FCC Test Report

Product Name	JukeBlox Networked Media Module
Model No	CX870-3OB
FCC ID.	A6RVX77A

Applicant	Yamaha Corporation
Address	10-1 Nakazawa-cho, Naka-ku, Hamamatsu Shizuoka, 430-8650, Japan

Date of Receipt	Sep. 17, 2013
Issue Date	Oct. 14, 2013
Report No.	139445R-RFUSP42V01
Report Version	V1.0

Testing Laboratory
0914

Test Report Certification

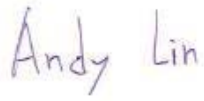
Issue Date: Oct. 14, 2013
Report No.: 139445R-RFUSP42V01

Product Name	JukeBlox Networked Media Module
Applicant	Yamaha Corporation
Address	10-1 Nakazawa-cho, Naka-ku, Hamamatsu Shizuoka, 430-8650, Japan
Manufacturer	1. DONG GUAN G-COM COMPUTER CO., LTD. 2. LITE-ON TECHNOLOGY (Changzhou) CO., LTD.
Model No.	CX870-3OB
FCC ID.	A6RVX77A
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	AC 120V/60Hz
Trade Name	Yamaha
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2012 ANSI C63.4: 2003, ANSI C63.10: 2009, FCC KDB 558074
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 QuieTek Corporation.
This report must not be used to claim product endorsement by TAF or any agency of the U.S. Government

Documented By : 

(Senior Adm. Specialist / Joanne Lin)

Tested By : 

(Engineer / Andy Lin)

Approved By : 

(Manager / Vincent Lin)

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	JukeBlox Networked Media Module
Trade Name	Yamaha
Model No.	CX870-3OB
FCC ID.	A6RVX77A
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	Dipole
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	MAG. LAYERS	EDA-8709-2G4R2-B7	1.95 dBi for 2.4GHz

Note: 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. The JukeBlox Networked Media Module including two different manufacturer of SDRAM, The different of the each manufacturer is shown ad below:

ITEM	Manufacturer	
SDRAM	ESMT	Winbond

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

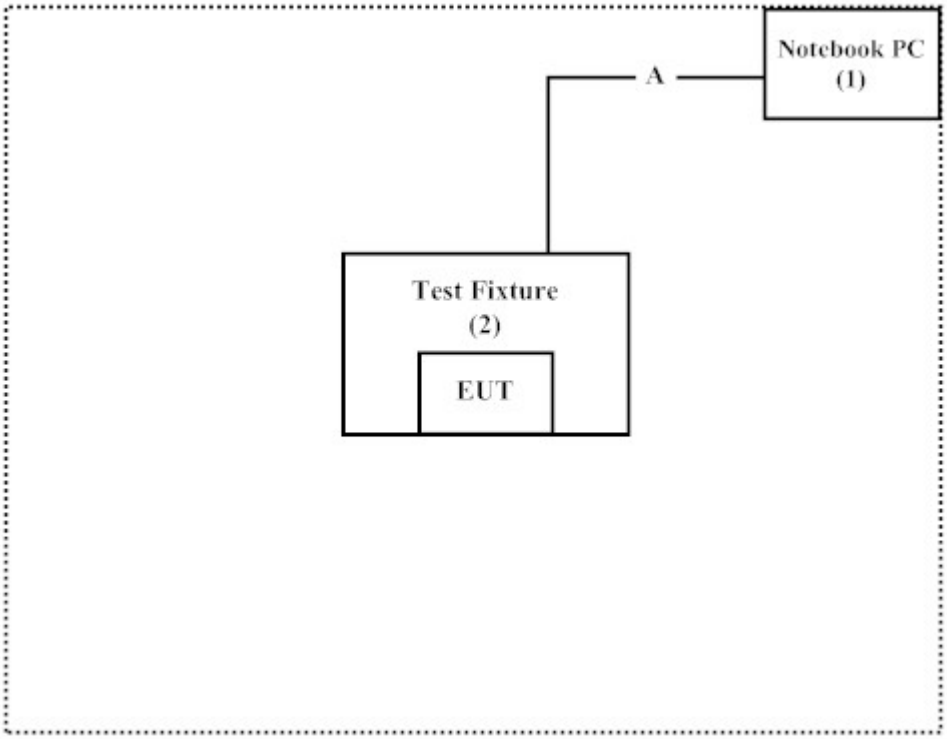
1.3. Tested System Details

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.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2	Test Fixture	LITE-ON	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
A	RS-232 Cable	Non-Shielded, 1.7m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in section 1.4.
(2) Execute program “Tera Term v.4.6.7” on the notebook PC.
(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

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

FCC Accreditation Number: TW1014

2. Conducted Emission

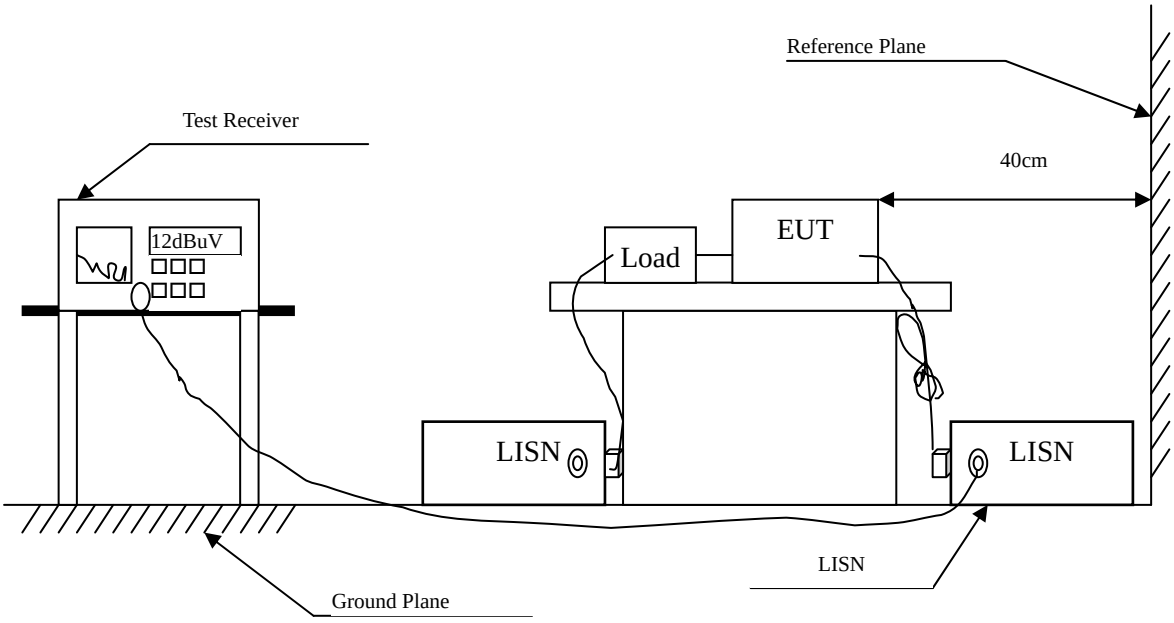
2.1. Test Equipment

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

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2013	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2013	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2013	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2013	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : JukeBlox Networked Media Module
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)_ESMT

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.162	9.790	45.390	55.180	-10.477	65.657
0.205	9.790	32.830	42.620	-21.809	64.429
0.232	9.790	36.400	46.190	-17.467	63.657
1.002	9.790	18.250	28.040	-27.960	56.000
4.127	9.820	19.330	29.150	-26.850	56.000
18.970	10.110	22.300	32.410	-27.590	60.000
Average					
0.162	9.790	32.000	41.790	-13.867	55.657
0.205	9.790	13.650	23.440	-30.989	54.429
0.232	9.790	20.090	29.880	-23.777	53.657
1.002	9.790	8.620	18.410	-27.590	46.000
4.127	9.820	7.430	17.250	-28.750	46.000
18.970	10.110	17.200	27.310	-22.690	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : JukeBlox Networked Media Module
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)_ESMT

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.177	9.770	43.060	52.830	-12.399	65.229
0.248	9.770	34.330	44.100	-19.100	63.200
0.384	9.770	33.070	42.840	-16.474	59.314
3.955	9.810	13.280	23.090	-32.910	56.000
17.326	10.190	23.490	33.680	-26.320	60.000
21.904	10.230	24.200	34.430	-25.570	60.000
Average					
0.177	9.770	30.750	40.520	-14.709	55.229
0.248	9.770	20.650	30.420	-22.780	53.200
0.384	9.770	23.380	33.150	-16.164	49.314
3.955	9.810	2.530	12.340	-33.660	46.000
17.326	10.190	18.540	28.730	-21.270	50.000
21.904	10.230	18.950	29.180	-20.820	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : JukeBlox Networked Media Module
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)_Winbond

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.189	9.790	37.020	46.810	-18.076	64.886
0.267	9.790	28.610	38.400	-24.257	62.657
0.474	9.790	32.390	42.180	-14.563	56.743
1.009	9.790	32.130	41.920	-14.080	56.000
2.341	9.810	29.690	39.500	-16.500	56.000
23.095	10.110	20.500	30.610	-29.390	60.000
Average					
0.189	9.790	28.550	38.340	-16.546	54.886
0.267	9.790	13.500	23.290	-29.367	52.657
0.474	9.790	19.450	29.240	-17.503	46.743
1.009	9.790	17.070	26.860	-19.140	46.000
2.341	9.810	19.060	28.870	-17.130	46.000
23.095	10.110	11.290	21.400	-28.600	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : JukeBlox Networked Media Module
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz)_Winbond

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.189	9.770	39.640	49.410	-15.476	64.886
0.338	9.770	26.110	35.880	-24.749	60.629
0.470	9.770	28.090	37.860	-18.997	56.857
1.002	9.780	30.570	40.350	-15.650	56.000
3.498	9.803	27.180	36.983	-19.017	56.000
8.834	9.950	27.770	37.720	-22.280	60.000
Average					
0.189	9.770	28.950	38.720	-16.166	54.886
0.338	9.770	9.660	19.430	-31.199	50.629
0.470	9.770	14.570	24.340	-22.517	46.857
1.002	9.780	14.150	23.930	-22.070	46.000
3.498	9.803	13.390	23.193	-22.807	46.000
8.834	9.950	17.490	27.440	-22.560	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

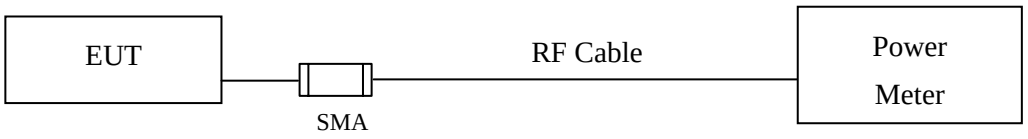
3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2013
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2013

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



3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.

3.5. Uncertainty

± 1.27 dB

3.6. 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	18.03	--	--	--	20.13	<30dBm	Pass
06	2437	17.98	17.8	17.59	17.11	20.27	<30dBm	Pass
11	2462	18.14	--	--	--	20.41	<30dBm	Pass

Note: Peak Power Output Value =Reading value on 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	15.15	--	--	--	--	--	--	--	23.42	<30dBm	Pass
06	2437	17.83	17.71	17.52	17.4	17.23	17.11	17.08	16.91	24.35	<30dBm	Pass
11	2462	15.03	--	--	--	--	--	--	--	23.45	<30dBm	Pass

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

4. Radiated Emission

4.1. Test Equipment

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

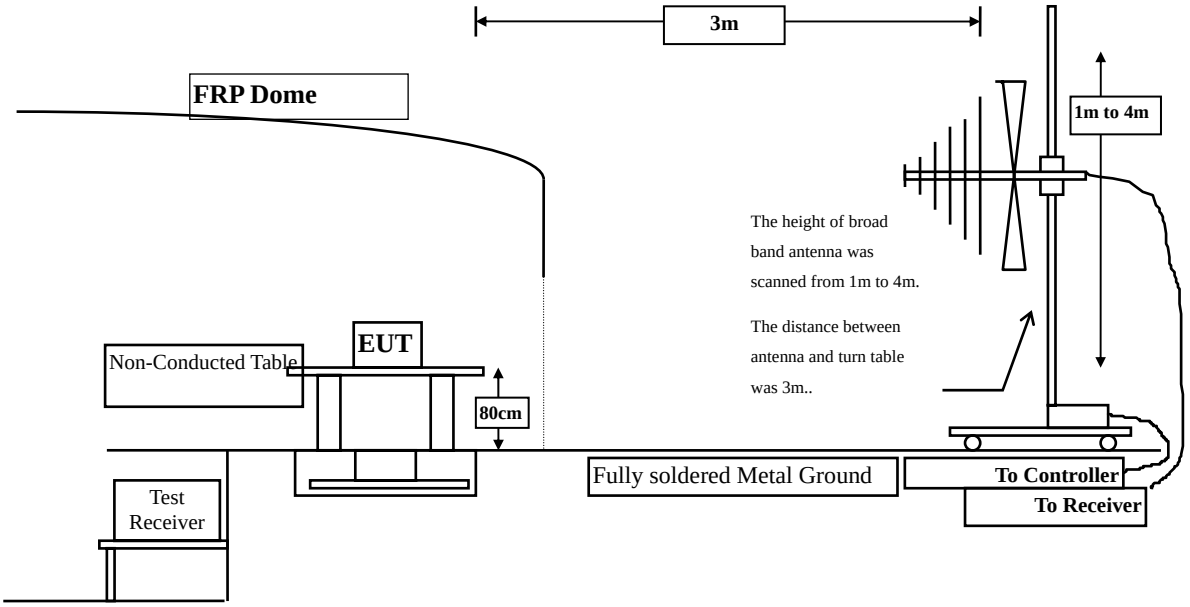
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	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.

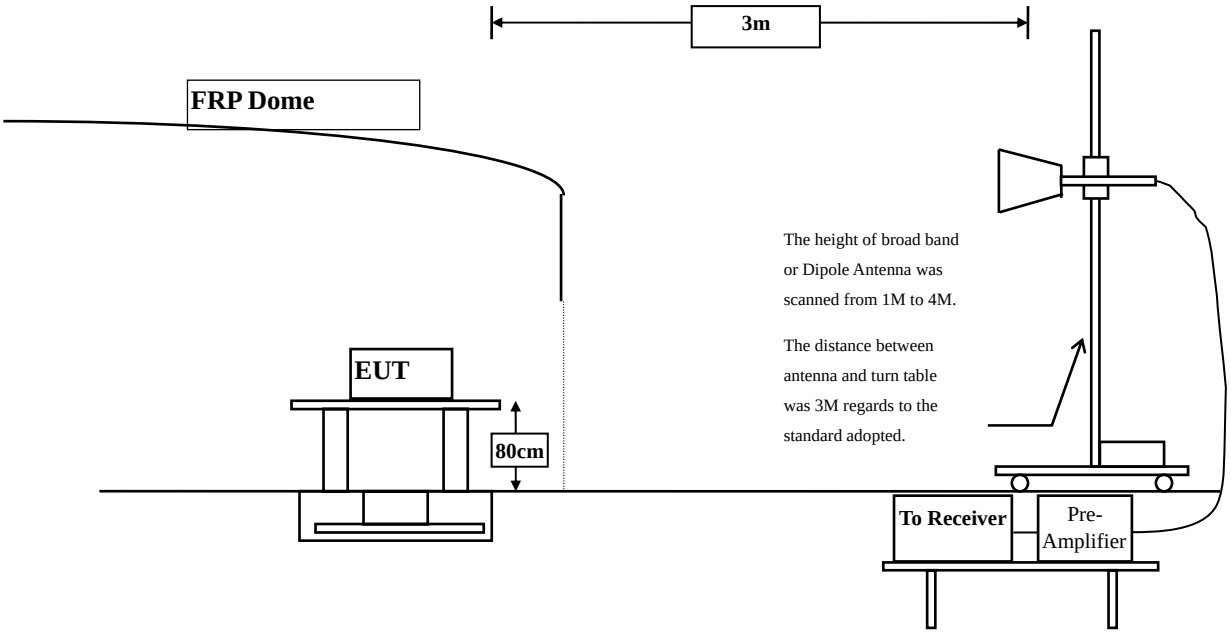
2. The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



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.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of 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 C63.10: 2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~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 9kHz to 10th harmonics is checked.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. 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	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	38.600	41.861	-32.139	74.000
7236.000	10.650	35.620	46.270	-27.730	74.000
9648.000	13.337	37.860	51.196	-22.804	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	37.390	43.811	-30.189	74.000
7236.000	11.495	35.060	46.555	-27.445	74.000
9648.000	13.807	37.860	51.666	-22.334	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 1: Transmit (802.11b 1Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	37.230	40.267	-33.733	74.000
7311.000	11.795	34.950	46.744	-27.256	74.000
9748.000	12.635	36.570	49.205	-24.795	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	37.360	43.171	-30.829	74.000
7311.000	12.630	34.940	47.569	-26.431	74.000
9748.000	13.126	36.570	49.696	-24.304	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 1: Transmit (802.11b 1Mbps) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	37.290	40.147	-33.853	74.000
7386.000	12.127	34.980	47.108	-26.892	74.000
9848.000	12.852	36.020	48.873	-25.127	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	36.910	42.430	-31.570	74.000
7386.000	13.254	34.840	48.094	-25.906	74.000
9848.000	13.367	36.160	49.527	-24.473	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 Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.100	40.361	-33.639	74.000
7236.000	10.650	35.500	46.150	-27.850	74.000
9648.000	13.337	39.440	52.776	-21.224	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	37.010	43.431	-30.569	74.000
7236.000	11.495	35.340	46.835	-27.165	74.000
9648.000	13.807	39.030	52.836	-21.164	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 Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	37.050	40.087	-33.913	74.000
7311.000	11.795	35.220	47.014	-26.986	74.000
9748.000	12.635	37.450	50.085	-23.915	74.000
Average Detector:					
--					
Peak Detector:					
4874.000	5.812	36.840	42.651	-31.349	74.000
7311.000	12.630	34.860	47.489	-26.511	74.000
9748.000	13.126	36.660	49.786	-24.214	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 Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	37.470	40.327	-33.673	74.000
7386.000	12.127	35.260	47.388	-26.612	74.000
9848.000	12.852	36.240	49.093	-24.907	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	36.520	42.040	-31.960	74.000
7386.000	13.254	34.970	48.224	-25.776	74.000
9848.000	13.367	36.390	49.757	-24.243	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)_ESMT

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
319.060	-4.317	39.727	35.410	-10.590	46.000
437.400	-1.960	32.719	30.759	-15.241	46.000
654.680	2.147	31.855	34.002	-11.998	46.000
745.860	3.308	39.174	42.482	-3.518	46.000
837.040	5.103	34.327	39.429	-6.571	46.000
970.900	6.962	29.596	36.558	-17.442	54.000
Vertical					
154.160	-6.221	43.404	37.183	-6.317	43.500
293.840	-7.738	44.989	37.252	-8.748	46.000
398.600	-4.678	41.376	36.698	-9.302	46.000
745.860	1.828	38.384	40.212	-5.788	46.000
881.660	2.557	32.629	35.186	-10.814	46.000
970.900	7.302	30.686	37.988	-16.012	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.
8. No emission found between lowest internal used/generated frequency to 30MHz.

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)_ESMT

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
158.040	-11.121	43.655	32.534	-10.966	43.500
398.600	-2.268	37.283	35.015	-10.985	46.000
573.200	2.537	26.229	28.766	-17.234	46.000
701.240	2.668	38.396	41.064	-4.936	46.000
881.660	6.307	31.688	37.995	-8.005	46.000
970.900	6.962	28.721	35.683	-18.317	54.000
Vertical					
41.640	-1.809	36.095	34.286	-5.714	40.000
179.380	-8.591	38.787	30.196	-13.304	43.500
365.620	-2.179	36.371	34.192	-11.808	46.000
610.060	-1.579	28.319	26.740	-19.260	46.000
800.180	2.801	31.097	33.898	-12.102	46.000
926.280	5.821	28.847	34.668	-11.332	46.000

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.
8. No emission found between lowest internal used/generated frequency to 30MHz.

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)_Winbond

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
128.940	-10.088	46.140	36.052	-7.448	43.500
249.220	-6.014	35.455	29.441	-16.559	46.000
375.320	-1.209	33.225	32.016	-13.984	46.000
518.880	1.714	26.291	28.005	-17.995	46.000
745.860	3.308	38.442	41.750	-4.250	46.000
926.280	6.491	27.968	34.459	-11.541	46.000
Vertical					
66.860	-6.015	36.641	30.626	-9.374	40.000
224.000	-8.699	35.658	26.959	-19.041	46.000
460.680	-3.221	30.991	27.770	-18.230	46.000
654.680	-4.443	34.145	29.702	-16.298	46.000
837.040	2.223	35.002	37.224	-8.776	46.000
926.280	5.821	29.055	34.876	-11.124	46.000

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.
8. No emission found between lowest internal used/generated frequency to 30MHz.

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)_Winbond

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
142.520	-10.427	40.226	29.799	-13.701	43.500
293.840	-3.868	33.647	29.780	-16.220	46.000
398.600	-2.268	35.217	32.949	-13.051	46.000
559.620	1.664	27.718	29.382	-16.618	46.000
745.860	3.308	38.479	41.787	-4.213	46.000
881.660	6.307	30.509	36.816	-9.184	46.000
Vertical					
61.040	-4.316	33.004	28.688	-11.312	40.000
216.240	-8.317	36.327	28.010	-17.990	46.000
427.700	-10.022	36.599	26.577	-19.423	46.000
654.680	-4.443	34.458	30.015	-15.985	46.000
881.660	2.557	32.316	34.873	-11.127	46.000
970.900	7.302	29.451	36.753	-17.247	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.
8. No emission found between lowest internal used/generated frequency to 30MHz.

5. RF antenna conducted test

5.1. Test Equipment

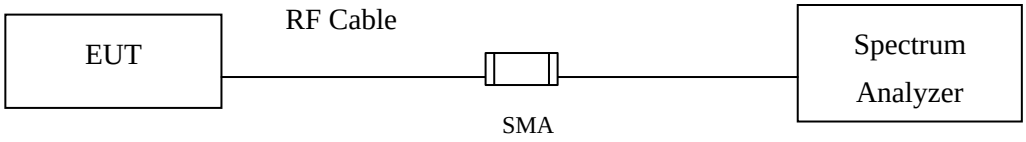
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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.

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

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

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Uncertainty

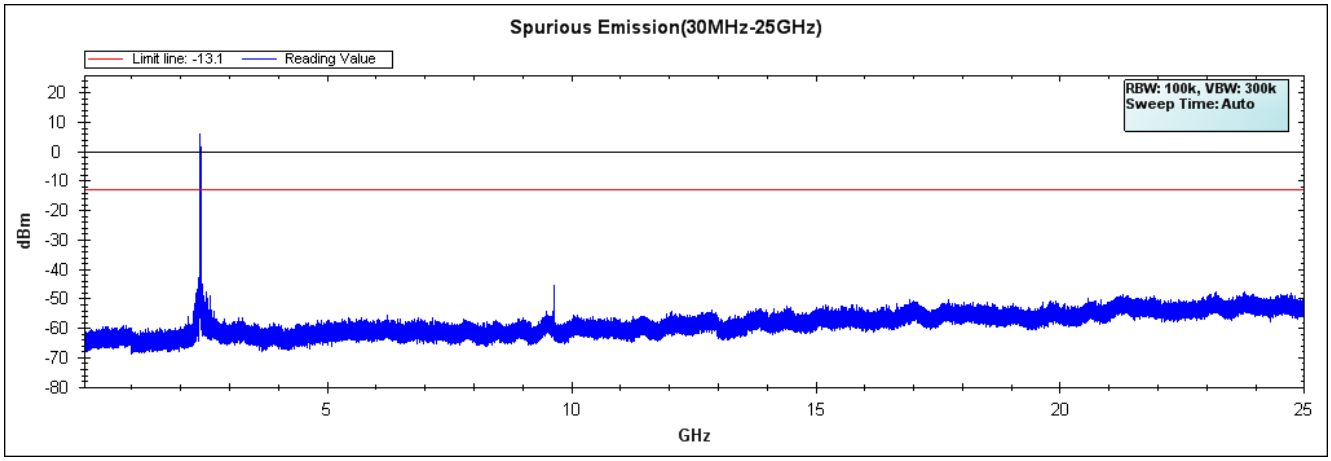
The measurement uncertainty

Conducted is defined as ± 1.27dB

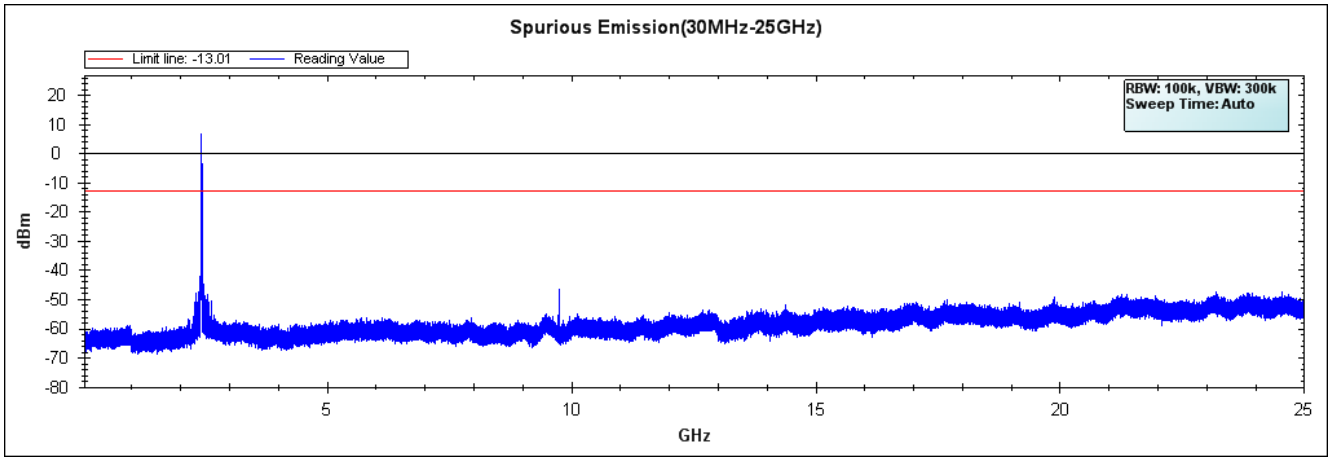
5.6. Test Result of RF antenna conducted test

Product : JukeBlox Networked Media Module
Test Item : RF antenna conducted test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)

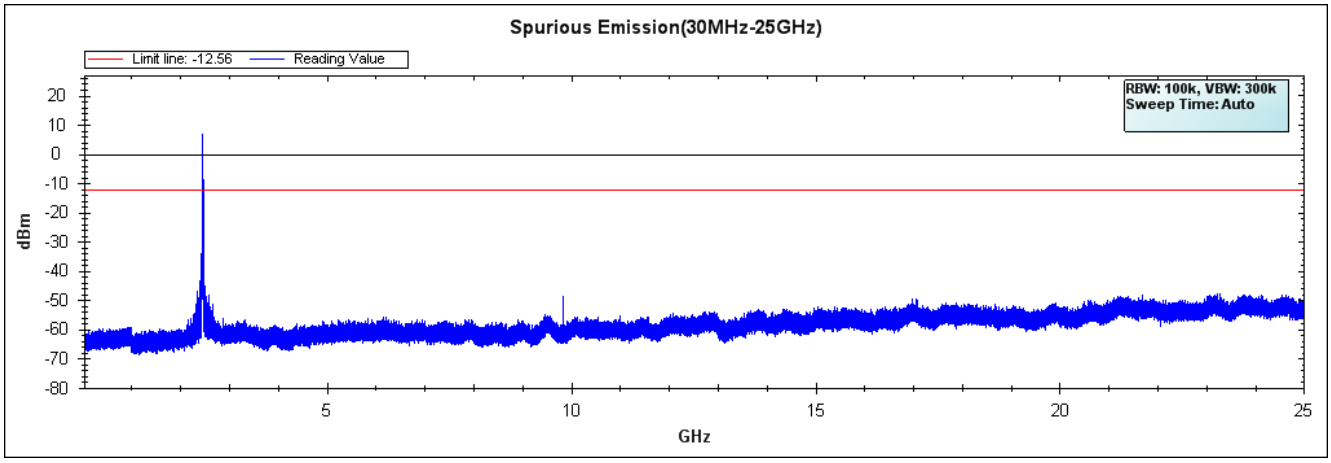
Channel 01 (2412MHz)



Channel 06 (2437MHz)

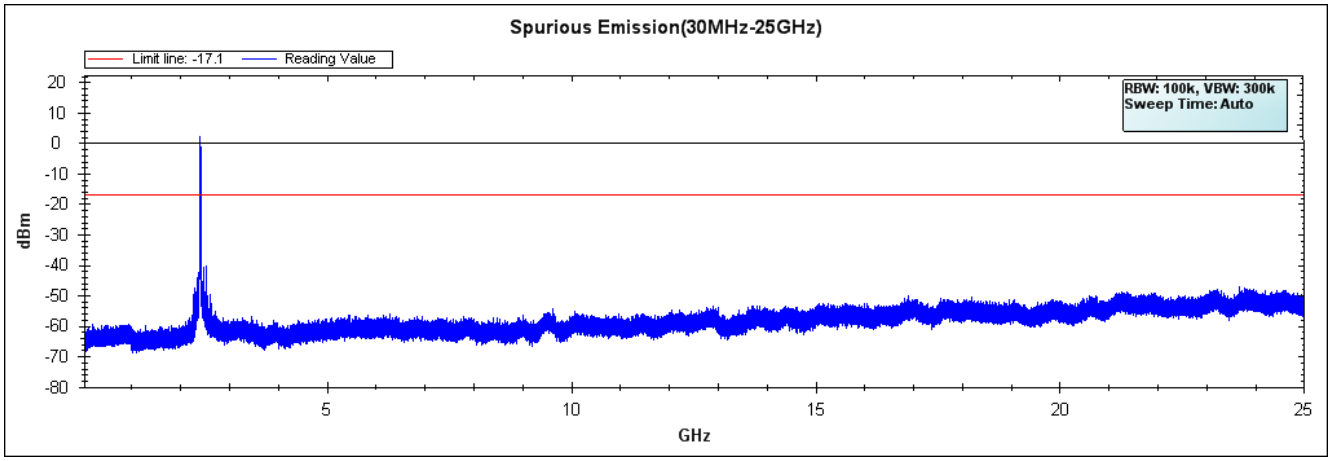


Channel 11 (2462MHz)

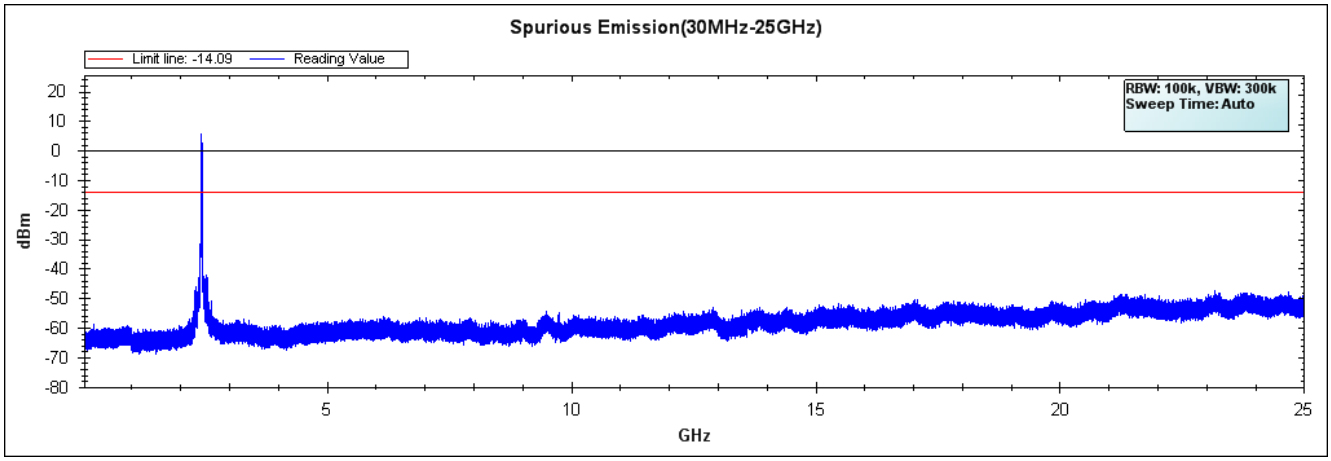


Product : JukeBlox Networked Media Module
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps)

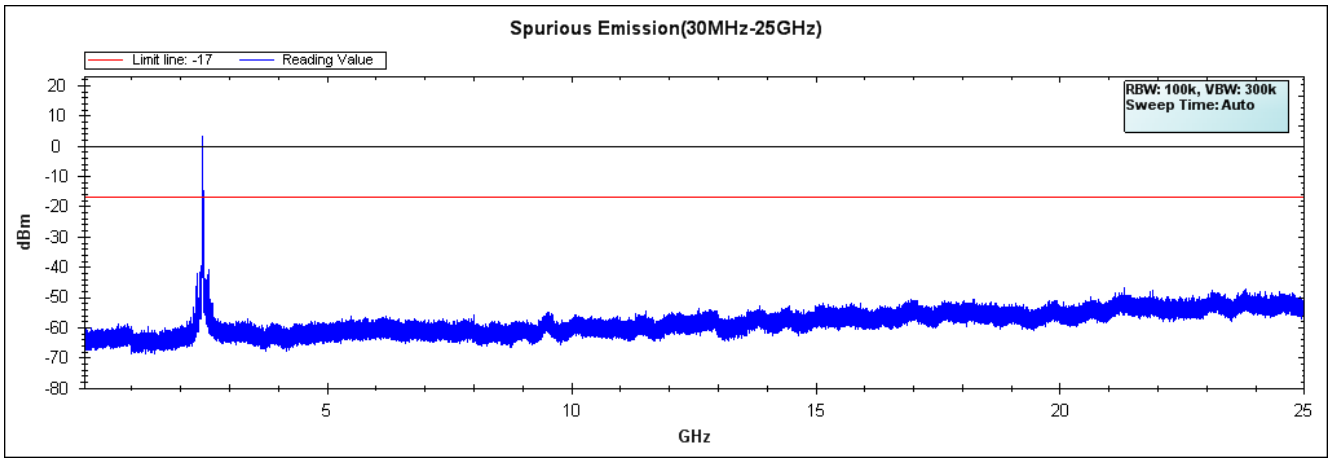
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



6. Band Edge

RF Radiated Measurement:

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

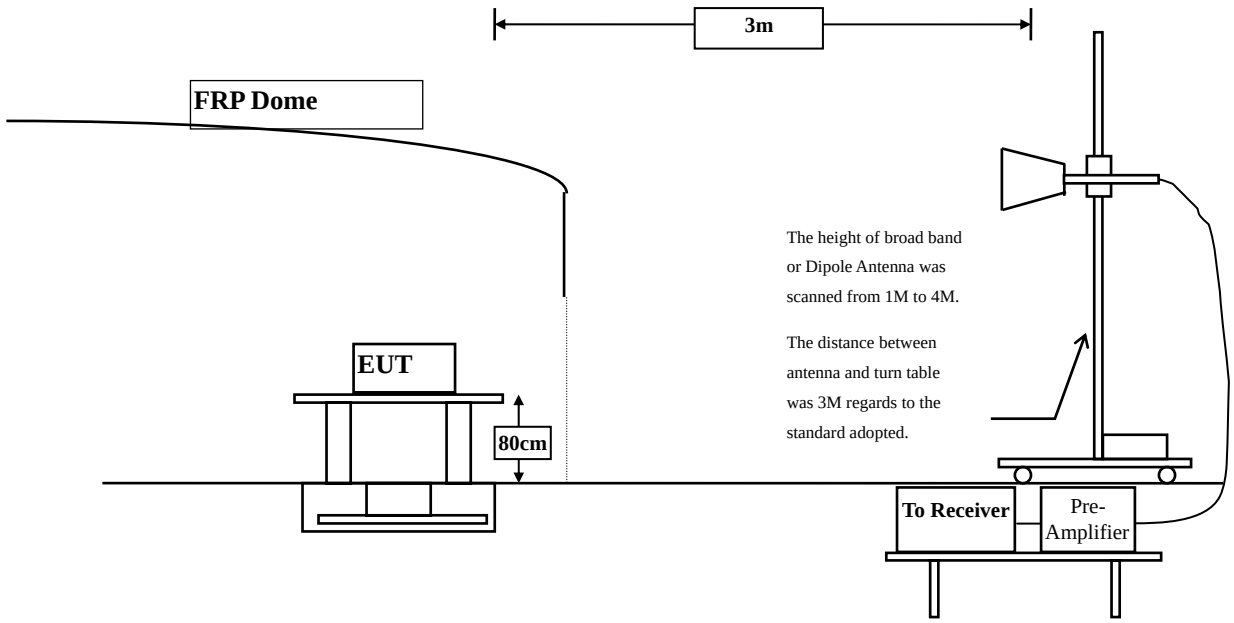
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	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.

6.1. Test Setup

RF Radiated Measurement:



6.2. 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.

6.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of 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 C63.10: 2009 on radiated measurement.

6.4. Uncertainty

± 3.9 dB above 1GHz
± 3.8 dB below 1GHz

6.5. 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)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	31.509	23.038	54.547	74.00	54.00	Pass
01 (Peak)	2413.000	31.646	63.161	94.807	--	--	Pass
01 (Average)	2385.400	31.492	11.781	43.272	74.00	54.00	Pass
01 (Average)	2390.000	31.509	11.587	43.096	74.00	54.00	Pass
01 (Average)	2412.800	31.645	59.044	90.688	--	--	Pass

Figure Channel 01: Horizontal (Peak)

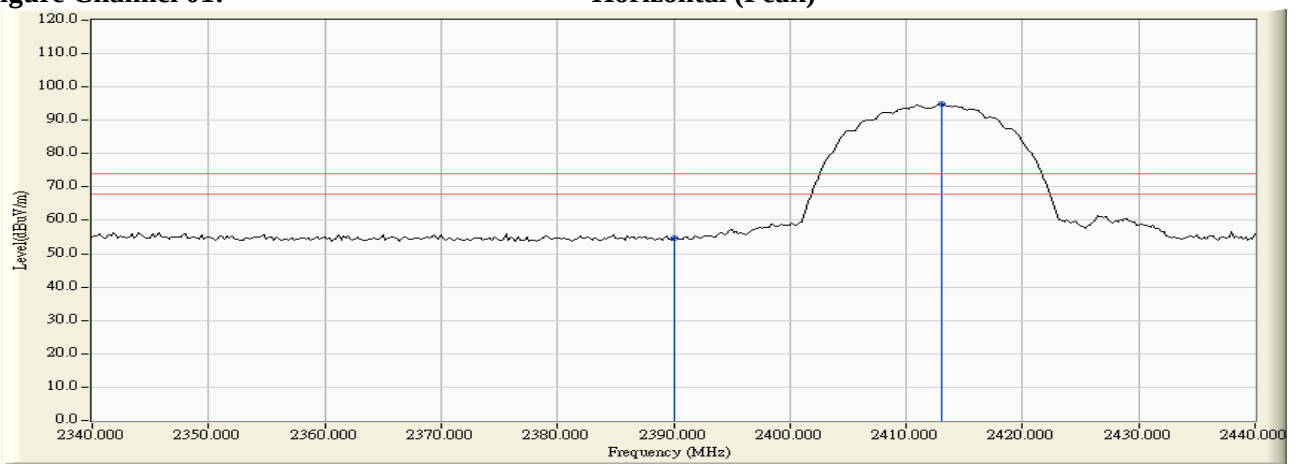
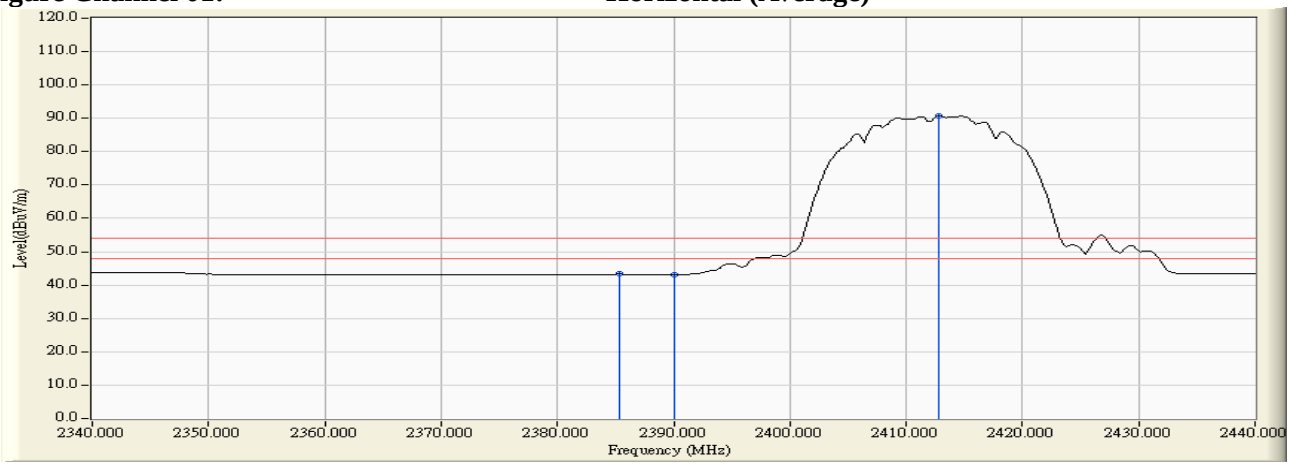


Figure Channel 01: Horizontal (Average)



Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2357.200	31.067	24.931	55.998	74.00	54.00	Pass
01 (Peak)	2380.400	30.960	24.563	55.523	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	24.126	55.041	74.00	54.00	Pass
01 (Peak)	2413.000	30.956	72.527	103.483	--	--	Pass
01 (Average)	2342.800	31.134	14.669	45.803	74.00	54.00	Pass
01 (Average)	2385.000	30.938	13.405	44.343	74.00	54.00	Pass
01 (Average)	2390.000	30.915	12.223	43.138	74.00	54.00	Pass
01 (Average)	2412.800	30.955	68.366	99.321	--	--	Pass

Figure Channel 01: Vertical (Peak)

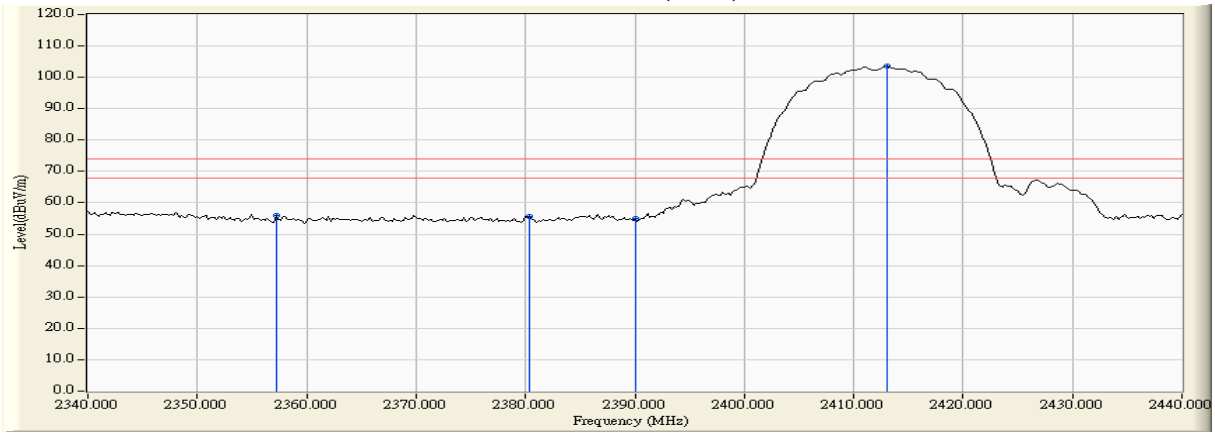
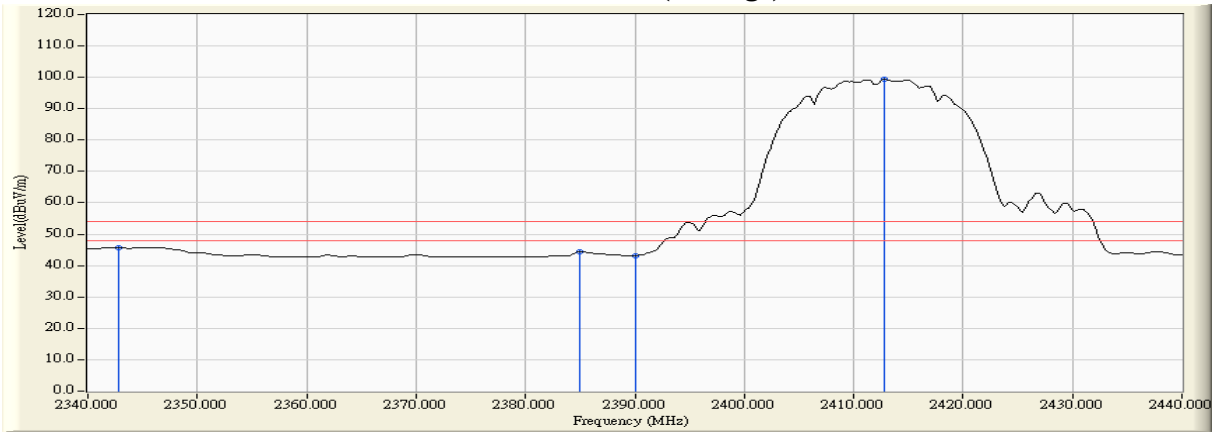


Figure Channel 01: Vertical (Average)



Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	32.026	63.099	95.125	--	--	Pass
11 (Peak)	2483.500	32.182	23.812	55.994	74.00	54.00	Pass
11 (Average)	2461.100	32.013	59.046	91.059	--	--	Pass
11 (Average)	2483.500	32.182	11.679	43.861	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

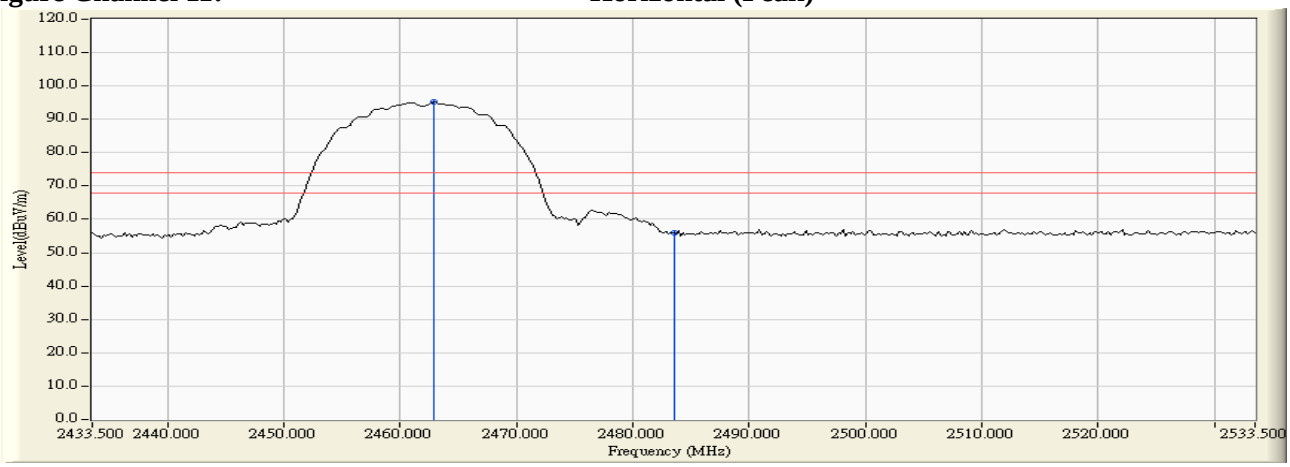


Figure Channel 11: Horizontal (Average)

Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	31.296	72.806	104.102	--	--	Pass
11 (Peak)	2483.500	31.435	24.013	55.448	74.00	54.00	Pass
11 (Peak)	2487.900	31.465	26.322	57.787	74.00	54.00	Pass
11 (Peak)	2511.900	31.550	26.329	57.880	74.00	54.00	Pass
11 (Average)	2462.700	31.295	68.724	100.019	--	--	Pass
11 (Average)	2483.500	31.435	13.206	44.641	74.00	54.00	Pass
11 (Average)	2511.900	31.550	15.936	47.487	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

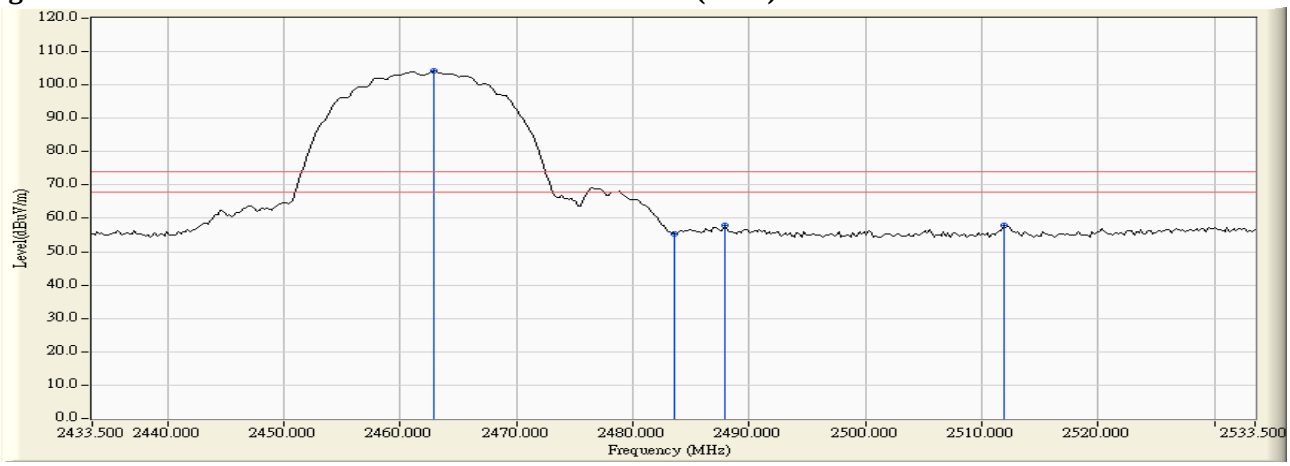


Figure Channel 11: Vertical (Average)

Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2389.200	31.506	36.653	68.159	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	35.699	67.208	74.00	54.00	Pass
01 (Peak)	2415.800	31.667	74.118	105.785	--	--	Pass
01 (Average)	2390.000	31.509	18.323	49.832	74.00	54.00	Pass
01 (Average)	2415.000	31.661	61.717	93.378	--	--	Pass

Figure Channel 01: Horizontal (Peak)

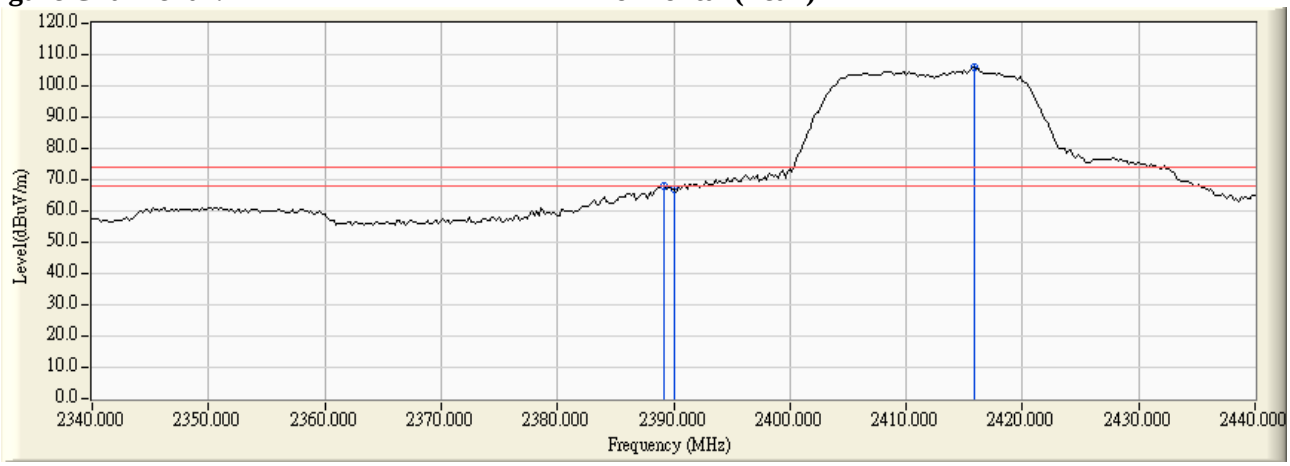
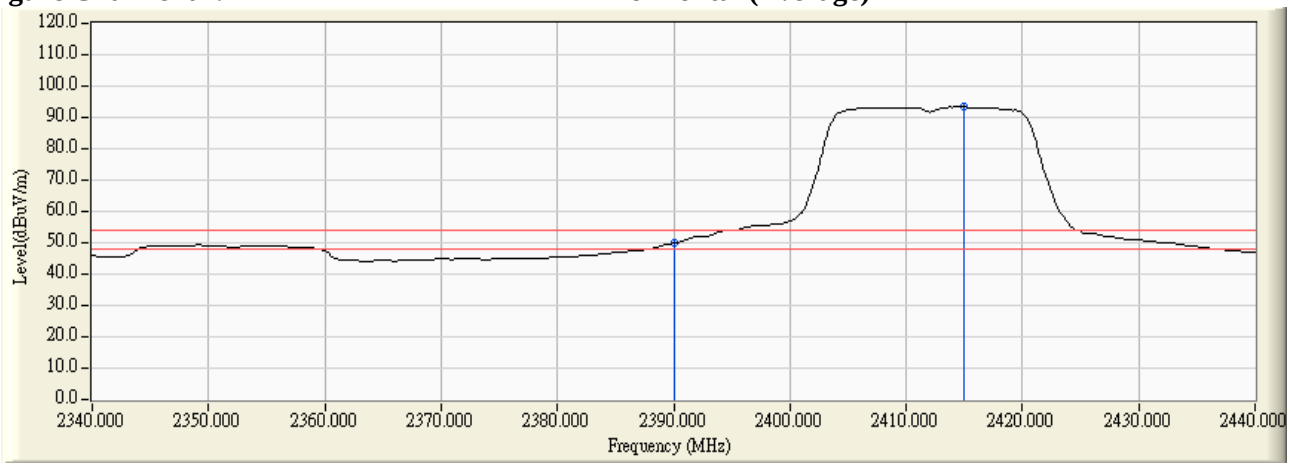


Figure Channel 01: Horizontal (Average)



Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2389.000	30.920	35.001	65.921	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	32.665	63.580	74.00	54.00	Pass
01 (Peak)	2415.800	30.975	73.892	104.867	--	--	Pass
01 (Average)	2390.000	30.915	16.813	47.728	74.00	54.00	Pass
01 (Average)	2415.600	30.973	61.623	92.597	--	--	Pass

Figure Channel 01: Vertical (Peak)

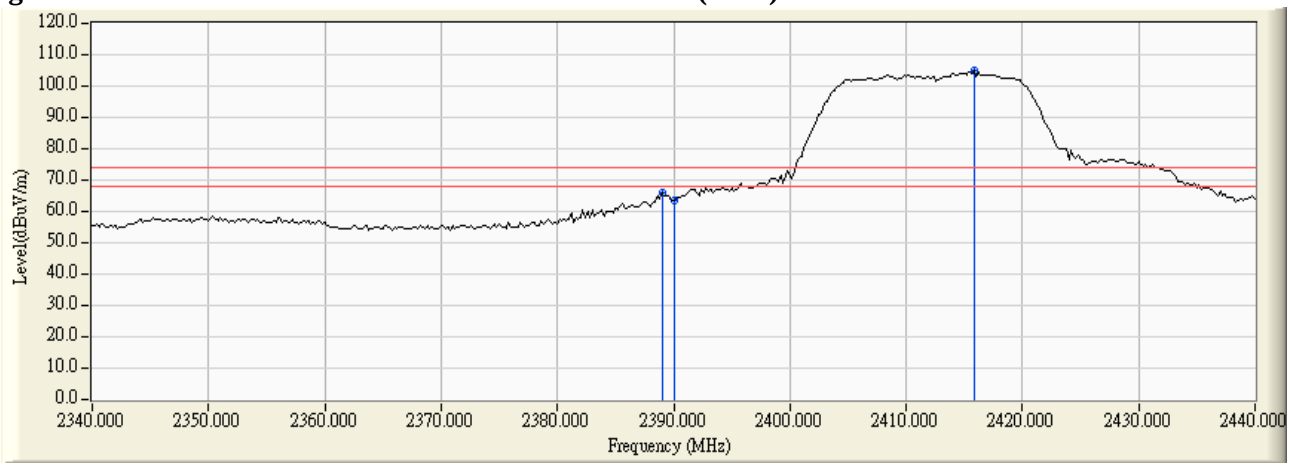
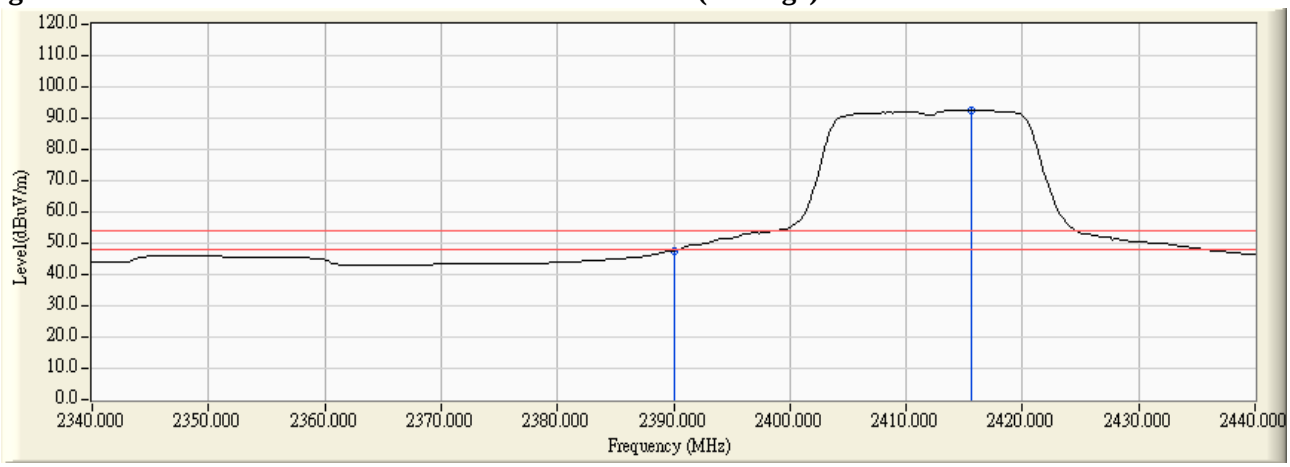


Figure Channel 01: Vertical (Average)



Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2465.500	32.046	75.244	107.290	--	--	Pass
11 (Peak)	2483.500	32.182	41.586	73.768	74.00	54.00	Pass
11 (Peak)	2484.100	32.186	41.631	73.818	74.00	54.00	Pass
11 (Average)	2457.900	31.988	63.002	94.990	--	--	Pass
11 (Average)	2483.500	32.182	21.629	53.811	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

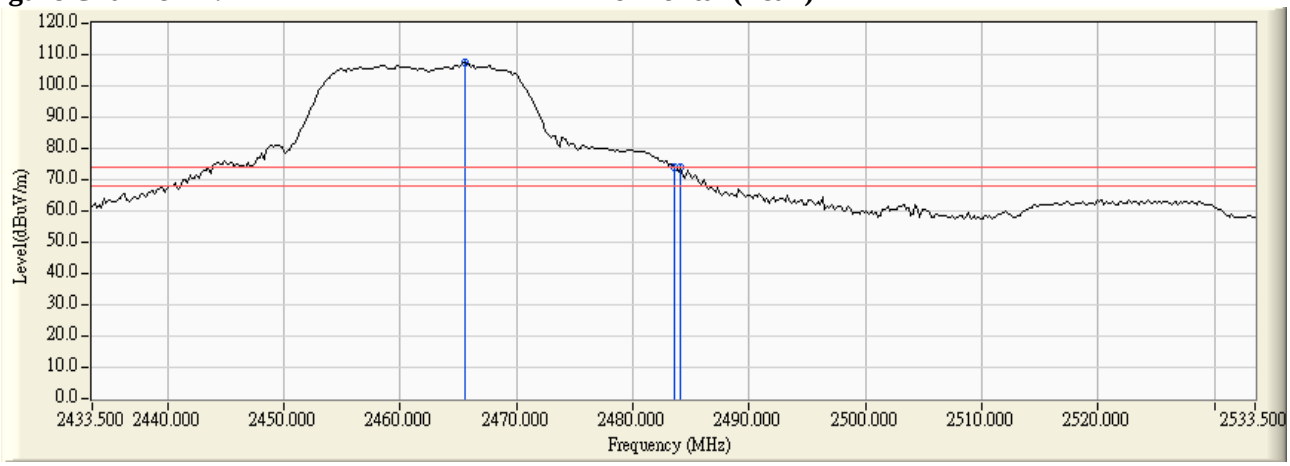
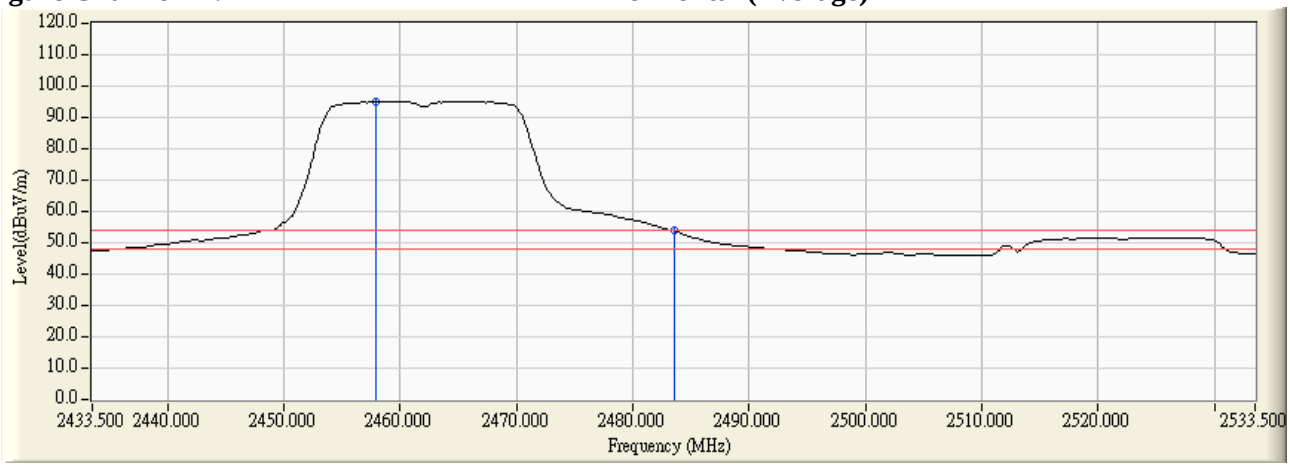


Figure Channel 11: Horizontal (Average)



Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

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)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2465.700	31.315	75.084	106.399	--	--	Pass
11 (Peak)	2483.500	31.435	42.485	73.920	74.00	54.00	Pass
11 (Peak)	2484.100	31.439	42.514	73.953	74.00	54.00	Pass
11 (Average)	2464.100	31.305	62.638	93.943	--	--	Pass
11 (Average)	2483.500	31.435	20.679	52.114	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

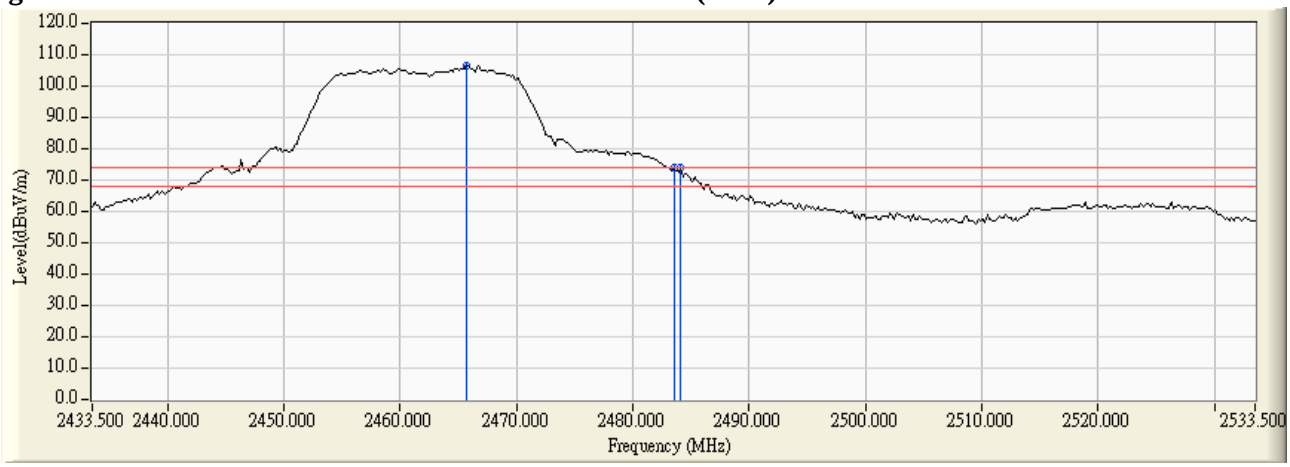
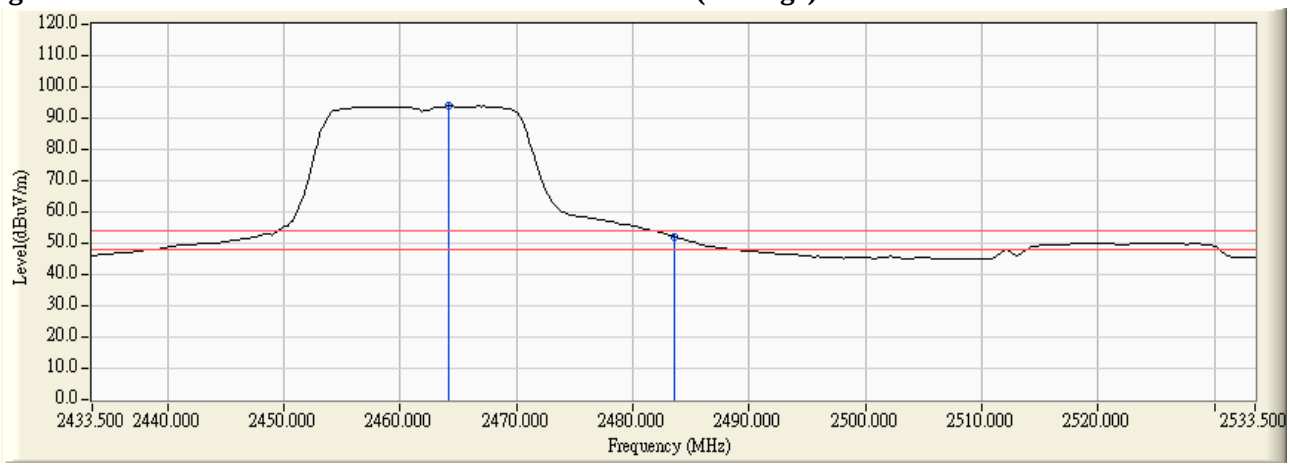


Figure Channel 11: Vertical (Average)



Note:

1. All readings 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. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. Occupied Bandwidth

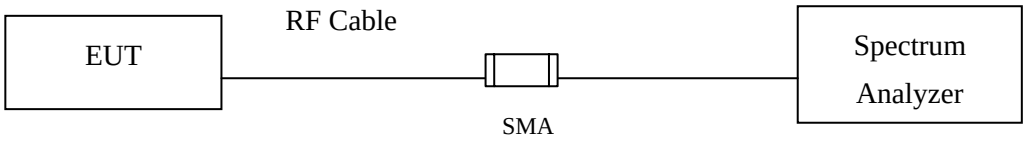
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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.

7.2. Test Setup



7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009; tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

7.5. Uncertainty

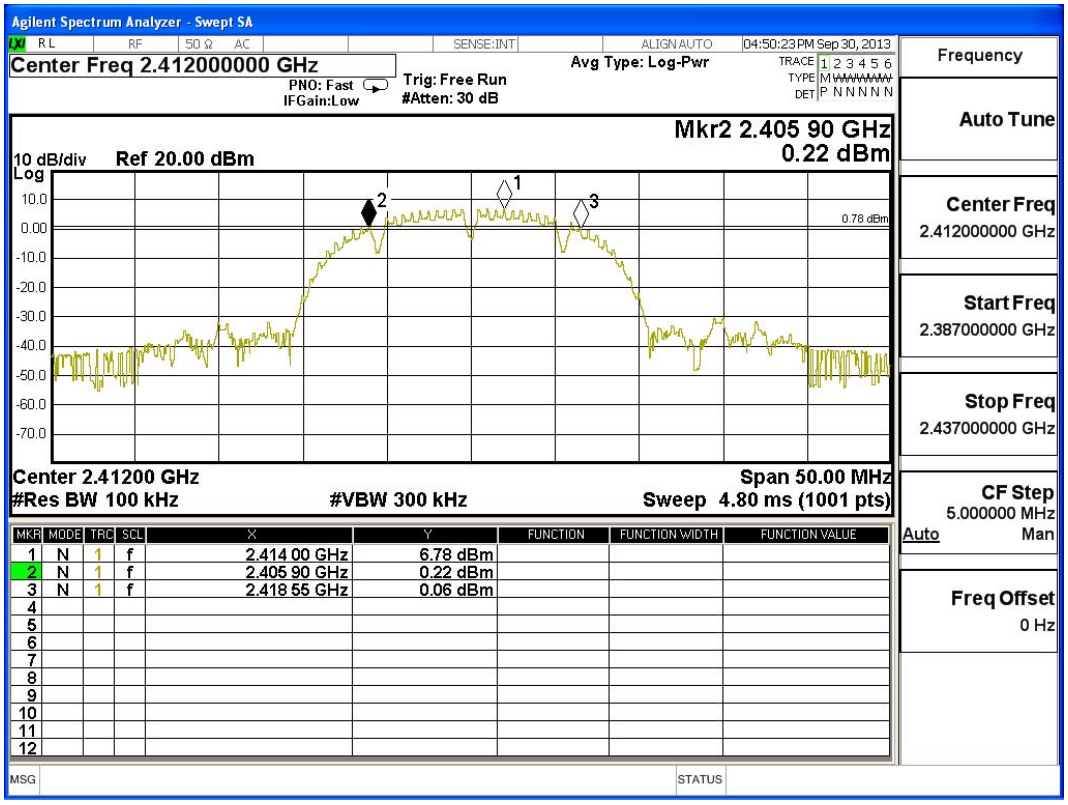
± 150Hz

7.6. Test Result of Occupied Bandwidth

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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	12650	>500	Pass

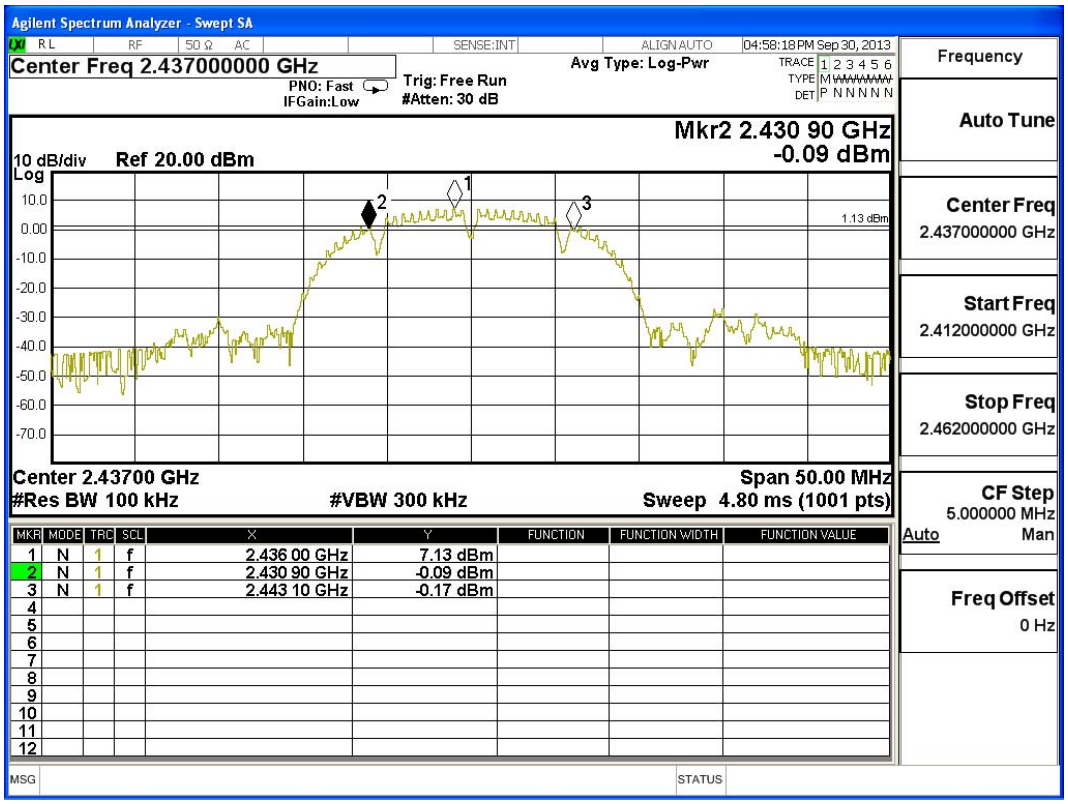
Figure Channel 1:



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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	12200	>500	Pass

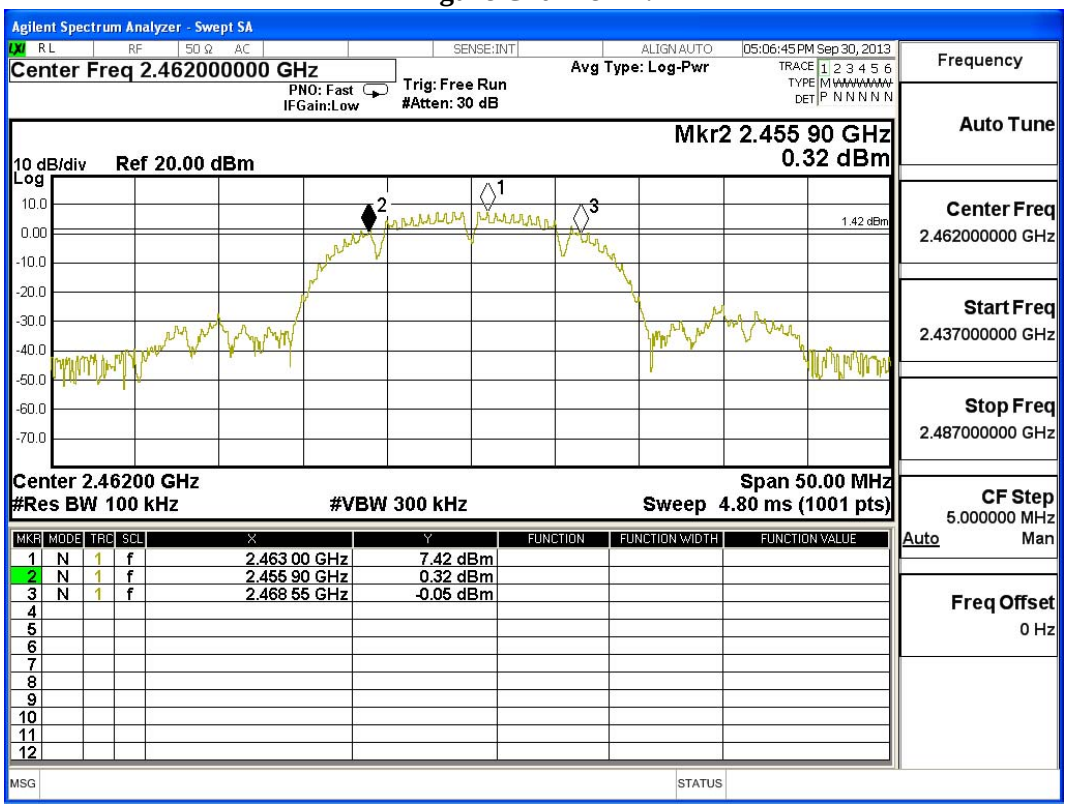
Figure Channel 6:



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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	12650	>500	Pass

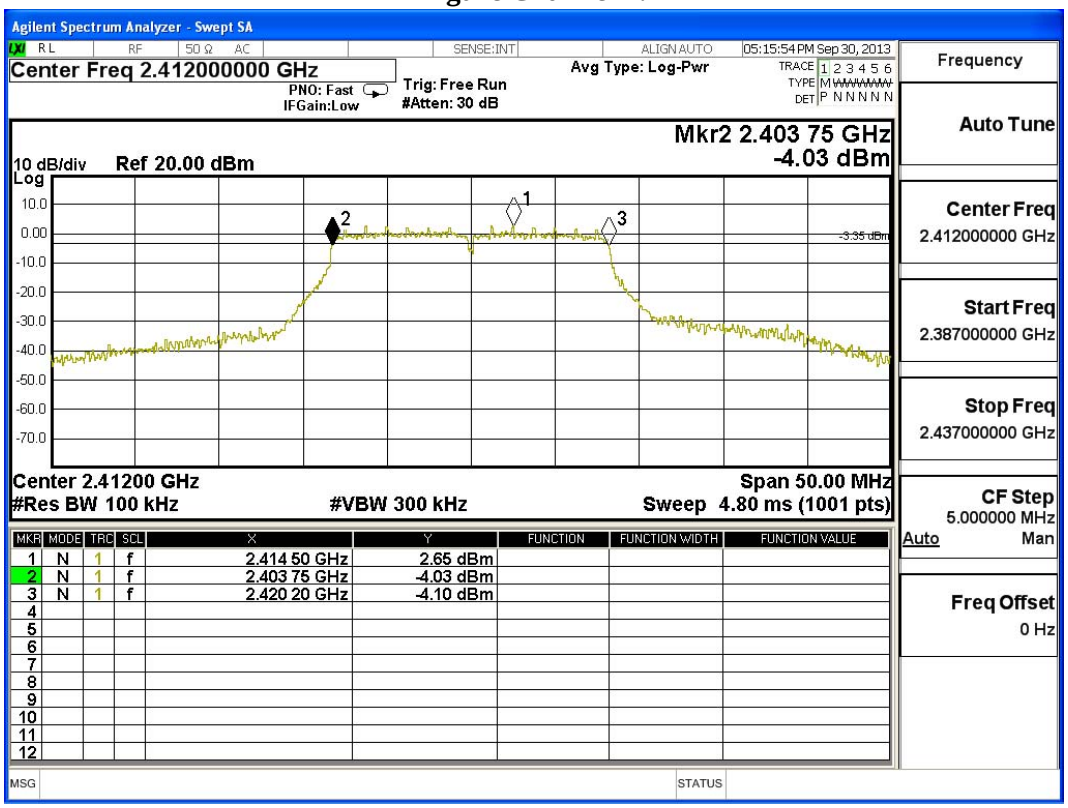
Figure Channel 11:



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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	16450	>500	Pass

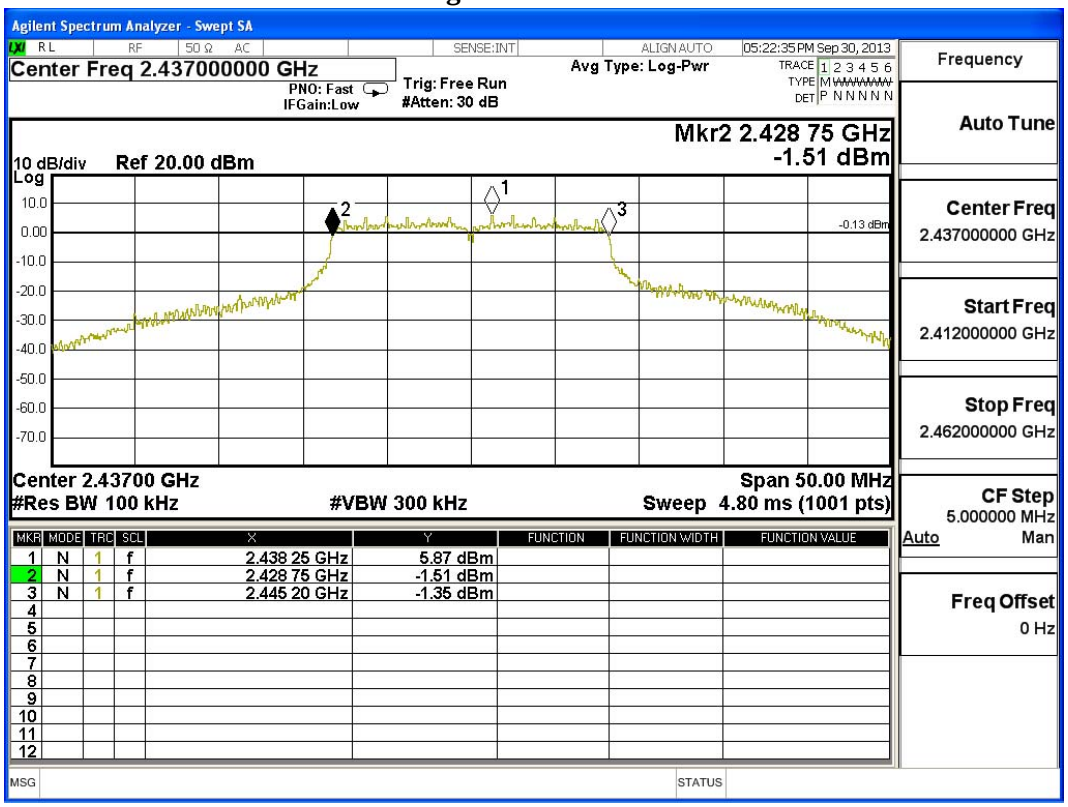
Figure Channel 1:



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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	16450	>500	Pass

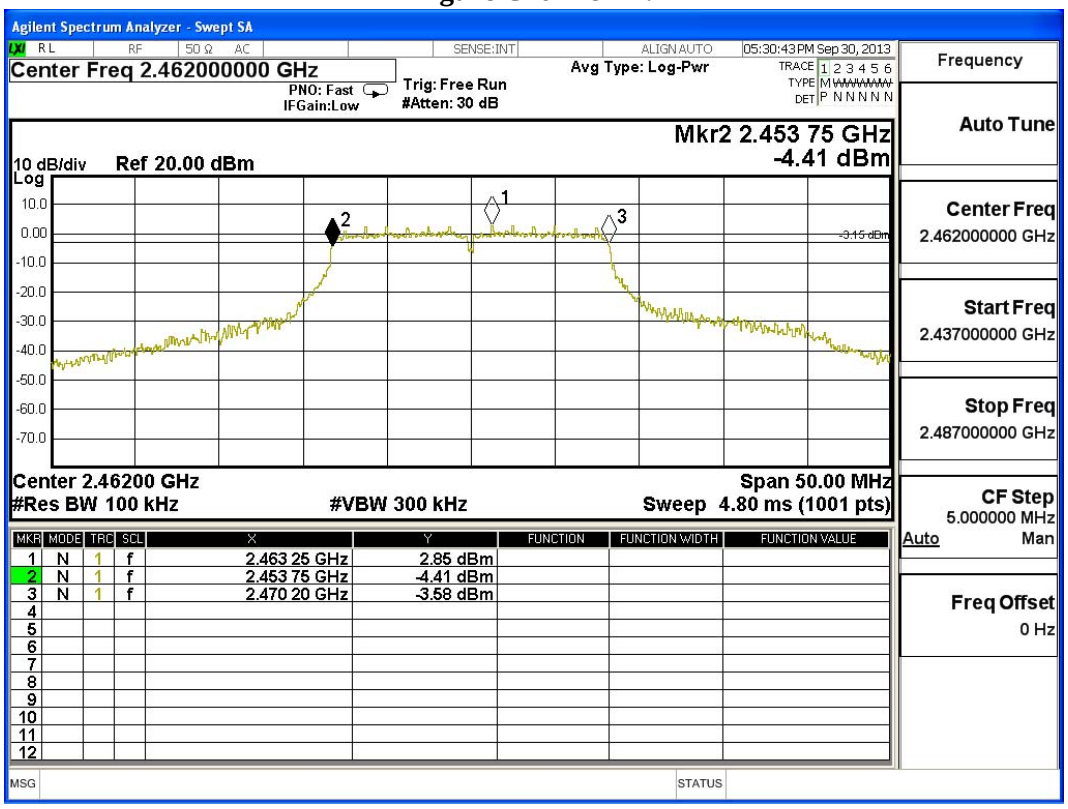
Figure Channel 6:



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

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	16450	>500	Pass

Figure Channel 11:



8. Power Density

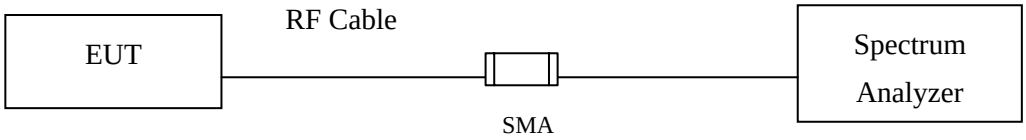
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

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.

8.2. Test Setup



8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.
The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

8.5. Uncertainty

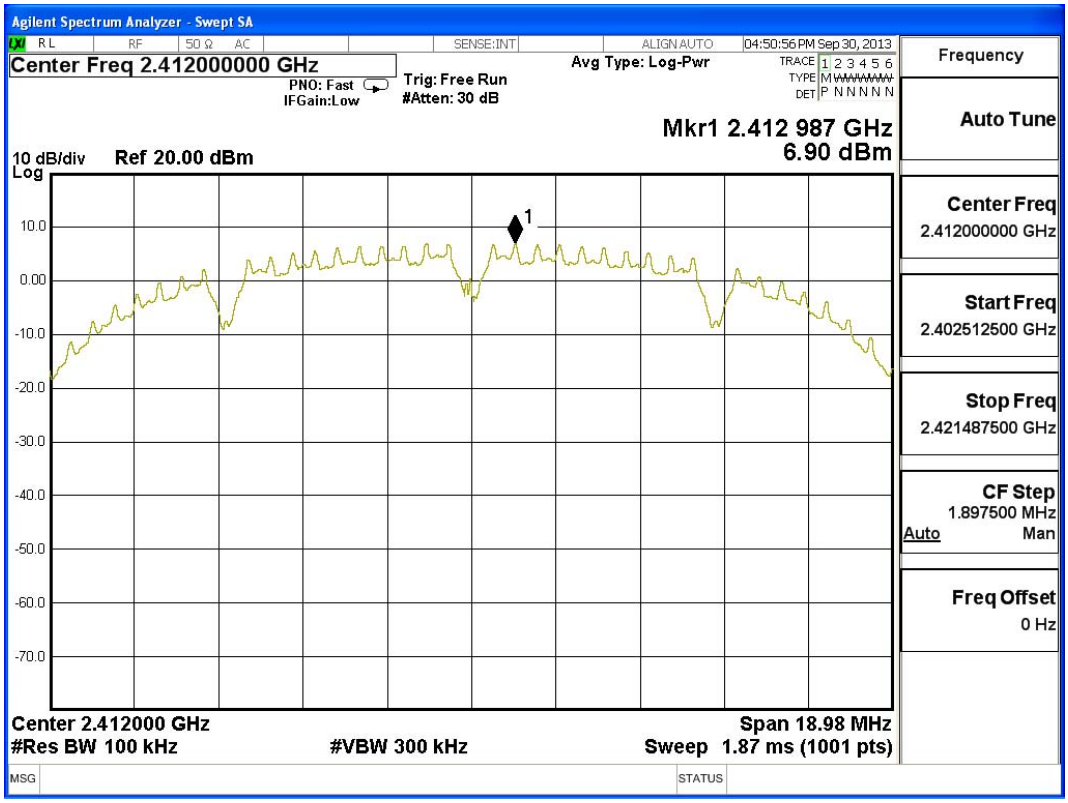
± 1.27 dB

8.6. Test Result of Power Density

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

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	6.90	< 8dBm	Pass

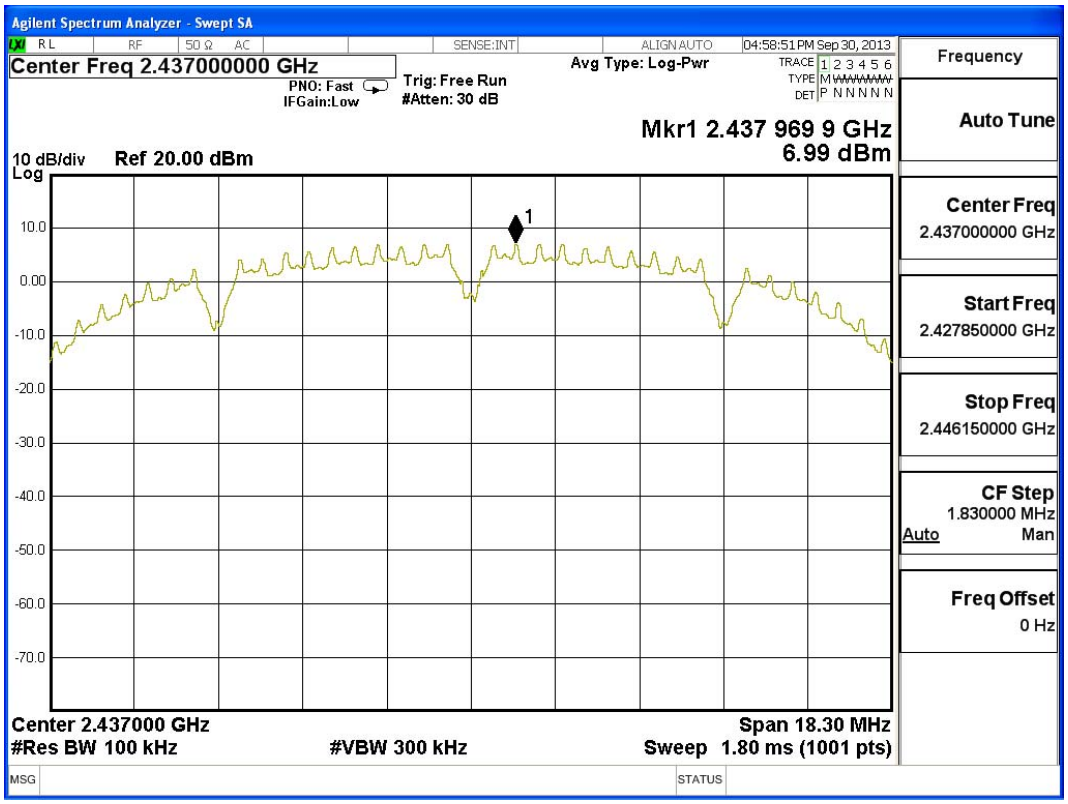
Figure Channel 1:



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

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	6.99	< 8dBm	Pass

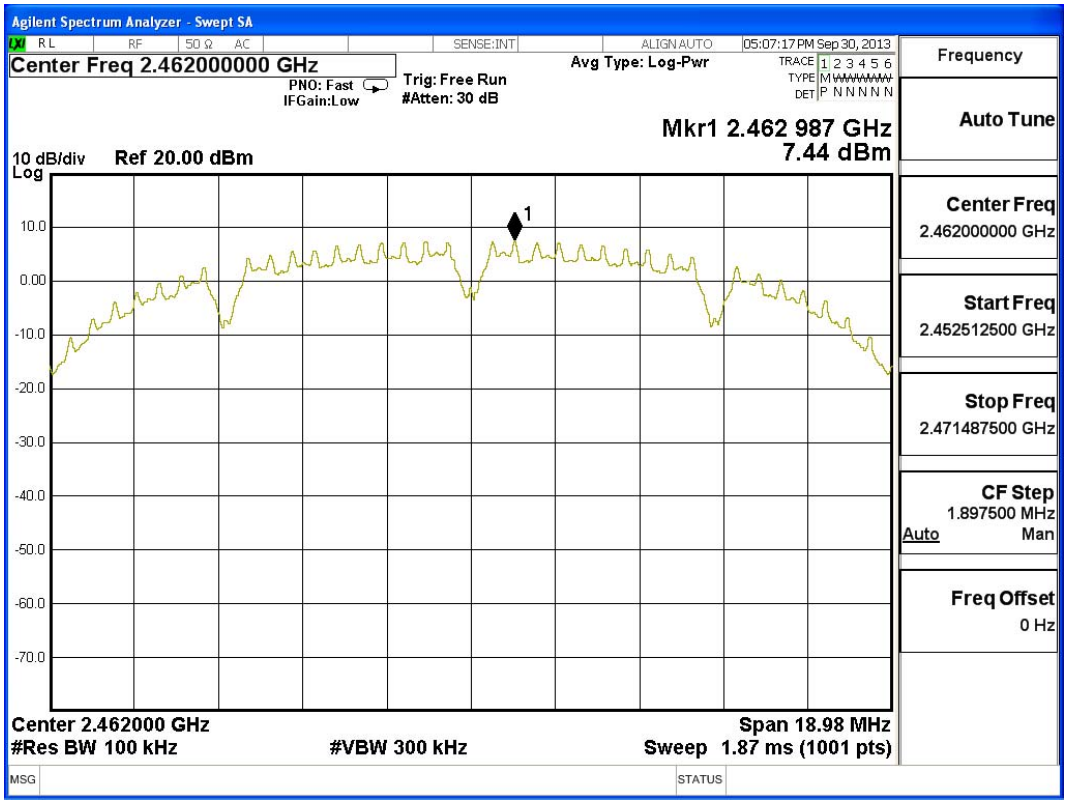
Figure Channel 6:



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

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	7.44	< 8dBm	Pass

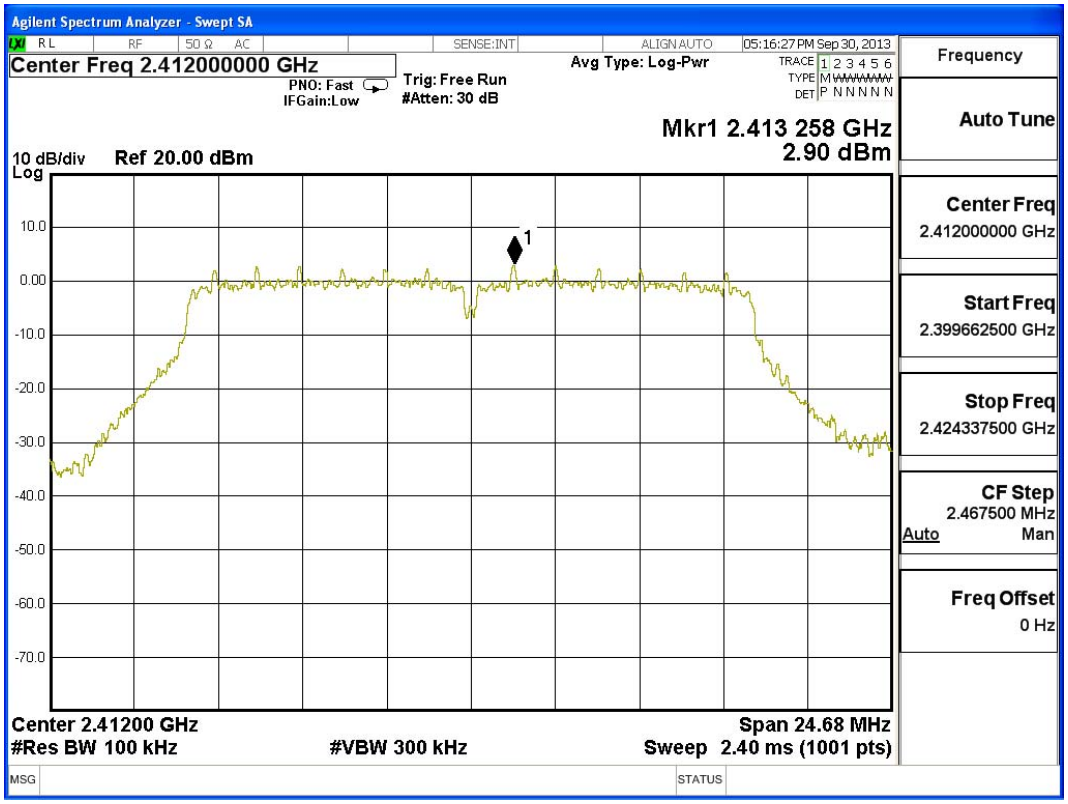
Figure Channel 11:



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

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	2.90	< 8dBm	Pass

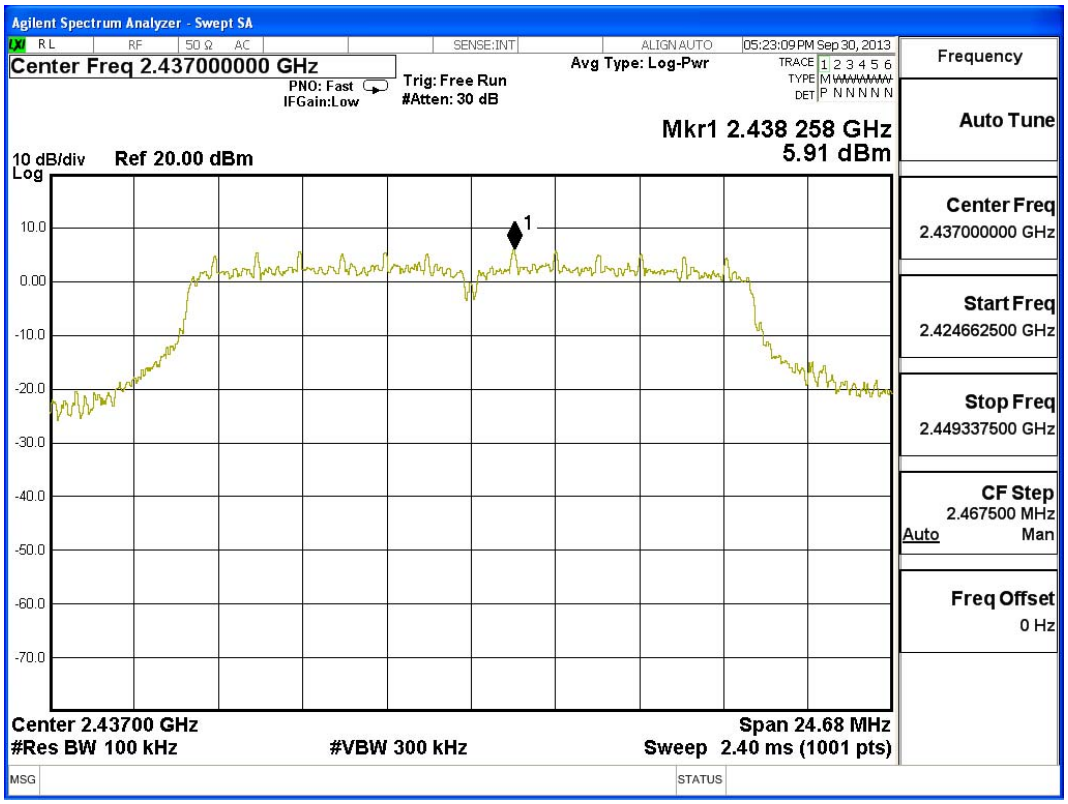
Figure Channel 1:



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

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	5.91	< 8dBm	Pass

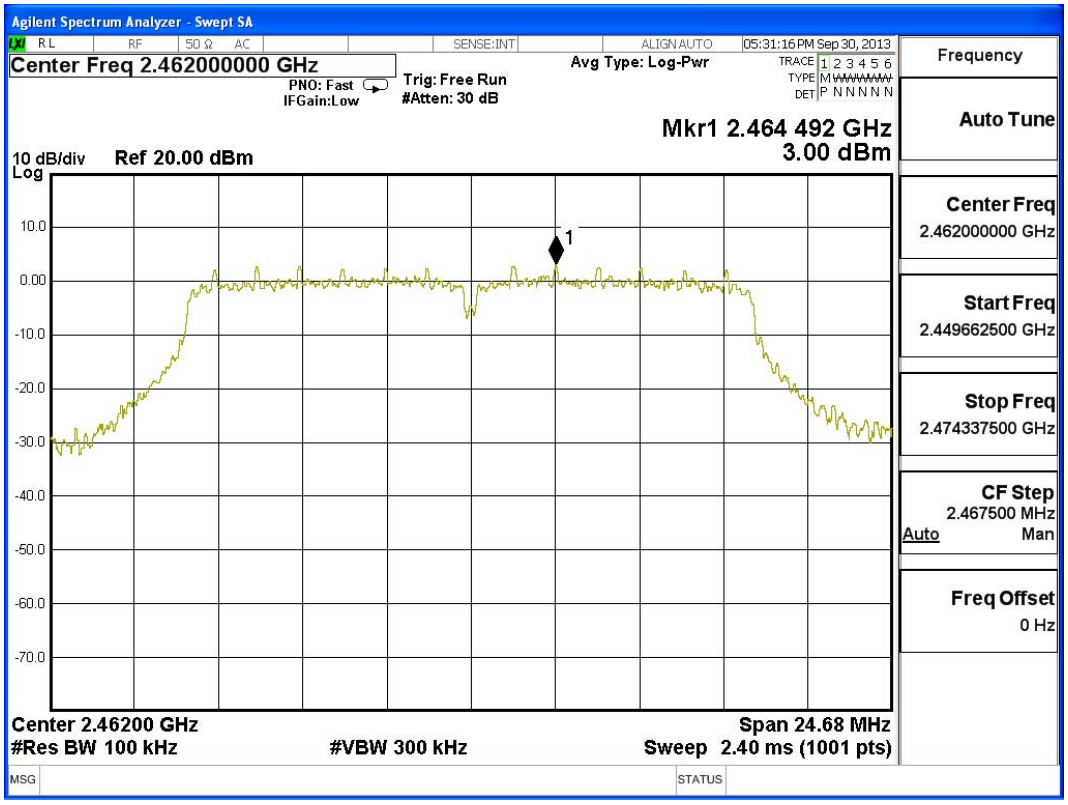
Figure Channel 6:



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

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	3.00	< 8dBm	Pass

Figure Channel 11:



9. EMI Reduction Method During Compliance Testing

No modification was made during testing.