

FCC Test Report

(Class II Permissive Change)

Product Name	JukeBlox Networked Media Module
Model No	CX870-3MB
FCC ID.	PPQ-CX8703MB

Applicant	Lite-On Technology Corp.
Address	4F, 90, Chien 1 Road, Chung Ho, New Taipei City 235, Taiwan, R.O.C.

Date of Receipt	Sep. 25, 2013
Issue Date	Oct. 15, 2013
Report No.	139522R-RFUSP42V01
Report Version	V1.0



The Test Results relate only to the samples tested.

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Test Report Certification

Issue Date: Oct. 15, 2013

Report No.: 139522R-RFUSP42V01



Product Name	JukeBlox Networked Media Module
Applicant	Lite-On Technology Corp.
Address	4F, 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan, R.O.C.
Manufacturer	1. Lite-On Technology (Changzhou) CO., LTD 2. DONG GUAN G-COM COMPUTER CO., LTD
Model No.	CX870-3MB
FCC ID.	PPQ-CX8703MB
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: 2012 ANSI C63.4: 2003, ANSI C63.10: 2009, FCC KDB 558074
Test Result	Complied

The test results relate only to the samples tested.

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

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(Manager / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	JukeBlox Networked Media Module
Trade Name	PICO Module
Model No.	CX870-3MB
FCC ID.	PPQ-CX8703MB
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	SONY Corp	X-2588-794-1	1.35dBi for 2.4GHz
2	FOXCONN	FX01H8B-SN-EF	2.29dBi for 2.4GHz

Note: 1. Only the higher gain antenna was tested and recorded in this report.

2. 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: PPQ-CX8703MB, originally granted on 16/10/2012.

The major change filed under this application is:

Change #1: Addition two new antennas.

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

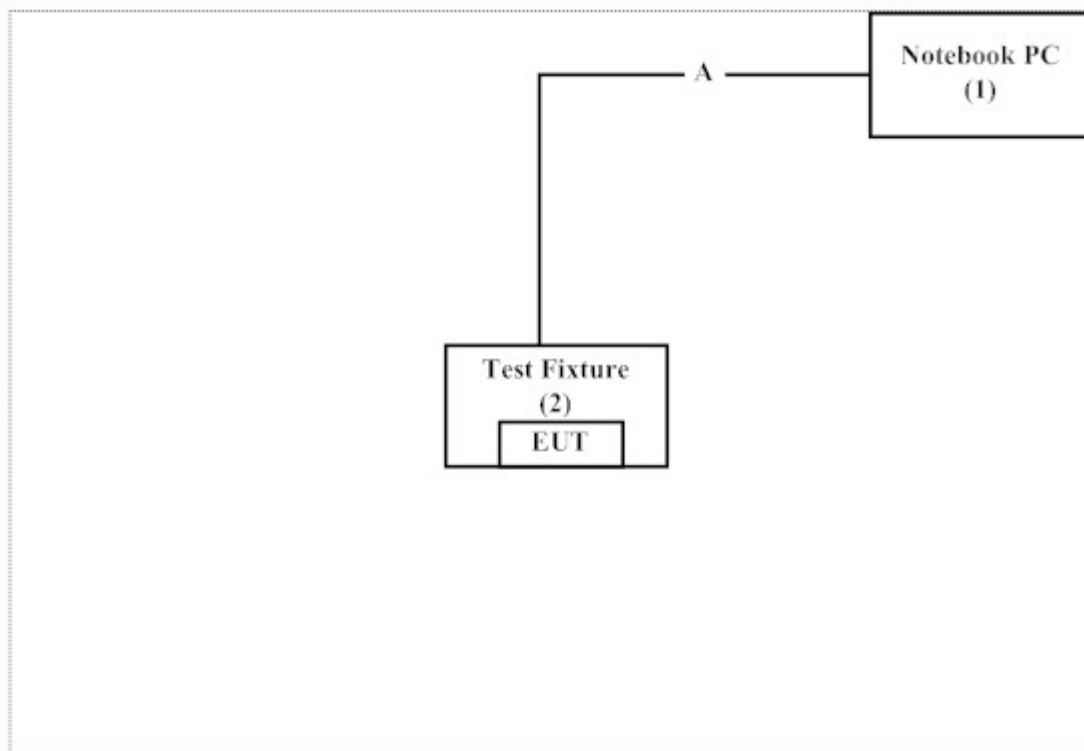
1.3. Tested System Details

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, 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 command 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	30-65
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. Peak Power Output

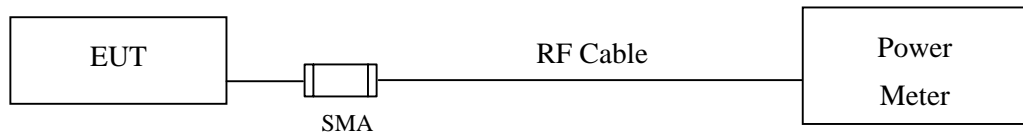
2.1. Test Equipment

	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.

2.2. Test Setup



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 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.

2.5. Uncertainty

± 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			
		Measurement Level (dBm)						
01	2412	15.89	--	--	--	18.25	<30dBm	Pass
06	2437	18.11	18.05	17.92	17.7	20.14	<30dBm	Pass
11	2462	18.27	--	--	--	20.28	<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			
		Measurement Level (dBm)										
01	2412	14.33	--	--	--	--	--	--	--	22.11	<30dBm	Pass
06	2437	14.4	14.27	14.22	14.18	14.11	14.08	14.01	13.89	22.09	<30dBm	Pass
11	2462	14.29	--	--	--	--	--	--	--	22.39	<30dBm	Pass

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

3. Radiated Emission

3.1. Test Equipment

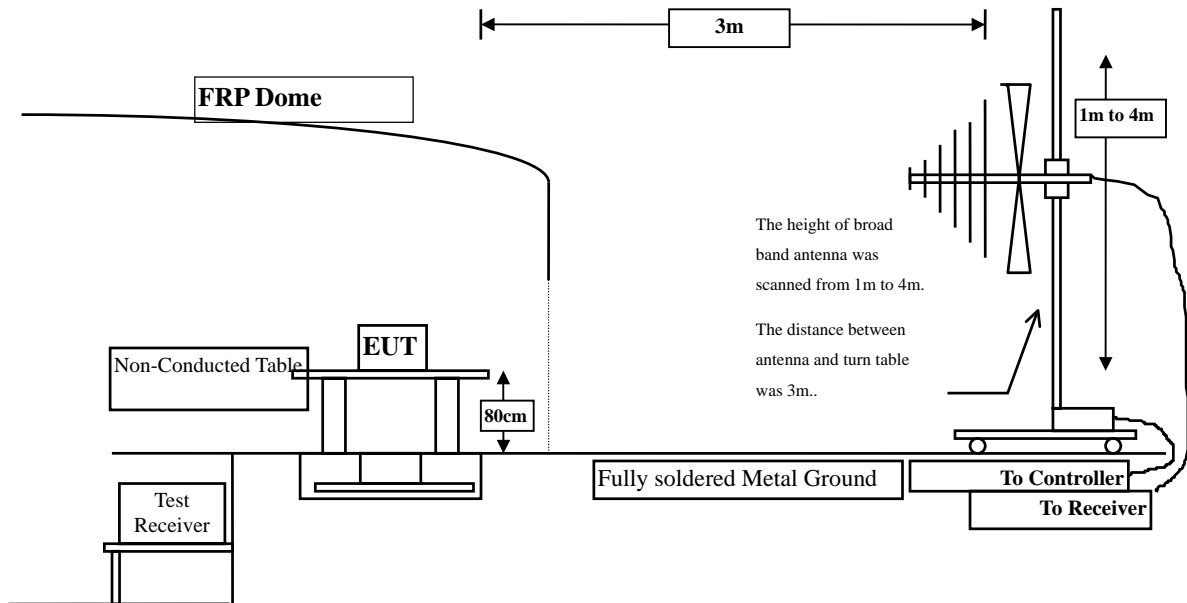
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	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

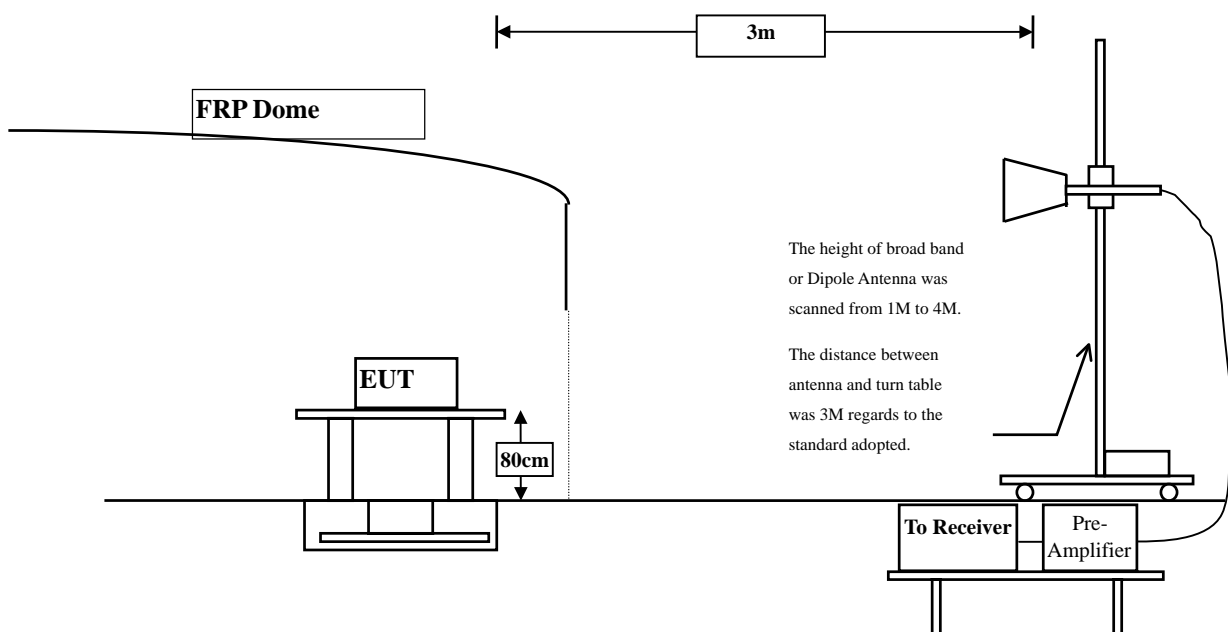
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with “X” are used to measure the final test results.

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	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)

3.4. 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.

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
Horizontal					
Peak Detector:					
4824.000	2.428	42.260	44.689	-29.311	74.000
7236.000	9.177	39.470	48.647	-25.353	74.000
9648.000	10.019	40.130	50.150	-23.850	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	2.836	42.359	45.196	-28.804	74.000
7236.000	9.676	40.260	49.936	-24.064	74.000
9648.000	10.556	40.590	51.147	-22.853	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 MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4874.000	2.076	43.150	45.227	-28.773	74.000
7311.000	9.512	40.590	50.102	-23.898	74.000
9748.000	9.630	40.590	50.220	-23.780	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	2.532	43.990	46.522	-27.478	74.000
7311.000	10.089	40.590	50.679	-23.321	74.000
9748.000	10.266	40.290	50.557	-23.443	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 MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
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Horizontal

Peak Detector:

4924.000	2.191	41.250	43.441	-30.559	74.000
7386.000	10.373	40.570	50.944	-23.056	74.000
9848.000	9.964	40.570	50.534	-23.466	74.000

Average Detector:

--

Vertical

Peak Detector:

4924.000	2.805	43.590	46.395	-27.605	74.000
7386.000	11.180	40.540	51.720	-22.280	74.000
9848.000	10.801	40.510	51.311	-22.689	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 MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
------------------	-------------------------	--------------------------	--------------------------------	--------------	-----------------

Horizontal

Peak Detector:

4824.000	2.428	41.260	43.689	-30.311	74.000
7236.000	9.177	39.590	48.767	-25.233	74.000
9648.000	10.019	40.120	50.140	-23.860	74.000

Average Detector:

--

Vertical

Peak Detector:

4824.000	2.836	41.190	44.027	-29.973	74.000
7236.000	9.676	40.150	49.826	-24.174	74.000
9648.000	10.556	40.690	51.247	-22.753	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/m
	dB	dBuV	dBuV/m		

Horizontal

Peak Detector:

4874.000	2.076	41.590	43.667	-30.333	74.000
7311.000	9.512	39.550	49.062	-24.938	74.000
9748.000	9.630	40.130	49.760	-24.240	74.000

Average Detector:

--

Peak Detector:

4874.000	2.532	42.120	44.652	-29.348	74.000
7311.000	10.089	40.550	50.639	-23.361	74.000
9748.000	10.266	40.090	50.357	-23.643	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 MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.191	40.590	42.781	-31.219	74.000
7386.000	10.373	39.980	50.354	-23.646	74.000
9848.000	9.964	40.290	50.254	-23.746	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	2.805	42.010	44.815	-29.185	74.000
7386.000	11.180	39.980	51.160	-22.840	74.000
9848.000	10.801	39.860	50.661	-23.339	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 MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
148.340	-7.806	37.606	29.800	-13.700	43.500
299.660	-4.751	36.061	31.310	-14.690	46.000
460.680	4.030	35.270	39.300	-6.700	46.000
652.740	1.899	35.481	37.380	-8.620	46.000
825.400	7.346	31.177	38.523	-7.477	46.000
949.560	7.036	33.892	40.928	-5.072	46.000
Vertical					
132.820	-3.932	38.829	34.897	-8.603	43.500
299.660	-4.061	36.318	32.257	-13.743	46.000
499.480	-0.199	37.665	37.465	-8.535	46.000
689.600	2.302	37.216	39.518	-6.482	46.000
848.680	0.299	34.123	34.422	-11.578	46.000
949.560	3.156	33.892	37.048	-8.952	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)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
132.820	-7.442	38.829	31.387	-12.113	43.500
299.660	-4.751	36.318	31.567	-14.433	46.000
431.580	0.757	39.762	40.519	-5.481	46.000
598.420	3.524	33.283	36.807	-9.193	46.000
755.560	5.039	35.349	40.388	-5.612	46.000
928.220	7.230	32.854	40.084	-5.916	46.000
Vertical					
132.820	-3.932	38.829	34.897	-8.603	43.500
299.660	-4.061	36.318	32.257	-13.743	46.000
499.480	-0.199	37.665	37.465	-8.535	46.000
693.480	1.748	38.216	39.964	-6.036	46.000
848.680	0.299	34.123	34.422	-11.578	46.000
967.020	3.889	26.834	30.723	-23.277	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.

4. Band Edge

4.1. Test Equipment

RF Radiated Measurement:

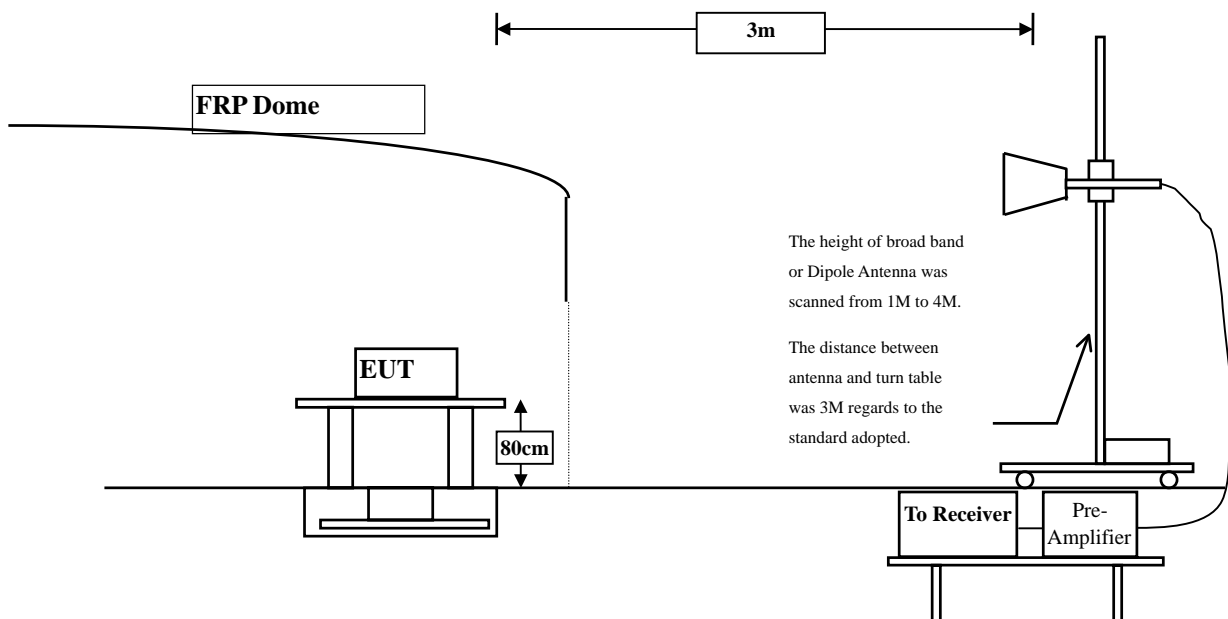
The following test equipments are used during the band edge tests:

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.

4.2. Test Setup

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 C63.10, 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.

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)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2387.200	33.737	25.164	58.901	74.000	54.000	Pass
01 (Peak)	2390.000	33.739	24.119	57.858	74.000	54.000	Pass
01 (Peak)	2413.000	33.775	67.232	101.006	--	--	--
01 (Average)	2386.600	33.736	13.023	46.759	74.000	54.000	Pass
01 (Average)	2390.000	33.739	12.639	46.378	74.000	54.000	Pass
01 (Average)	2412.800	33.775	63.381	97.155	--	--	--

Figure Channel 01: Horizontal (Peak)

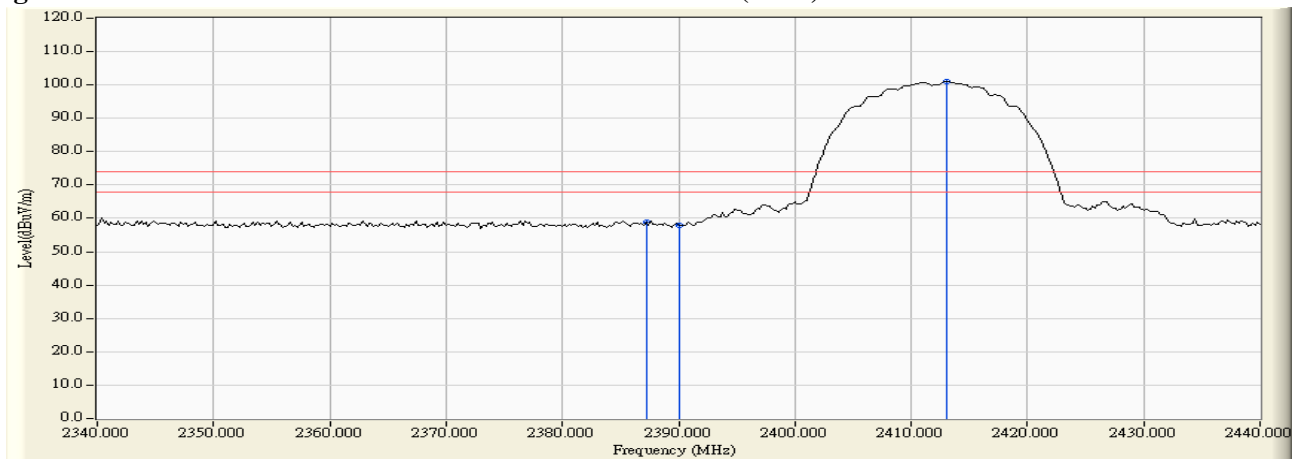
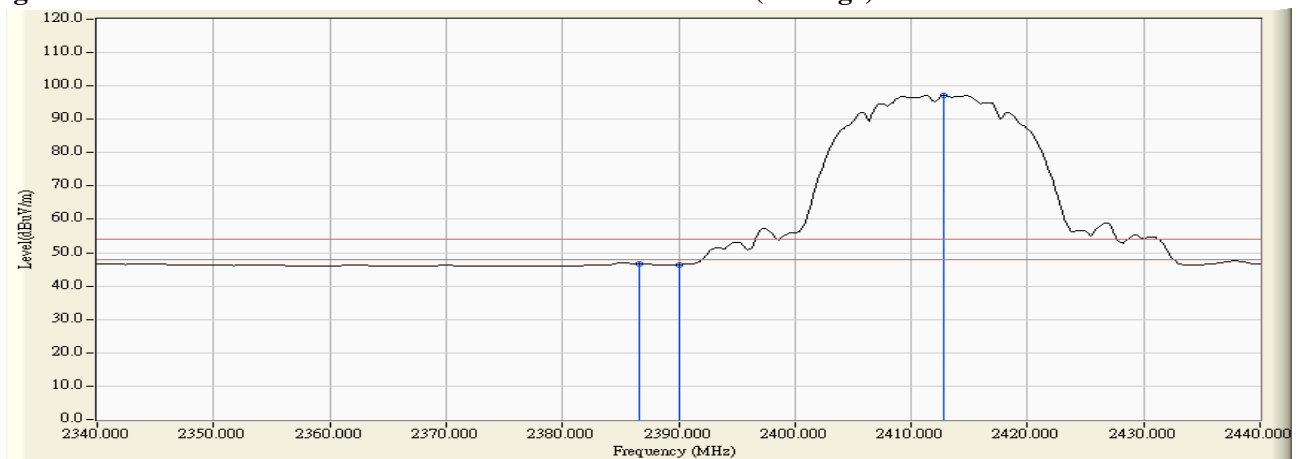


Figure Channel 01: Horizontal (Average)



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)	2389.000	32.273	24.635	56.909	74.000	54.000	Pass
01 (Peak)	2390.000	32.267	23.824	56.091	74.000	54.000	Pass
01 (Peak)	2413.000	32.254	71.690	103.943	--	--	--
01 (Average)	2387.000	32.288	13.521	45.809	74.000	54.000	Pass
01 (Average)	2390.000	32.267	12.967	45.234	74.000	54.000	Pass
01 (Average)	2412.800	32.253	67.639	99.892	--	--	--

Figure Channel 01: Vertical (Peak)

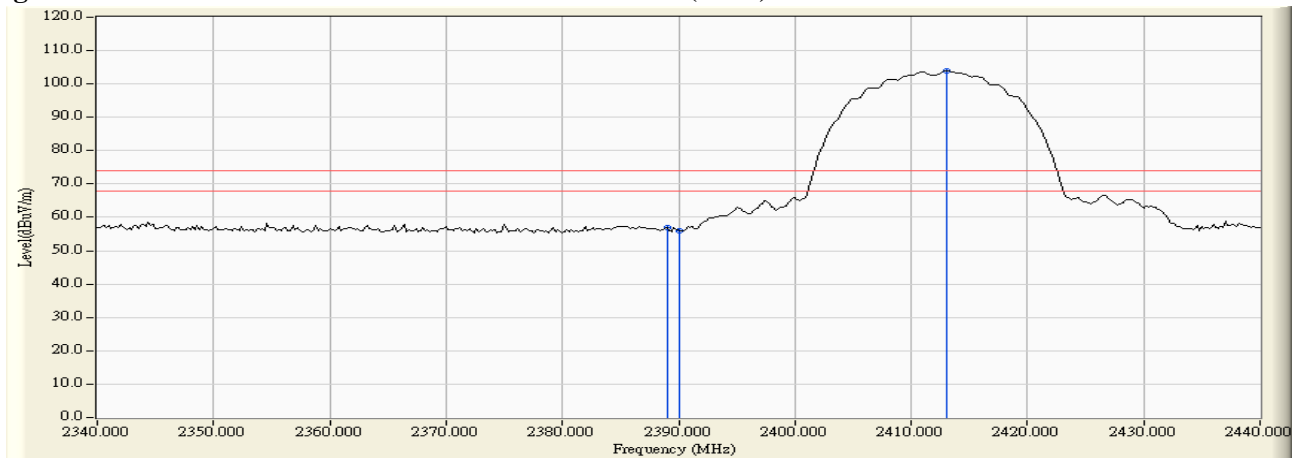
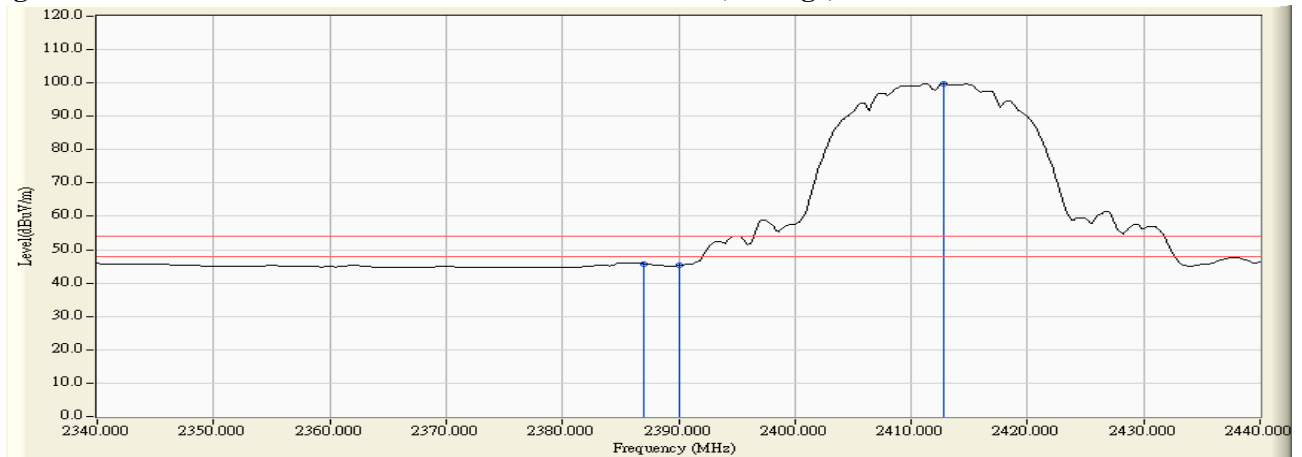


Figure Channel 01: Vertical (Average)



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	33.895	67.778	101.673	--	--	--
11 (Peak)	2483.500	33.951	23.757	57.707	74.000	54.000	Pass
11 (Peak)	2484.300	33.951	24.811	58.763	74.000	54.000	Pass
11 (Average)	2461.100	33.890	63.961	97.851	--	--	--
11 (Average)	2483.500	33.951	12.479	46.429	74.000	54.000	Pass

Figure Channel 11: Horizontal (Peak)

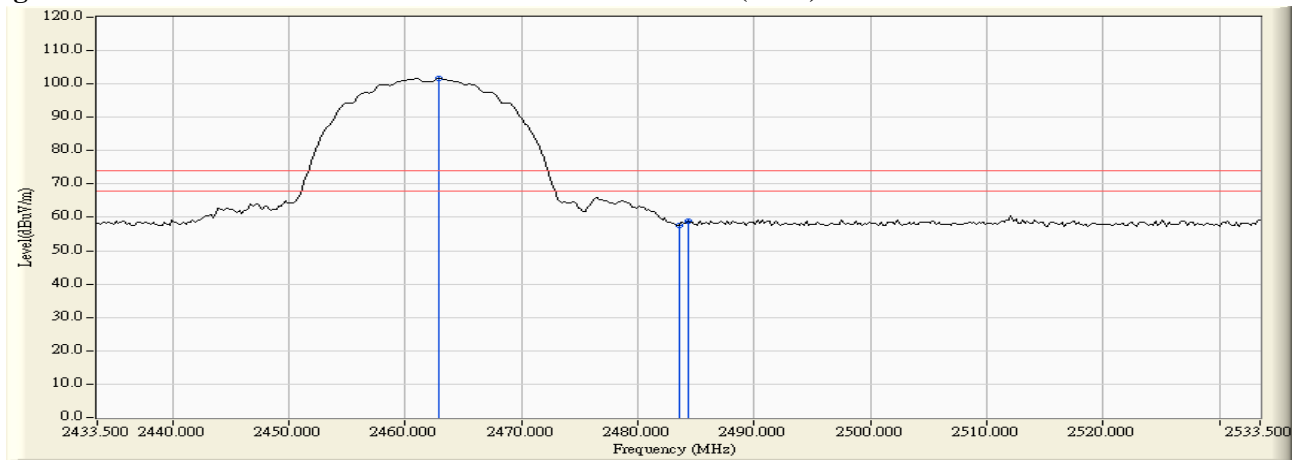


Figure Channel 11: Horizontal (Average)



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	32.485	72.302	104.787	--	--	--
11 (Peak)	2483.500	32.586	24.187	56.772	74.000	54.000	Pass
11 (Peak)	2487.500	32.605	25.659	58.263	74.000	54.000	Pass
11 (Average)	2461.100	32.476	68.451	100.927	--	--	--
11 (Average)	2483.500	32.586	13.143	45.728	74.000	54.000	Pass
11 (Average)	2512.100	32.723	17.531	50.255	74.000	54.000	Pass

Figure Channel 11: Vertical (Peak)

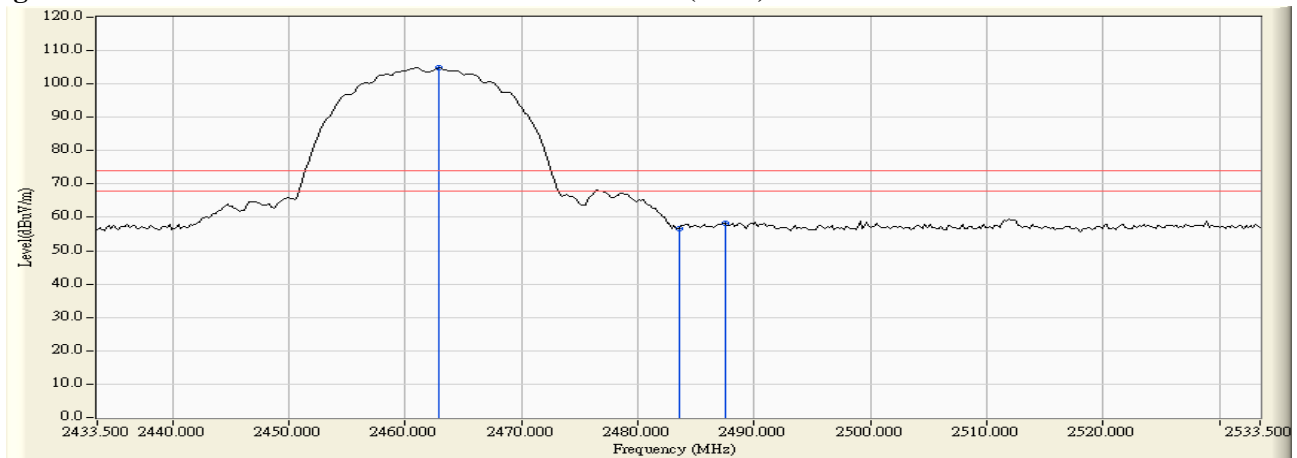


Figure Channel 11: Vertical (Average)



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)	2389.000	33.737	35.063	68.801	74.000	54.000	Pass
01 (Peak)	2390.000	33.739	34.837	68.576	74.000	54.000	Pass
01 (Peak)	2415.800	33.781	72.088	105.869	--	--	--
01 (Average)	2390.000	33.739	16.342	50.081	74.000	54.000	Pass
01 (Average)	2414.000	33.776	59.728	93.505	--	--	--

Figure Channel 01: Horizontal (Peak)

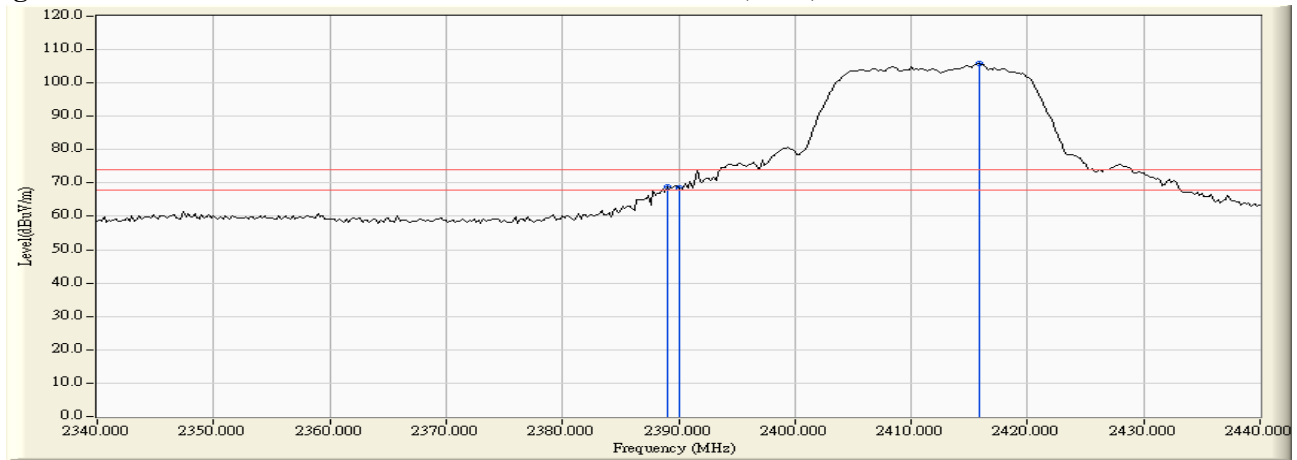
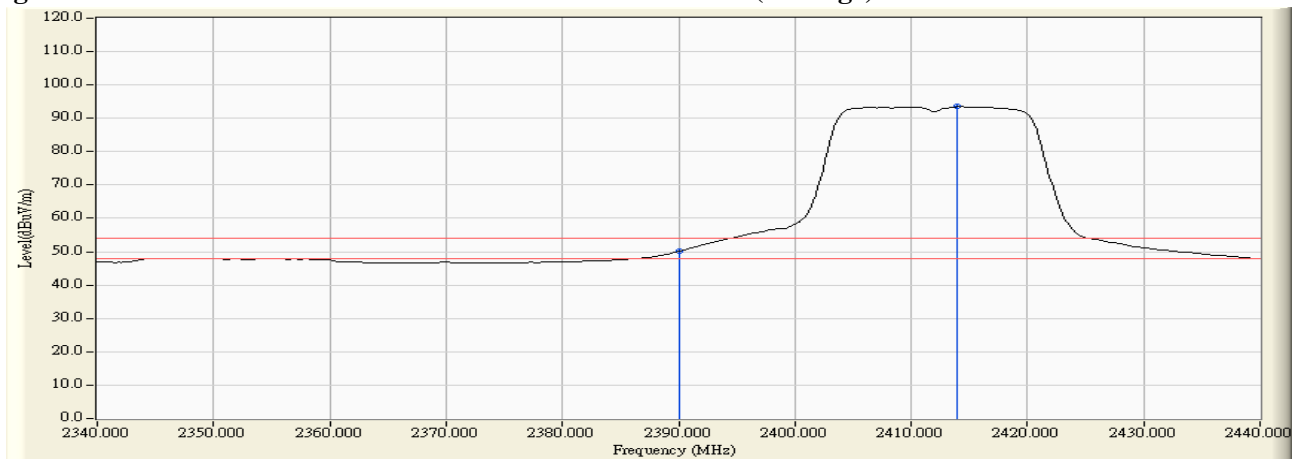


Figure Channel 01: Horizontal (Average)



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 etection.

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)	2389.400	32.271	37.641	69.912	74.000	54.000	Pass
01 (Peak)	2390.000	32.267	36.128	68.395	74.000	54.000	Pass
01 (Peak)	2415.800	32.266	76.021	108.287	--	--	--
01 (Average)	2390.000	32.267	18.278	50.545	74.000	54.000	Pass
01 (Average)	2414.400	32.260	63.922	96.182	--	--	--

Figure Channel 01: Vertical (Peak)

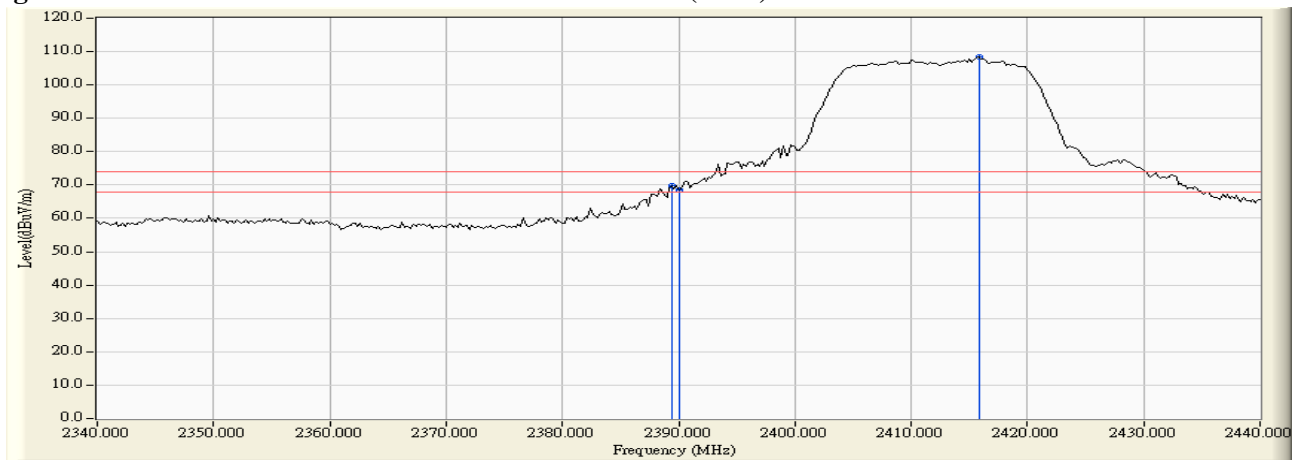
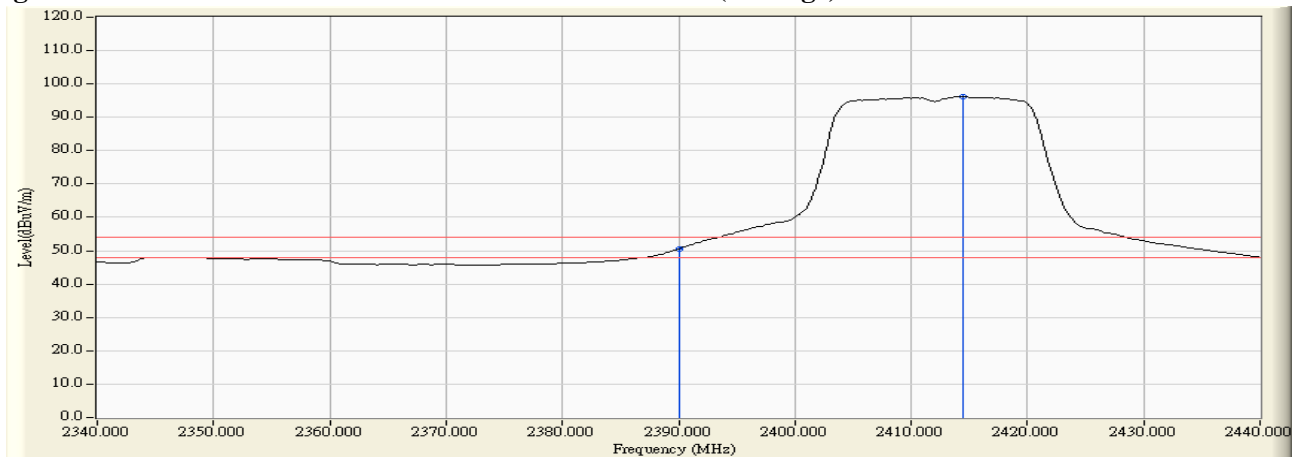


Figure Channel 01: Vertical (Average)



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	33.901	71.783	105.685	--	--	--
11 (Peak)	2483.500	33.951	36.068	70.018	74.000	54.000	Pass
11 (Average)	2460.100	33.887	59.925	93.813	--	--	--
11 (Average)	2483.500	33.951	16.844	50.794	74.000	54.000	Pass

Figure Channel 11: Horizontal (Peak)

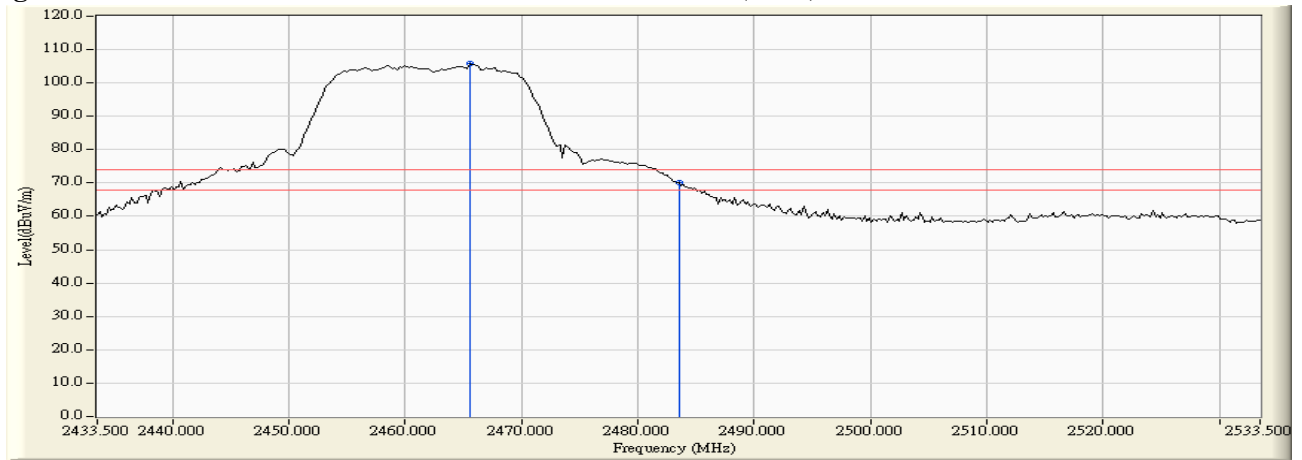
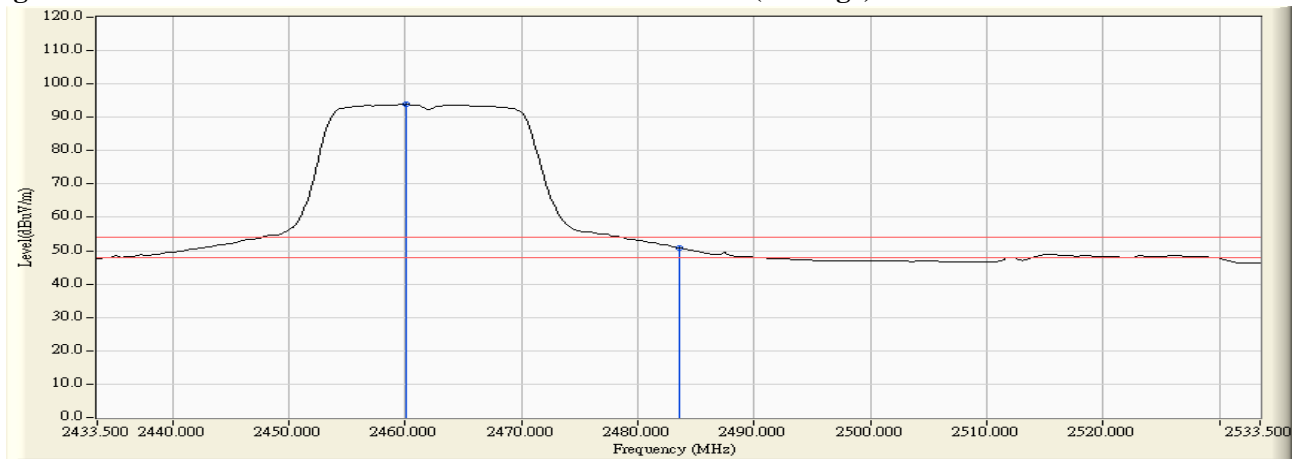


Figure Channel 11: Horizontal (Average)



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 etection.

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	32.498	76.478	108.976	--	--	--
11 (Peak)	2483.500	32.586	41.364	73.949	74.000	54.000	Pass
11 (Average)	2460.300	32.472	64.356	96.828	--	--	--
11 (Average)	2483.500	32.586	20.481	53.066	74.000	54.000	Pass

Figure Channel 11: Vertical (Peak)

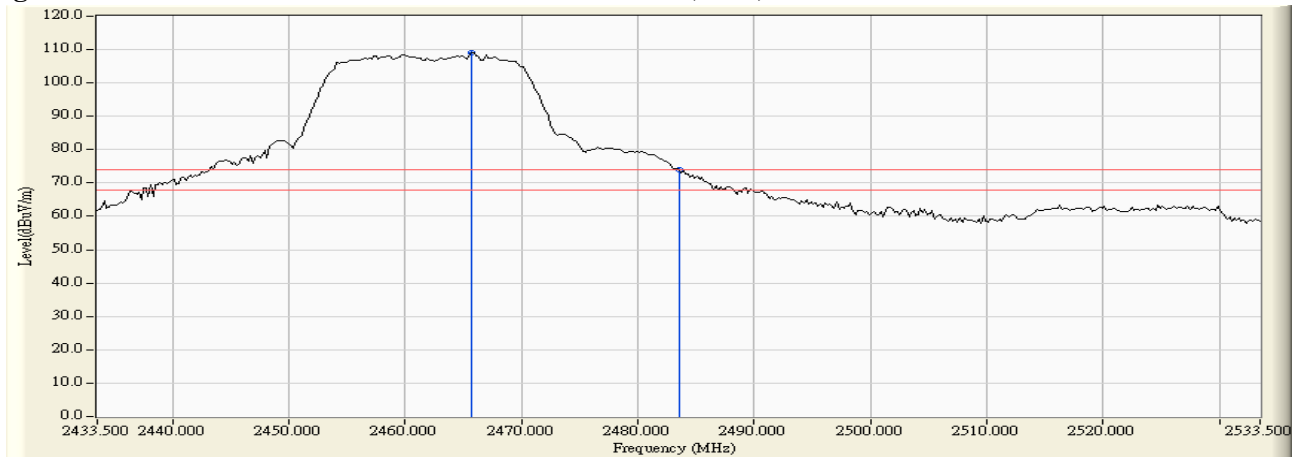
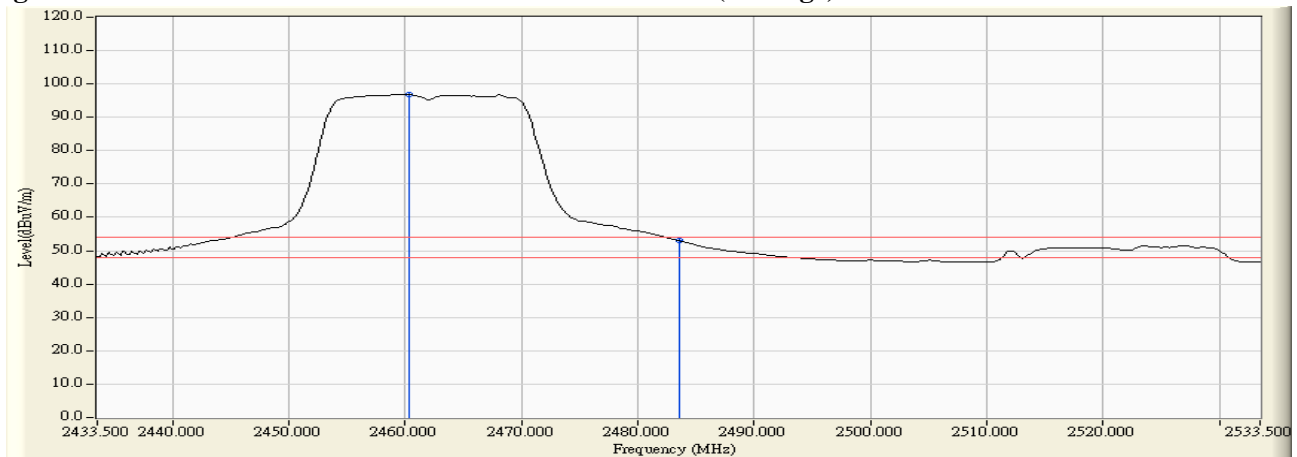


Figure Channel 11: Vertical (Average)



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.

5. EMI Reduction Method During Compliance Testing

No modification was made during testing.