



# Test Report

## (Class II Permissive Change)

Product Name	JukeBlox Networked Media Module
Model No	CR870-2S
FCC ID.	PPQ-CR8702G

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

Date of Receipt	Aug. 08, 2011
Issue Date	Aug. 11, 2011
Report No.	118205R-RFUSP42V01
Report Version	V1.0

The test results relate only to the samples tested.

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

# Test Report Certification

Issue Date: Aug. 11, 2011  
Report No.: 118205R-RFUSP42V01



**Accredited by NIST (NVLAP)**  
NVLAP Lab Code: 200533-0

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	DONG GUAN G-COM COMPUTER CO., LTD.
Model No.	CR870-2S
EUT Rated Voltage	DC 3.3V
EUT testing Voltage	AC 120V/60Hz
Trade Name	Micro Module
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010 ANSI C63.4: 2009
Test Result	Complied



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Documented By :

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(Senior Adm. Specialist / Leven Huang )



Tested By :

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(Engineer / Henk Huang)



Testing Laboratory

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Approved By :

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( Manager / Vincent Lin)

## TABLE OF CONTENTS

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

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	JukeBlox Networked Media Module
Trade Name	Micro Module
Model No.	CR870-2S
FCC ID.	PPQ-CR8702G
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	Flat-Plate Dipole Antenna
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LITE-ON	3010000174ID	Flat-Plate Dipole	3.94dBi for 2.4 GHz

Note: The antenna of EUT is conform to FCC 15.203

Note:

1. The antenna of EUT is conform to FCC 15.203.
2. This is to request a Class II permissive change for FCC ID: PPQ-CR8702G.

The differences are listed as below:

Change #1: Add the shielding cover in digital circuit part.

Change #2: Add the connector to support host's LDE.

Change #3: Change model number: CR870-2S.

Change #4: The original antenna type is PIFA and solder on PCB, changes to Dipole antenna and use ipex connector.

## 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 radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

## 1.2. Operational Description

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

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

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

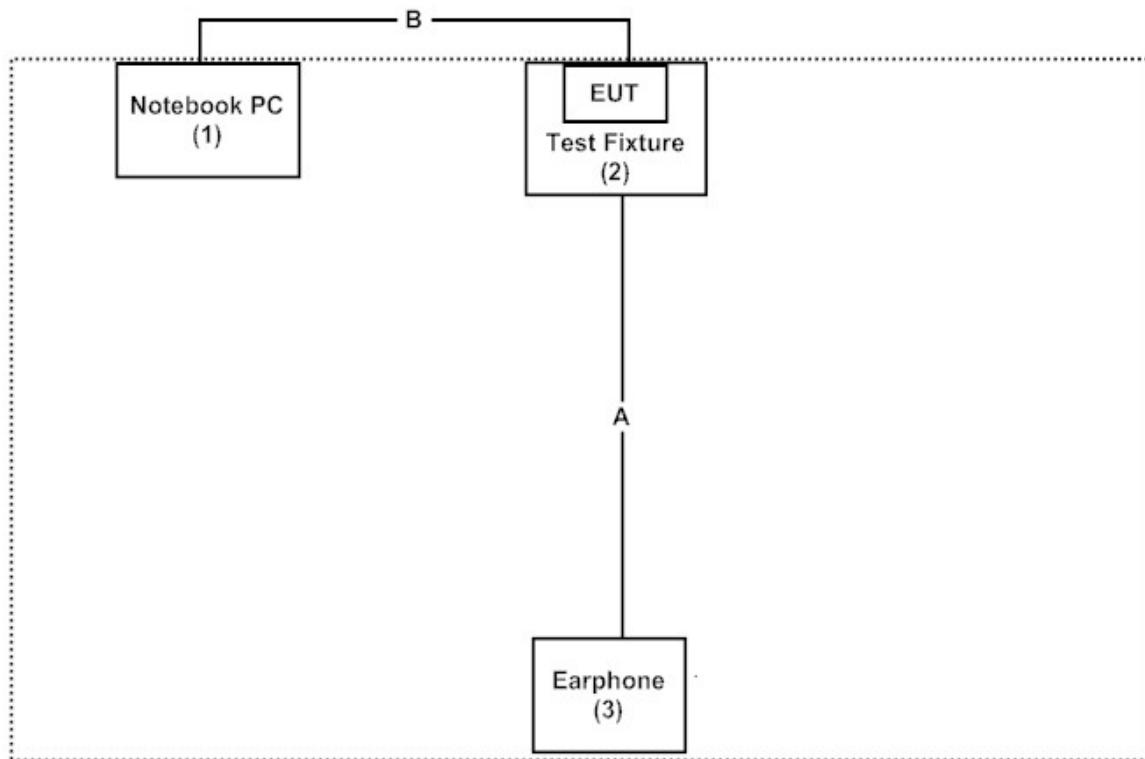
### 1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1.	Notebook PC	DELL	PP18L	42649348672	Non-Shielded, 0.8m
2.	Test Fixture	LITEON	N/A	N/A	N/A
3.	Microphone & Earphone	Ergotech	ET-E201	N/A	N/A

Signal Cable Type		Signal cable Description
A	Earphone Cable	Non-Shielded, 1.5m
B	RS-232 Cable	Non-Shielded, 1.2m

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute Command on the Notebook.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press “OK” to 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

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FCC Accreditation Number: TW1014



## 2. Peak Power Output

### 2.1. Test Equipment

The following test equipments are used during the radiated emission tests:

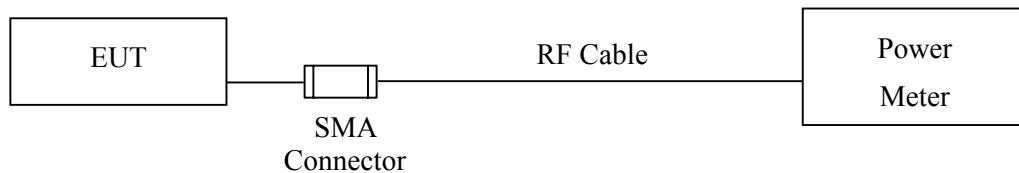
Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Power Meter	Anritsu	ML2495A/6K00003357	May, 2011
X Power Sensor	Anritsu	MA2411B/0738448	Jun, 2011

Note:

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

### 2.2. Test Setup

Conducted Measurement



### 2.3. Limits

The maximum peak power shall be less 1 Watt.

### 2.4. Test Procedure

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

### 2.5. Uncertainty

± 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)	Peak Power Output (dBm)						Required Limit	Result		
		Average Power For different Data Rate (Mbps)				Peak Power					
		1	2	5.5	11						
01	2412	12.95	--	--	--	15.34	<30dBm	Pass			
06	2437	13.22	12.92	12.69	12.51	15.88	<30dBm	Pass			
11	2462	13.46	--	--	--	16.12	<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)	Peak Power Output (dBm)									Required Limit	Result		
		Average Power For different Data Rate (Mbps)								Peak Power				
		6	9	12	18	24	36	48	54					
01	2412	10.82	--	--	--	--	--	--	--	21.41	<30dBm	Pass		
06	2437	10.96	10.89	10.66	10.32	9.87	9.56	9.11	8.82	21.38	<30dBm	Pass		
11	2462	10.98	--	--	--	--	--	--	--	21.11	<30dBm	Pass		

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

### 3. Radiated Emission

#### 3.1. Test Equipment

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

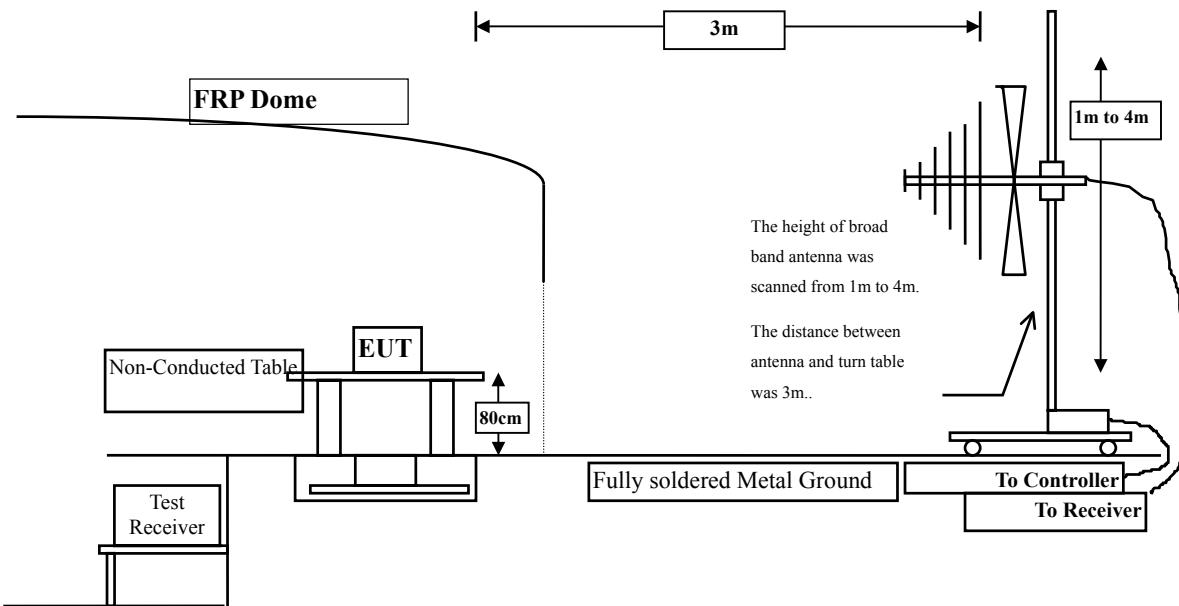
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2011
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	QuiTek	QTK-CABLE/ CAB5	Feb., 2011
	X	Controller	QuiTek	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.

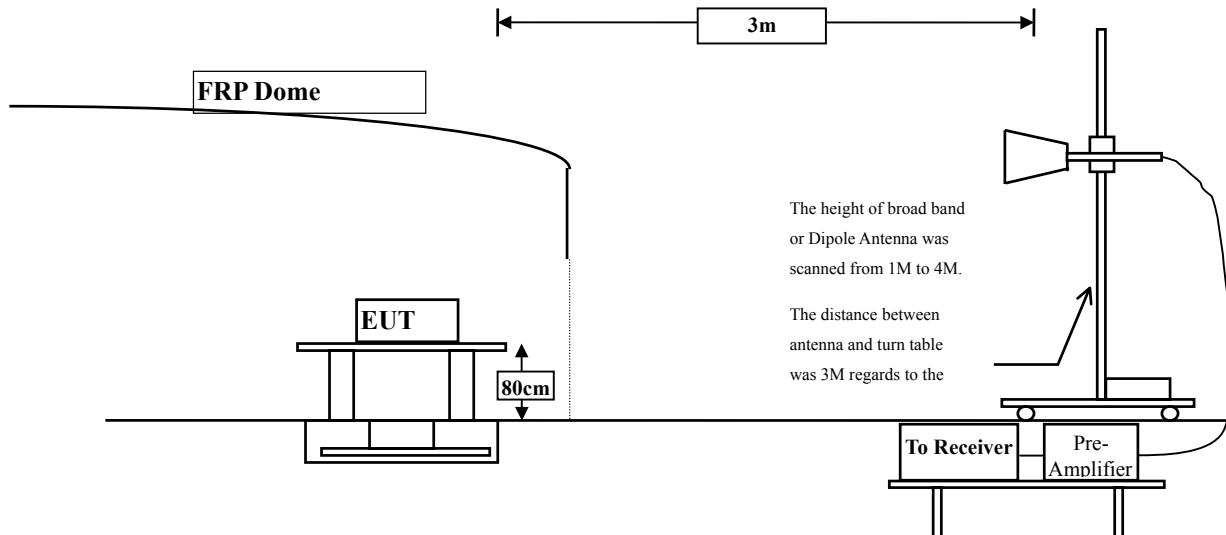
2. The test instruments marked with "X" are used to measure the final test results.

### 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.

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

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

### **3.4. Test Procedure**

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

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

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

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

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

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

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

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

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

### **3.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

### 3.6. Test Result of Radiated Emission

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

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	3.261	37.920	41.181	-32.819	74.000
7236.000	10.650	36.120	46.770	-27.230	74.000
9648.000	13.337	37.650	50.986	-23.014	74.000
<b>Average</b>					
<b>Detector:</b>					
--					
<b>Peak Detector:</b>					
4824.000	6.421	37.970	44.391	-29.609	74.000
7236.000	11.495	36.380	47.875	-26.125	74.000
9648.000	13.807	37.640	51.446	-22.554	74.000
<b>Average</b>					
<b>Detector:</b>					
--					

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “\*”, 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 : 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	37.950	40.987	-33.013	74.000
7311.000	11.795	35.810	47.604	-26.396	74.000
9748.000	12.635	38.520	51.155	-22.845	74.000

### Average

#### Detector:

--

### Vertical

#### Peak Detector:

4874.000	5.812	37.510	43.321	-30.679	74.000
7311.000	12.630	35.540	48.169	-25.831	74.000
9748.000	13.126	37.460	50.586	-23.414	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. “ \* ”, 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 : 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	38.180	41.037	-32.963	74.000
7386.000	12.127	35.140	47.268	-26.732	74.000
9848.000	12.852	37.160	50.013	-23.987	74.000

#### Average

#### Detector:

--

### Vertical

#### Peak Detector:

4924.000	5.521	38.030	43.550	-30.450	74.000
7386.000	13.254	35.290	48.544	-25.456	74.000
9848.000	13.367	37.500	50.867	-23.133	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. “\*”, 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 : 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	37.380	40.641	-33.359	74.000
7236.000	10.650	37.040	47.690	-26.310	74.000
9648.000	13.337	37.030	50.366	-23.634	74.000

#### Average

#### Detector:

--

### Vertical

#### Peak Detector:

4824.000	6.421	38.170	44.591	-29.409	74.000
7236.000	11.495	36.690	48.185	-25.815	74.000
9648.000	13.807	36.640	50.446	-23.554	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. “\*”, 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 : 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	36.910	39.947	-34.053	74.000
7311.000	11.795	35.750	47.544	-26.456	74.000
9748.000	12.635	36.980	49.615	-24.385	74.000

### Average

#### Detector:

--

### Vertical

#### Peak Detector:

4874.000	5.812	37.950	43.761	-30.239	74.000
7311.000	12.630	35.960	48.589	-25.411	74.000
9748.000	13.126	36.580	49.706	-24.294	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. “\*”, 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 : 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	37.140	39.997	-34.003	74.000
7386.000	12.127	35.190	47.318	-26.682	74.000
9848.000	12.852	36.840	49.693	-24.307	74.000

#### Average

#### Detector:

--

#### Vertical

#### Peak Detector:

4924.000	5.521	37.450	42.970	-31.030	74.000
7386.000	13.254	35.150	48.404	-25.596	74.000
9848.000	13.367	36.570	49.937	-24.063	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. “\*”, 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 : General 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
<b>Horizontal</b>					
101.924	-5.786	38.815	33.029	-10.471	43.500
333.246	-6.554	40.412	33.858	-12.142	46.000
508.196	-1.041	40.982	39.942	-6.058	46.000
720.080	2.072	33.852	35.925	-10.075	46.000
799.780	3.460	35.702	39.162	-6.838	46.000
961.122	3.701	32.187	35.888	-18.112	54.000
<b>Vertical</b>					
98.036	-6.189	42.369	36.180	-7.320	43.500
245.772	-3.882	42.448	38.565	-7.435	46.000
508.196	-2.460	41.454	38.994	-7.006	46.000
593.727	-0.460	38.158	37.698	-8.302	46.000
749.238	0.633	38.168	38.800	-7.200	46.000
996.112	4.523	37.371	41.894	-12.106	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. “\*”, 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 : General 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
<b>Horizontal</b>					
99.980	-5.480	39.022	33.542	-9.958	43.500
247.715	-9.012	48.599	39.587	-6.413	46.000
432.385	-1.754	34.297	32.543	-13.457	46.000
508.196	-1.041	39.667	38.627	-7.373	46.000
799.780	3.460	35.115	38.575	-7.425	46.000
881.423	2.767	33.820	36.587	-9.413	46.000
<b>Vertical</b>					
98.036	-6.189	42.701	36.512	-6.988	43.500
247.715	-3.842	42.201	38.359	-7.641	46.000
508.196	-2.460	41.778	39.318	-6.682	46.000
663.707	0.357	38.387	38.744	-7.256	46.000
799.780	1.570	36.431	38.001	-7.999	46.000
996.112	4.523	36.100	40.623	-13.377	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. “\*”, 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.

## 4. Band Edge

### 4.1. Test Equipment

#### RF Conducted Measurement

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

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

Note:

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

#### RF Radiated Measurement:

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

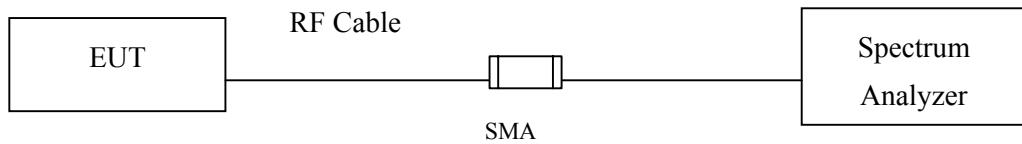
Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2011
	X Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2010
	X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2011
	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X Coaxial Cable	QuiTek	QTK-CABLE/ CAB5	Feb., 2011
	X Controller	QuiTek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note:

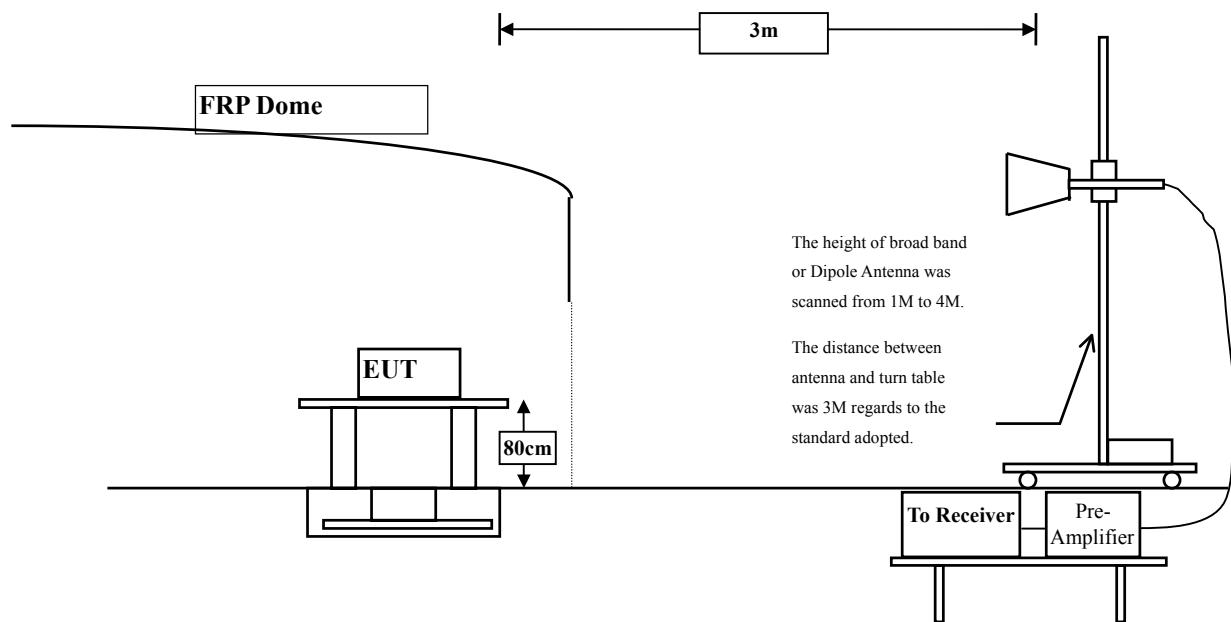
1. All instruments are calibrated every one year.
2. The test instruments marked by “X” are used to measure the final test results.

## 4.2. Test Setup

### RF Conducted Measurement



### RF Radiated Measurement:



## 4.3. Limits

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

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

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

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

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

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Band Edge

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

##### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2412	31.639	72.78	104.418	Peak
Horizontal	2412	31.639	68.86	100.498	Average
Vertical	2412	31.639	68.05	99.688	Peak
Vertical	2412	31.639	64	95.638	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

##### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2342	104.418	44.394	60.024	Peak
Horizontal	2342.4	100.498	51.595	48.903	Average
Vertical	2342	99.688	44.394	55.294	Peak
Vertical	2342.4	95.638	51.595	44.043	Average

Note:

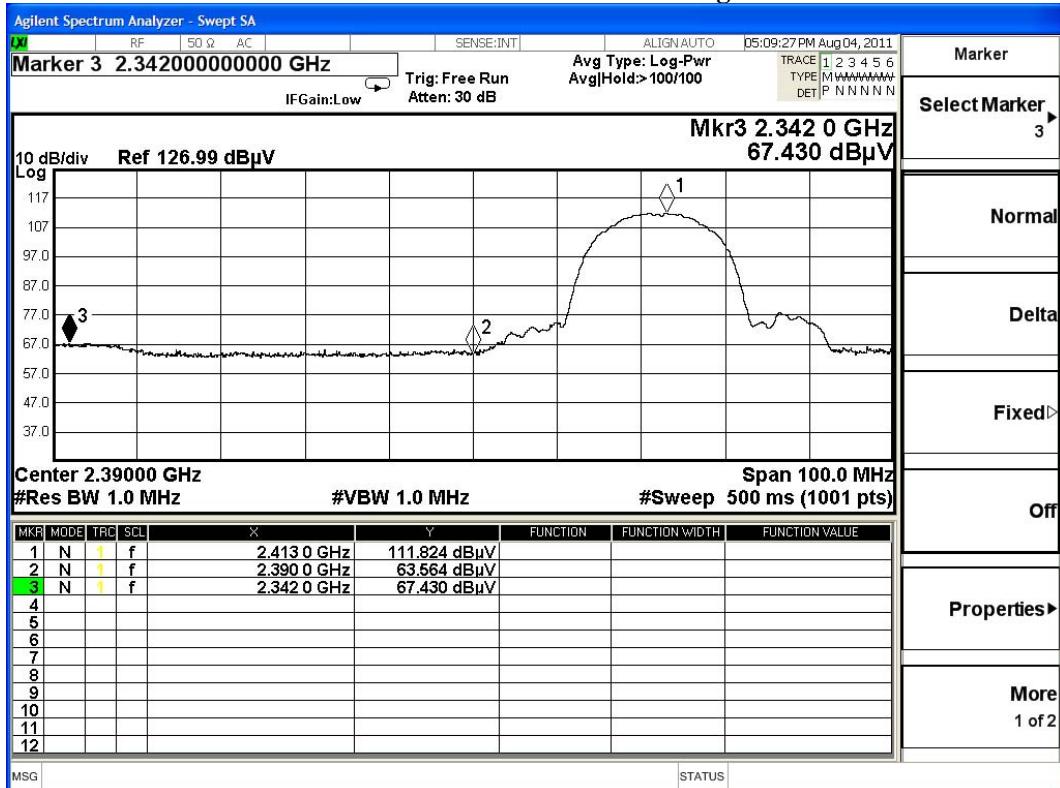
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F -  $\Delta$

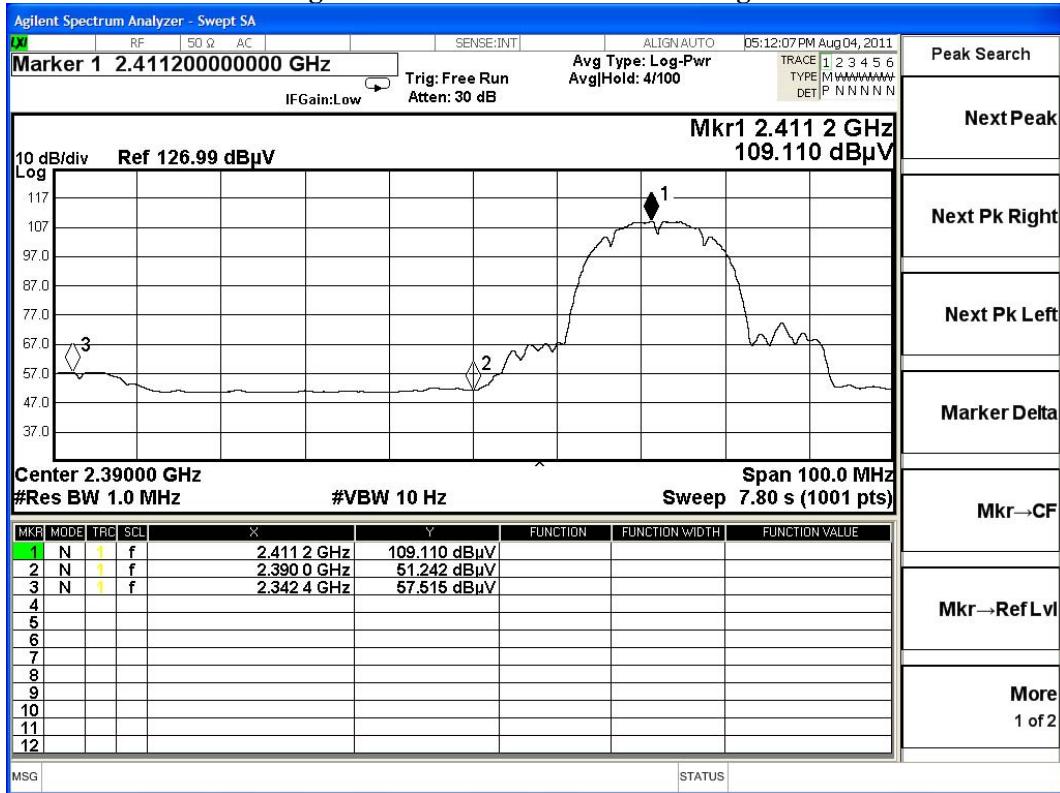
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



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

#### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2462	31.29	73.84	105.13	Peak
Horizontal	2462	31.29	69.77	101.06	Average
Vertical	2462	32.019	69.33	101.349	Peak
Vertical	2462	32.019	65.41	97.429	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

#### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2483.5	105.13	47.310	57.820	Peak
Horizontal	2483.5	101.06	56.013	45.047	Average
Vertical	2483.5	101.349	47.310	54.039	Peak
Vertical	2483.5	97.429	56.013	41.416	Average

Note:

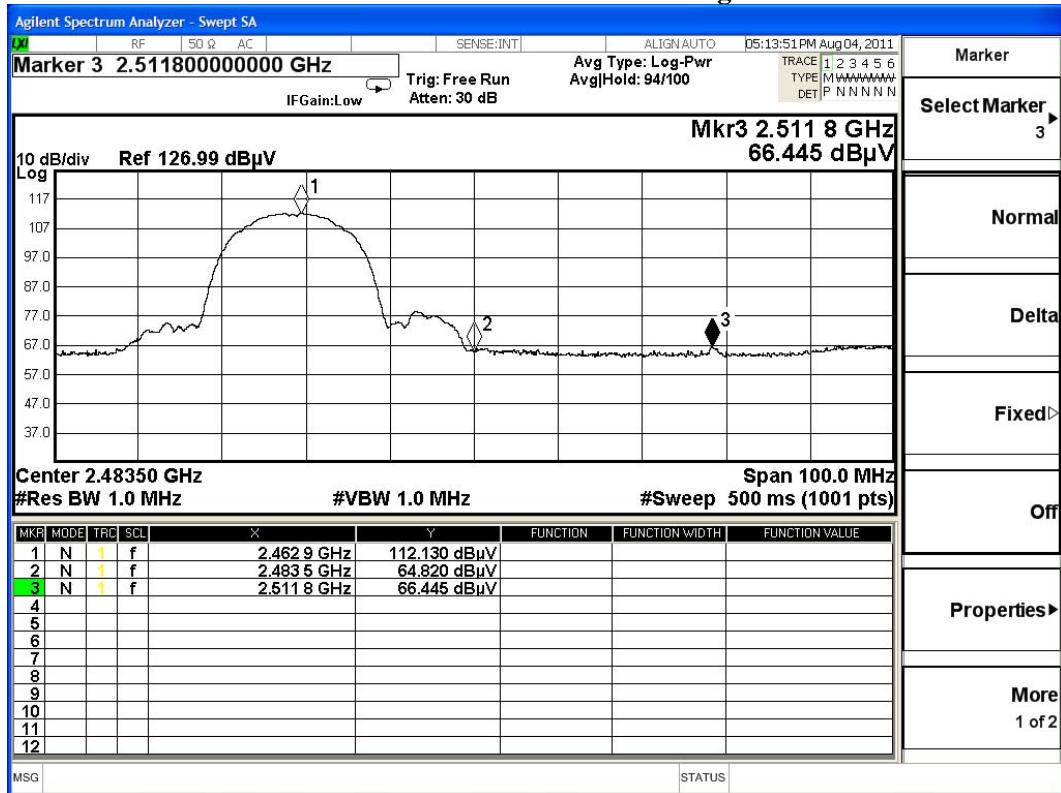
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$

$F$  = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



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

#### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2412	31.639	71.46	103.098	Peak
Horizontal	2412	31.639	55.11	86.748	Average
Vertical	2412	30.95	64.21	95.159	Peak
Vertical	2412	30.95	48.21	79.159	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

#### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2389	103.098	40.578	62.52	Peak
Horizontal	2349	86.748	42.039	44.709	Average
Vertical	2389	95.159	40.578	54.581	Peak
Vertical	2349	79.159	42.039	37.12	Average

Note:

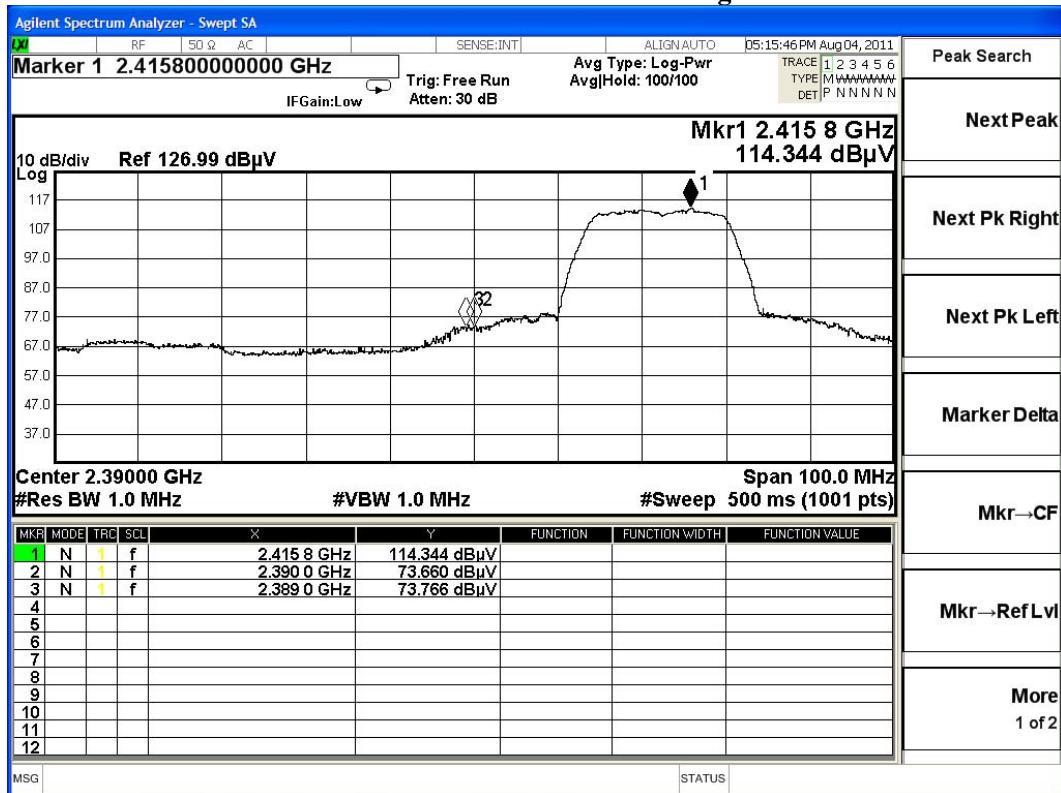
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F -  $\Delta$

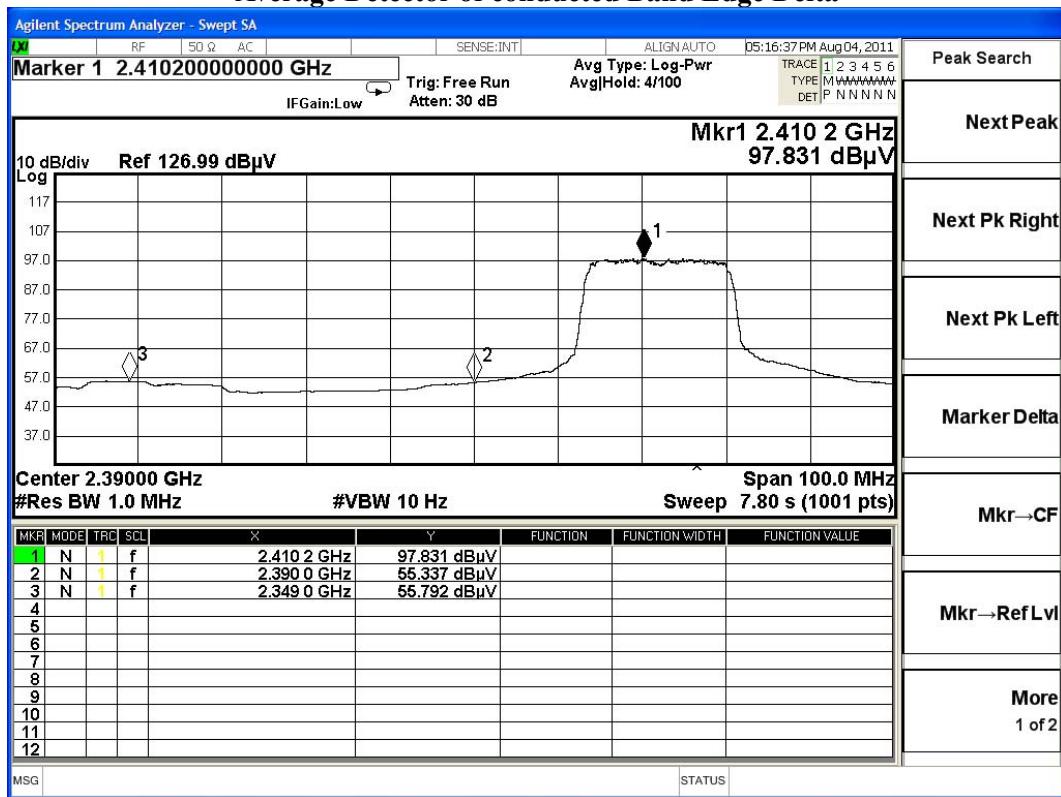
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



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

#### Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2462	31.29	71.41	102.7	Peak
Horizontal	2462	31.29	54.76	86.05	Average
Vertical	2462	31.29	63.94	95.23	Peak
Vertical	2462	31.29	48.27	79.56	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

#### Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	$\Delta$ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2483.9	102.7	39.127	63.573	Peak
Horizontal	2483.5	86.05	40.95	45.1	Average
Vertical	2483.5	95.23	39.127	56.103	Peak
Vertical	2483.5	79.56	40.95	38.61	Average

Note:

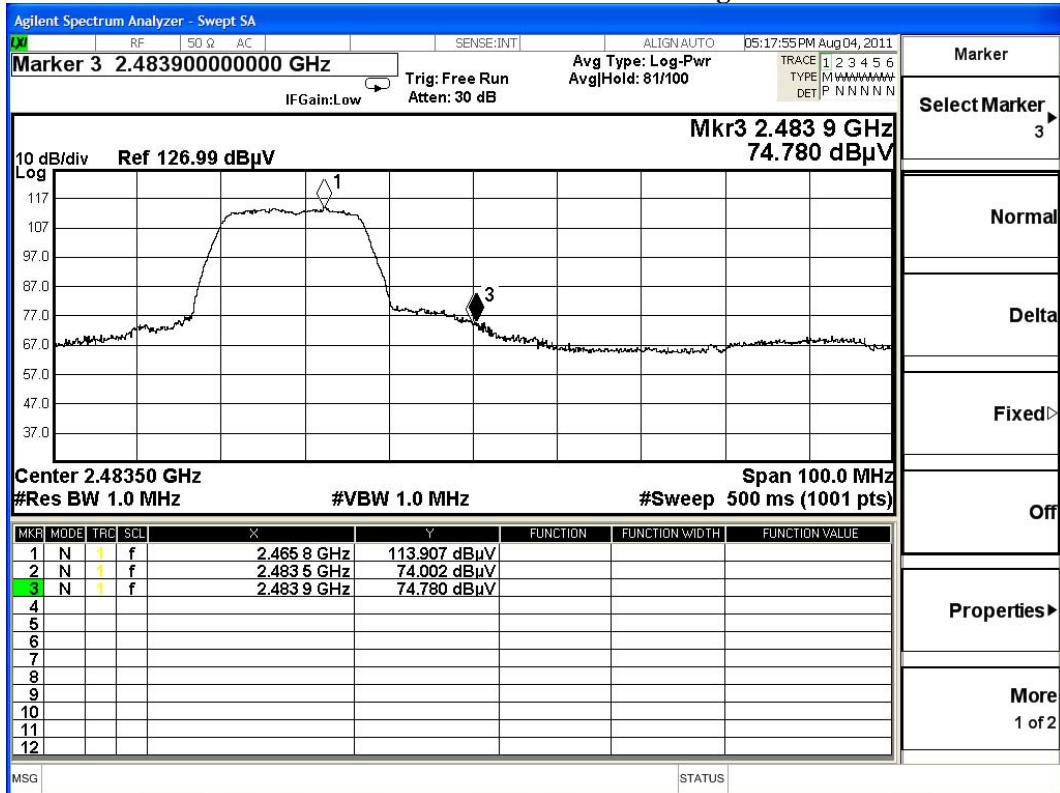
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F -  $\Delta$

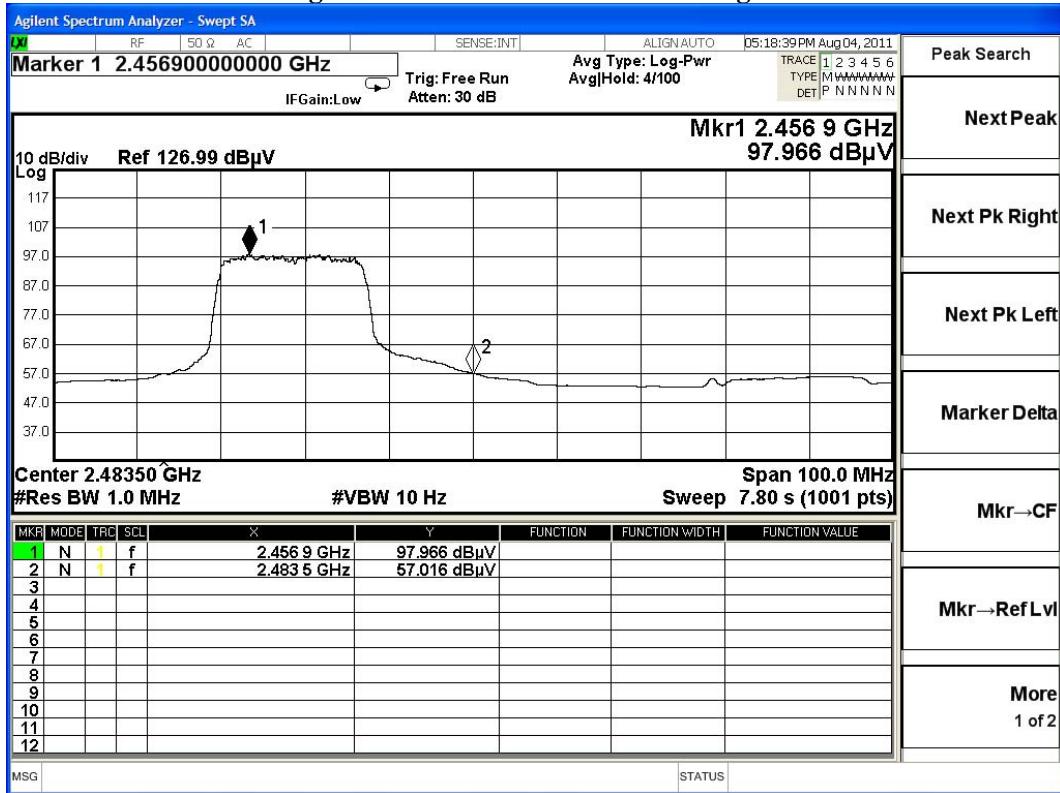
F = Fundamental field Strength (Peak or Average)

$\Delta$  = Conducted Band Edge Delta (Peak or Average)

### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta



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

No modification was made during testing.