



# Test Report

## (Class II Permissive Change)

Product Name	JukeBlox Networked Media Module
Model No	CX870-3D
FCC ID.	ZQO-CX8703D

Applicant	STANDARD MICROSYSTEMS CORPORATION
Address	3930, EAST RAY ROAD SUITE 200, PHOENIX, ARIZONA, 85044-7176, UNITED STATES

Date of Receipt	Dec. 02, 2011
Issue Date	Dec. 08, 2011
Report No.	11C104R-RFUSP42V01
Report Version	V1.0

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issue Date: Dec. 08, 2011

Report No.: 11C104R-RFUSP42V01



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200533-0

Product Name	JukeBlox Networked Media Module
Applicant	STANDARD MICROSYSTEMS CORPORATION
Address	3930, EAST RAY ROAD SUITE 200, PHOENIX, ARIZONA, 85044-7176, UNITED STATES
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD
Model No.	CX870-3D
FCC ID.	ZQO-CX8703D
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	AC 120V/60Hz
Trade Name	PICO Module
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010 ANSI C63.4: 2009
Test Result	Complied



The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuietTek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By :



( Senior Adm. Specialist / Genie Chang )

Tested By :



( Assistant Engineer / Jack Hsu )

Approved By :



( Manager / Vincent Lin )



## TABLE OF CONTENTS

Description	Page
<b>1. GENERAL INFORMATION .....</b>	<b>4</b>
1.1. EUT Description.....	4
1.2. Operational Description .....	6
1.3. Tested System Details.....	7
1.4. Configuration of Tested System .....	7
1.5. EUT Exercise Software .....	7
1.6. Test Facility .....	8
<b>2. Peak Power Output .....</b>	<b>9</b>
2.1. Test Equipment.....	9
2.2. Test Setup .....	9
2.3. Limits .....	9
2.4. Test Procedure .....	9
2.5. Uncertainty .....	9
2.6. Test Result of Peak Power Output.....	10
<b>3. Radiated Emission.....</b>	<b>12</b>
3.1. Test Equipment.....	12
3.2. Test Setup .....	13
3.3. Limits .....	14
3.4. Test Procedure .....	15
3.5. Uncertainty .....	15
3.6. Test Result of Radiated Emission.....	16
<b>4. Band Edge .....</b>	<b>24</b>
4.1. Test Equipment.....	24
4.2. Test Setup .....	25
4.3. Limits .....	25
4.4. Test Procedure .....	26
4.5. Uncertainty .....	26
4.6. Test Result of Band Edge .....	27
<b>5. EMI Reduction Method During Compliance Testing .....</b>	<b>35</b>
Attachment 1: EUT Test Photographs	
Attachment 2: EUT Detailed Photographs	

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	JukeBlox Networked Media Module
Trade Name	PICO Module
Model No.	CX870-3D
FCC ID.	ZQO-CX8703D
Frequency Range	2412-2462MHz for 802.11b/g
Number of Channels	802.11b/g: 11
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	Inverted-F
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain	Note
1	Tyco Electronics	2174241-1	Inverted-F	2.19 dBi for 2.4 GHz	without core

Note:

1. The antenna of EUT is conform to FCC 15.203.

## 802.11b/g Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

## Note:

1. The EUT is a JukeBlox Networked Media Module with a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps 、 802.11g is 6Mbps)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
5. This is to request a Class II permissive change for FCC ID: ZQO-CX8703D, originally granted on 08/26/2011.

The major change filed under this application is:

Change #1: Addition new antenna, antenna gain: 2.19dBi.

## 1.2. Operational Description

The EUT is a JukeBlox Networked Media Module, This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11g).

This JukeBlox Networked Media Module, compliant with IEEE 802.11b and IEEE 802.11g, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the JukeBlox Networked Media Module Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g network.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)

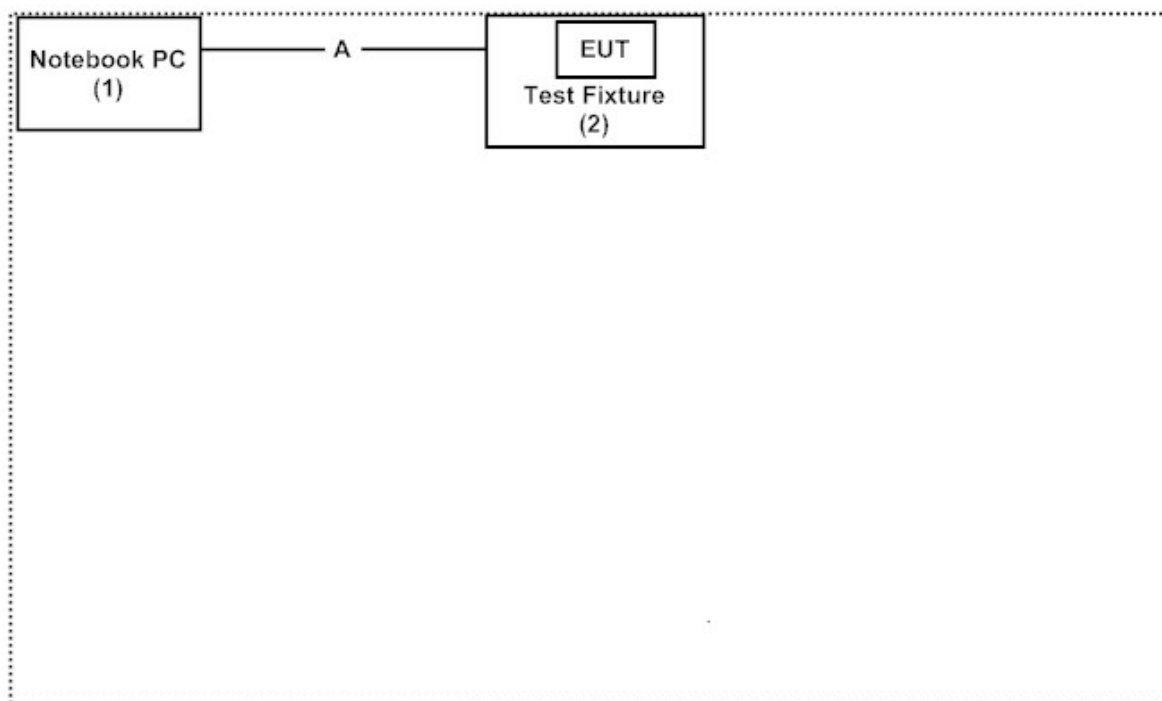
### 1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Notebook PC	DELL	PPT	N/A	DoC	Non-Shielded, 0.8m
2 Test Fixture	LITE-ON	N/A	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A RS-232 Cable	Non-Shielded, 2.0m

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4
- (2) Execute command on the notebook.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

## 1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from

Quietek Corporation's Web Site: <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site:

<http://www.quietek.com/>

Site Description: File on  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 92195



Accreditation on NVLAP  
NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation  
Site Address: No.5-22, Ruishukeng,  
Linkou Dist. New Taipei City 24451,  
Taiwan, R.O.C.  
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789  
E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014





## 2. Peak Power Output

### 2.1. Test Equipment

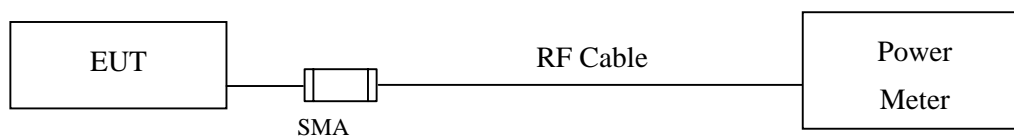
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2011
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2011

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 2.2. Test Setup

Conducted Measurement



### 2.3. Limits

The maximum peak power shall be less 1 Watt.

### 2.4. Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

### 2.5. Uncertainty

$\pm 1.27$  dB

## 2.6. Test Result of Peak Power Output

Product : JukeBlox Networked Media Module  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	14.46	--	--	--	16.92	<30dBm	Pass
06	2437	17.11	17.05	17.02	16.98	20.02	<30dBm	Pass
11	2462	14.21	--	--	--	16.82	<30dBm	Pass

Note: Peak Power Output Value = Reading value on peak power meter + cable loss

Product : JukeBlox Networked Media Module  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	11.61	--	--	--	--	--	--	--	21.94	<30dBm	Pass
06	2437	14.63	14.61	14.59	14.55	14.52	14.51	14.47	14.41	23.20	<30dBm	Pass
11	2462	11.5	--	--	--	--	--	--	--	22.11	<30dBm	Pass

Note: Peak Power Output Value = Reading value on peak power meter + cable loss

### 3. Radiated Emission

#### 3.1. Test Equipment

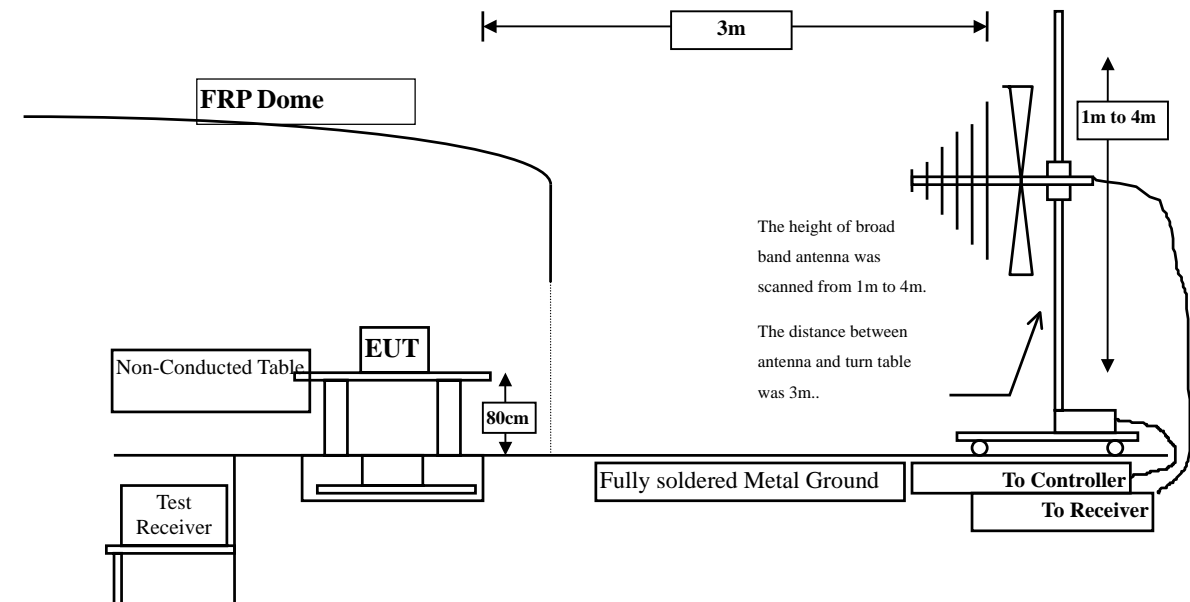
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2011
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2011
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

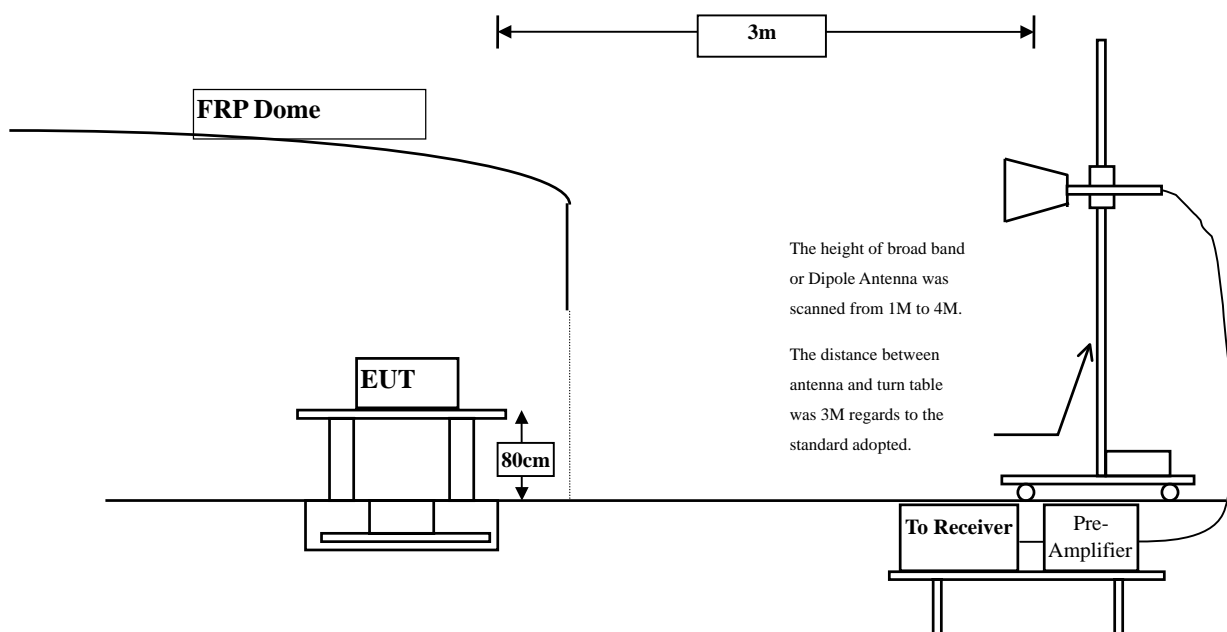
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with “X” are used to measure the final test results.

### 3.2. Test Setup

#### Radiated Emission Below 1GHz



#### Radiated Emission Above 1GHz



### 3.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

### 3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2009 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The frequency range from 30MHz to 10th harmonics is checked.

### 3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

### 3.6. Test Result of Radiated Emission

Product : JukeBlox Networked Media Module  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	3.261	37.560	40.821	-33.179	74.000
7236.000	10.650	36.620	47.270	-26.730	74.000
9648.000	13.337	36.530	49.866	-24.134	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	6.421	38.840	45.261	-28.739	74.000
7236.000	11.495	37.430	48.925	-25.075	74.000
9648.000	13.807	36.880	50.686	-23.314	74.000
<b>Average Detector:</b>					
--					

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Product : JukeBlox Networked Media Module  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	3.038	38.030	41.067	-32.933	74.000
7311.000	11.795	35.800	47.594	-26.406	74.000
9748.000	12.635	37.050	49.685	-24.315	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	5.812	37.550	43.361	-30.639	74.000
7311.000	12.630	36.040	48.669	-25.331	74.000
9748.000	13.126	37.230	50.356	-23.644	74.000
<b>Average Detector:</b>					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : JukeBlox Networked Media Module  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

#### Horizontal

##### Peak Detector:

4924.000	2.858	37.920	40.777	-33.223	74.000
7386.000	12.127	35.860	47.988	-26.012	74.000
9848.000	12.852	36.940	49.793	-24.207	74.000

##### Average Detector:

--

#### Vertical

##### Peak Detector:

4924.000	5.521	38.040	43.560	-30.440	74.000
7386.000	13.254	35.390	48.644	-25.356	74.000
9848.000	13.367	36.850	50.217	-23.783	74.000

##### Average Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : JukeBlox Networked Media Module  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

#### Horizontal

##### Peak Detector:

4824.000	3.261	37.720	40.981	-33.019	74.000
7236.000	10.650	36.620	47.270	-26.730	74.000
9648.000	13.337	36.640	49.976	-24.024	74.000

##### Average Detector:

--

#### Vertical

##### Peak Detector:

4824.000	6.421	38.720	45.141	-28.859	74.000
7236.000	11.495	37.240	48.735	-25.265	74.000
9648.000	13.807	36.620	50.426	-23.574	74.000

##### Average Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : JukeBlox Networked Media Module  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

#### Horizontal

##### Peak Detector:

4874.000	3.038	38.130	41.167	-32.833	74.000
7311.000	11.795	36.430	48.224	-25.776	74.000
9748.000	12.635	37.550	50.185	-23.815	74.000

##### Average Detector:

--

##### Peak Detector:

4874.000	5.812	37.810	43.621	-30.379	74.000
7311.000	12.630	35.780	48.409	-25.591	74.000
9748.000	13.126	37.350	50.476	-23.524	74.000

##### Average Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : JukeBlox Networked Media Module  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	2.858	37.600	40.457	-33.543	74.000
7386.000	12.127	35.240	47.368	-26.632	74.000
9848.000	12.852	37.070	49.923	-24.077	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	5.521	37.470	42.990	-31.010	74.000
7386.000	13.254	35.250	48.504	-25.496	74.000
9848.000	13.367	37.140	50.507	-23.493	74.000

**Average Detector:**

--

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : JukeBlox Networked Media Module  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
202.660	-10.889	44.366	33.477	-10.023	43.500
398.600	-2.268	28.772	26.504	-19.496	46.000
530.520	1.873	30.319	32.192	-13.808	46.000
745.860	3.308	30.531	33.839	-12.161	46.000
837.040	5.103	31.548	36.650	-9.350	46.000
961.200	6.450	32.776	39.226	-14.774	54.000
<b>Vertical</b>					
202.660	-7.739	40.208	32.469	-11.031	43.500
355.920	-3.488	39.683	36.195	-9.805	46.000
530.520	-0.517	33.389	32.872	-13.128	46.000
745.860	1.828	33.863	35.691	-10.309	46.000
790.480	2.913	32.573	35.485	-10.515	46.000
961.200	7.260	31.285	38.545	-15.455	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : JukeBlox Networked Media Module  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
293.840	-3.868	37.442	33.575	-12.425	46.000
398.600	-2.268	32.030	29.762	-16.238	46.000
480.080	-0.329	36.908	36.579	-9.421	46.000
610.060	4.101	30.494	34.595	-11.405	46.000
701.240	2.668	37.184	39.852	-6.148	46.000
837.040	5.103	28.023	33.125	-12.875	46.000
<b>Vertical</b>					
249.220	-7.634	36.876	29.242	-16.758	46.000
398.600	-4.678	42.039	37.361	-8.639	46.000
532.460	-0.563	33.960	33.397	-12.603	46.000
745.860	1.828	32.979	34.807	-11.193	46.000
881.660	2.557	30.963	33.520	-12.480	46.000
961.200	7.260	31.403	38.663	-15.337	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

#### 4. Band Edge

##### 4.1. Test Equipment

###### RF Conducted Measurement

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2011
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2011
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2011

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

###### RF Radiated Measurement:

The following test equipments are used during the band edge tests:

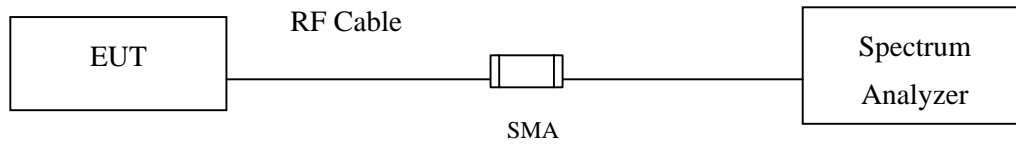
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2011
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2011
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2011
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2011
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2011
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2011
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by "X" are used to measure the final test results.

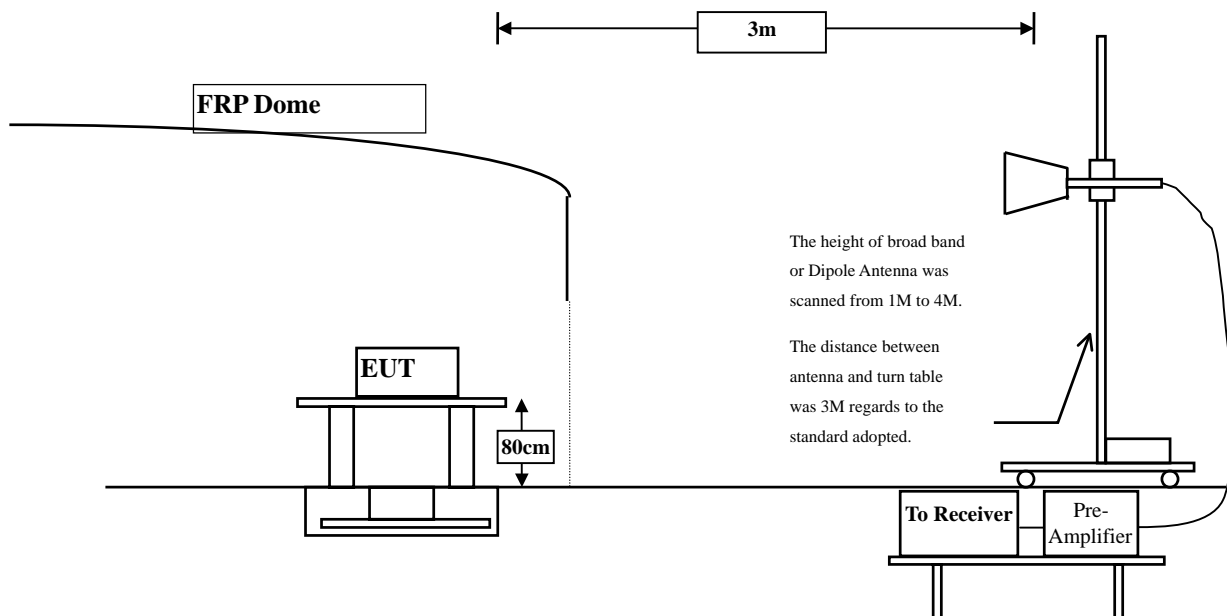


## 4.2. Test Setup

### RF Conducted Measurement



### RF Radiated Measurement:



## 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

#### **4.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2009 and tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2009 on radiated measurement.

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Band Edge

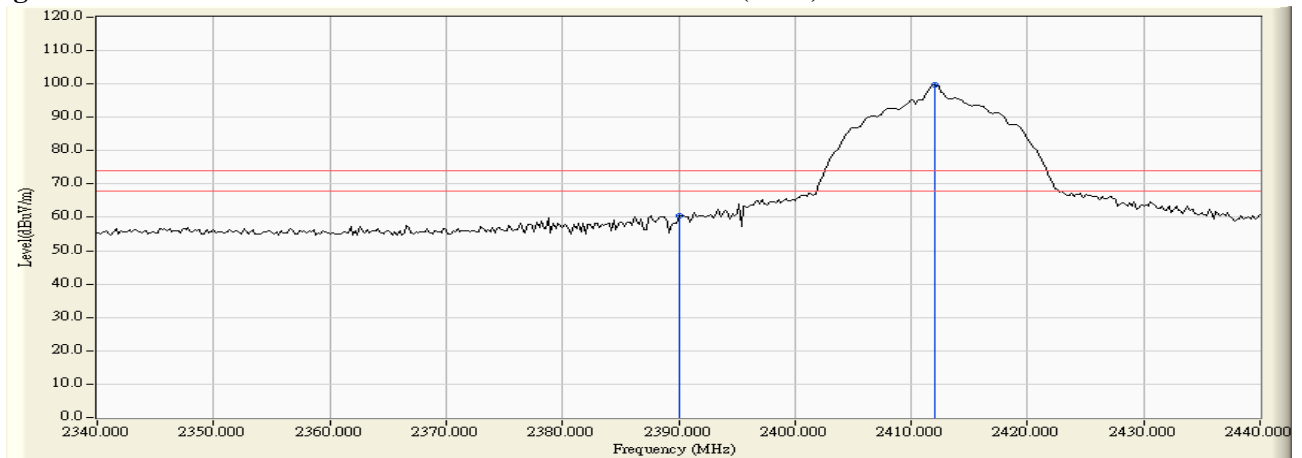
Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

##### RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
01 (Peak)	2390.000	31.509	28.909	60.418	-13.582	74.00	Pass
01 (Peak)	2412.000	31.639	68.009	99.647	--	--	--
01 (Average)	2383.600	31.484	11.818	43.302	-10.698	54.00	Pass
01 (Average)	2390.000	31.509	11.725	43.234	-10.766	54.00	Pass
01 (Average)	2412.800	31.645	58.702	90.346	--	--	--

Figure Channel 01:

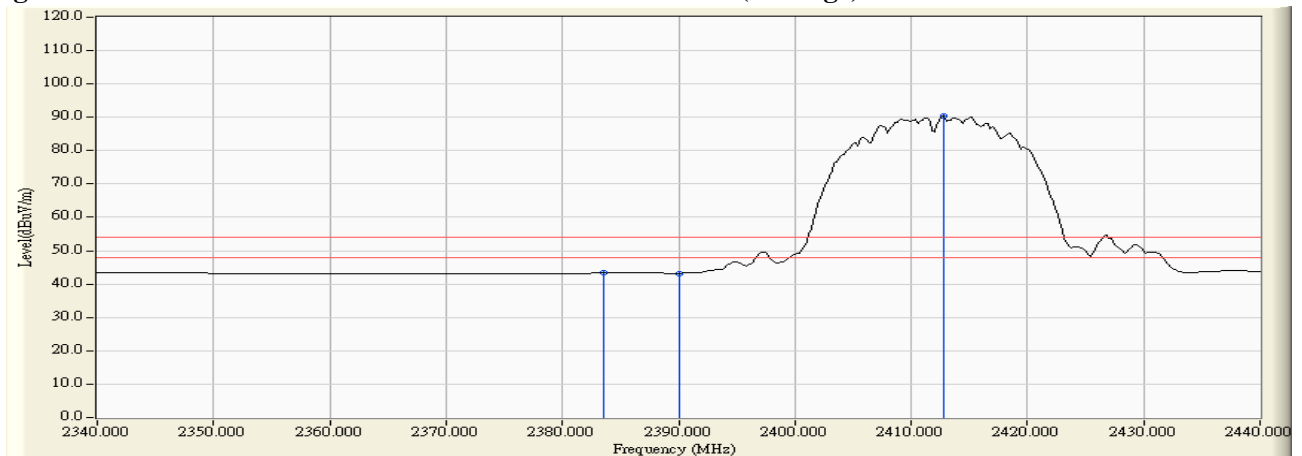
Horizontal (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 01:

Horizontal (Average)



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

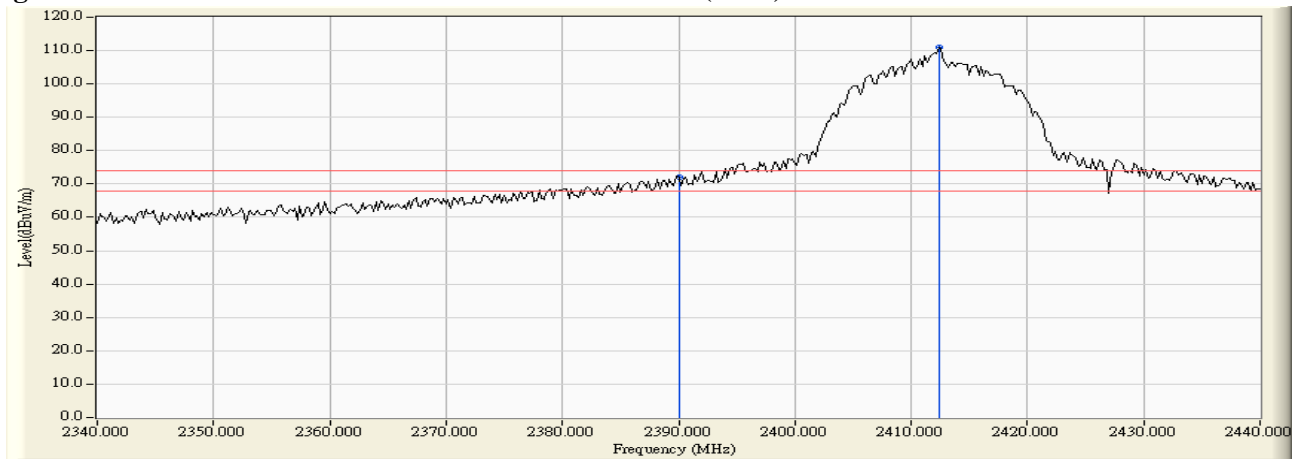
Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
01 (Peak)	2390.000	30.915	41.201	72.116	-1.884	74.00	Pass
01 (Peak)	2412.400	30.952	80.009	110.961	--	--	--
01 (Average)	2385.200	30.937	15.178	46.115	-7.885	54.00	Pass
01 (Average)	2390.000	30.915	13.995	44.910	-9.090	54.00	Pass
01 (Average)	2409.400	30.939	68.655	99.593	--	--	--

**Figure Channel 01:**

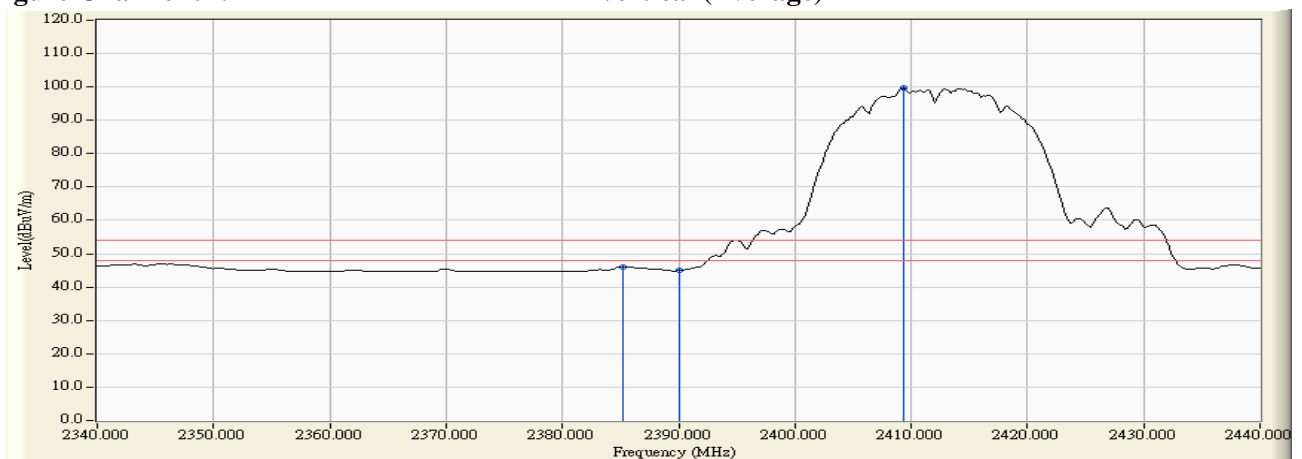
**Vertical (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 01:**

**Vertical (Average)**



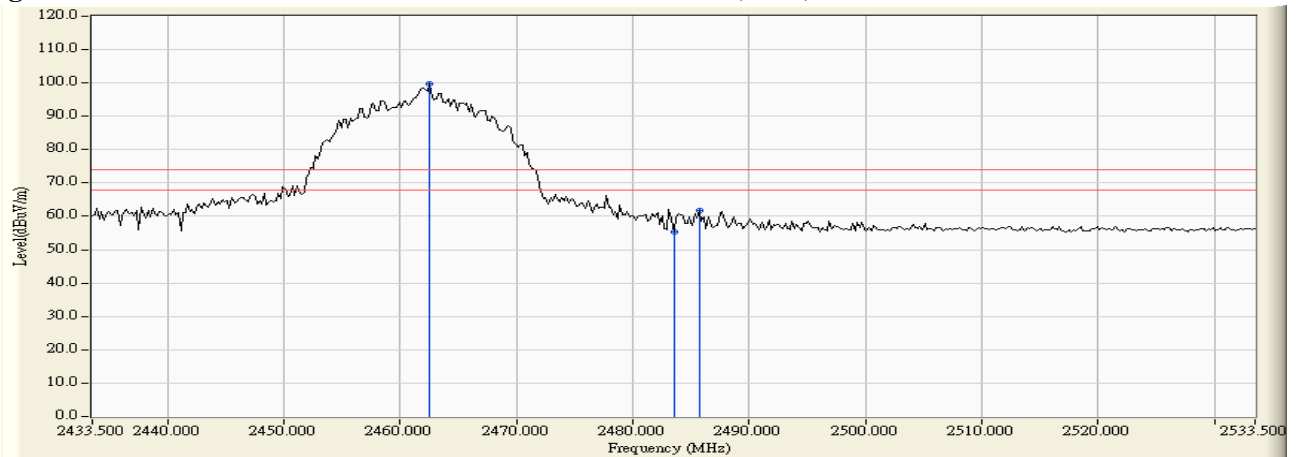
Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

**RF Radiated Measurement (Horizontal):**

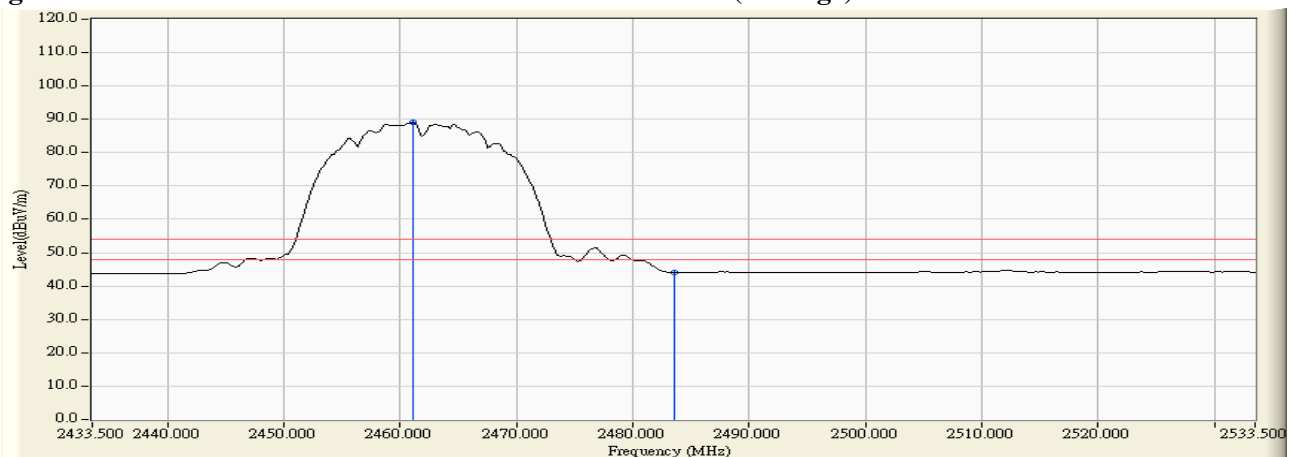
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
11 (Peak)	2462.500	32.023	67.846	99.869	--	--	--
11 (Peak)	2483.500	32.182	23.193	55.375	-18.625	74.00	Pass
11 (Peak)	2485.700	32.198	29.479	61.678	-12.322	74.00	Pass
11 (Average)	2461.100	32.013	57.025	89.038	--	--	--
11 (Average)	2483.500	32.182	11.909	44.091	-9.909	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 11: Horizontal (Average)**



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

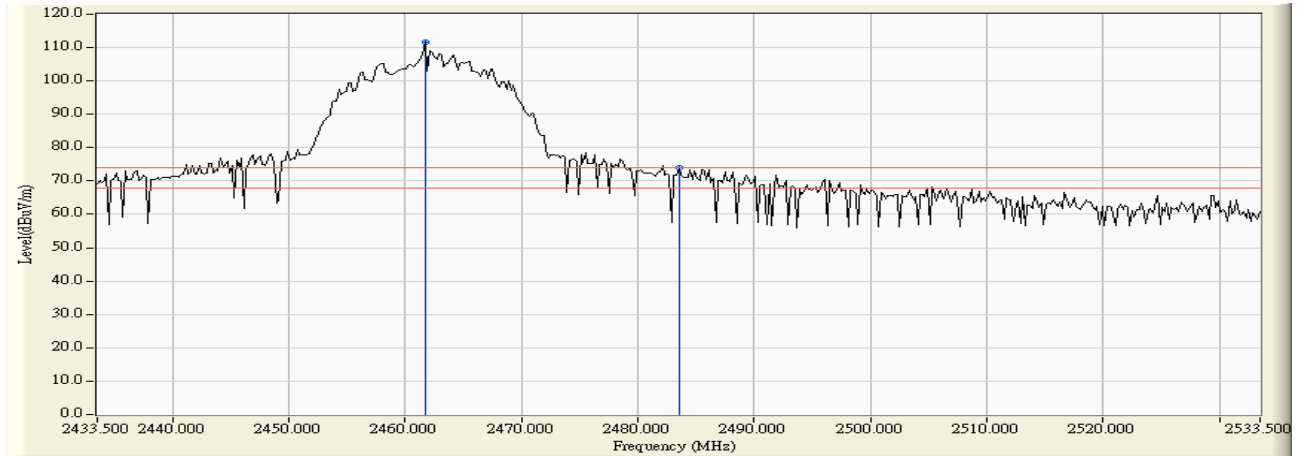
Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11b 1Mbps)

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
11 (Peak)	2461.700	31.288	80.231	111.519	--	--	--
11 (Peak)	2483.500	31.435	42.478	73.913	-0.087	74.00	Pass
11 (Average)	2462.700	31.295	67.001	98.296	--	--	--
11 (Average)	2483.500	31.435	12.961	44.396	-9.604	54.00	Pass

**Figure Channel 11:**

**Vertical (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 11:**

**Vertical (Average)**



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

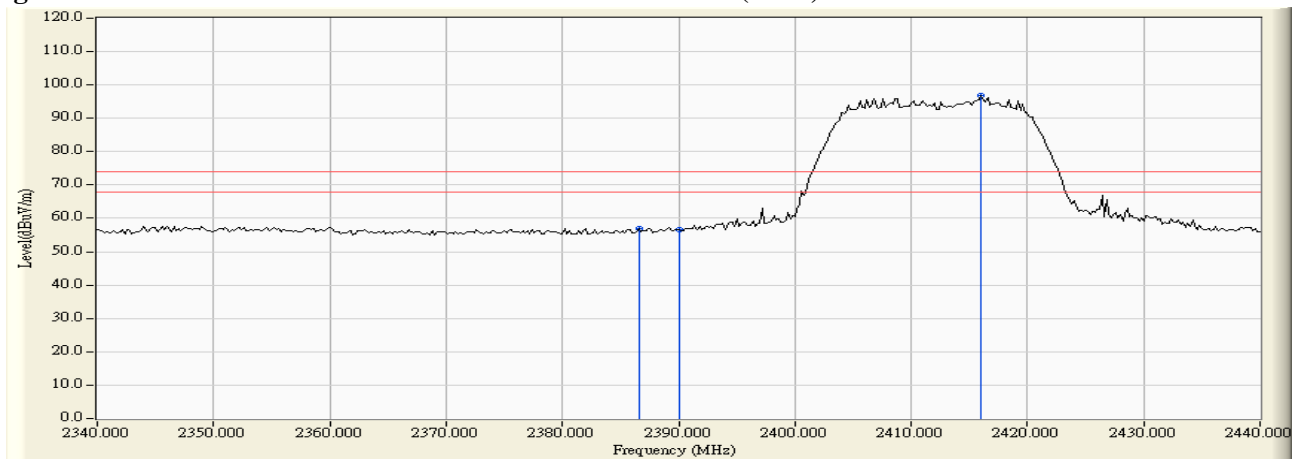
Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
01 (Peak)	2386.600	31.496	25.343	56.839	-17.161	74.00	Pass
01 (Peak)	2390.000	31.509	25.010	56.519	-17.481	74.00	Pass
01 (Peak)	2416.000	31.670	65.244	96.913	--	--	--
01 (Average)	2390.000	31.509	13.931	45.440	-8.560	54.00	Pass
01 (Average)	2414.800	31.660	48.398	80.058	--	--	--

**Figure Channel 01:**

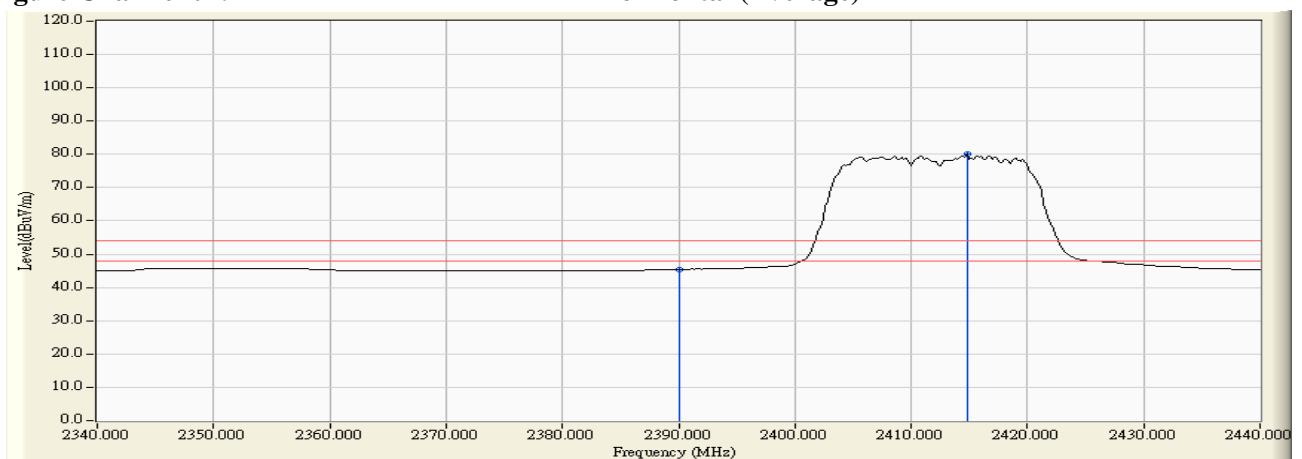
**Horizontal (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 01:**

**Horizontal (Average)**



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

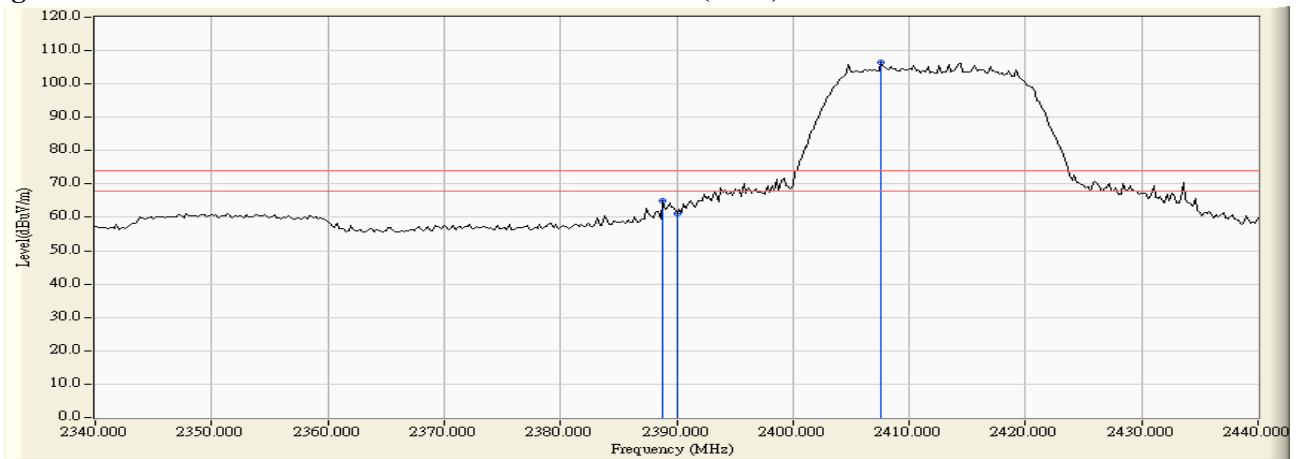
Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
01 (Peak)	2388.800	30.921	33.913	64.834	-9.166	74.00	Pass
01 (Peak)	2390.000	30.915	30.276	61.191	-12.809	74.00	Pass
01 (Peak)	2407.600	30.932	75.698	106.631	--	--	--
01 (Average)	2390.000	30.915	17.013	47.928	-6.072	54.00	Pass
01 (Average)	2410.600	30.941	57.971	88.912	--	--	--

**Figure Channel 01:**

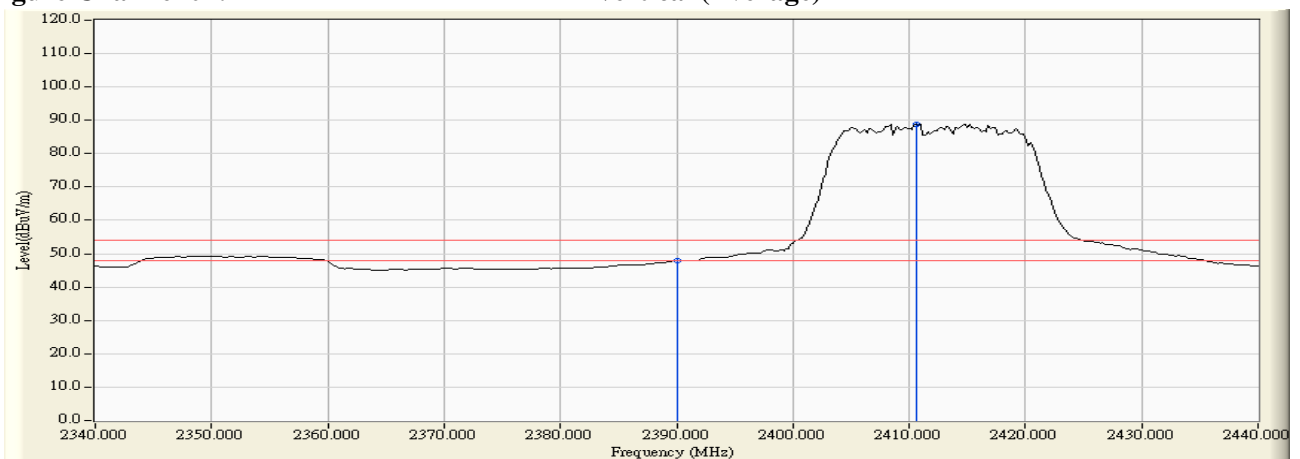
**Vertical (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 01:**

**Vertical (Average)**



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

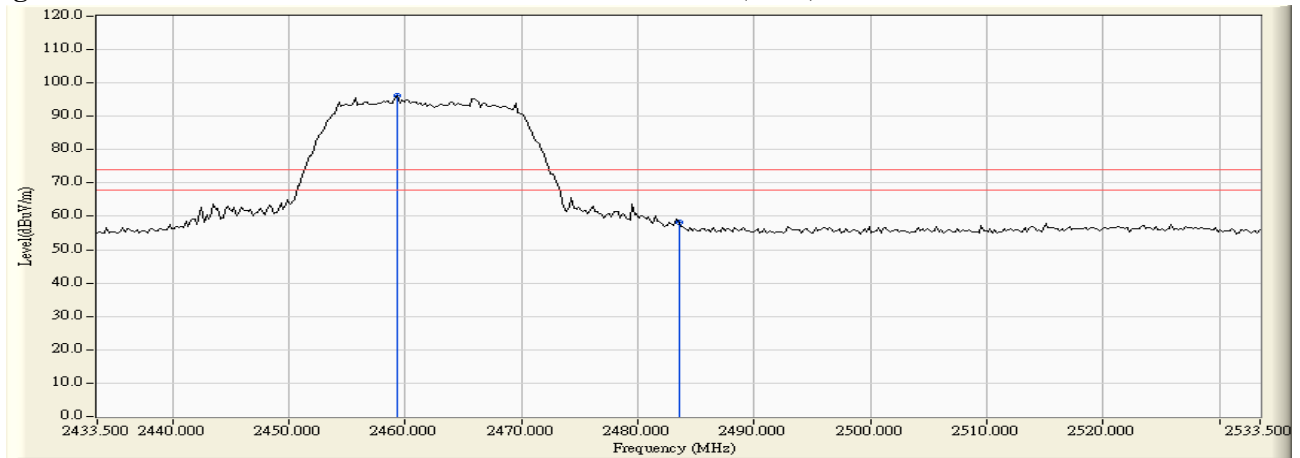


Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

**RF Radiated Measurement (Horizontal):**

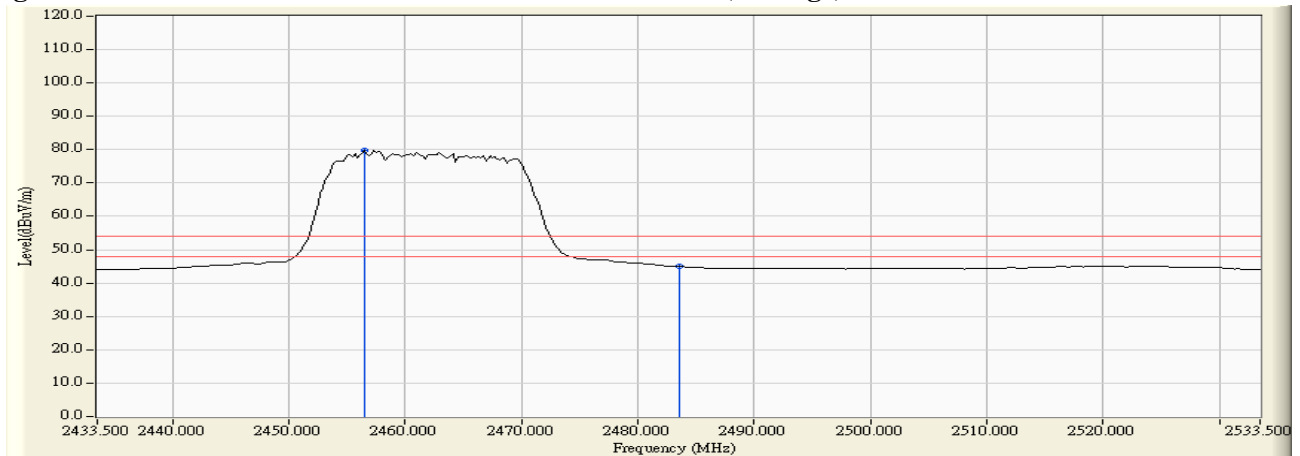
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
11 (Peak)	2459.300	31.999	64.201	96.200	--	--	--
11 (Peak)	2483.500	32.182	25.919	58.101	-15.899	74.00	Pass
11 (Average)	2456.500	31.977	47.857	79.835	--	--	--
11 (Average)	2483.500	32.182	12.774	44.956	-9.044	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 11: Horizontal (Average)**



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

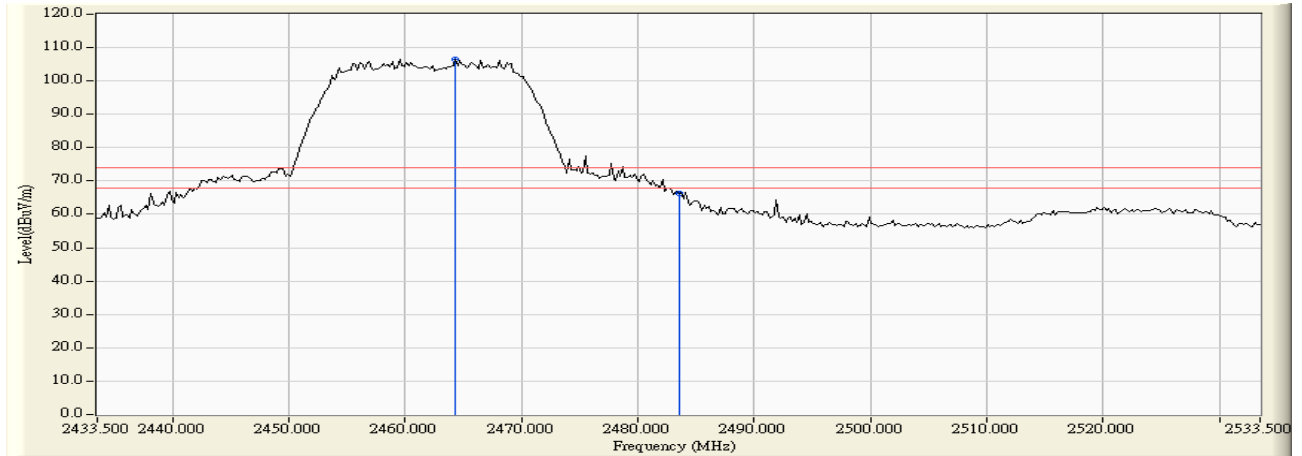
Product : JukeBlox Networked Media Module  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11g 6Mbps)

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Result
11 (Peak)	2464.300	31.306	75.282	106.588	--	--	--
11 (Peak)	2483.500	31.435	34.697	66.132	-7.868	74.00	Pass
11 (Average)	2461.100	31.285	57.195	88.479	--	--	--
11 (Average)	2483.500	31.435	17.821	49.256	-4.744	74.00	Pass

**Figure Channel 11:**

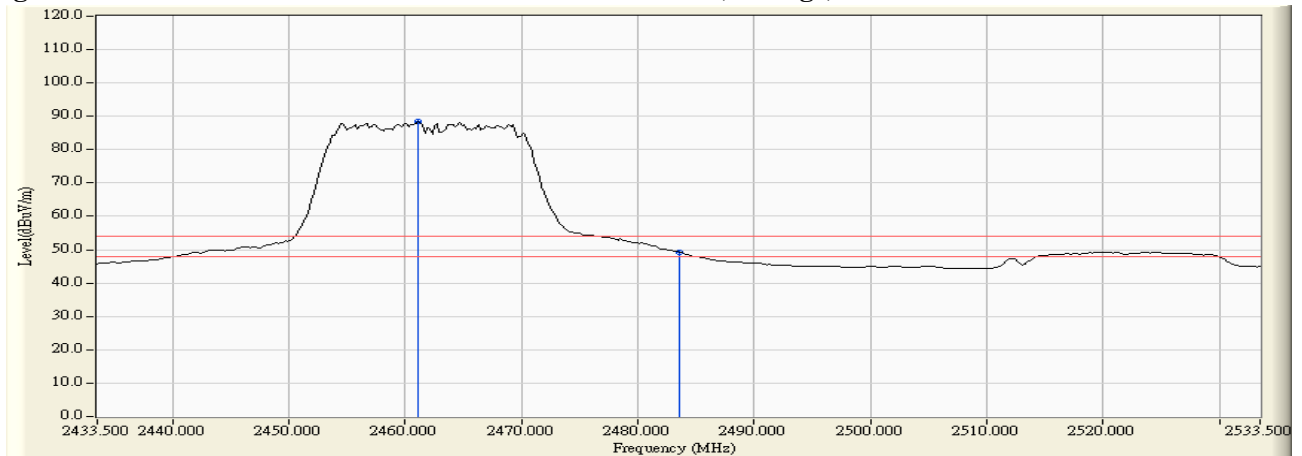
**Vertical (Peak)**



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

**Figure Channel 11:**

**Vertical (Average)**



Note: RBW=1MHz, VBW=10Hz, Sweep=Auto

## **5. EMI Reduction Method During Compliance Testing**

No modification was made during testing.