APPLICATION FOR CERTIFICATION
On Behalf of

Jess Technology Co. Ltd.

2.4GHz Wireless Module

Model Number: J2.4GM0AX

Prepared for : Jess Technology Co. Ltd.
Room 1005-6, 10/F, Harcourt House, 39 Gloucester Road,
Wanchai, Hong Kong

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
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Report Number	:	ACS-F08164
Date of Test	:	Mar.15~17, 2008
Date of Report	:	Mar.26, 2008

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TEST REPORT CERTIFICATION

Applicant	:	Jess Technology Co. Ltd.
Manufacturer	:	Jess Technology Co. Ltd.
EUT Description	:	2.4GHz Wireless Module
		(A) MODEL NO. : J2.4GM0AX
		(B) SERIAL NO. : N/A
		(C) POWER SUPPLY : DC 2.5V
		(D) TEST VOLTAGE : DC 2.5V From Battery

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 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: Mar.15~17, 2008

Prepared by: YoYo Wang
YoYo Wang / 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 4/16 08

Approved & Authorized Signer:
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**
Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2003 DA 00-705	N/A
Radiated Emission Test	FCC Part 15: 15.209 ANSI C63.4: 2003 DA 00-705	PASS
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) DA 00-705	PASS
20 dB Bandwidth Test	FCC Part 15: 15.247(a)(1) 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
MPE ESTIMATION	FCC Part 2: 2.1093	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	:	2.4GHz Wireless Module
Model Number	:	J2.4GM0AX
Operation frequency	:	2.408GHz-----2.476GHz ISM Band
Operation Channel	:	16Channels
Modulation Technology		GFSK
Output power	:	0.88dBm(maximum measured)
Antenna Assembly Gain	:	0dBi(maximum)
Applicant	:	Jess Technology Co. Ltd.
		Room 1005-6, 10/F, Harcourt House, 39 Gloucester Road, Wanchai, Hong Kong
Manufacturer	:	Jess Technology Co. Ltd.
		Room 1005-6, 10/F, Harcourt House, 39 Gloucester Road, Wanchai, Hong Kong
Date of Test	:	Mar.15~17, 2008
Date of Receipt	:	Mar.14, 2008
Sample Type	:	Series Production
Note: This EUT is a Wireless Module, and it's need Limited Module approval, and the below data are measured both with EUT in a stand alone configuration and operating conditions. In which the Module will be used to demonstrate comply with Limited modular approval requirements.		

2.2.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 Feb. 02, 2004 Accredited by NVLAP, USA NVLAP Code: 200372-0 Apr. 01, 2007

2.3.Measurement Uncertainty

No.	Item	Uncertainty	Remark
1.	Conducted Emission Test	1.22dB	
2.	Radiated Emission Test	3.14dB	3m Chamber
3.	Radiated Emission Test	3.18dB	10m Chamber
4.	RF frequency	$\pm 0.5 \times 10^{-7}$	
5.	RF power, conducted	±3dB	

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

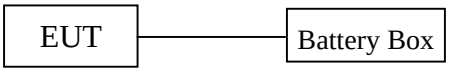
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Dec.20.07	1/2 Year
2.	EMI Spectrum	Agilent	E7403A	MY42000106	May 11, 07	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	Dec.19, 07	1 Year
4.	Amplifier	HP	8447D	2944A04738	Jan.09, 08	1/2 Year
5.	Bilog Antenna	Schaffner	CBL6111C	2598	Feb.21, 08	1 Year
6.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.1	Jan.09, 08	1/2 Year
7.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Jan.09, 08	1/2 Year
8.	RF Cable	FUJIKURAw	RG-55/U	3# Chamber No.3	Jan.09, 08	1/2 Year
9.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Jan.09, 08	1/2 Year
10.	Coaxial Switch	Anritsu	MP59B	M73989	Jan.09, 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 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4	Antenna	EMCO	3116	00060088	May 28, 07	1 Year
5.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

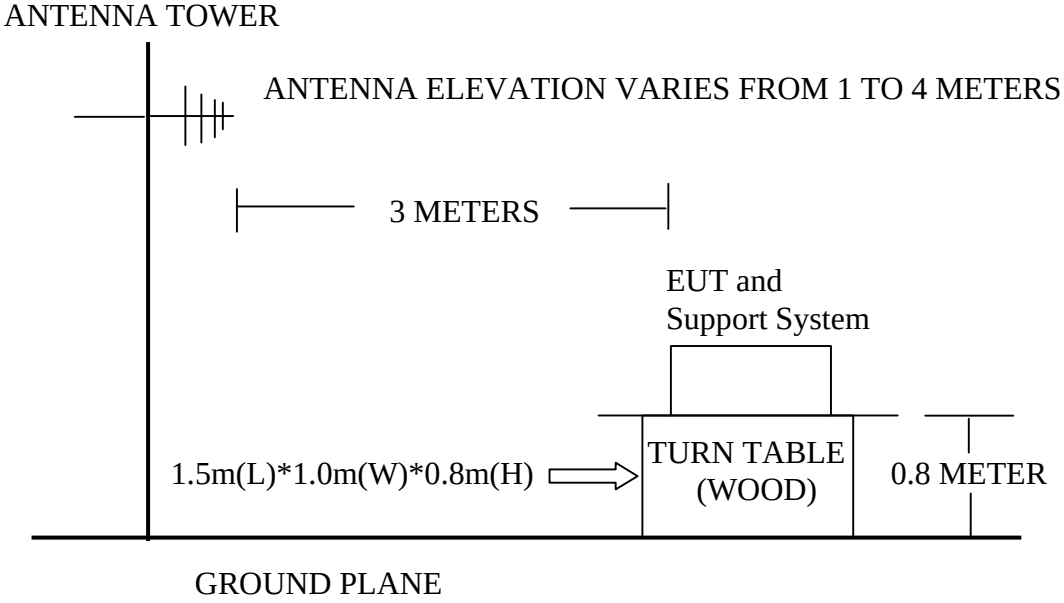
4.2.Block Diagram of Test Setup

4.2.1.Block diagram of connection between the EUT and simulators



(EUT: 2.4GHz Wireless Module)

4.2.2.In Anechoic Chamber



4.3.Radiated Emission Limit

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.

4.4.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.

4.4.1.2.4GHz Wireless Module (EUT)

Model Number : J2.4GM0AX
Serial Number : N/A
Manufacturer : Jess Technology Co. Ltd.

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

4.5. Operating Condition of EUT

4.5.1. Configuration EUT in a stand alone and Let the EUT worked in test mode (TX) and tested it.

4.5.2. Repeated the test with EUT installed in a final product

4.5.3. When EUT worked with final product, the worse case was found, and the below Data were recorded with EUT worked with final product.

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 work normally, we use a keyboard test soft ware, let EUT 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 ESVS20) is set at 120kHz.

frequency range from 30MHz to 1000 MHz.

The bandwidth of the VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emission above 1GHz

The frequency ranges from 30MHz to 10^{th}harmonic (25GHz) are checked.

The test modes (TX Mode) are tested in Anechoic Chamber and all the scanning waveforms are reported with antenna in horizontal and vertical polarization on Section 4.7.

4.7. Radiated Emission Test Results

PASS.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz and a Peak and Average detector with 1MHz RBW above 1GHz,

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz and a Peak detector with 1MHz VBW above 1GHz, A average detector with 10Hz VBW above 1GHz

The radiated emissions from 18GHz to 25 GHz were Peak measured and complied with average limits, so the average level was deemed to meet average limits.

Test Date: Mar.15~17, 2008 Temperature: 24℃ Humidity: 56%

The details of test modes are as follows：

Test Mode	Frequency (MHz)	Test Mode	Reference Test Data No.	
			Horizontal	Vertical
1.	30~1000	Tx Mode	#1	#2
2.	1000~18000	Tx 2408MHz	#3(P), #4(Av)	#1(P), #2(Av)
3.		Tx 2442MHz	#5(P), #6(Av)	#7(P), #8(Av)
4.		Tx 2476MHz	#9(P), #10(Av)	#11(P), #12(Av)
5.	18000~25000	Tx 2408MHz	#17	#18
6.		Tx 2442MHz	#16	#15
7.		Tx 2476MHz	#13	#14
Note: “P” means “peak”, “Av” means “average”				

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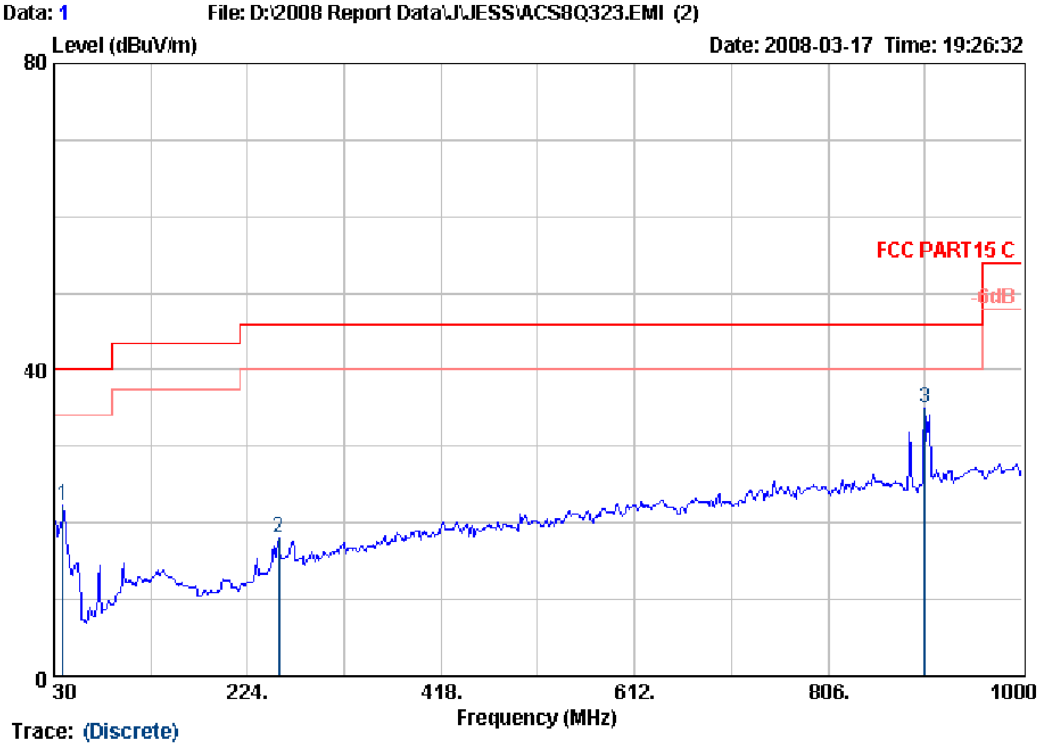

Site no. : 3# Chamber Radiation Data no. : 1
Dis. / Ant. : 3m 2598 Ant. pol. : HORIZONTAL
Limit : FCC PART15 C
Env. / Ins. : 24*C/56% ESVS10 Engineer : Jamy
EUT : 2.4GHz Wireless Module
Power Rating : DC 2.5V
Test Mode : TX
M/N : J2.4GMOAX

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	38.73	14.82	0.73	6.67	22.22	40.00	17.78	QP
2	255.04	13.20	1.55	3.28	18.03	46.00	27.97	QP
3	903.00	22.96	2.64	9.37	34.97	46.00	11.03	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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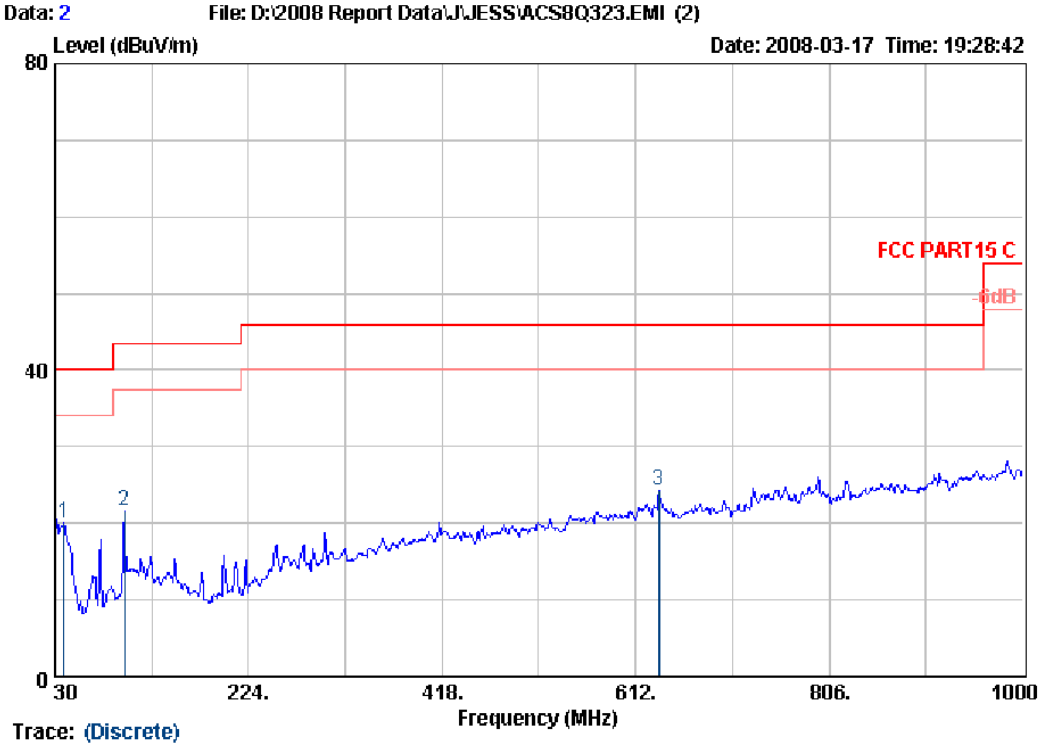

Site no. : 3# Chamber Radiation Data no. : 2
Dis. / Ant. : 3m 2598 Ant. pol. : VERTICAL
Limit : FCC PART15 C
Env. / Ins. : 24*C/56% ESVS10 Engineer : Jamy
EUT : 2.4GHz Wireless Module
Power Rating : DC 2.5V
Test Mode : TX
M/N : J2.4GMOAX

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	38.73	14.82	0.73	4.51	20.06	40.00	19.94	QP
2	99.84	10.40	1.09	10.20	21.69	43.50	21.81	QP
3	635.28	20.20	2.32	1.88	24.40	46.00	21.60	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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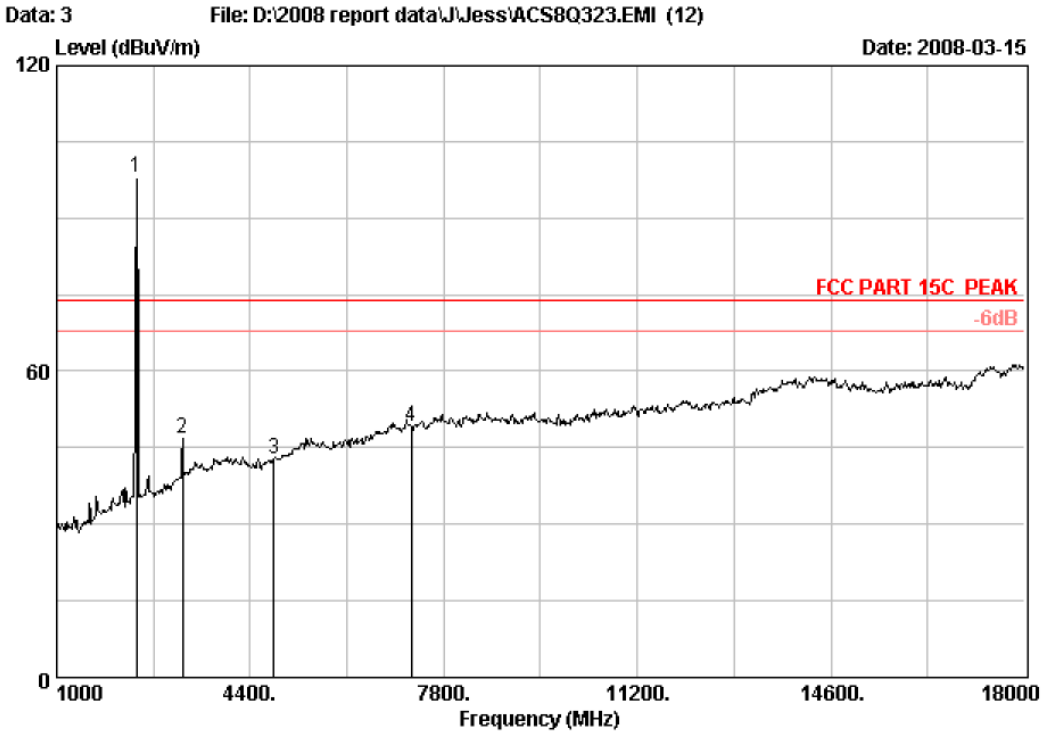

Site no. : RF Chamber Data no. : 3
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Low:2408MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2408.00	29.03	6.73	35.18	97.32	97.90	74.00	-23.90	Peak
2	3210.00	31.57	8.13	34.94	42.13	46.89	74.00	27.11	Peak
3	4816.00	33.98	10.54	34.49	32.76	42.79	74.00	31.21	Peak
4	7224.00	37.36	12.16	34.44	34.11	49.19	74.00	24.81	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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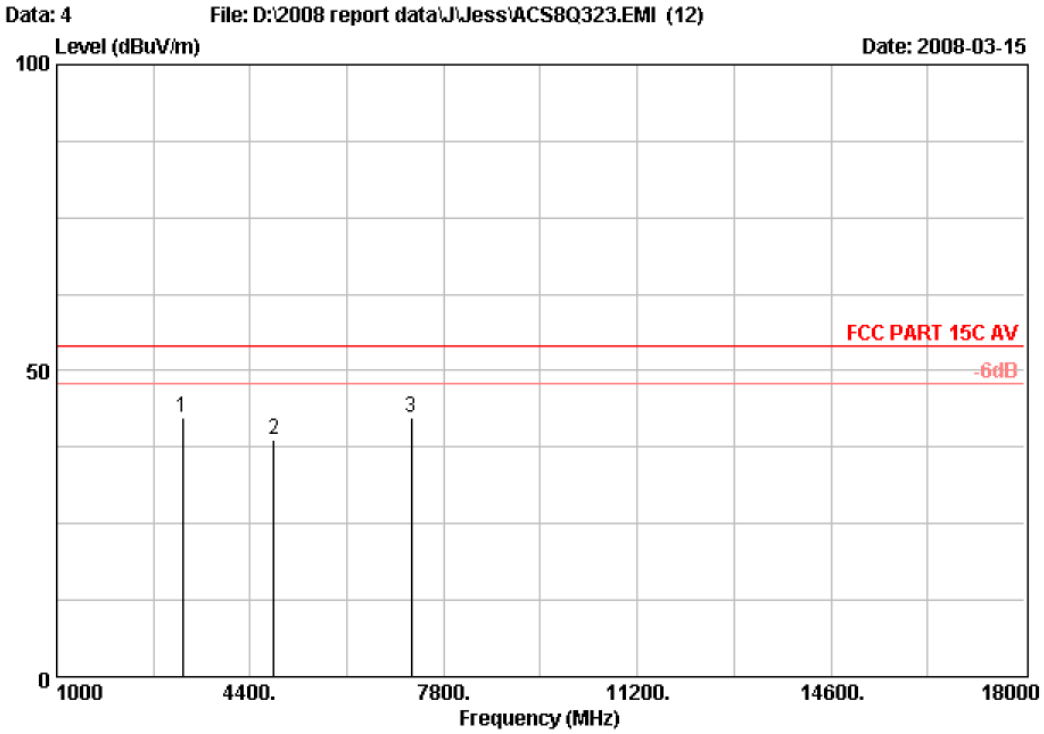

Site no. : RF Chamber Data no. : 4
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Low:2408MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	3210.00	31.57	8.13	34.94	37.53	42.29	54.00	11.71	Average
2	4816.00	33.98	10.54	34.49	28.62	38.65	54.00	15.35	Average
3	7224.00	37.36	12.16	34.44	27.13	42.21	54.00	11.79	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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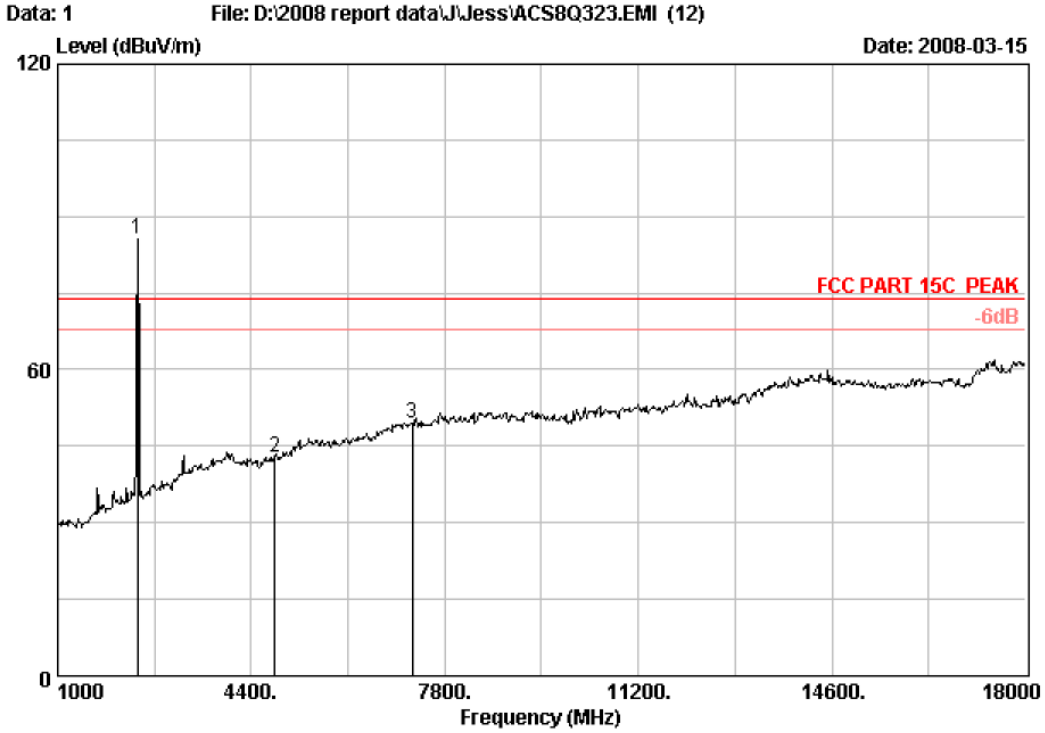

Site no. : RF Chamber Data no. : 1
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Low:2408MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2408.00	29.03	6.73	35.18	85.15	85.73	74.00	-11.73	Peak
2	4816.00	33.98	10.54	34.49	32.79	42.82	74.00	31.18	Peak
3	7224.00	37.36	12.16	34.44	34.56	49.64	74.00	24.36	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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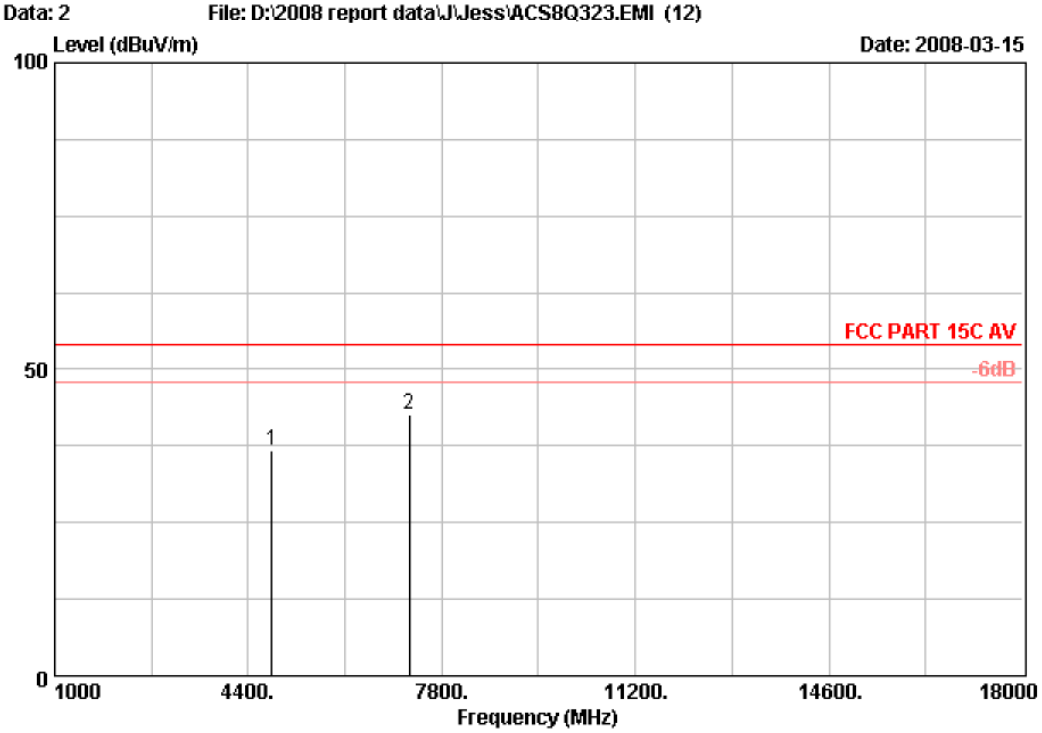

Site no. : RF Chamber Data no. : 2
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Low:2408MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4816.00	33.98	10.54	34.49	26.84	36.87	54.00	17.13	Average
2	7224.00	37.36	12.16	34.44	27.43	42.51	54.00	11.49	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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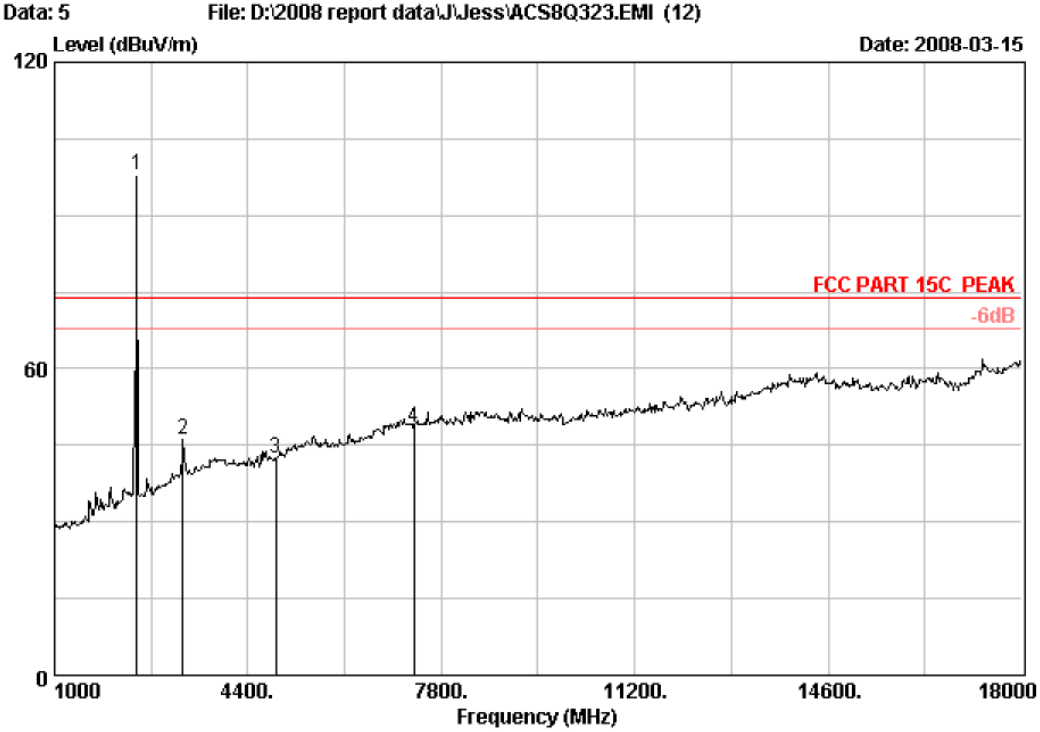

Site no. : RF Chamber Data no. : 5
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Mid:2442MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2442.00	29.11	6.80	35.17	97.17	97.91	74.00	-23.91	Peak
2	3261.00	31.71	8.23	34.92	41.15	46.17	74.00	27.83	Peak
3	4884.00	34.16	10.57	34.48	32.26	42.51	74.00	31.49	Peak
4	7326.00	37.52	12.20	34.47	33.34	48.59	74.00	25.41	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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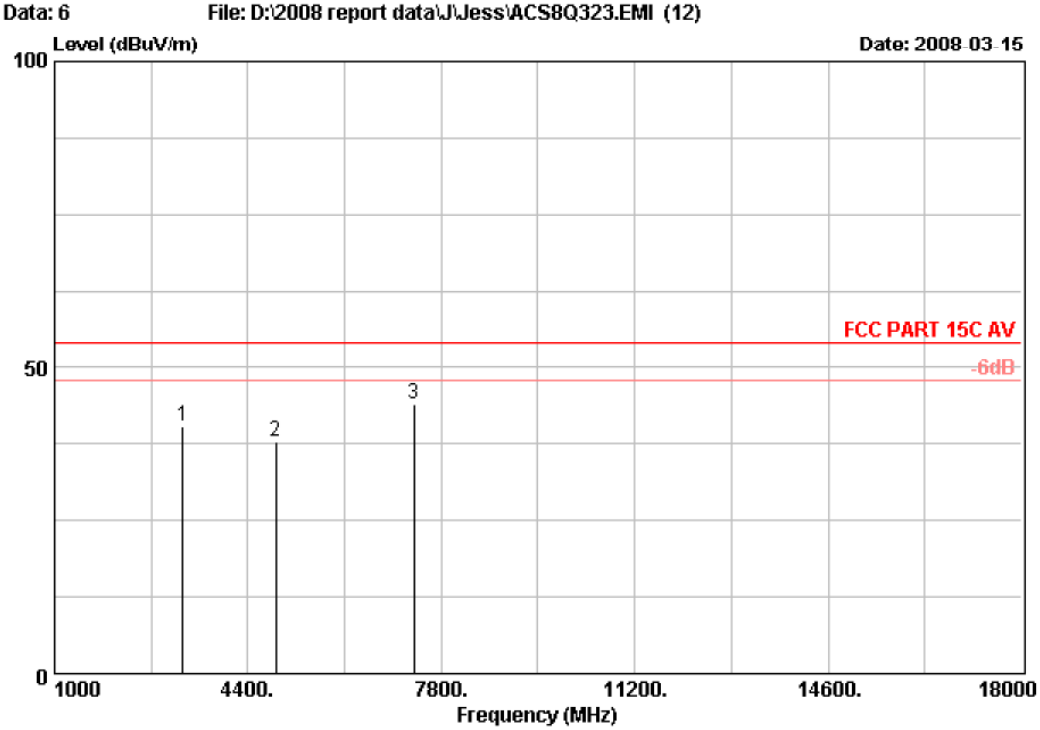

Site no. : RF Chamber Data no. : 6
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Mid:2442MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	3261.00	31.71	8.23	34.92	35.42	40.44	54.00	13.56	Average
2	4884.00	34.16	10.57	34.48	27.56	37.81	54.00	16.19	Average
3	7326.00	37.52	12.20	34.47	28.63	43.88	54.00	10.12	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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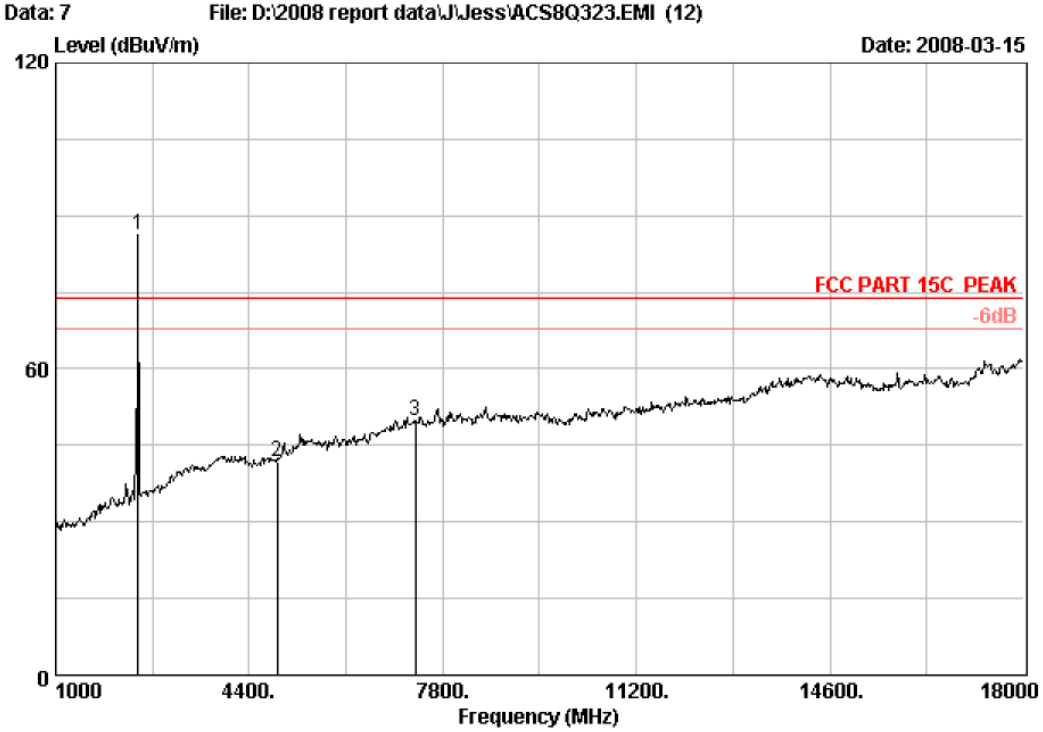

Site no. : RF Chamber Data no. : 7
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Mid:2442MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2442.00	29.11	6.80	35.17	85.65	86.39	74.00	-12.39	Peak
2	4884.00	34.16	10.57	34.48	31.63	41.88	74.00	32.12	Peak
3	7326.00	37.52	12.20	34.47	34.57	49.82	74.00	24.18	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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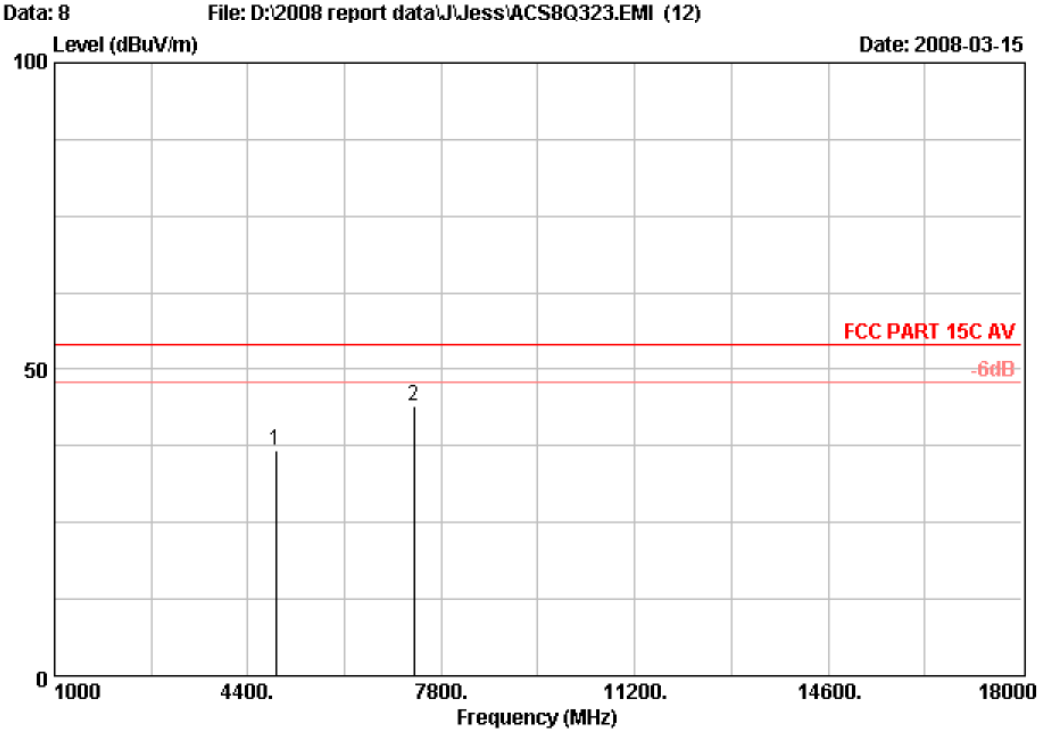

Site no. : RF Chamber Data no. : 8
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Mid:2442MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4884.00	34.16	10.57	34.48	26.59	36.84	54.00	17.16	Average
2	7326.00	37.52	12.20	34.47	28.70	43.95	54.00	10.05	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.

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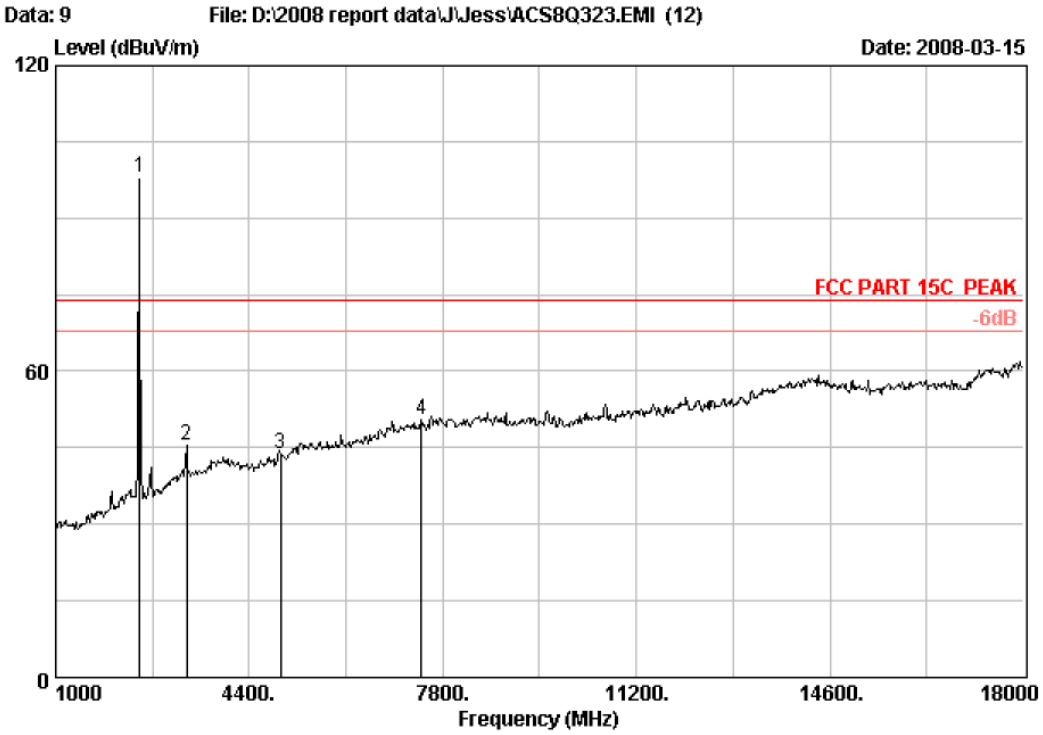

Site no. : RF Chamber Data no. : 9
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH High:2476MHz

	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	2476.00	29.19	6.87	35.16	96.90	97.80	74.00	-23.80	Peak
2	3295.00	31.80	8.33	34.91	40.37	45.59	74.00	28.41	Peak
3	4952.00	34.34	10.58	34.46	33.48	43.94	74.00	30.06	Peak
4	7428.00	37.69	12.32	34.49	34.89	50.41	74.00	23.59	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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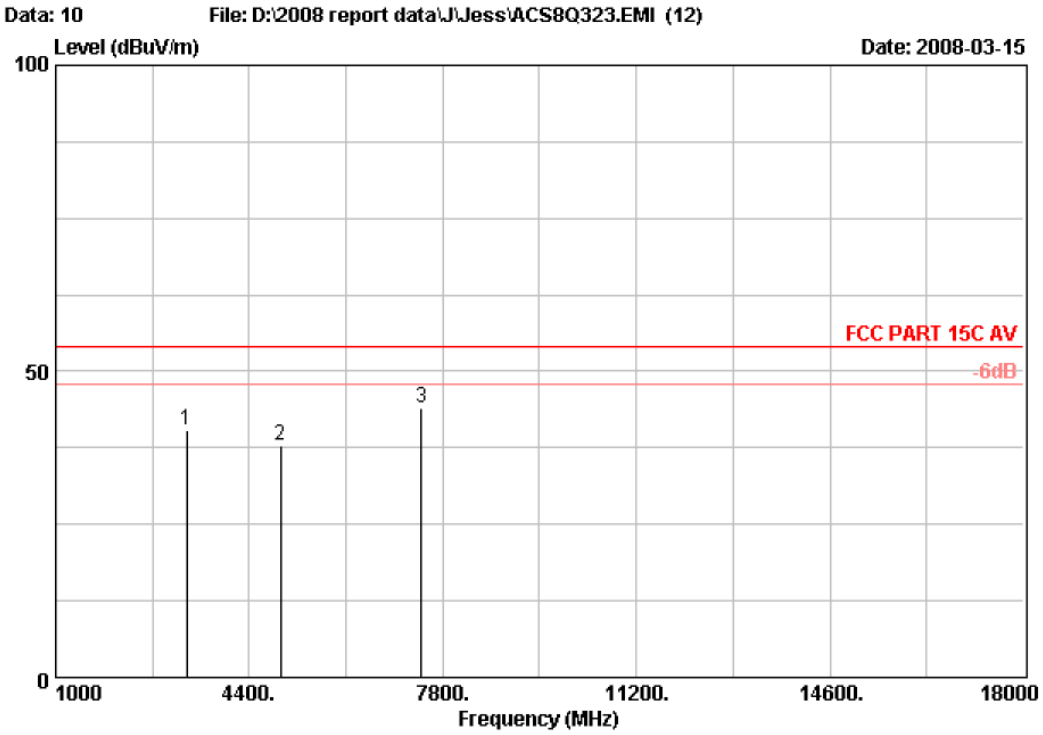

Site no. : RF Chamber Data no. : 10
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH High:2476MHz

	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	3295.00	31.80	8.33	34.91	35.15	40.37	54.00	13.63	Average
2	4952.00	34.34	10.58	34.46	27.49	37.95	54.00	16.05	Average
3	7428.00	37.69	12.32	34.49	28.39	43.91	54.00	10.09	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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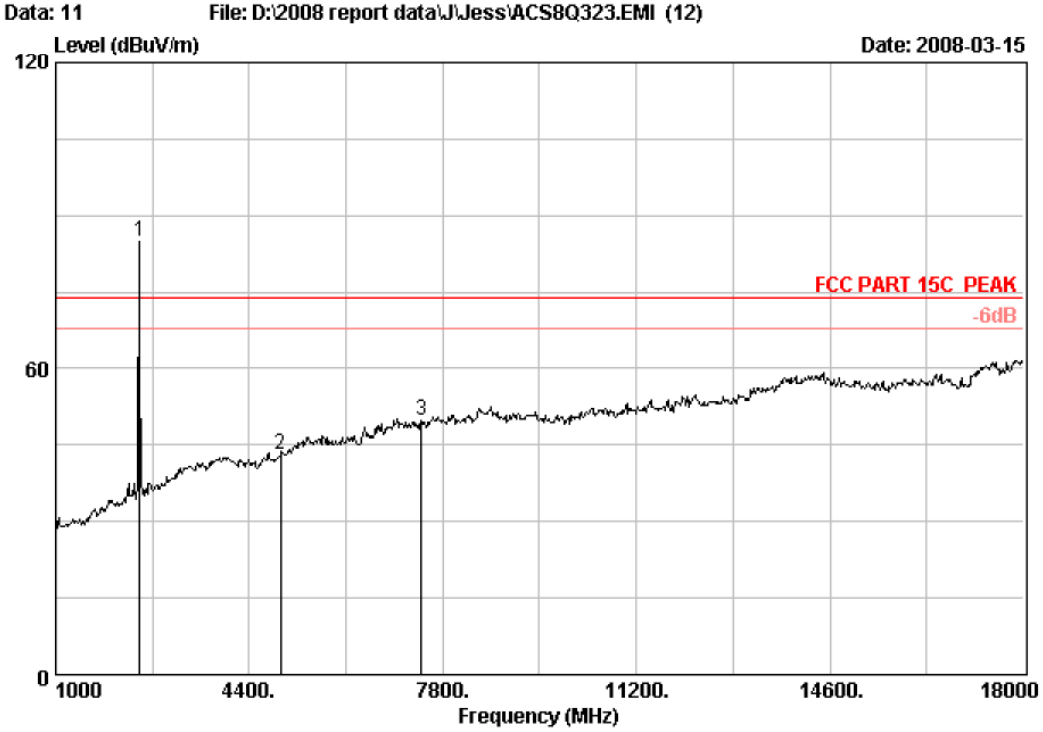

Site no. : RF Chamber Data no. : 11
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH High:2476MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2476.00	29.19	6.87	35.16	83.99	84.89	74.00	-10.89	Peak
2	4952.00	34.34	10.58	34.46	32.77	43.23	74.00	30.77	Peak
3	7428.00	37.69	12.32	34.49	34.43	49.95	74.00	24.05	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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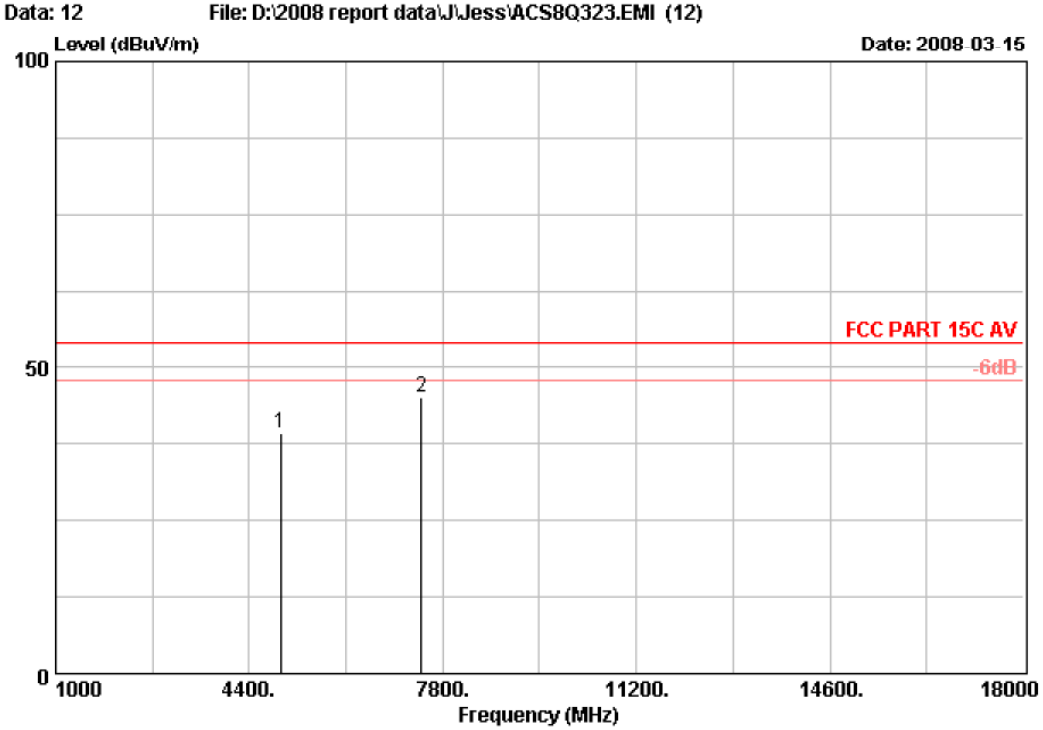

Site no. : RF Chamber Data no. : 12
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH High:2476MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4952.00	34.34	10.58	34.46	28.95	39.41	54.00	14.59	Average
2	7428.00	37.69	12.32	34.49	29.54	45.06	54.00	8.94	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.

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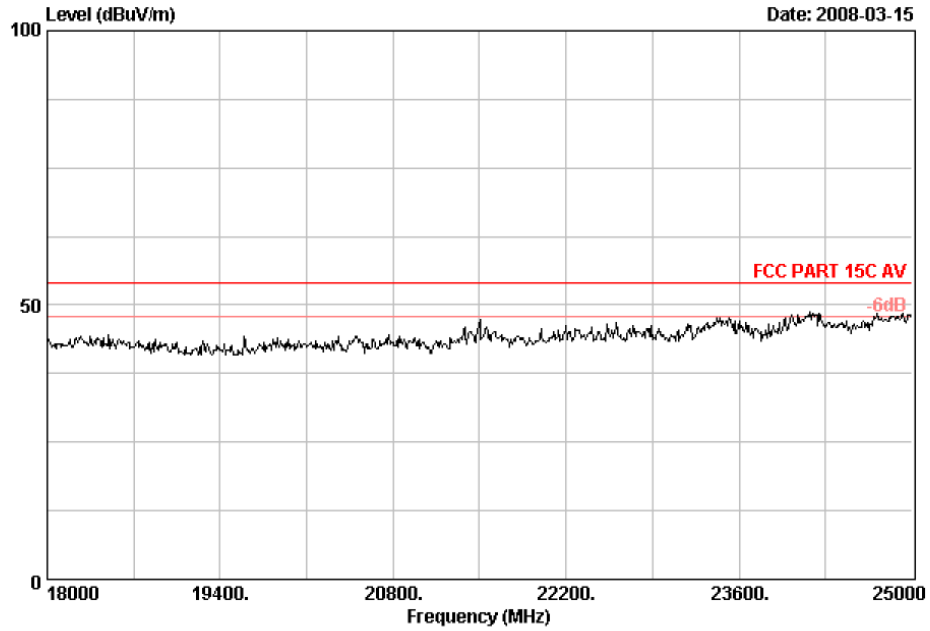
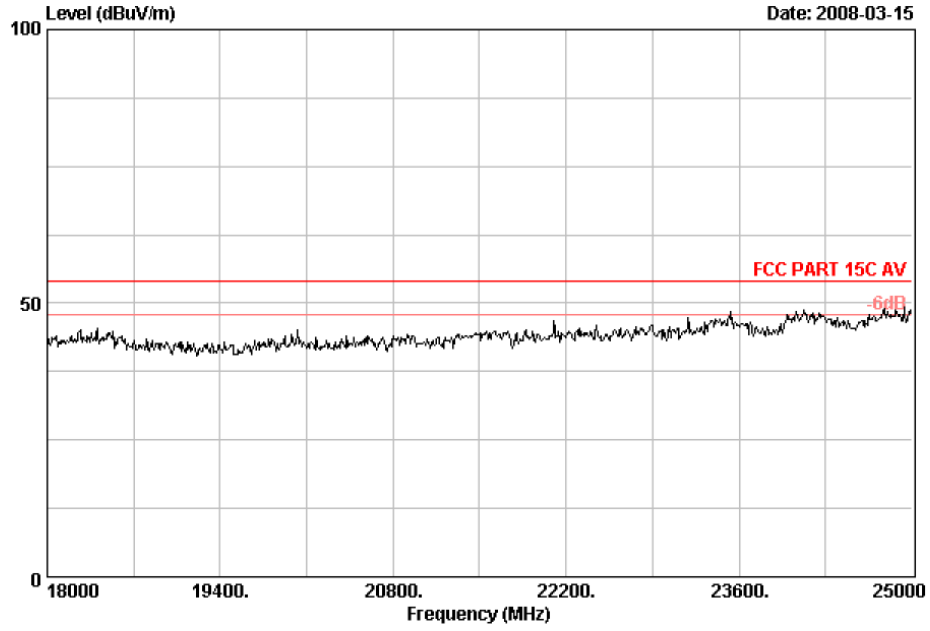


Site no. : RF Chamber Data no. : 17
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Low:2408MHz

Data: 18 File: D:\2008 report data\J\Jess\ACS8Q323.EMI (18)



Site no. : RF Chamber Data no. : 18
Dis. / Ant. : 3m Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Low:2408MHz

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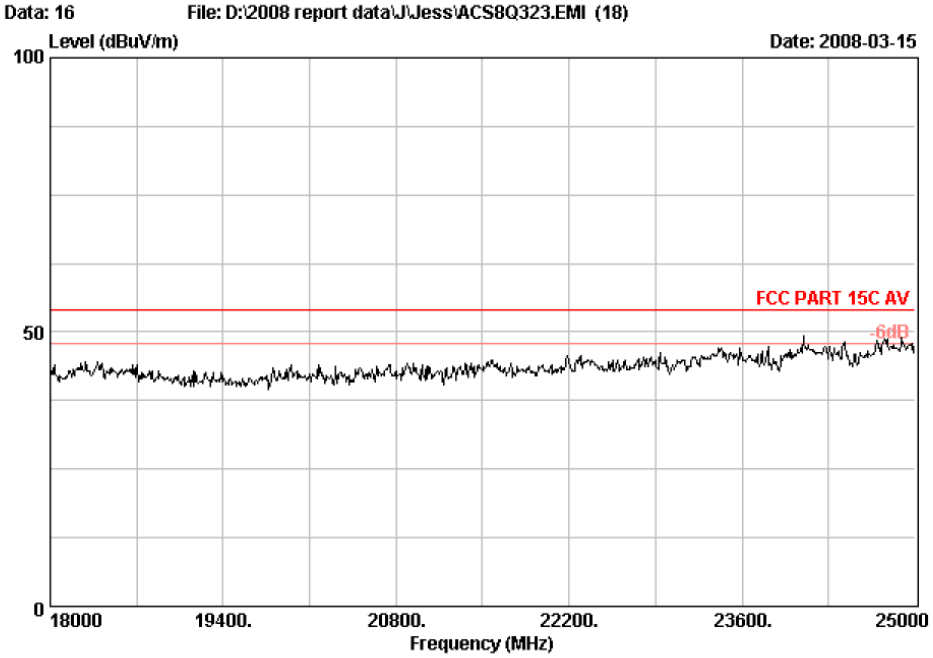
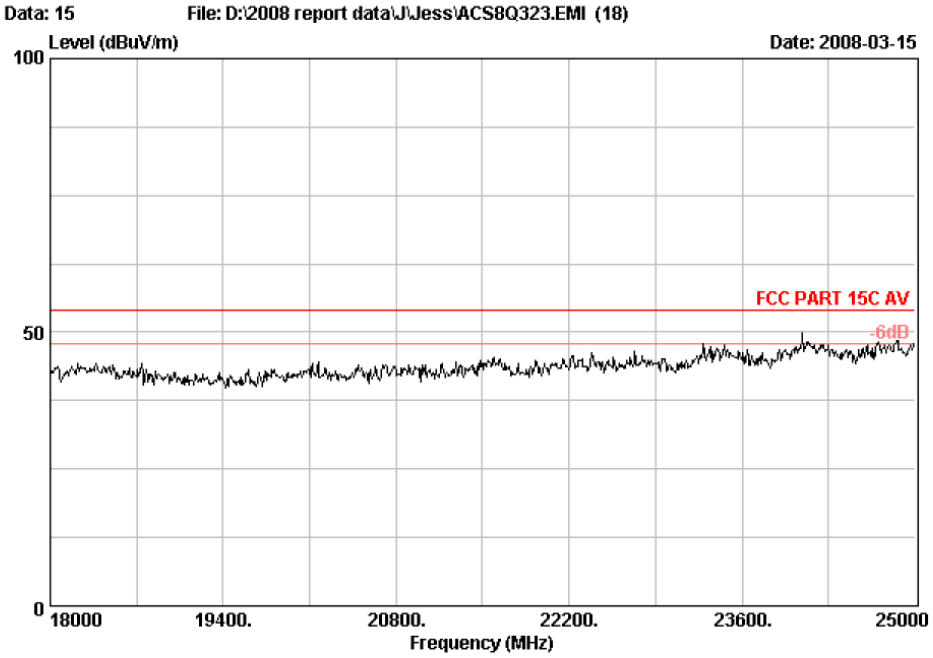
Postcode:518057



Site no. : RF Chamber Data no. : 16
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Mide:2442MHz



Site no. : RF Chamber Data no. : 15
Dis. / Ant. : 3m Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH Mide:2442MHz

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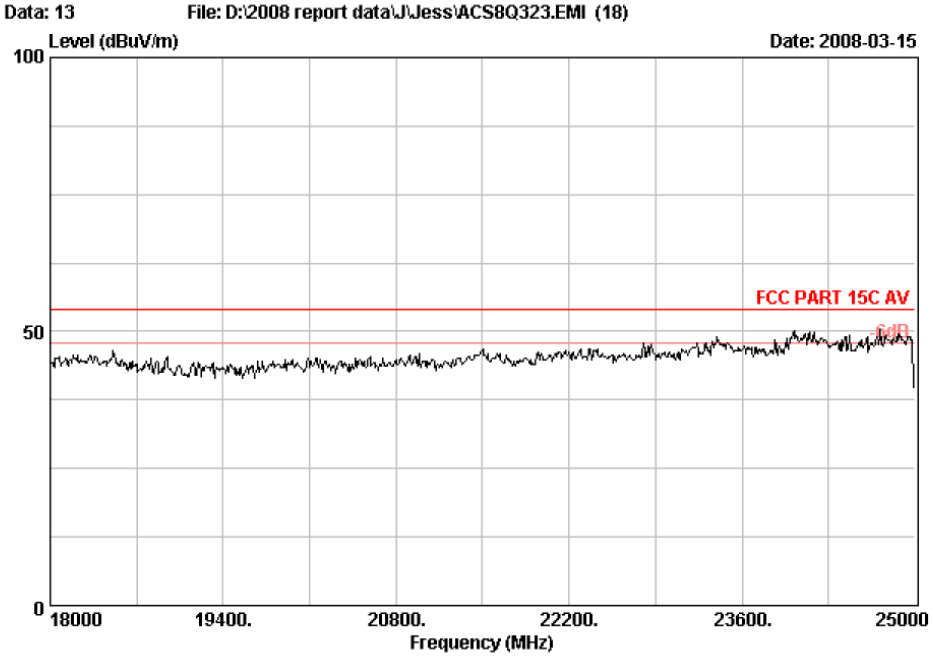
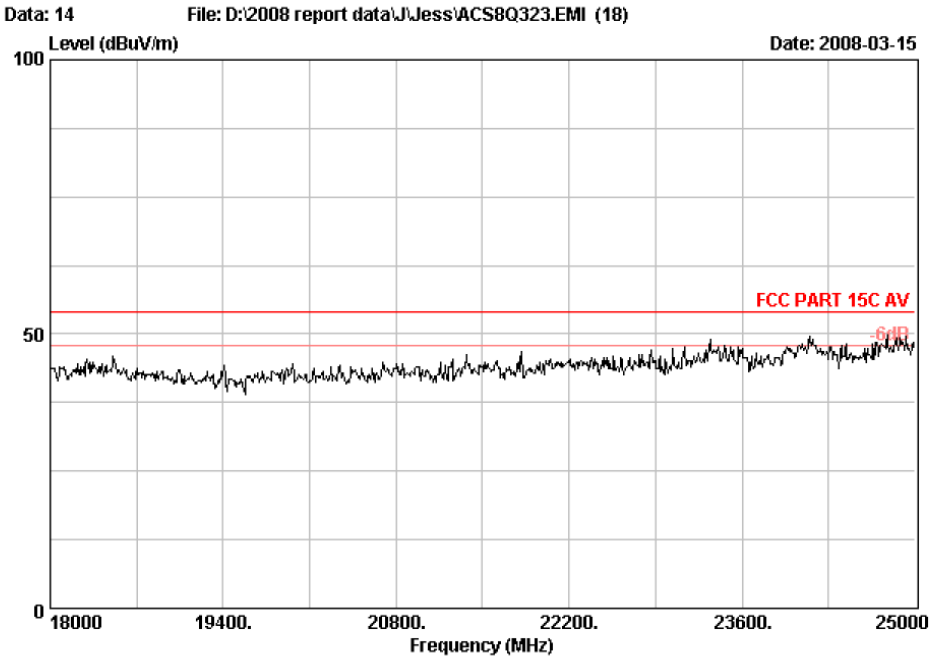


Site no. : RF Chamber Data no. : 13
Dis. / Ant. : 3m Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH High:2476MHz



Site no. : RF Chamber Data no. : 14
Dis. / Ant. : 3m Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23*C/54% Engineer : Jamy
EUT : 2.4GHz Wireless Module M/N:J2.4GMOAX
Power Rating: DC2.5V
Test Mode : Tx CH High:2476MHz

5. CARRIER FREQUENCY SEPARATION TEST

5.1.Test Equipment

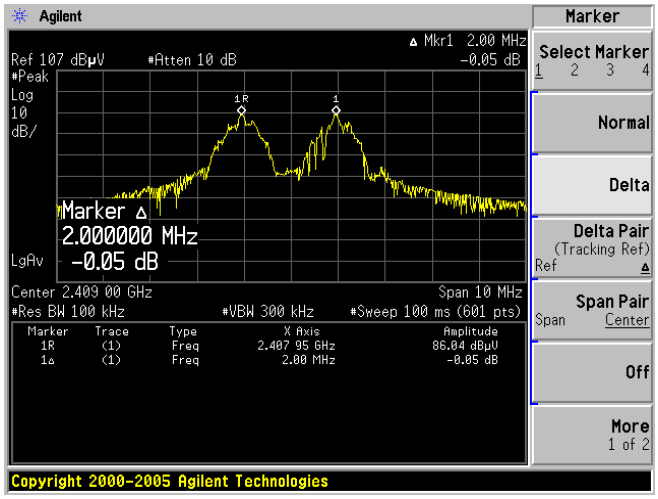
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

5.2.Test Information

EUT:	2.4GHz Wireless Module
M/N:	J2.4GM0AX
Test Date:	Mar.15, 2008
Ambient Temperature:	23℃
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)
Test mode:	TX (Hopping on)
Test Frequency:	Low: 2408MHz Mid: 2442MHz High: 2476MHz
Test By:	Jamy

5.3.Test Results

Pass (The EUT was tested and all the test results are listed in next page.)


Agilent
Marker
Ref 107 dBµV
#Atten 10 dB
Mkr1 2.00 MHz
-0.05 dB
#Peak
Log
10
dB/
Marker Δ
2.000000 MHz
-0.05 dB
LgAv
Center 2.409 00 GHz
Span 10 MHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 100 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.407 95 GHz 86.04 dBµV
1Δ (1) Freq 2.00 MHz -0.05 dB
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
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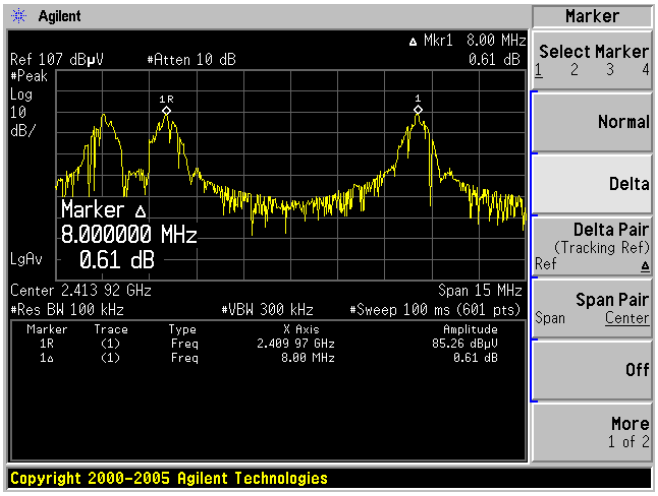
Agilent
Marker
Ref 107 dBµV
#Atten 10 dB
Mkr1 8.00 MHz
0.61 dB
#Peak
Log
10
dB/
Marker Δ
8.000000 MHz
0.61 dB
LgAv
Center 2.413 92 GHz
Span 15 MHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 100 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.409 97 GHz 85.26 dBµV
1Δ (1) Freq 8.00 MHz 0.61 dB
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
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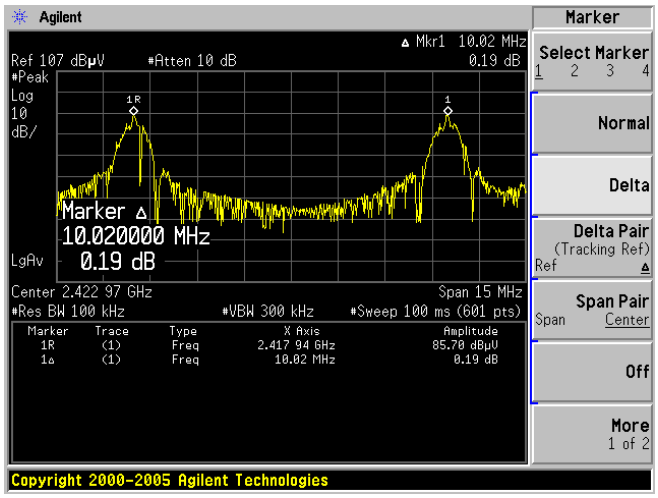
Agilent
Marker
Ref 107 dBµV
#Atten 10 dB
Mkr1 10.02 MHz
0.19 dB
#Peak
Log
10
dB/
Marker Δ
10.020000 MHz
0.19 dB
LgAv
Center 2.422 97 GHz
Span 15 MHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 100 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.417 94 GHz 85.70 dBµV
1Δ (1) Freq 10.02 MHz 0.19 dB
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
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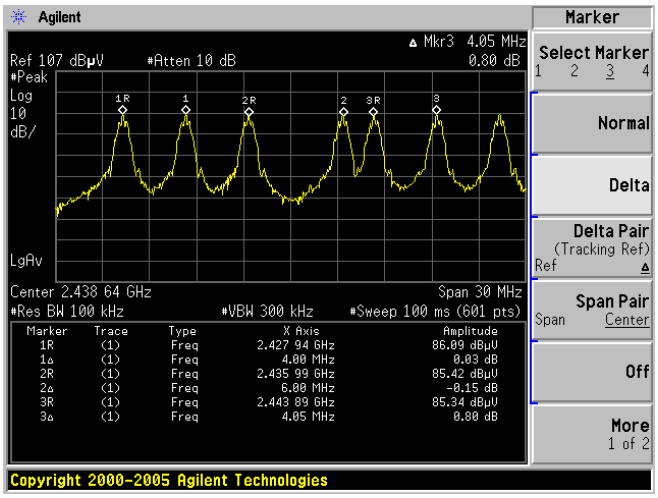
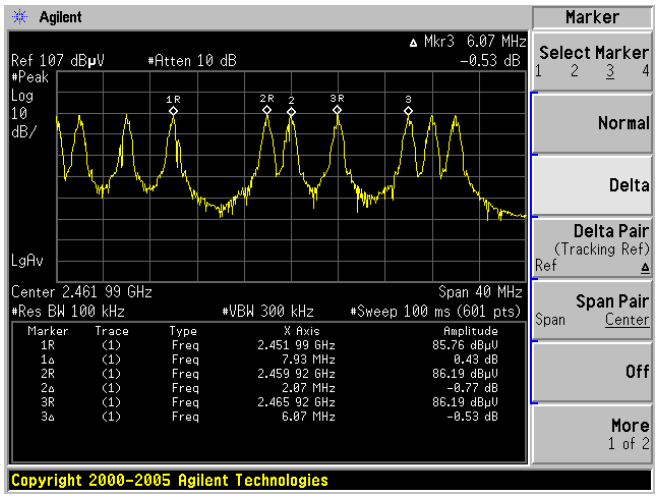

Agilent
Marker
Ref 107 dBµV
#Atten 10 dB
Mkr3 4.05 MHz
0.80 dB
#Peak
Log
10
dB/
LgAv
Center 2.438 64 GHz
Span 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 100 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.427 94 GHz 86.09 dBµV
1Δ (1) Freq 4.00 MHz 0.03 dB
2R (1) Freq 2.435 99 GHz 85.42 dBµV
2Δ (1) Freq 6.00 MHz -0.15 dB
3R (1) Freq 2.443 89 GHz 85.34 dBµV
3Δ (1) Freq 4.05 MHz 0.80 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
Marker
Ref 107 dBµV
#Atten 10 dB
Mkr3 6.07 MHz
-0.53 dB
#Peak
Log
10
dB/
LgAv
Center 2.461 99 GHz
Span 40 MHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 100 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Freq 2.451 99 GHz 85.76 dBµV
1Δ (1) Freq 7.93 MHz 0.43 dB
2R (1) Freq 2.459 92 GHz 86.19 dBµV
2Δ (1) Freq 2.07 MHz -0.77 dB
3R (1) Freq 2.465 92 GHz 86.19 dBµV
3Δ (1) Freq 6.07 MHz -0.53 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

6. 20 DB BANDWIDTH TEST

6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

6.2.Test Information

EUT:	2.4GHz Wireless Module
M/N:	J2.4GM0AX
Test Date:	Mar.15, 2008
Ambient Temperature:	23℃
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)
Test mode:	TX (Hopping off)
Test Frequency:	Low: 2408MHz Mid: 2442MHz High: 2476MHz
Test By:	Jamy

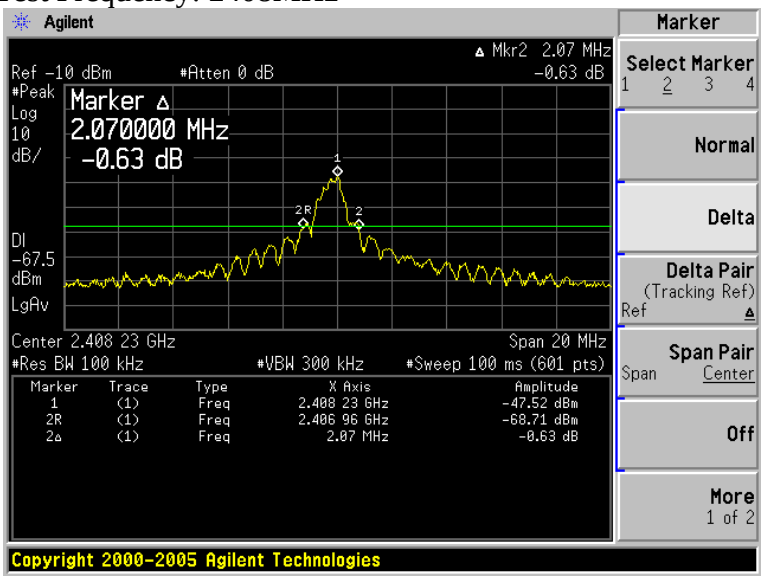
6.3.Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna . The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz RBW and 100 KHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

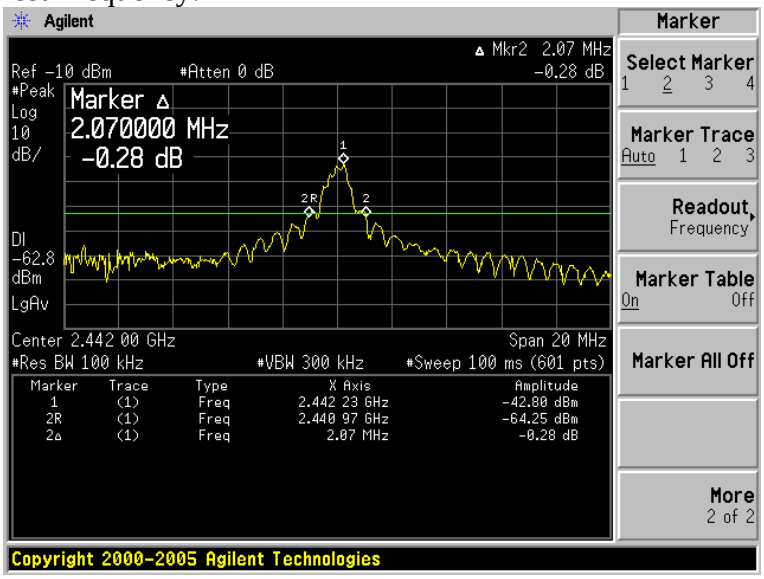
6.4.Test Results

CH	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion
(Low)	2.07	---	PASS
(Mid)	2.07	---	PASS
(High)	1.97	---	PASS

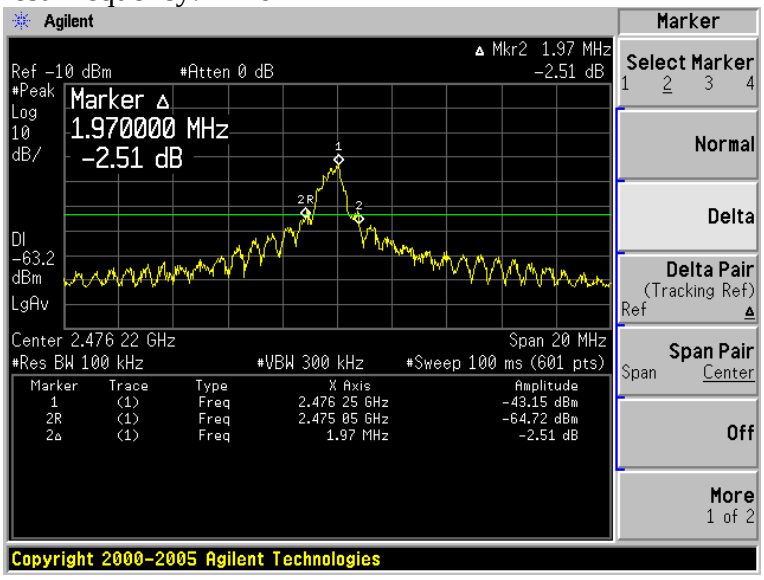
Test Frequency: 2408MHz



Test Frequency: 2442MHz



Test Frequency: 2476MHz



7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Test Equipment

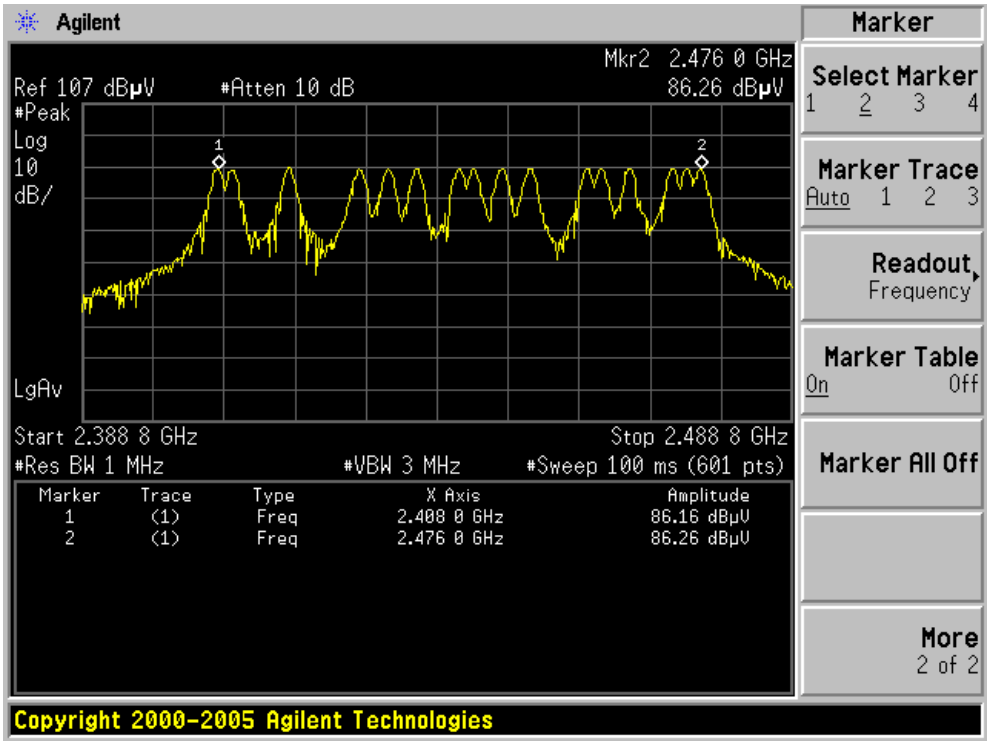
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

7.2.Test Information

EUT:	2.4GHz Wireless Module
M/N:	J2.4GM0AX
Test Date:	Mar.15, 2008
Ambient Temperature:	23℃
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)(iii)
Test mode:	TX (Hopping on)
Test Frequency:	From 2408MHz to 2476MHz
Test By:	Jamy

7.3.Test Results

Number of channel	Limit	Conclusion
16	>=15	PASS



8. DWELL TIME TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

8.2.Test Information

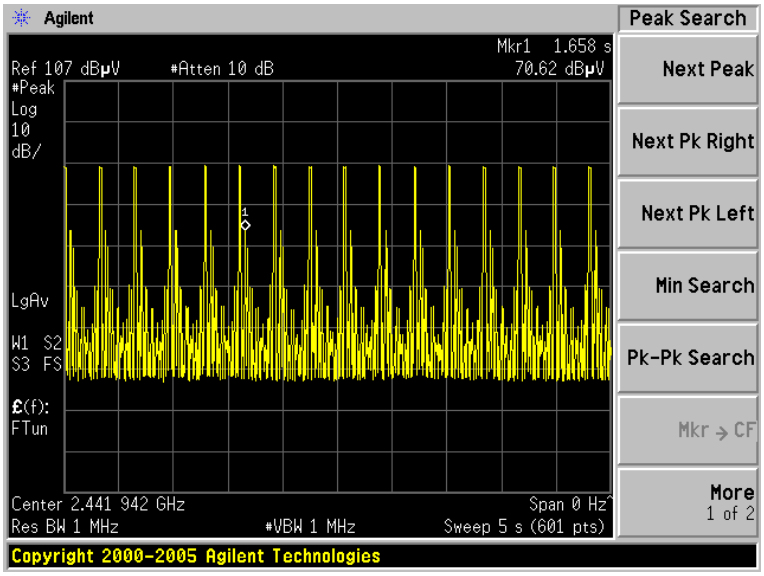
EUT:	2.4GHz Wireless Module
M/N:	J2.4GM0AX
Test Date:	Mar.15, 2008
Ambient Temperature:	23℃
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(a)(1)(iii)
Test mode:	Transmitting, Hopping off
Test Frequency:	Normal
Test By:	Jamy

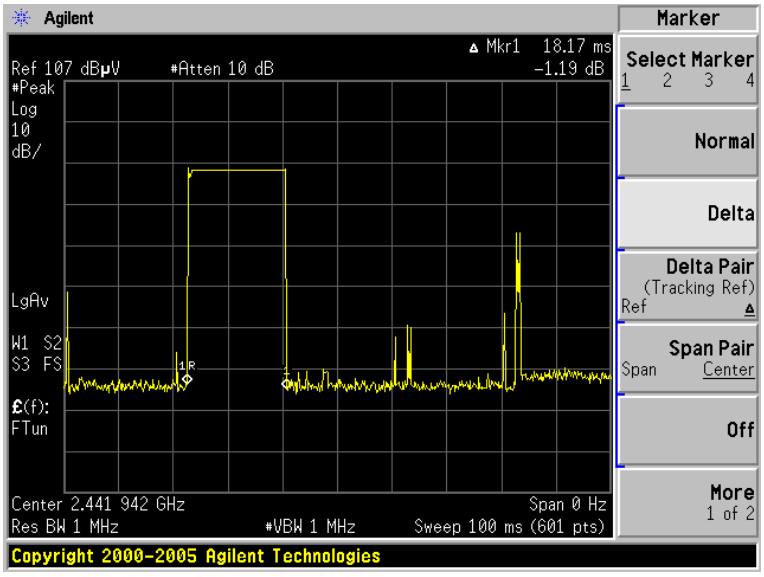
8.3.Test Results

This system hopping 16 hops in any 5s, and for each hop it transmit 1 pulses, the pulse dwell are 18.17ms, so the dwell times are:

16/5*16*0.4*18.17=382.976ms

dwell time	Limit	Conclusion
382.976ms	<400ms	PASS


Agilent
Peak Search
Mkr1 1.658 s
Ref 107 dBµV
#Atten 10 dB
70.62 dBµV
#Peak
Log
10
dB/
LgAv
W1 S2
S3 FS
£(f):
FTun
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 2.441 942 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 5 s (601 pts)
Copyright 2000-2005 Agilent Technologies


Agilent
Marker
Δ Mkr1 18.17 ms
Ref 107 dBµV
#Atten 10 dB
-1.19 dB
#Peak
Log
10
dB/
LgAv
W1 S2
S3 FS
£(f):
FTun
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Center 2.441 942 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 100 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.	SpectrumAnalyzer	Agilent	E4446A	US44300459	May,11, 07	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	Jan, 23, 07	1.5 Year
3	Horn Antenna	EMCO	3115	9510-4580	May,11, 07	1.5 Year
4	Signal Generator	HP	83732B	6K00003262	May,11, 07	1Year
5	RF Cable	Hubersuhner	SUCOFLEX	182769/4	May,11,07	1Year
6	RF Cable	Hubersuhner	SUCOFLEX	182768/4	May,11, 07	1Year
7	RF Cable	Hubersuhner	SUCOFLEX	182771/4	May,11, 07	1Year
8	Amplifier	HP	8449B	3008A00863	May,11, 07	1Year

9.2.Test Information

EUT:	2.4GHz Wireless Module
M/N:	J2.4GM0AX
Test Date:	Mar.15, 2008
Ambient Temperature:	24℃
Relative Humidity:	58%
Test standard:	FCC PART 15C: 15.247(b)(1)
Test mode:	TX (Hopping off)
Test Frequency:	Low: 2408MHz Mid: 2442MHz High: 2476MHz
Test By:	Jamy

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

CH	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)
Low	2408	H	97.32	-2.82	6.06	9.25	0.37	21	20.63
	2408	V	85.73	-14.78	6.06	9.25	-11.59	21	32.59
Mid	2442	H	97.81	-2.34	6.08	9.30	0.88	21	20.12
	2442	V	86.39	-14.23	6.08	9.30	-11.01	21	32.01
Hig	2476	H	97.80	-2.32	6.15	9.33	0.86	21	20.14
	2476	V	84.89	-15.8	6.15	9.33	-12.62	21	33.62
Result = SG Reading – Tx Cable Loss + Tx Antenna Gain Rx-Antenna: Horn Antenna Tx-Antenna: Horn Antenna									

10.BAND EDGE COMPLIANCE TEST

10.1.Test Equipment

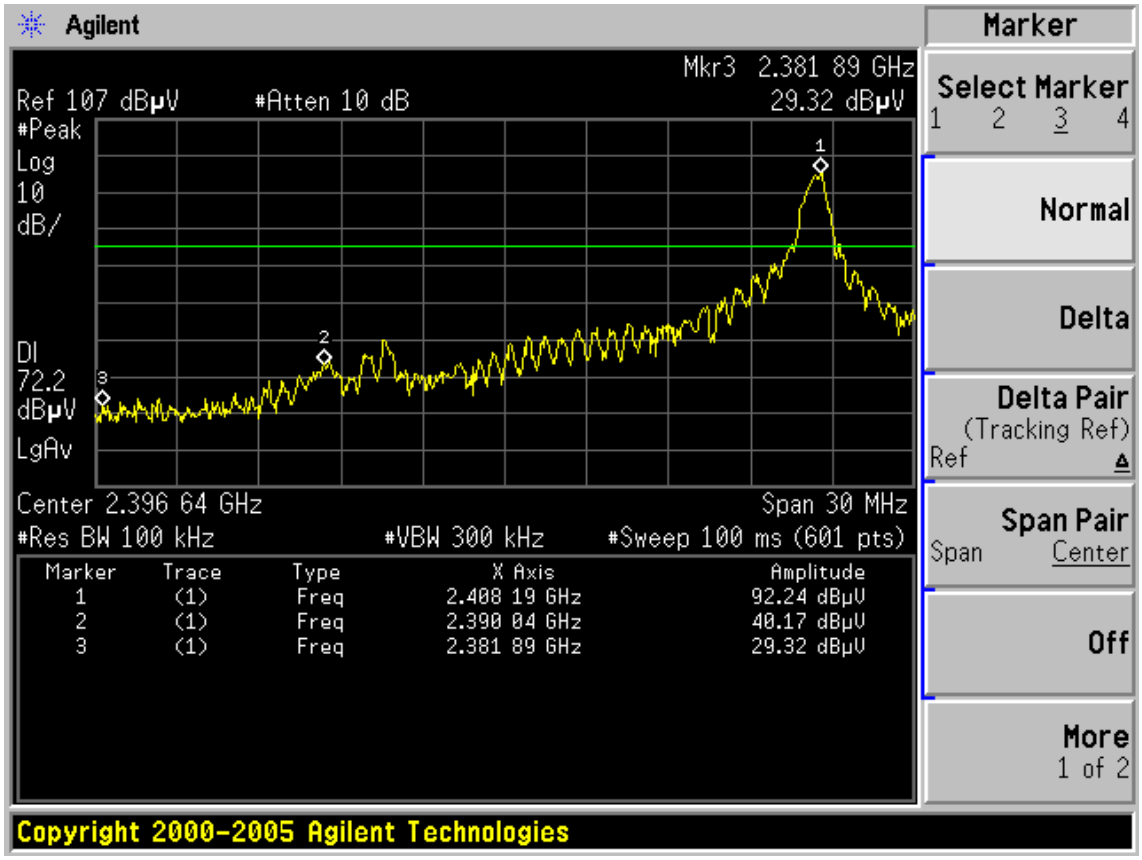
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	MY41440292	May 11, 07	1 Year
2.	Amp	HP	8449B	3008A00863	May 11, 07	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 11, 07	1 Year

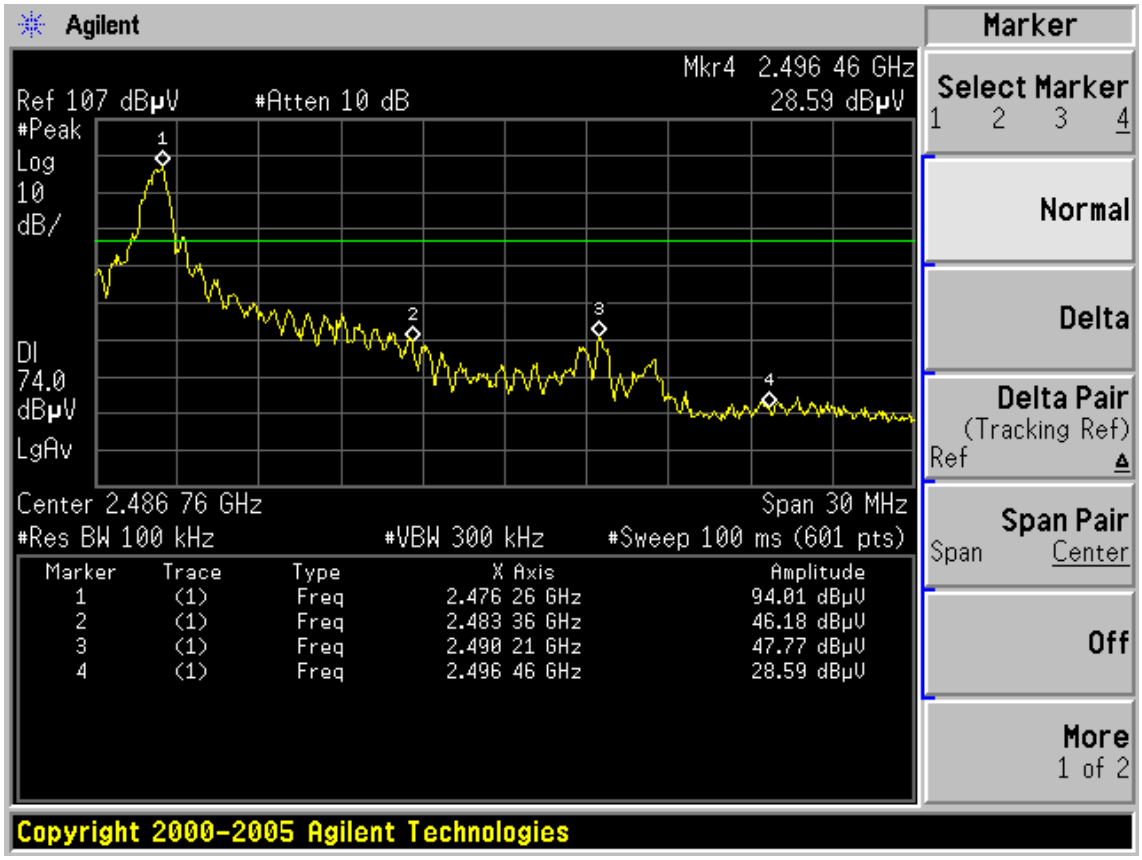
10.2.Test Information

EUT:	2.4GHz Wireless Module
M/N:	J2.4GM0AX
Test Date:	Mar.15, 2008
Ambient Temperature:	23℃
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247(d)
Test mode:	TX (Hopping on and Hopping off)
Test Frequency:	Low: 2408MHz High: 2476MHz
Test By:	Jamy

10.3.Test Results

Pass (The EUT was tested and all the test results are listed in following page.)





Note: All the peak level in restricted band complied with average limits, so the average level was deemed to comply with average limits.

11.MPE ESTIMATION

11.1.Limit for General Population / Uncontrolled Exposures

Frequency	Power density (mW/cm²)	Averaging time (minutes)
300MHz~1.5GHz	F/1500	30
1.5GHz~100GHz	1.0	30

Frequency (MHz)	Power density (mW/cm²)	Averaging time (minutes)
2408	0.60	30
2442	0.61	30
2476	0.62	30

Note: F = Frequency in MHz

11.2. Estimation Result

Channel	Frequency(MHz)	Peak output power(dBm)	antenna gain(dBi)	antenna gain (Linear)
Low	2408	0.37	0	1
Mid	2442	0.88	0	1
High	2476	0.86	0	1

Channel	Frequency(MHz)	Peak output power to antenna (mW)	Power density at 20cm(mW/ cm^2)
Low	2408	1.09	$2.16*10^{-4}$
Mid	2442	1.22	$2.43*10^{-4}$
High	2476	1.22	$2.43*10^{-4}$

12. ANTENNA REQUIREMENT

10.1 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.

10.2 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.

13.DEVIATION TO TEST SPECIFICATIONS

[NONE]