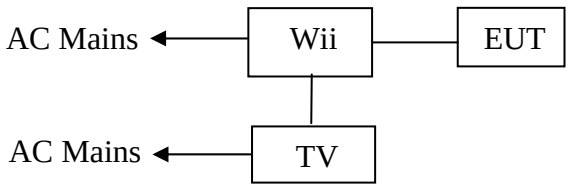
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Dec.05,08	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 09	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 09	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 09	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Nov.10, 08	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 09	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 09	1 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	May.27, 08	1.5 Year
3.	Horn Antenna	EMCO	3116	00060088	May.27, 08	1.5Year
4	Amplifier	Agilent	8449B	3008A02495	Nov.24, 08	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	28620/2	May.08, 09	1 Year
6	RF Cable	Hubersuhner	SUCOFLEX102	271471/4	May.08, 09	1 Year
7	RF Cable	Hubersuhner	SUCOFLEX102	29086/2	May.08, 09	1 Year

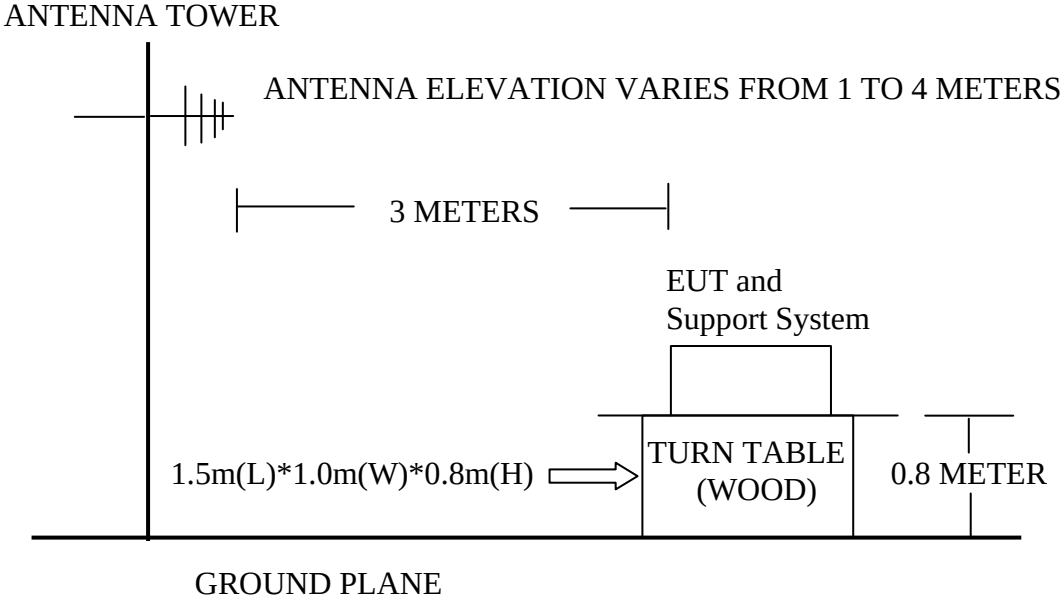
4.2.Block Diagram of Test Setup

4.2.1.Block diagram of connection between the EUT and simulators



(EUT: P9 Wii Ringo Wireless Drum Dongle)

4.2.2.In Anechoic Chamber



4.3.Radiated Emission Limit

4.3.1. 15.209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/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 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark： (1) Emission level dBμV = 20 log Emission level μV/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.

4.3.2. 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

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.P9 Wii Ringo Wireless Drum Dongle (EUT)

Model Number : WDMSELEA3B
Serial Number : N/A

4.5.Operating Condition of EUT

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

4.5.2. Turned on the power of all equipment.

4.5.3.Let the EUT worked in test modes (Tx Mode) and test it.

4.6.Test Procedure

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. Power on the EUT and let it working in test mode, then test it. 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 are set on test.

The bandwidth of the EMI test receiver (R&S ESVS10) 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 10^{th} 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 25 GHz are comply with 15.209 limits

All the emissions above 1GHz were peak measured and comply with average limit, so the average levels were deemed to comply with average limit.

Test Frequency: 30MHz-1000MHz

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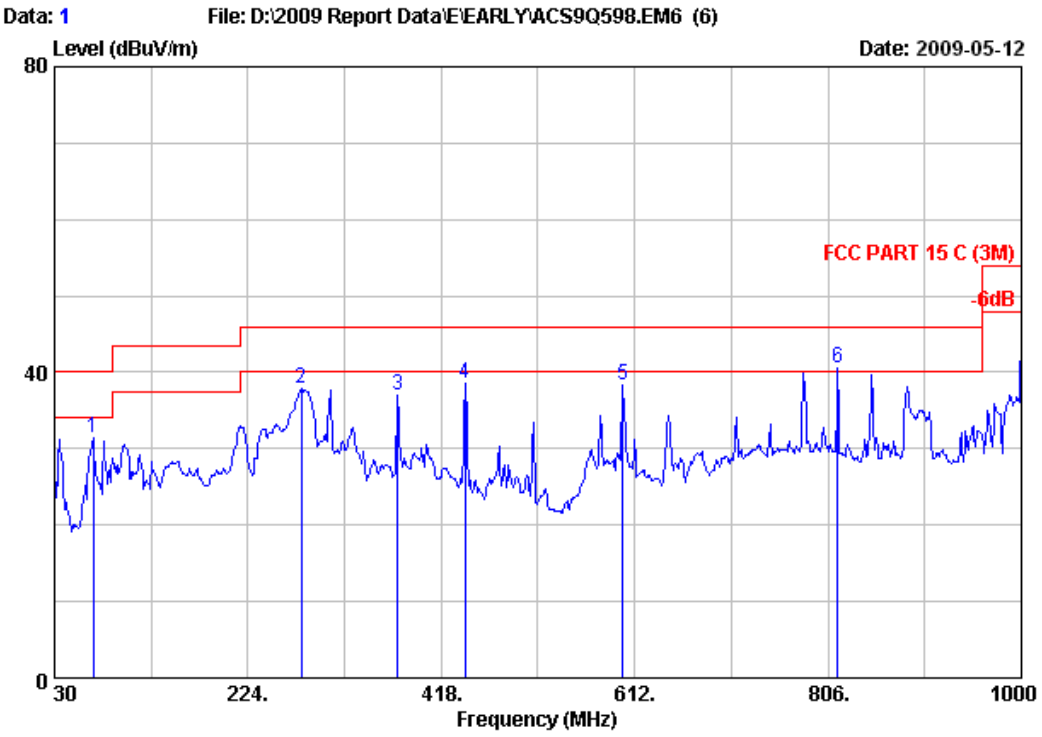

Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m CBL6111C Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24*C/56% Engineer : Victory
EUT : P9 Wii Ringo Wireless Drum Dongle
Power Rating : DC 5V From Wii input AC 120V/60Hz
Test Mode : Tx Mode
M/N:WDMSELEA3B

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	68.800	6.45	0.55	24.33	31.33	40.00	8.67	QP
2	277.350	13.13	1.48	23.35	37.96	46.00	8.04	QP
3	374.350	15.52	1.80	19.59	36.91	46.00	9.09	QP
4	442.250	16.93	2.01	19.55	38.49	46.00	7.51	QP
5	600.360	19.47	2.44	16.51	38.42	46.00	7.58	QP
6	815.700	21.89	3.00	15.69	40.58	46.00	5.42	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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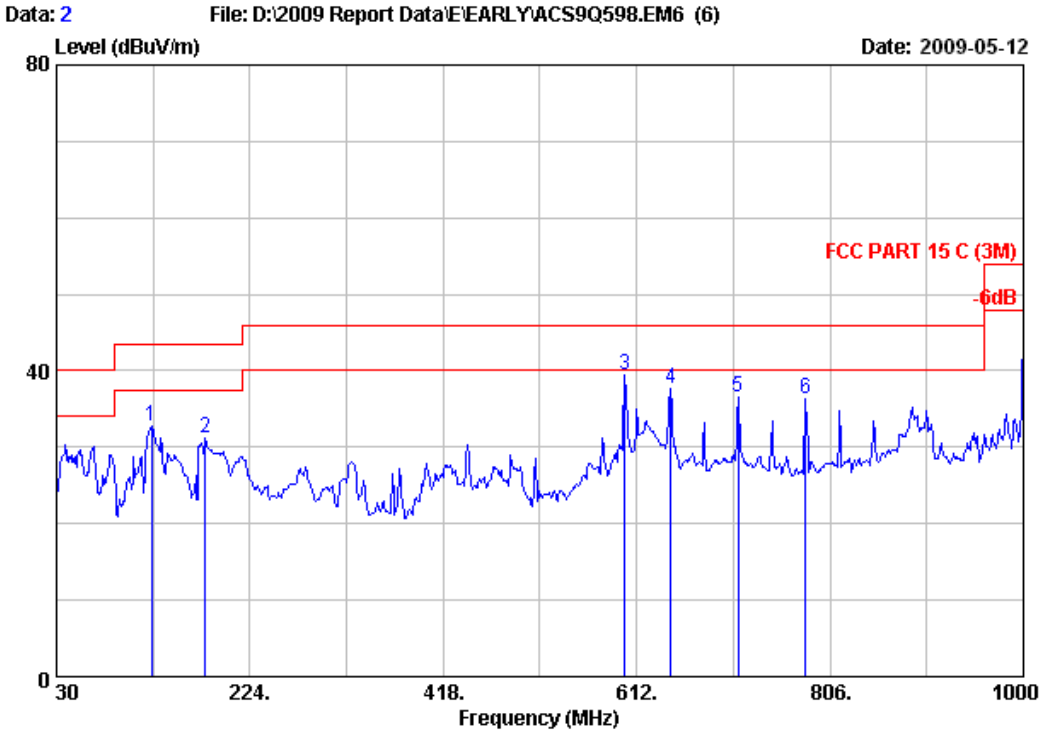

Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m CBL6111C Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 24*C/56% Engineer : Victory
EUT : P9 Wii Ringo Wireless Drum Dongle
Power Rating : DC 5V From Wii input AC 120V/60Hz
Test Mode : Tx Mode
M/N:WDMSELEA3B

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	125.060	11.97	0.85	19.84	32.66	43.50	10.84	QP
2	179.380	9.46	1.04	20.70	31.20	43.50	12.30	QP
3	600.360	19.47	2.44	17.51	39.42	46.00	6.58	QP
4	645.950	20.00	2.57	15.02	37.59	46.00	8.41	QP
5	713.850	20.60	2.79	13.14	36.53	46.00	9.47	QP
6	781.750	21.64	2.95	11.83	36.42	46.00	9.58	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

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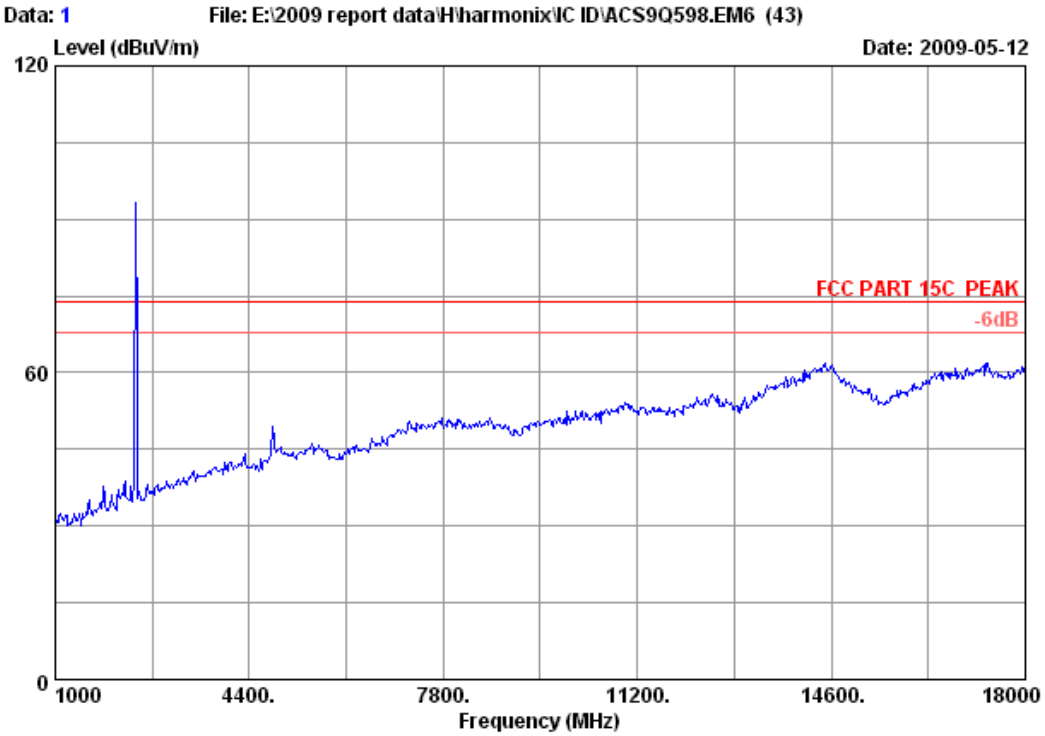
Postcode:518057



Site no.	: 3m Chamber	Data no.	: 1
Dis. / Ant.	: 3m 3115	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 25*C/49%	Engineer	: Power
EUT	: P9 Wii Ringo Wireless Drum Dongle		
Power	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: Tx 2408MHz		
M/N	: MDMSELEA3B		

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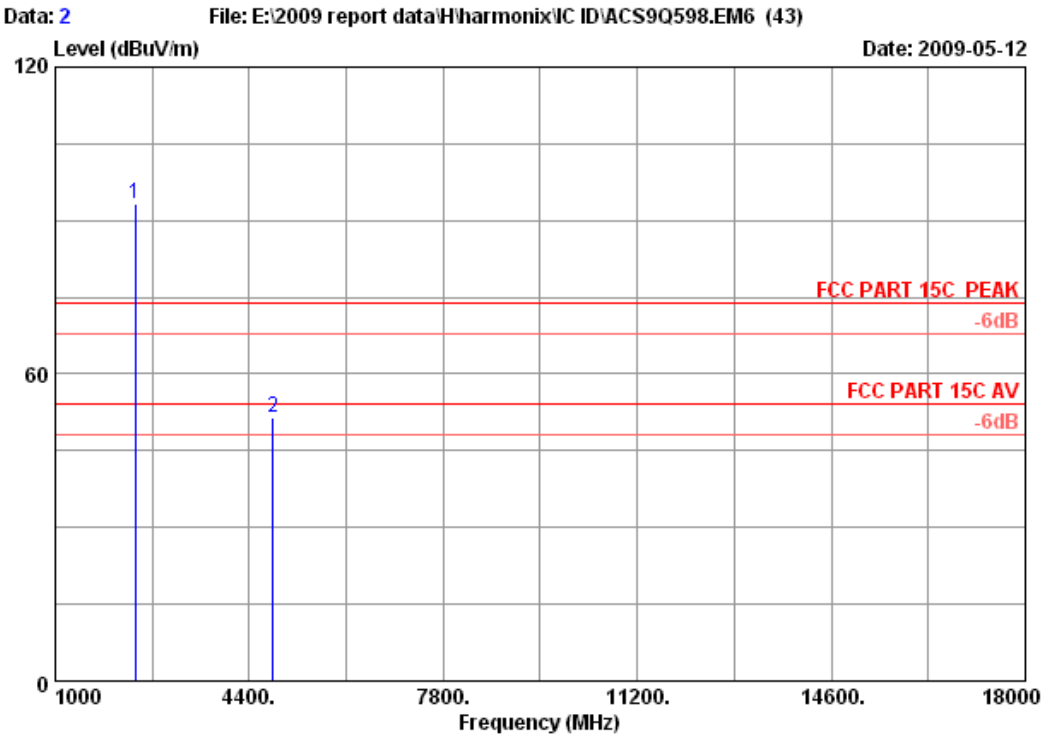

Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2408MHz
M/N : MDMSELEA3B

	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	2408.000	28.48	6.73	35.12	93.32	93.41	74.00	-19.41	Peak
2	4816.000	34.36	10.54	34.59	41.31	51.62	74.00	22.38	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.

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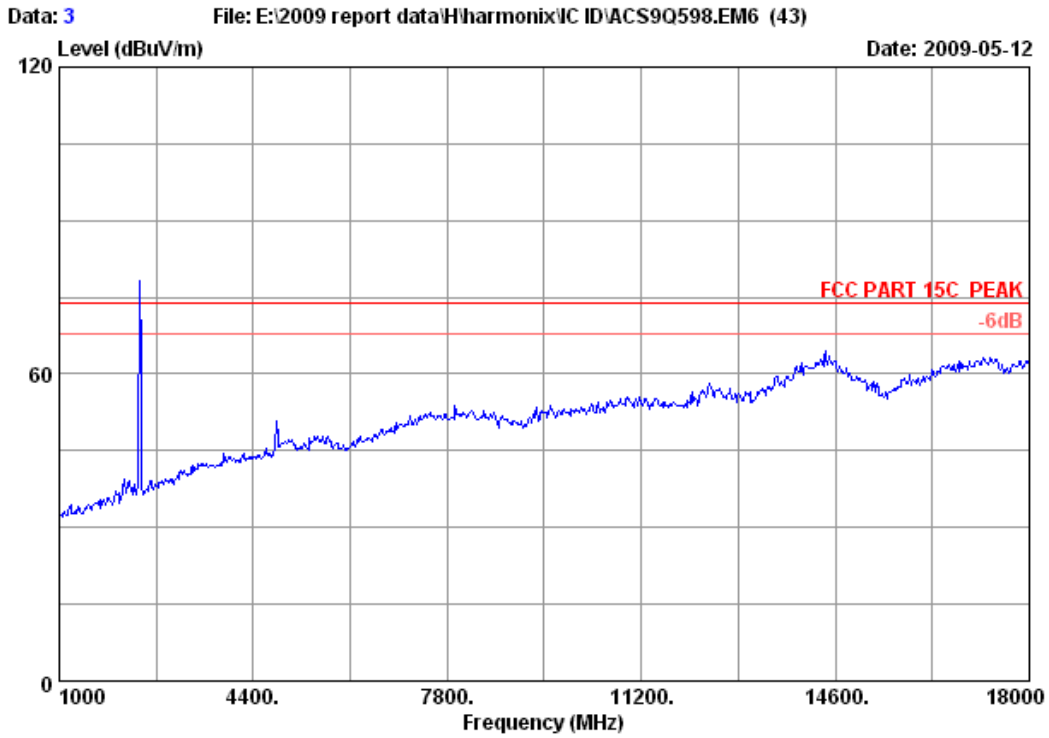

Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 3115	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 25*C/49%	Engineer	: Power
EUT	: P9 Wii Ringo Wireless Drum Dongle		
Power	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: Tx 2408MHz		
M/N	: MDMSELEA3B		

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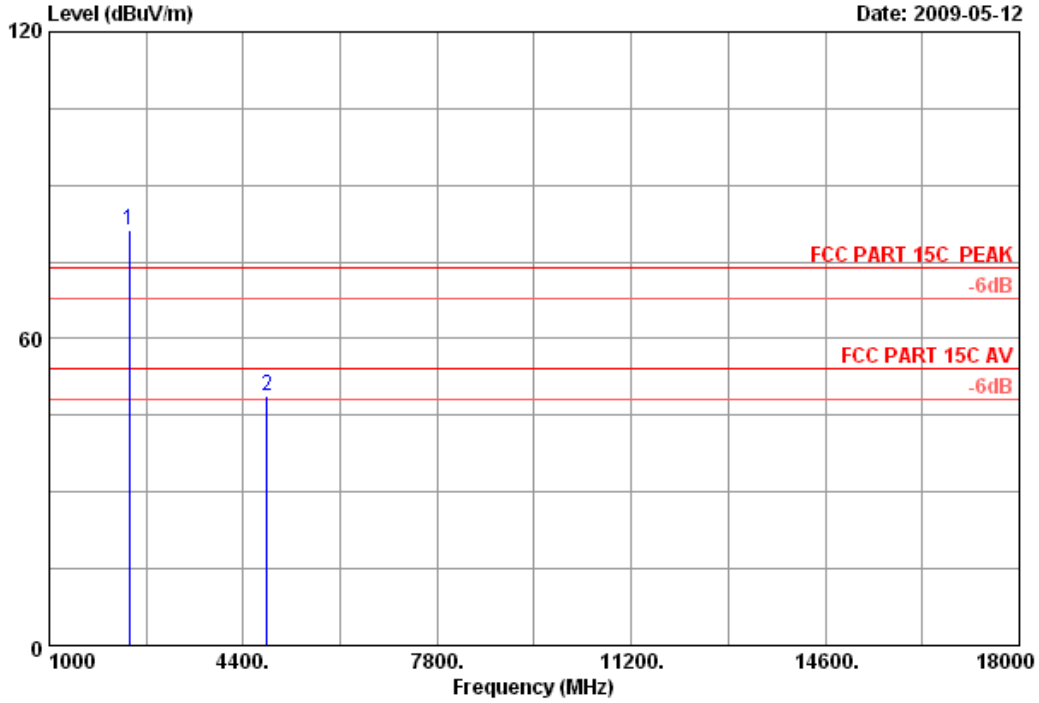
Data: 4 File: E:\2009 report data\H\harmonix\IC ID\ACS9Q598.EM6 (43)



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2408MHz
M/N : MDMSELEA3B

	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	2408.000	28.48	6.73	35.12	81.20	81.29	74.00	-7.29	Peak
2	4816.000	34.36	10.54	34.59	38.43	48.74	74.00	25.26	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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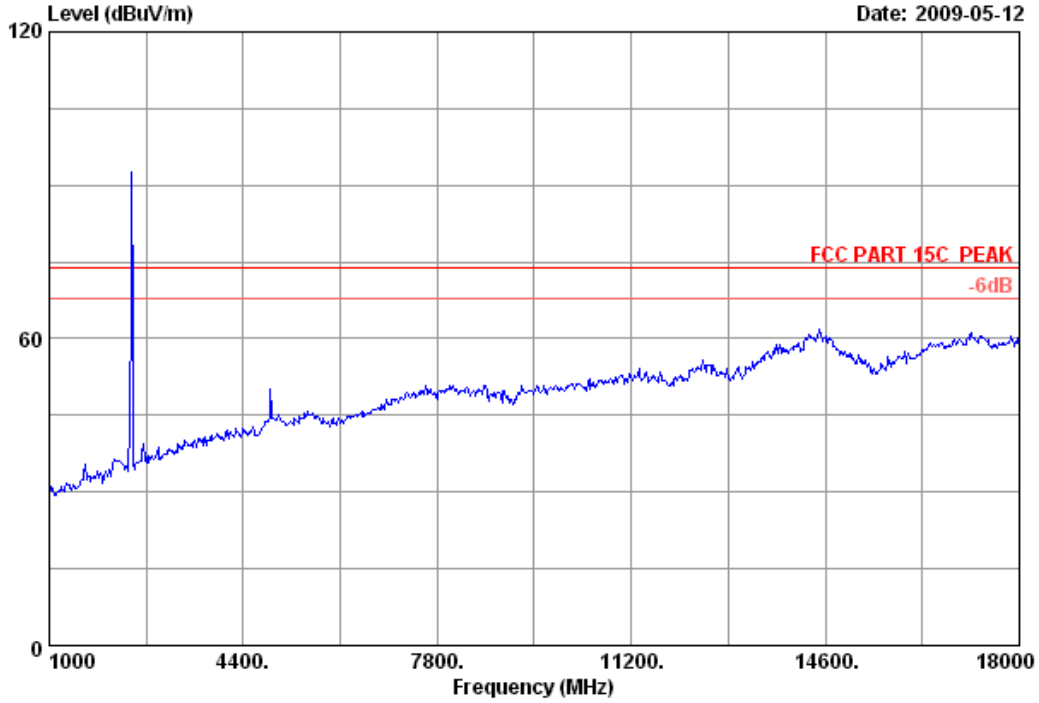
Data: 5 File: E:\2009 report data\H\harmonix\IC ID\ACS9Q598.EM6 (43)



Site no.	: 3m Chamber	Data no.	: 5
Dis. / Ant.	: 3m 3115	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 25*C/49%	Engineer	: Power
EUT	: P9 Wii Ringo Wireless Drum Dongle		
Power	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: Tx 2440MHz		
M/N	: MDMSELEA3B		

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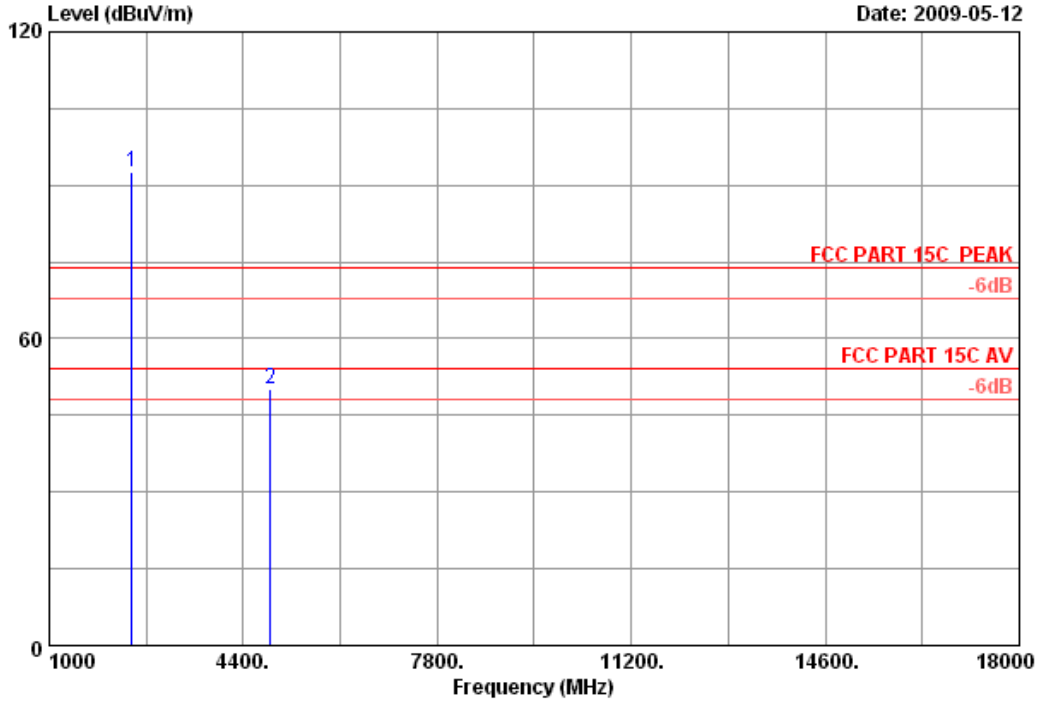
Data: 6 File: E:\2009 report data\H\harmonix\IC ID\ACS9Q598.EM6 (43)



Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2440MHz
M/N : MDMSELEA3B

	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	2440.000	28.53	6.80	35.11	92.54	92.76	74.00	-18.76	Peak
2	4880.000	34.78	10.56	34.58	39.24	50.00	74.00	24.00	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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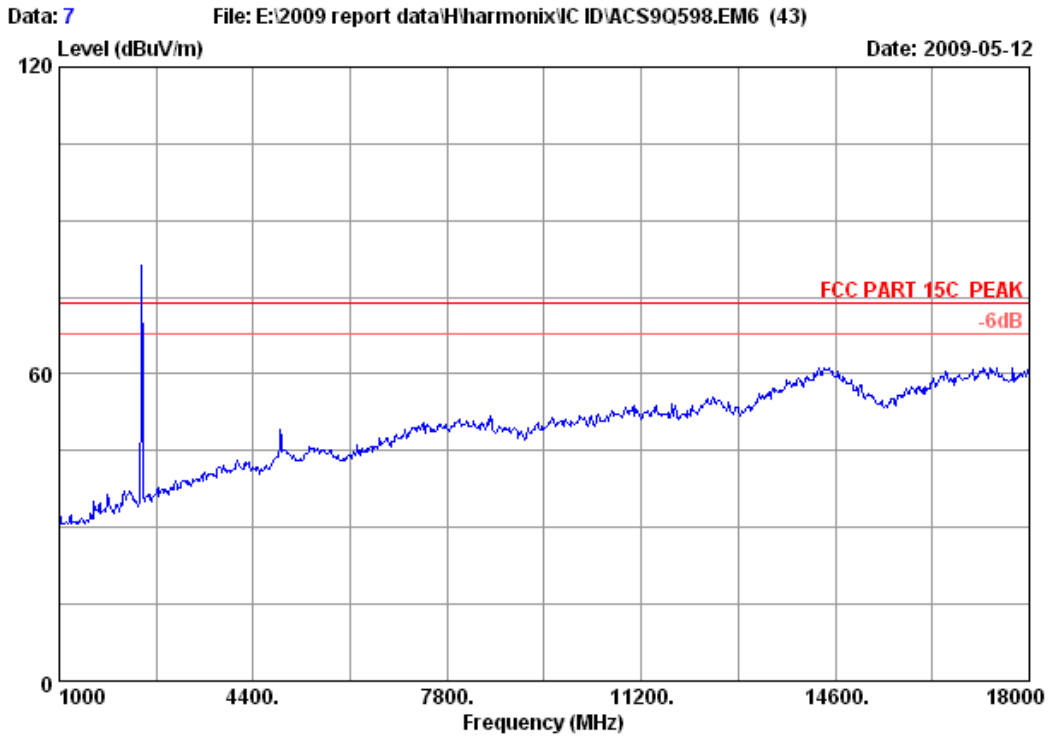

Site no.	: 3m Chamber	Data no.	: 7
Dis. / Ant.	: 3m 3115	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 25*C/49%	Engineer	: Power
EUT	: P9 Wii Ringo Wireless Drum Dongle		
Power	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: Tx 2440MHz		
M/N	: MDMSELEA3B		

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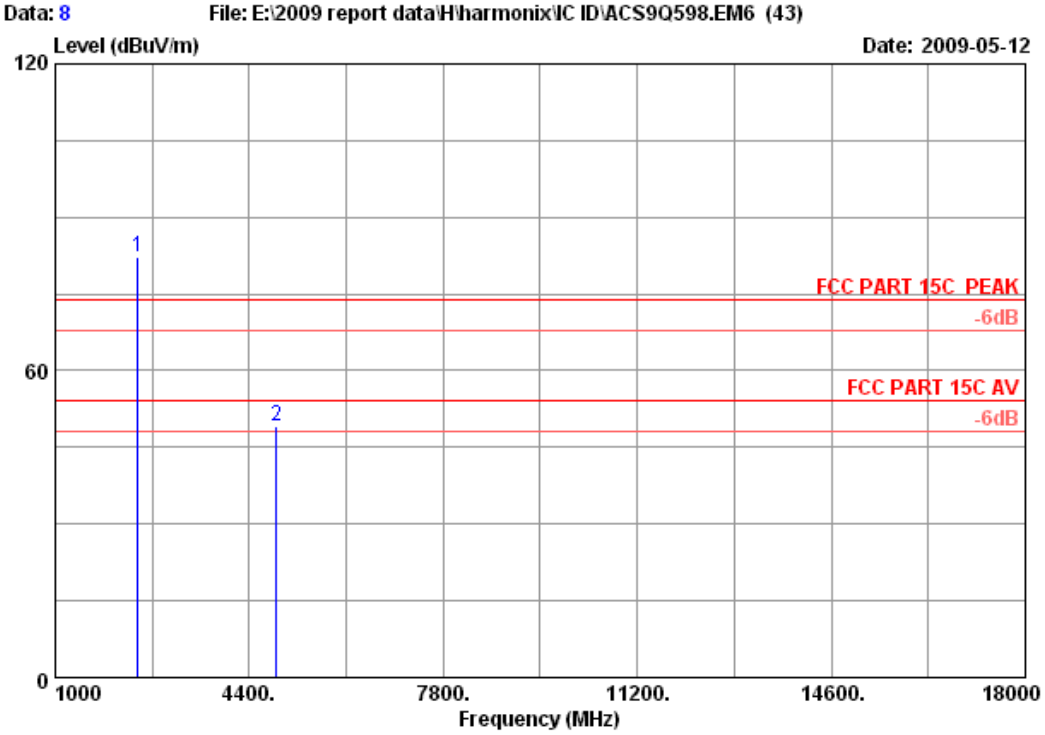

Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2440MHz
M/N : MDMSELEA3B

	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	2440.000	28.53	6.80	35.11	82.11	82.33	74.00	-8.33	Peak
2	4880.000	34.78	10.56	34.58	38.42	49.18	74.00	24.82	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.

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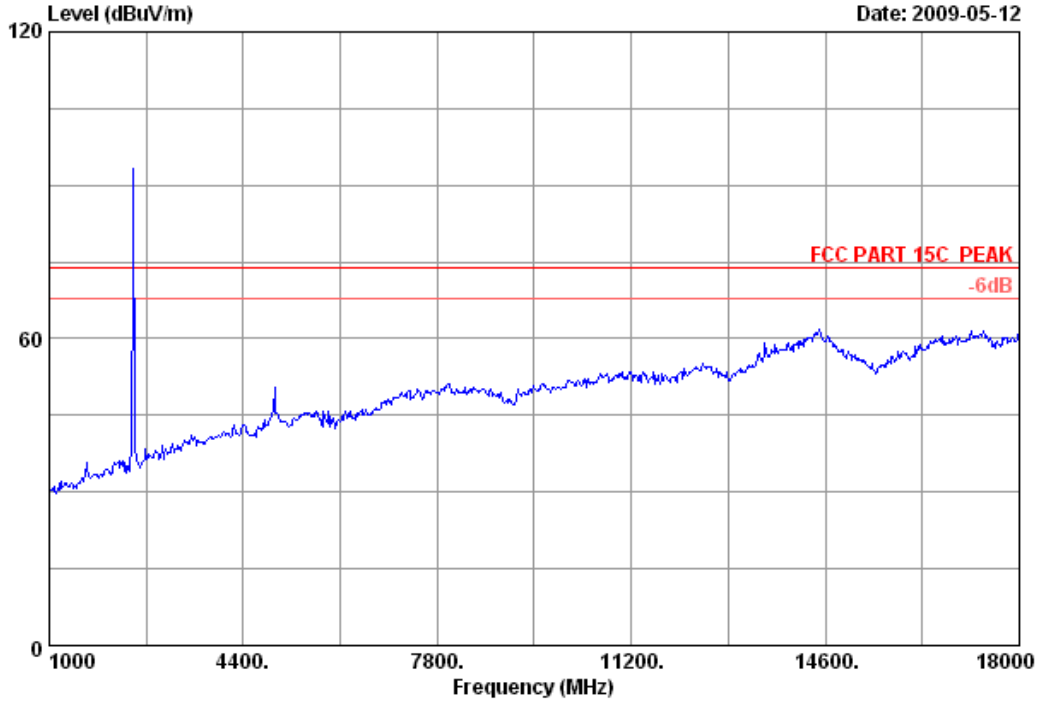
Data: 9 File: E:\2009 report data\H\harmonix\IC ID\ACS9Q598.EM6 (43)



Site no.	: 3m Chamber	Data no.	: 9
Dis. / Ant.	: 3m 3115	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 25*C/49%	Engineer	: Power
EUT	: P9 Wii Ringo Wireless Drum Dongle		
Power	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: Tx 2476MHz		
M/N	: MDMSELEA3B		

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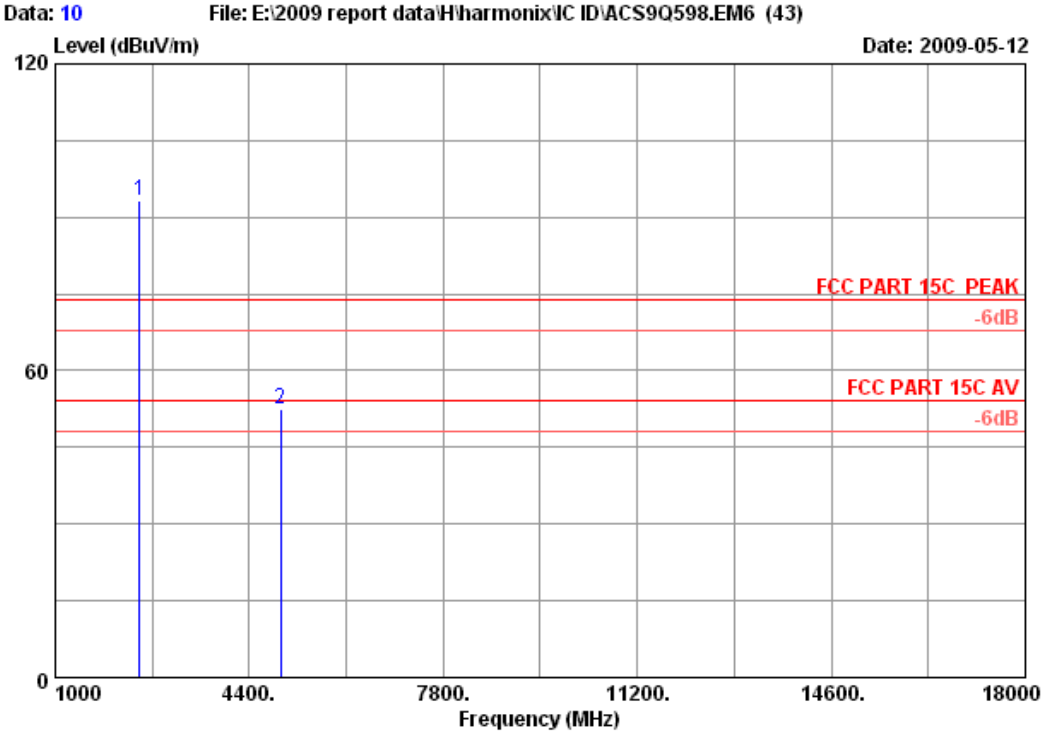

Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2476MHz
M/N : MDMSELEA3B

	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	2476.000	28.58	6.87	35.10	93.01	93.36	74.00	-19.36	Peak
2	4952.000	35.19	10.58	34.56	41.37	52.58	74.00	21.42	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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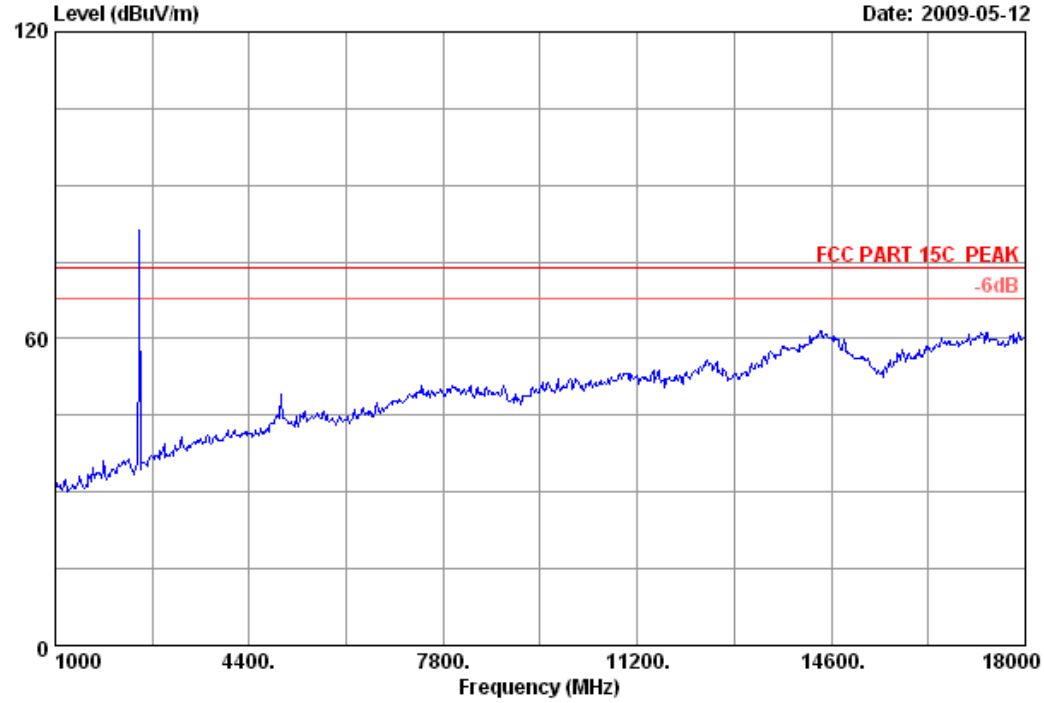
Data: 11 File: E:\2009 report data\H\harmonix\IC ID\ACS9Q598.EM6 (43)



Site no.	: 3m Chamber	Data no.	: 11
Dis. / Ant.	: 3m 3115	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C PEAK		
Env. / Ins.	: 25*C/49%	Engineer	: Power
EUT	: P9 Wii Ringo Wireless Drum Dongle		
Power	: DC 5V from Wii input AC 120V/60Hz		
Test mode	: Tx 2476MHz		
M/N	: MDMSELEA3B		

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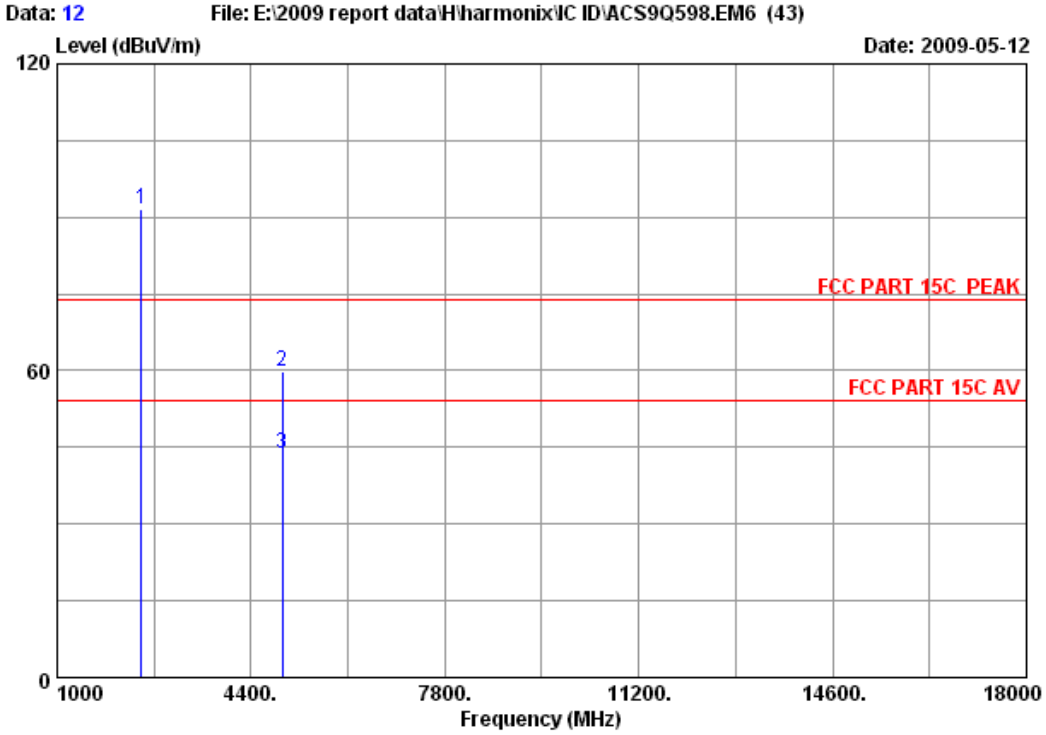


Site no. : 3m Chamber Data no. : 12
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/55% Engineer : Sunny
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2476MHz
M/N : MDMSELEA3B

	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	2476.000	28.58	6.87	35.10	91.26	91.61	74.00	-17.61	Peak
2	4952.000	35.19	10.58	34.56	48.68	59.89	74.00	14.11	Peak
3	4952.000	35.19	10.58	34.56	32.58	43.79	54.00	10.21	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. CARRIER FREQUENCY SEPARATION TEST

5.1.Test Equipment

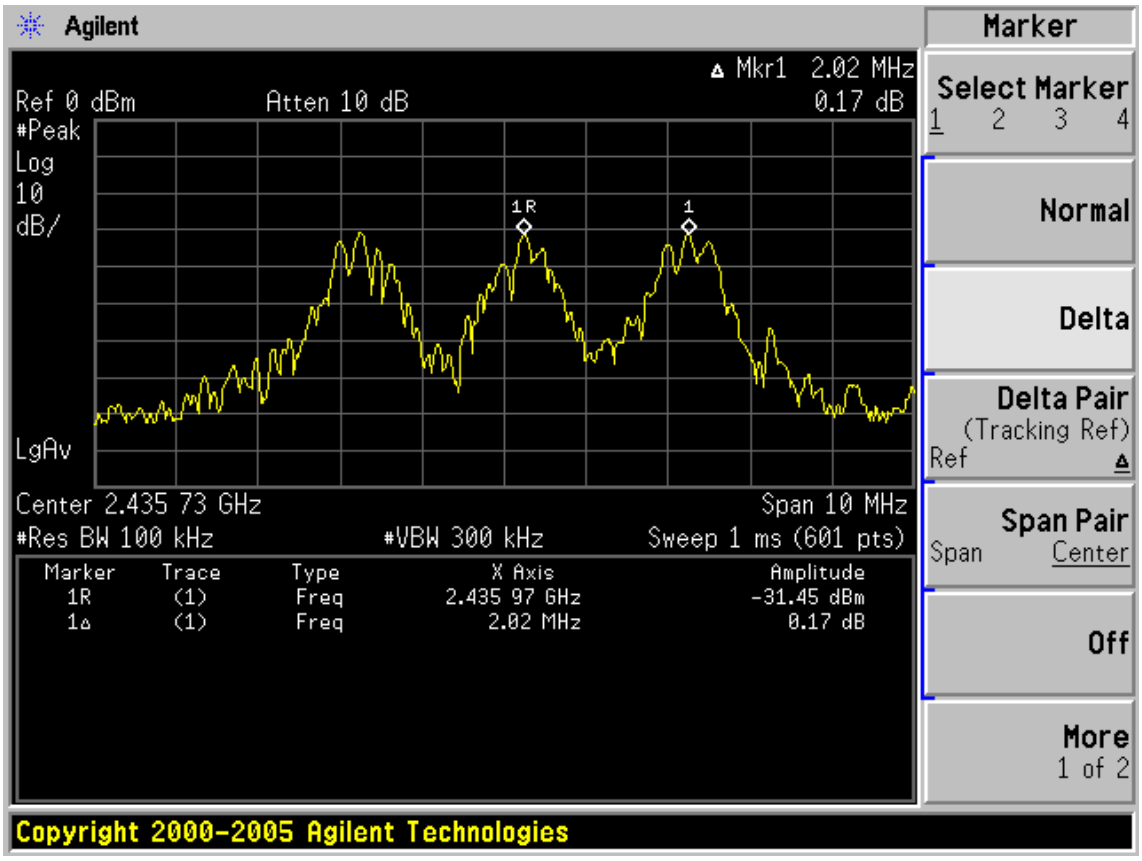
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May,08, 09	1 Year

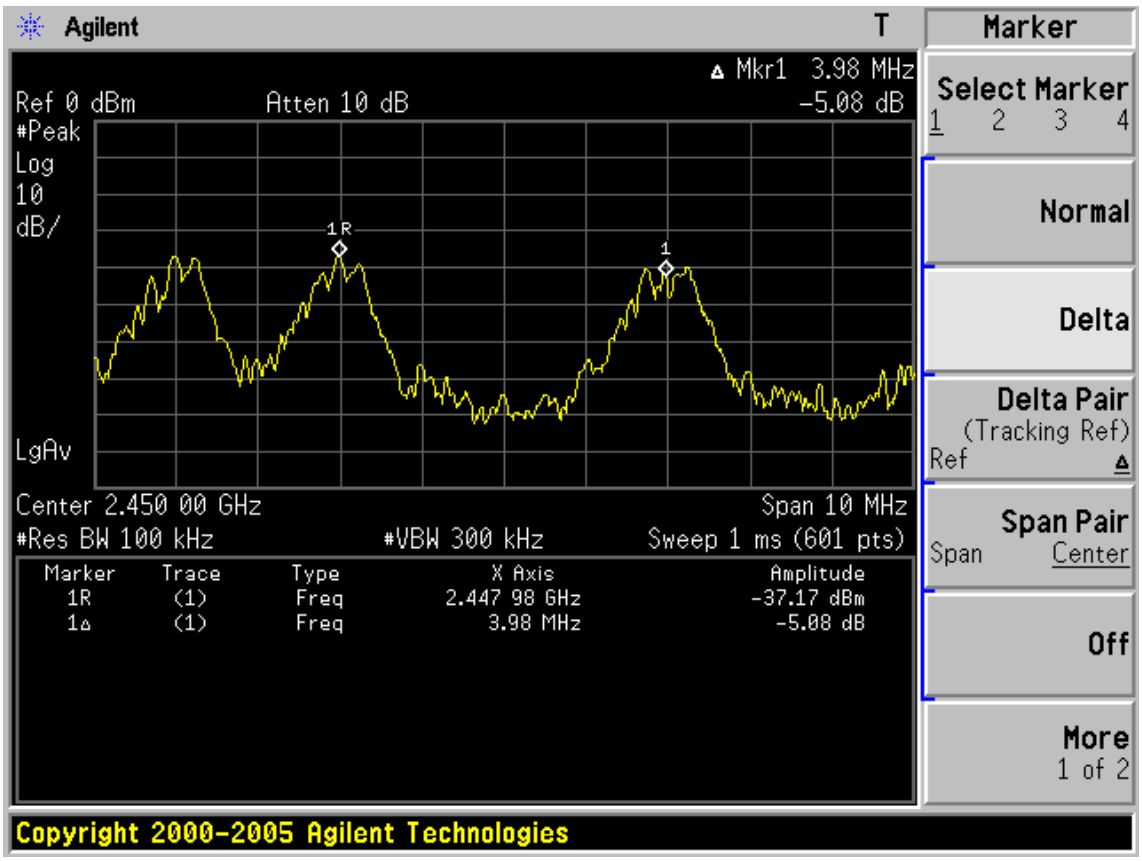
5.2.Limit

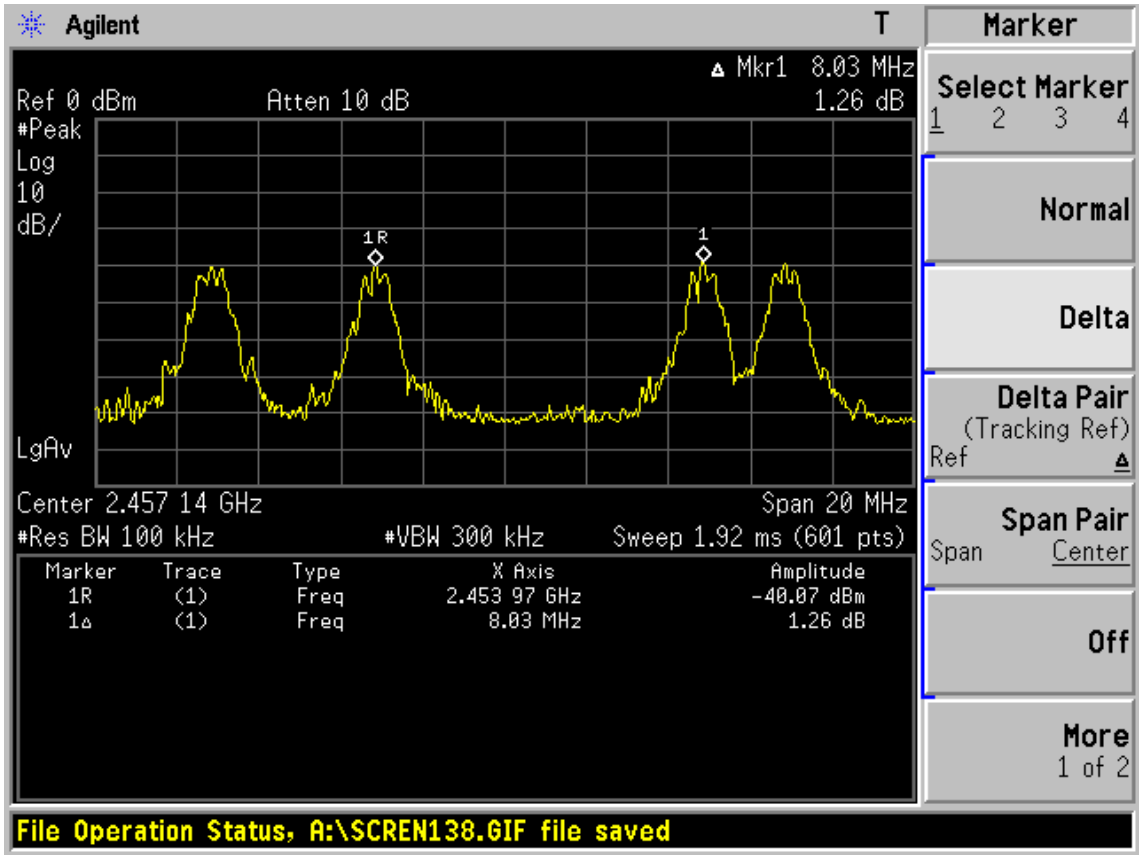
Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater.

5.3.Test Results

CH	Channel separation	Conclusion
Low	2.02MHz	PASS
Mid	3.98MHz	PASS
High	8.03MHz	PASS


Agilent
Marker
Mkr1 2.02 MHz
Ref 0 dBm
Atten 10 dB
0.17 dB
#Peak
Log
10
dB/
1R
1
LgAv
Center 2.435 73 GHz
Span 10 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.435 97 GHz -31.45 dBm
1Δ (1) Freq 2.02 MHz 0.17 dB
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Copyright 2000-2005 Agilent Technologies


Agilent
T
Marker
Mkr1 3.98 MHz
Ref 0 dBm
Atten 10 dB
-5.08 dB
#Peak
Log
10
dB/
1R
1
LgAv
Center 2.450 00 GHz
Span 10 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.447 98 GHz -37.17 dBm
1Δ (1) Freq 3.98 MHz -5.08 dB
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Copyright 2000-2005 Agilent Technologies


Agilent
T
Marker
Mkr1 8.03 MHz
Ref 0 dBm
Atten 10 dB
1.26 dB
#Peak
Log
10
dB/
1R
1
LgAv
Center 2.457 14 GHz
Span 20 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.92 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.453 97 GHz -40.07 dBm
1Δ (1) Freq 8.03 MHz 1.26 dB
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\SCREN138.GIF file saved

6. 20 DB BANDWIDTH TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,08, 09	1 Year
2	Attenuator	Agilent	8491B	MY39262165	May,08, 09	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,08, 09	1Year

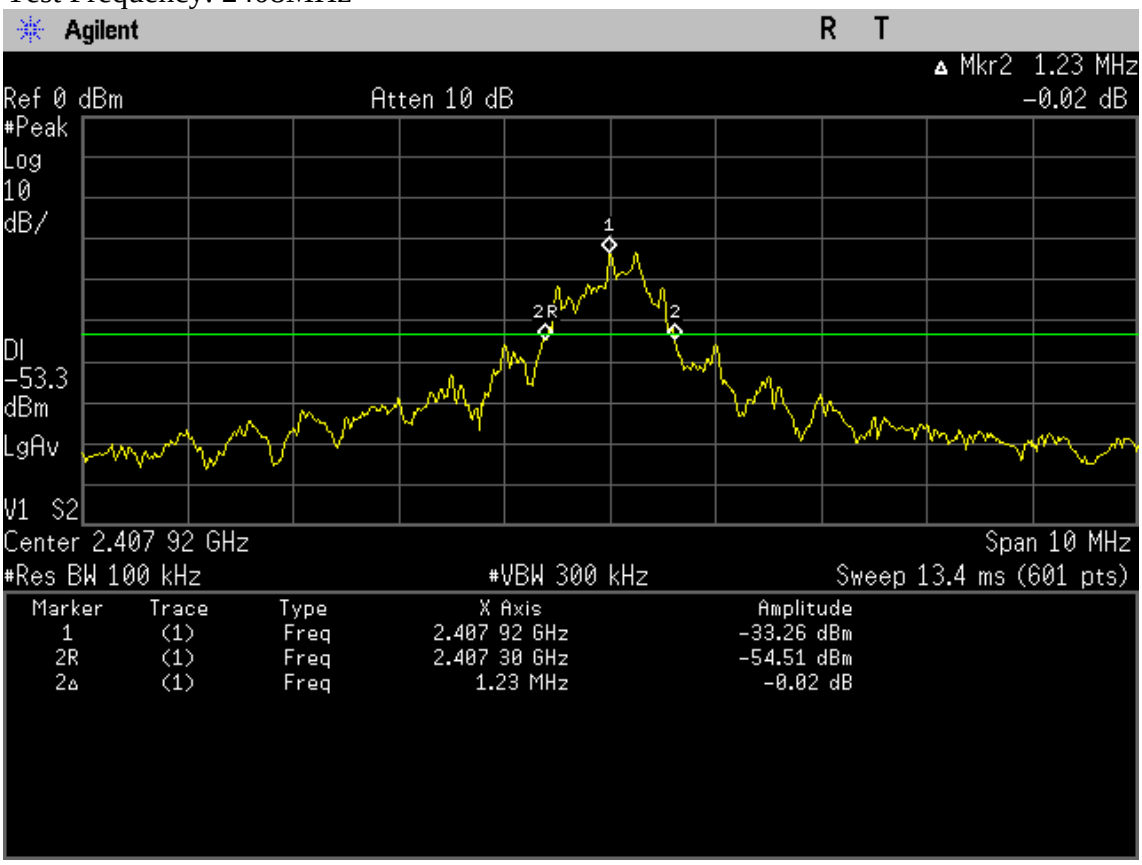
6.2. Limit

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.

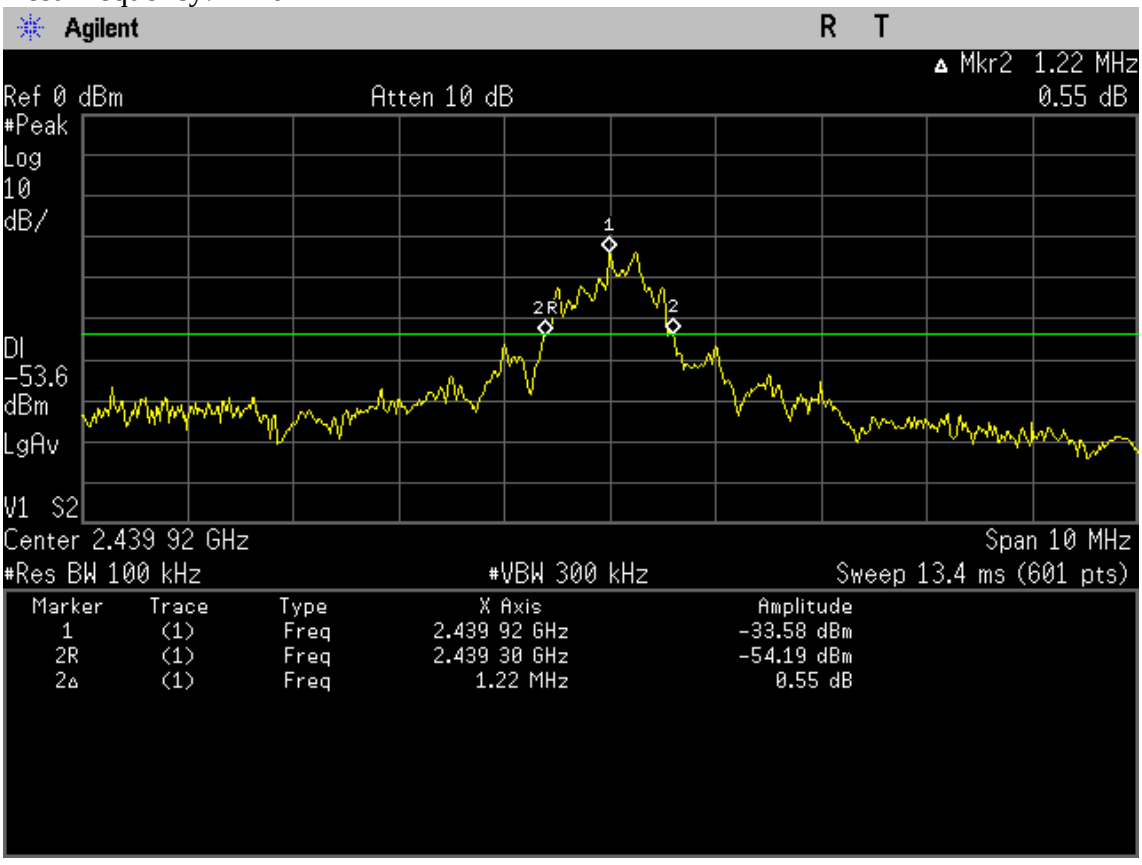
6.3. Test Results

CH	20dB Bandwidth (MHz)	Limit (MHz)	Conclusion
(Low)	1.23	---	PASS
(Mid)	1.22	---	PASS
(High)	1.27	---	PASS

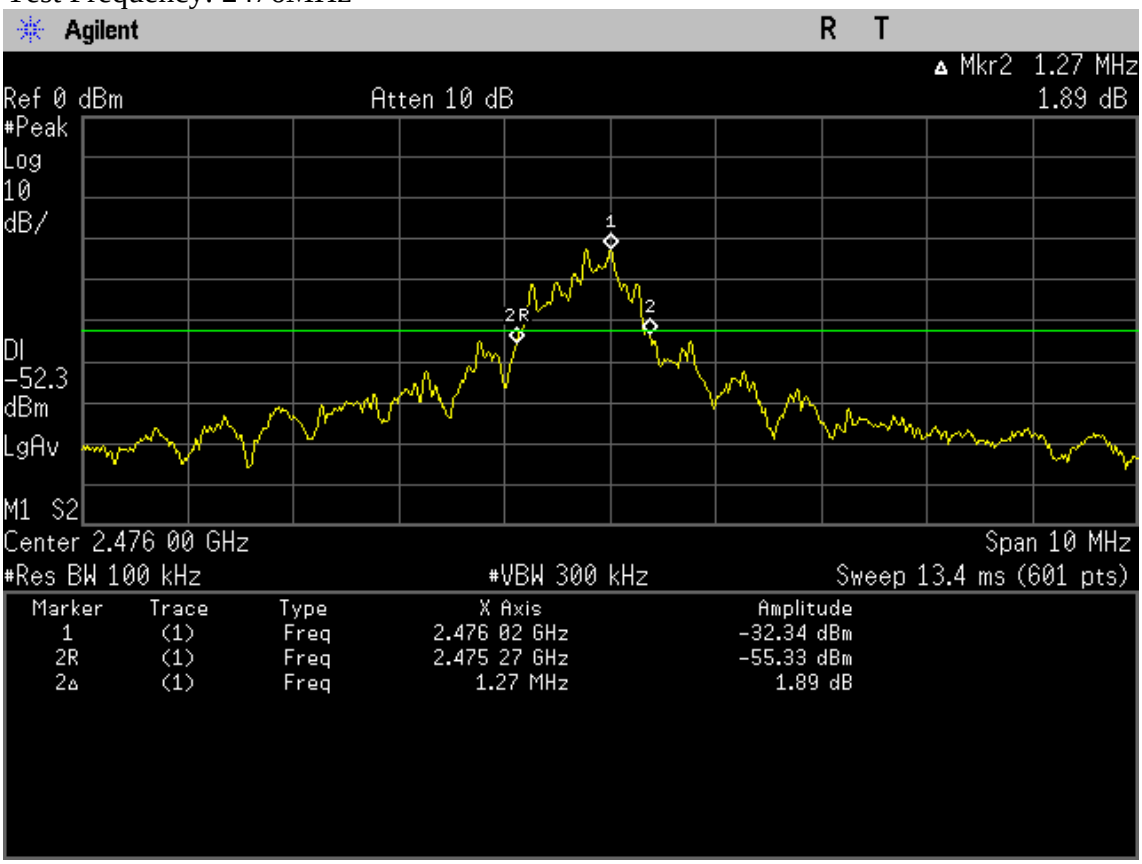
Test Frequency: 2408MHz



Test Frequency: 2440MHz



Test Frequency: 2476MHz



7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Test Equipment

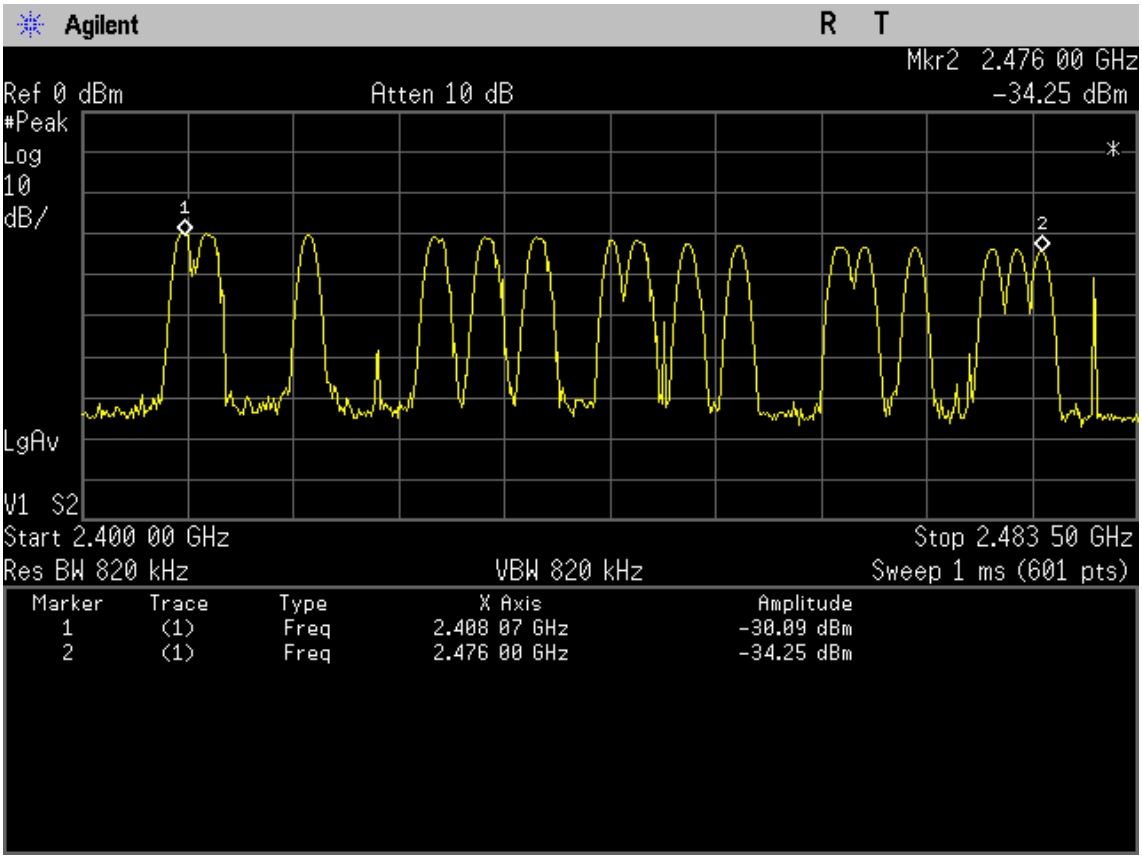
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,08, 09	1 Year
2	Attenuator	Agilent	8491B	MY39262165	May,08, 09	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,08, 09	1Year

7.2.Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

7.3.Test Results

Number of channel	Limit	Conclusion
16	>=15	PASS


Agilent
R T
Mkr2 2.476 00 GHz
Ref 0 dBm
Atten 10 dB
-34.25 dBm
#Peak
Log
10
dB/
LgAv
V1 S2
Start 2.400 00 GHz
Stop 2.483 50 GHz
Res BW 820 kHz
VBW 820 kHz
Sweep 1 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.408 07 GHz -30.09 dBm
2 (1) Freq 2.476 00 GHz -34.25 dBm

8. DWELL TIME

8.1.Test Equipment

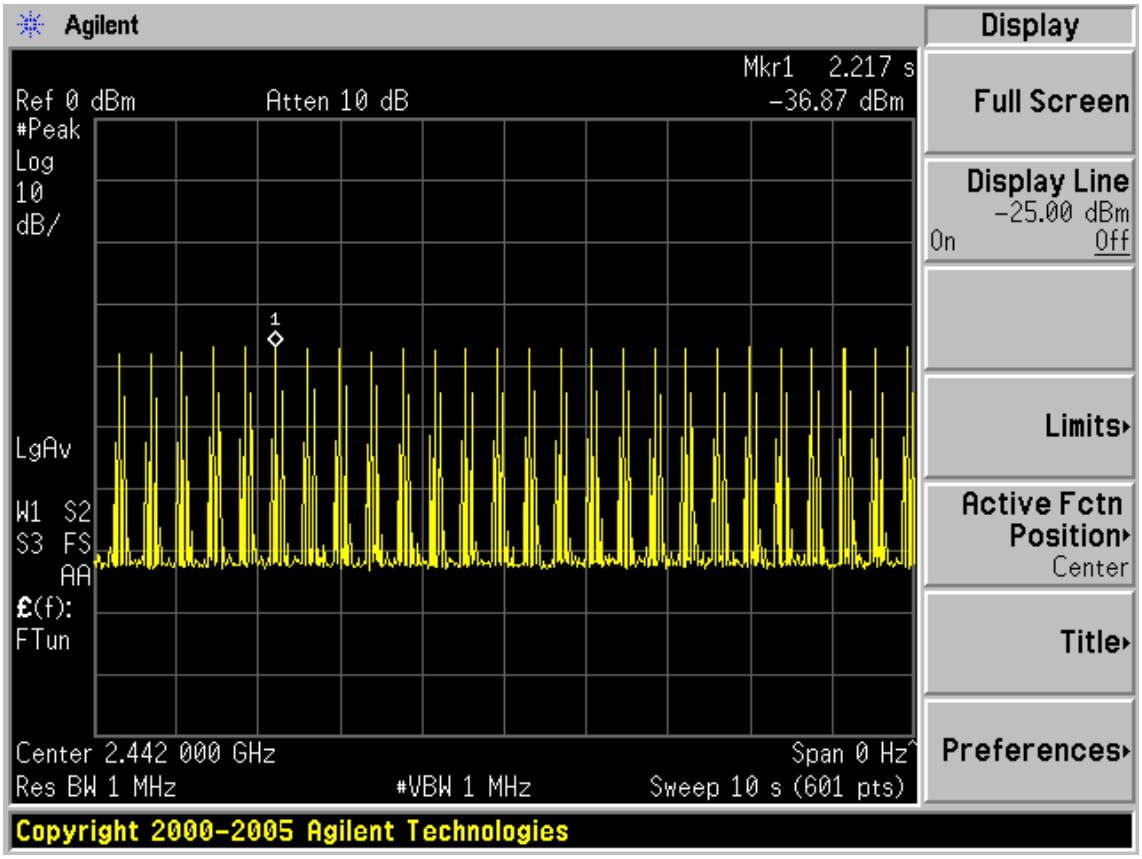
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,08, 09	1 Year
2	Attenuator	Agilent	8491B	MY39262165	May,08, 09	1 Year
3	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May,08, 09	1Year

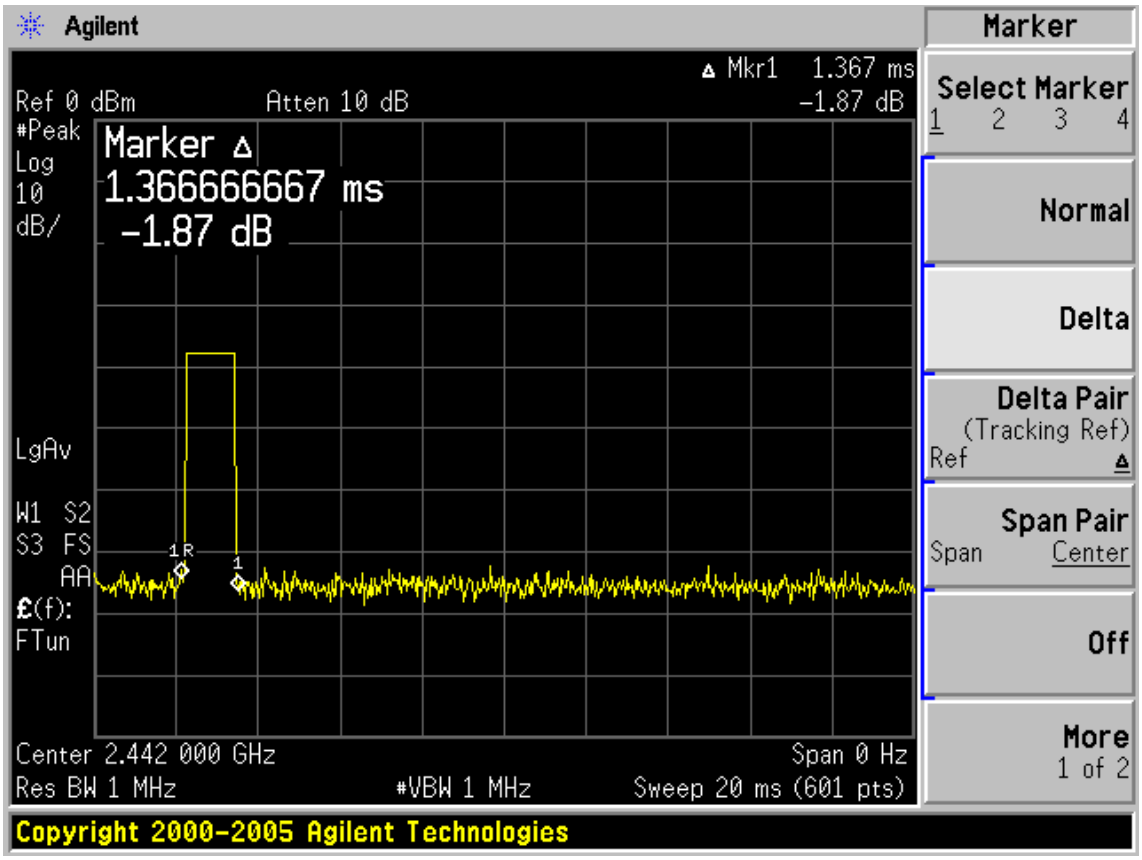
8.2.Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

8.3.Test Results

dwell time	Limit	Conclusion
26hops÷10s×0.4×16chanels×1.367ms=22.75ms	<400ms	PASS


Agilent
Display
Mkr1 2.217 s
Ref 0 dBm
Atten 10 dB
-36.87 dBm
#Peak
Log
10
dB/
LgAv
W1 S2
S3 FS
AA
£(f):
FTun
Full Screen
Display Line
-25.00 dBm
On Off
Limits
Active Fctn
Position
Center
Title
Preferences
Center 2.442 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 s (601 pts)
Copyright 2000-2005 Agilent Technologies


Agilent
Marker
Δ Mkr1 1.367 ms
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Log
10
dB/
Marker Δ
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-1.87 dB
LgAv
W1 S2
S3 FS
AA
£(f):
FTun
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Δ
Span Pair
Span Center
Off
More
1 of 2
Center 2.442 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 20 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2.	Horn Antenna	EMCO	3115	9607-4877	May. 27, 08	1.5 Year
3.	Horn Antenna	EMCO	3115	9510-4580	May.10, 09	1.5 Year
4.	Signal Generator	HP	83732B	VS3449051	May.08, 09	1 Year
5.	Amplifier	Agilent	8449B	3008A02495	Nov.24.08	1 Year
6.	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May.08, 09	1 Year
7.	RF Cable	Hubersuhner	SUCOFLEX 102	271471/4	May.08, 09	1 Year
8.	RF Cable	Hubersuhner	SUCOFLEX 102	29086/2	May.08, 09	1 Year
9.	RF Cable	Hubersuhner	SUCOFLEX 102	271473/4	May.08, 09	1 Year
10.	RF Cable	Hubersuhner	SUCOFLEX 102	29091/2	May.08, 09	1 Year

9.2.Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

9.3.Test Procedure

(1).The EUT was placed on a 0.8m high table in the chamber and turned on in continuously transmitting mode.

(2).The maximum fundamental emission at 3m distance was measured and recorded with receive antenna in both vertical and horizontal by rotating the turntable and by lowering the receive antenna.

(3).The EUT was then removed and replaced with a substitution antenna in the same position and the substitution antenna must have the same polarization with the receive antenna.

(4). A signal which have the same frequency obtained in step 2 was fed to the substitution, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver, the level of the signal generator was adjusted until the measured field strength level in step 2 was obtained, recorded the level of the signal generator.

(5).Repeated step 4 with both antenna polarizations

(6).The radiated power is equal to the power supplied by the signal generator and corrections due to the gain of the substitution antenna and the cable loss between the signal generator and the substitution antenna.

9.4.Test Results

EUT: P9 Wii Ringo Wireless Drum Dongle					Test Date: 2009-05-12			
M/N: WDMSELEA3B					Test site: RF Chamber			
Power: DC 5V					Engineer: Sunny-lu			
Test mode: Tx Mode					Temperature/Humidity: 25℃/56%			
Freq (MHz)	Ant Pol.	Electric Field Strength (dBuV/m)	SG Reading (dBm)	Tx Cable Loss (dB)	Tx Ant. Gain (dBi)	Result EIRP (dBm)	Limit EIRP (dBm)	Margin (dB)
2408	H	93.41	-4.97	6.06	9.25	-1.78	20.97	22.75
	V	81.29	-9.04	6.06	9.25	-5.85	20.97	26.82
2440	H	92.76	-4.86	6.08	9.30	-1.64	20.97	22.61
	V	82.33	-7.91	6.08	9.30	-4.69	20.97	25.66
2476	H	94.36	-3.35	6.15	9.33	-0.17	20.97	21.14
	V	91.61	-6.97	6.15	9.33	-3.79	20.97	24.76
Result = SG Reading – Tx Cable Loss + Tx Antenna Gain-EUT Antenna gain (0dBi)								

10.BAND EDGE COMPLIANCE TEST

10.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May,08, 09	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	May, 27, 08	1.5 Year
3	Amplifier	Agilent	8449B	3008A02495	Nov. 24.08	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May,08, 09	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX 102	271471/4	May,08, 09	1 Year
6	RF Cable	Hubersuhner	SUCOFLEX 102	29086/2	May,08, 09	1 Year

10.2.Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

10.3.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

10.4.Test Results

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

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Postcode:518057

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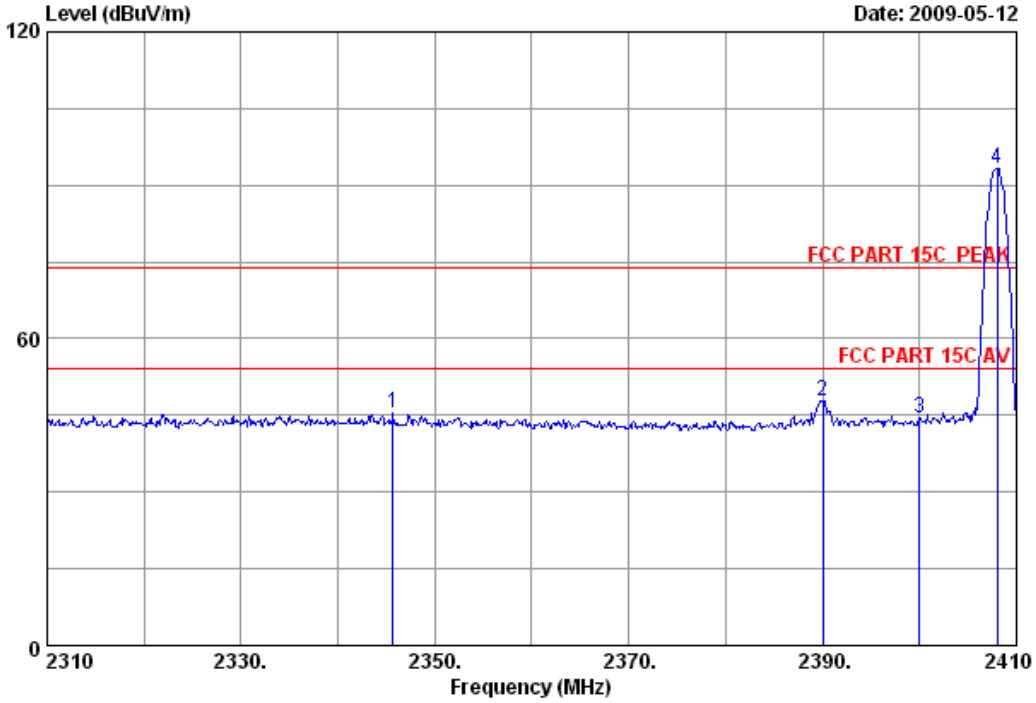

Site no. : 3m Chamber Data no. : 13
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2408MHz
M/N : MDMSELEA3B

	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	2345.700	28.38	6.67	35.13	45.45	45.37	74.00	28.63	Peak
2	2390.000	28.46	6.71	35.12	47.84	47.89	74.00	26.11	Peak
3	2400.000	28.46	6.73	35.12	44.22	44.29	74.00	29.71	Peak
4	2408.000	28.48	6.73	35.12	93.28	93.37	74.00	-19.37	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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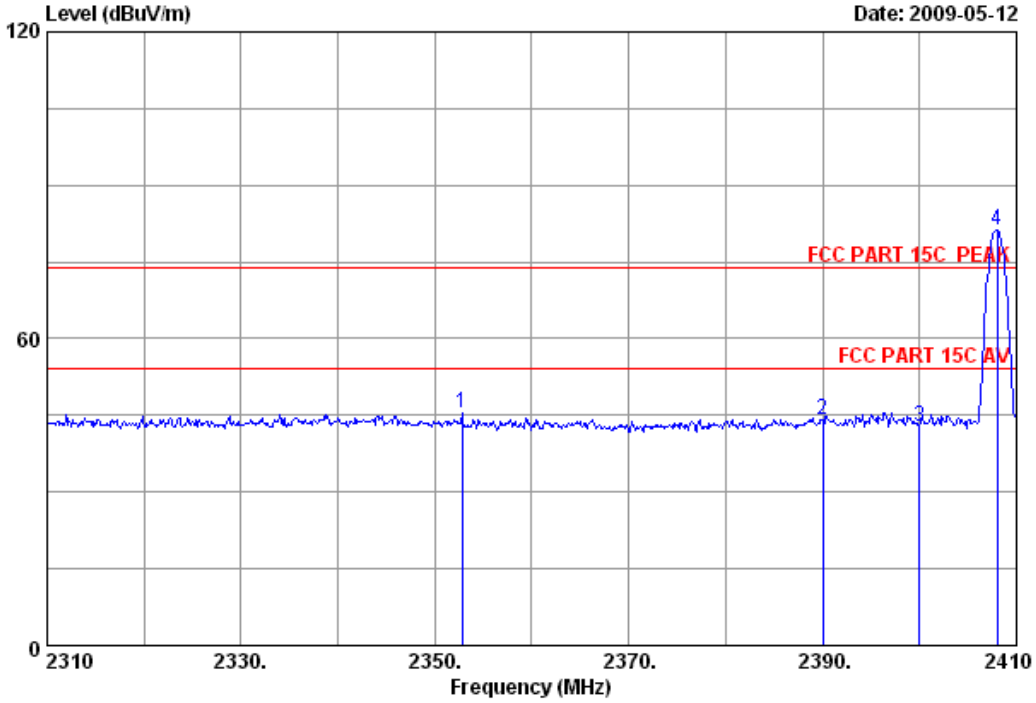

Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Tx 2408MHz
M/N : MDMSELEA3B

	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	2352.800	28.41	6.67	35.13	45.51	45.46	74.00	28.54	Peak
2	2390.000	28.46	6.71	35.12	44.20	44.25	74.00	29.75	Peak
3	2400.000	28.46	6.73	35.12	42.82	42.89	74.00	31.11	Peak
4	2408.000	28.48	6.73	35.12	81.16	81.25	74.00	-7.25	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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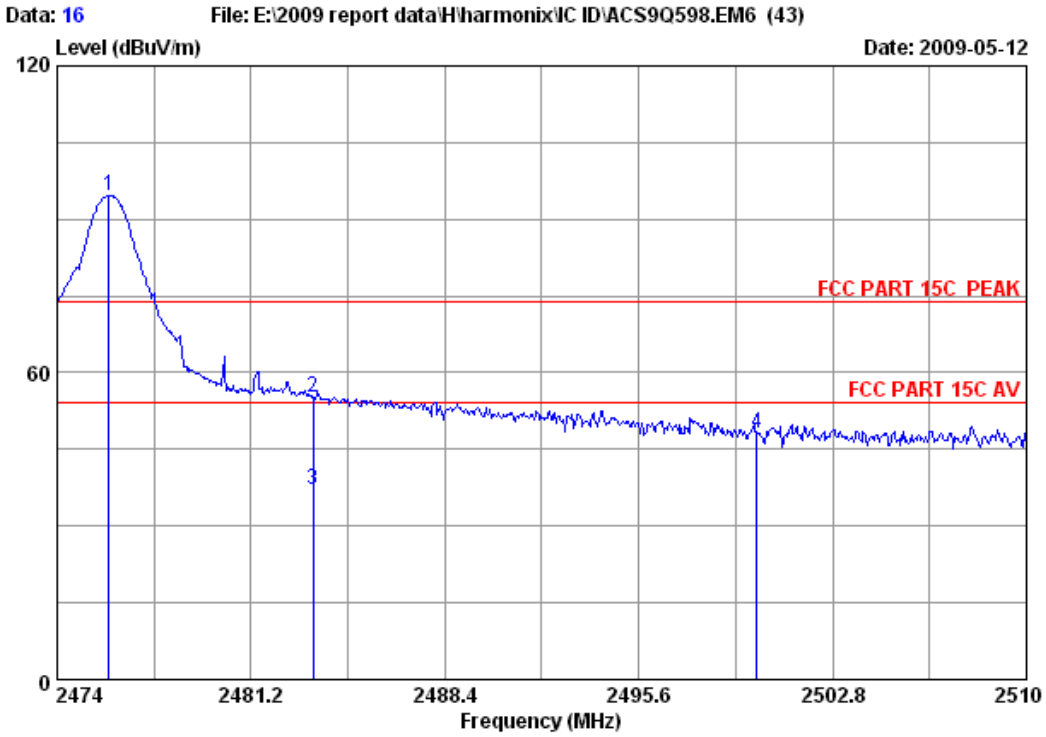

Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Paul Tian
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V
Test mode : Tx 2476MHz
M/N : MDMSELEA3B

	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	2475.920	28.58	6.87	35.10	94.21	94.56	74.00	-20.56	Peak
2	2483.500	28.58	6.87	35.10	54.80	55.15	74.00	18.85	Peak
3	2483.500	28.58	6.87	35.10	36.89	37.24	54.00	16.76	Average
4	2500.000	28.60	6.91	35.10	47.88	48.29	74.00	25.71	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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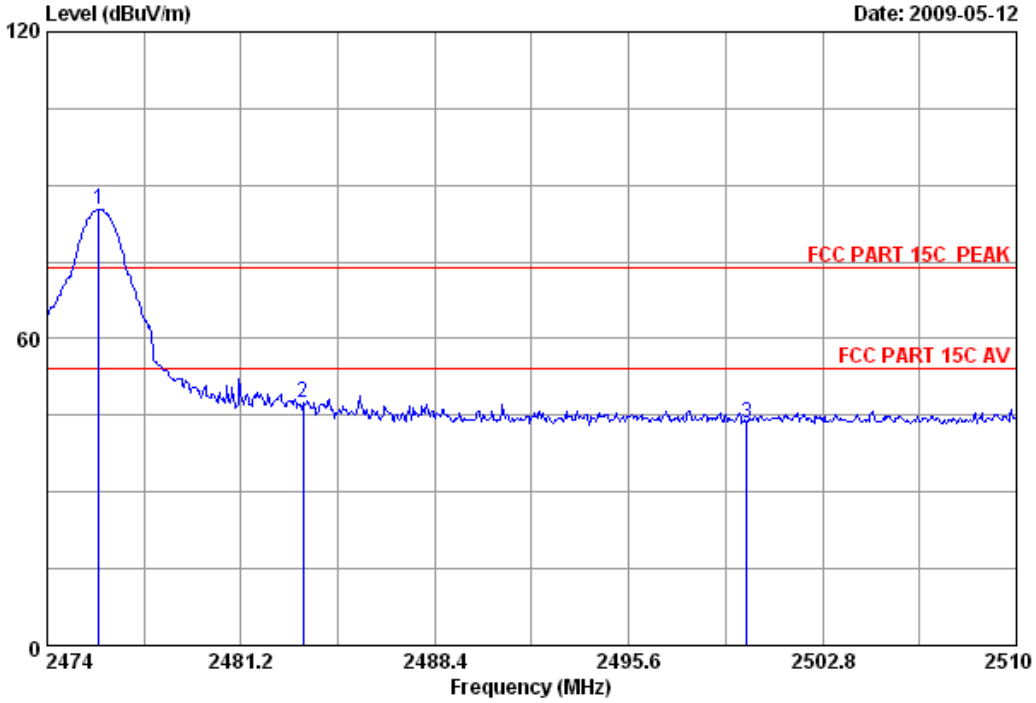

Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/49% Engineer : Paul Tian
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V
Test mode : Tx 2476MHz
M/N : MDMSELEA3B

	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	2475.920	28.58	6.87	35.10	84.84	85.19	74.00	-11.19	Peak
2	2483.500	28.58	6.87	35.10	46.96	47.31	74.00	26.69	Peak
3	2500.000	28.60	6.91	35.10	43.02	43.43	74.00	30.57	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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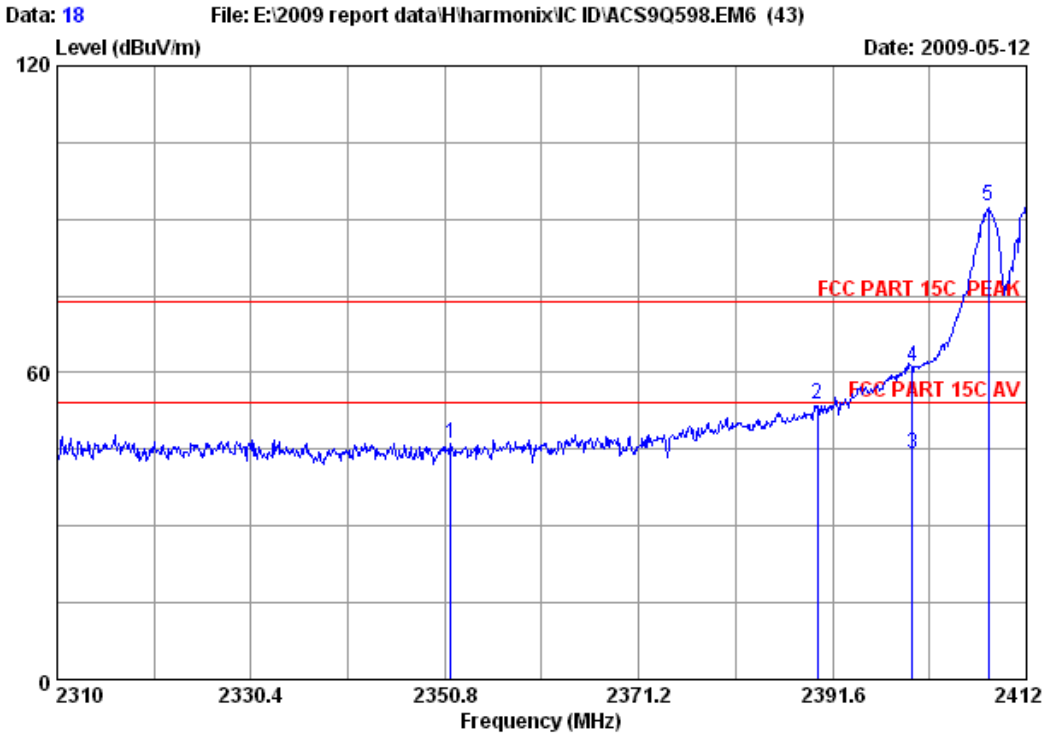

Site no. : 3m Chamber Data no. : 18
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/50% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Hopping on
M/N : MDMSELEA3B

	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	2351.446	28.38	6.67	35.13	46.35	46.27	74.00	27.73	Peak
2	2390.000	28.46	6.71	35.12	53.62	53.67	74.00	20.33	Peak
3	2400.000	28.46	6.73	35.12	44.00	44.07	54.00	9.93	Average
4	2400.000	28.46	6.73	35.12	61.00	61.07	74.00	12.93	Peak
5	2408.000	28.48	6.73	35.12	92.45	92.54	74.00	-18.54	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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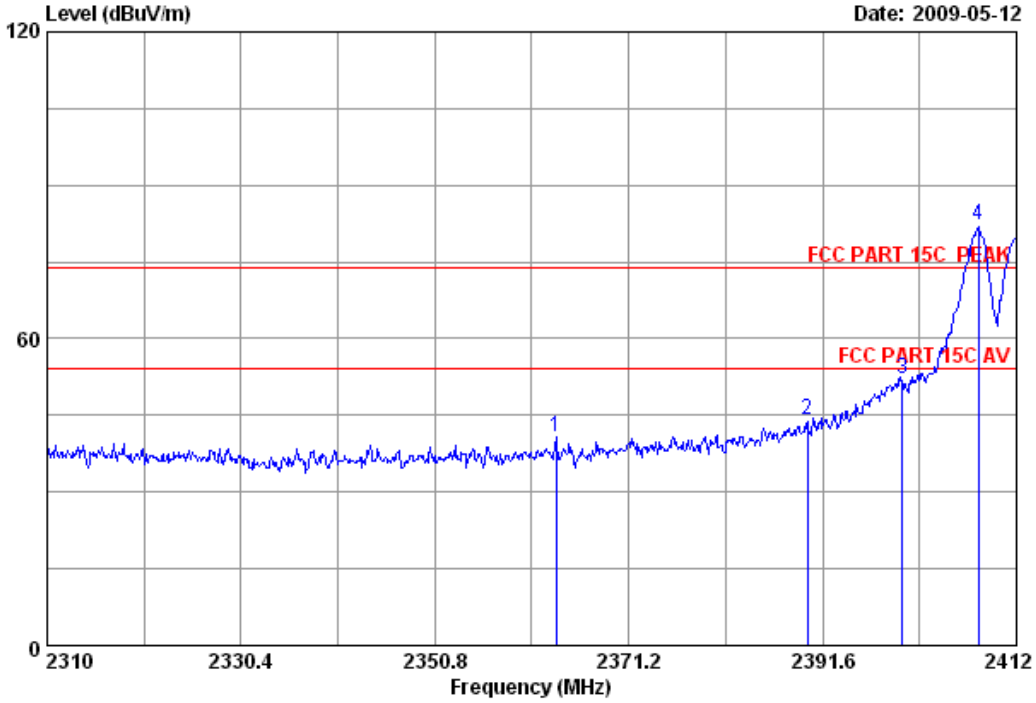

Site no. : 3m Chamber Data no. : 17
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/50% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Hopping on
M/N : MDMSELEA3B

	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	2363.530	28.41	6.69	35.13	40.94	40.91	74.00	33.09	Peak
2	2390.000	28.46	6.71	35.12	43.97	44.02	74.00	29.98	Peak
3	2400.000	28.46	6.73	35.12	52.09	52.16	74.00	21.84	Peak
4	2408.000	28.48	6.73	35.12	82.11	82.20	74.00	-8.20	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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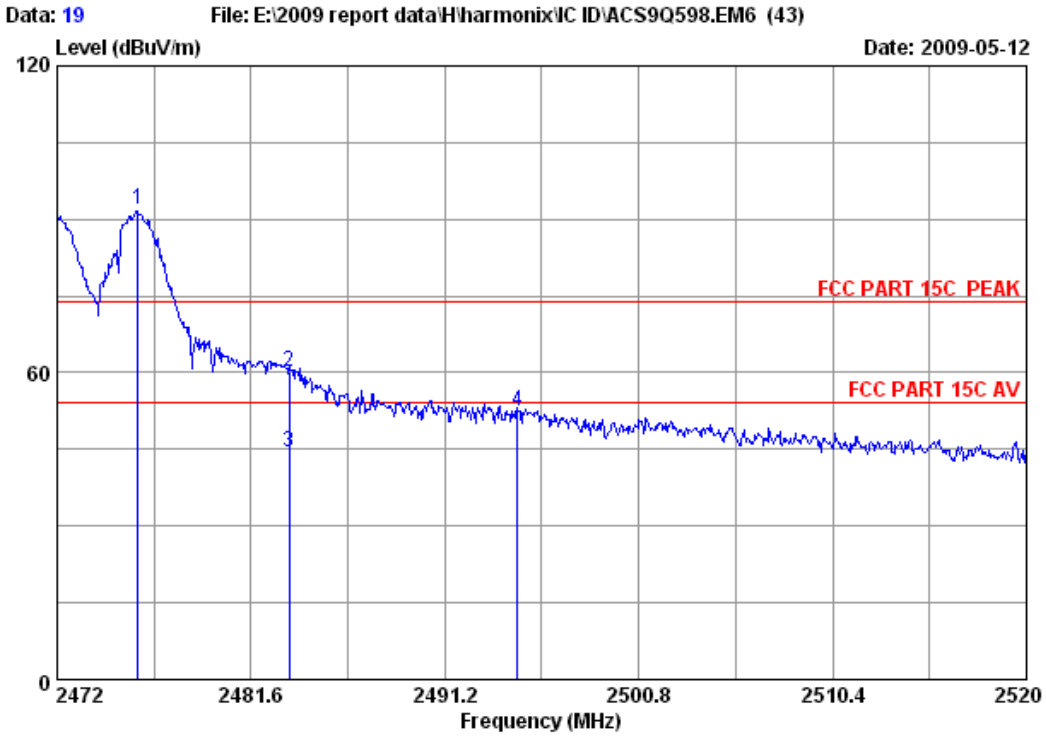

Site no. : 3m Chamber Data no. : 19
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/50% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Hopping on
M/N : MDMSELEA3B

	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	2476.000	28.58	6.87	35.10	91.56	91.91	74.00	-17.91	Peak
2	2483.500	28.58	6.87	35.10	59.81	60.16	74.00	13.84	Peak
3	2483.500	28.58	6.87	35.10	44.03	44.38	54.00	9.62	Average
4	2494.800	28.60	6.91	35.10	52.18	52.59	74.00	21.41	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.

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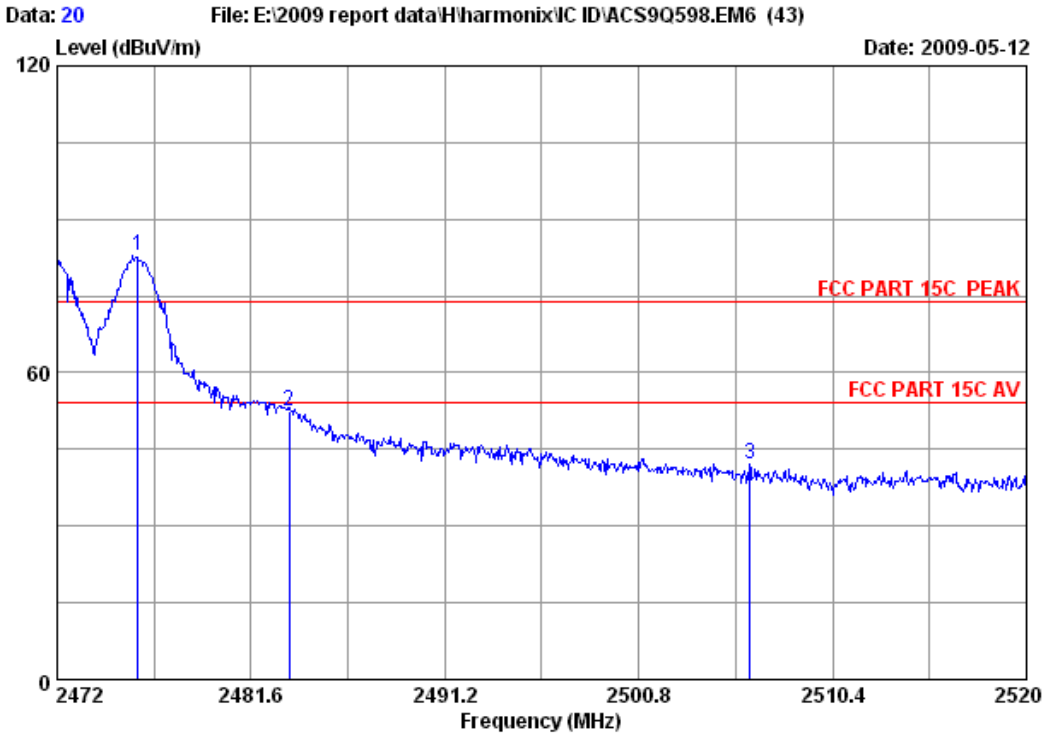

Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 25*C/50% Engineer : Power
EUT : P9 Wii Ringo Wireless Drum Dongle
Power : DC 5V from Wii input AC 120V/60Hz
Test mode : Hopping on
M/N : MDMSELEA3B

	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	2476.000	28.58	6.87	35.10	82.49	82.84	74.00	-8.84	Peak
2	2483.500	28.58	6.87	35.10	51.99	52.34	74.00	21.66	Peak
3	2506.300	28.65	6.91	35.10	41.58	42.04	74.00	31.96	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.

11. ANTENNA REQUIREMENT

11.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used for this product is a PCB integral antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of this antenna is only 0dBi.

12.DEVIATION TO TEST SPECIFICATIONS

[NONE]