



Engineering and Testing for EMC and Safety Compliance



Accredited under A2LA Testing Certificate # 2653.01

**Certification Application Report
FCC Part 15.247 & Industry Canada RSS-210**

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FCC ID/IC:	RO9REVOL0608/ 4806A-REVOL0608	Test Report Date:	July 3, 2008
Platform:	N/A	RTL Work Order Number:	2008116
Model:	Revolution	RTL Quote Number:	QRTL08-265
American National Standard Institute:	ANSI C63.4: Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz		
FCC Classification:	DSS – Part 15 Spread Spectrum Transmitter		
FCC Rule Part(s):	FCC Rules Part 15.247: Operation within the bands 920-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz Direct Sequence System (10-01-07) (Guidance per DA 00-705)		
Industry Canada:	RSS-210 Issue 7: Low Power License-Exempt Communications Devices		
Digital Interface Information	Digital Interface was found to be compliant		
Frequency Range (MHz)	Output Power (W)	Frequency Tolerance	Emission Designator
2402-2480	0.065	N/A	N/A

I, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards. Furthermore, there was no deviation from, additions to, or exclusions from, the applicable parts of FCC Part 2, FCC Part 15, FCC 97-114, ANSI C63.4, and Industry Canada RSS-210.

Signature: 

Date: July 3, 2008

Typed/Printed Name: Desmond A. Fraser

Position: President

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The test results relate only to the item(s) tested.*

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1 General Information

1.1 Scope

Applicable Standards:

- FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.
- Industry Canada RSS-210: Low Power License-Exempt Communications Devices

1.2 Description of EUT

Equipment Under Test	Wireless Power Quality Recorder
Model	Revolution
Power Supply	AC line
Modulation Type	FHSS - Bluetooth
Frequency Range	2402 – 2480 MHz
Antenna Connector Type	Antenna is permanently attached
Antenna Types	Internal

1.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report and approved by the Federal Communications Commission to perform AC line conducted and radiated emissions testing (ANSI C63.4 2003).

1.4 Related Submittal(s)/Grant(s)

This is an original application for certification for Power Monitors, Inc. Model Revolution, FCC ID: RO9REVOL0608, IC: 4806A-REVOL0608.

1.5 Modifications

No modifications were required for compliance.

2 Test Information

2.1 Description of Test Modes

In accordance with FCC 15.31(m), and because the EUT utilizes an operating band greater than 10 MHz, the following frequencies were tested:

Table 2-1: Frequencies Tested

Channel	Frequency
Low	2402
Mid	2441
High	2480

2.2 Exercising the EUT

The EUT was tested in all three orthogonal planes in order to determine worst-case emissions. The EUT was provided with software to continuously transmit during testing. The carrier was also checked to verify that information was being transmitted. There were no deviations from the test standard(s) and/or methods. The test results reported relate only to the item tested.

2.3 Test Result Summary

Table 2-2: Test Result Summary – FCC Part 15, Subpart C (Section 15.247)

Standard	Test	Pass/Fail or N/A
FCC 15.207	AC Power Conducted Emissions	Pass
FCC 15.209	Radiated Emissions	Pass
FCC 15.247(b)	Maximum Peak Power Output	Pass
FCC 15.247(d)	Antenna Conducted Spurious Emissions	Pass
FCC 15.247(d)	Band Edge Measurement	Pass
FCC 15.247(a)(1)	Carrier Frequency Separation	Pass
FCC 15.247(a)(1)(ii)	20 dB Bandwidth	Pass
FCC 15.247(a)(1)(iii)	Hopping Characteristics	Pass
FCC 15.247(a)(1)(iii)	Average Time of Occupancy	Pass

2.4 Test System Details

The test samples were received on June 18 and 30, 2008. The FCC identifiers for all applicable equipment, plus descriptions of all cables used in the tested system, are identified in the following tables.

Table 2-3: Equipment Under Test

Part	Manufacturer	Model	Serial Number	FCC ID	RTL Bar Code
Wireless Power Quality Recorder	Power Monitors, Inc.	Revolution	N/A	RO9REVOL0608	18500
Wireless Power Quality Recorder	Power Monitors, Inc.	Revolution	N/A	RO9REVOL0608	18502

2.5 Configuration of Tested System

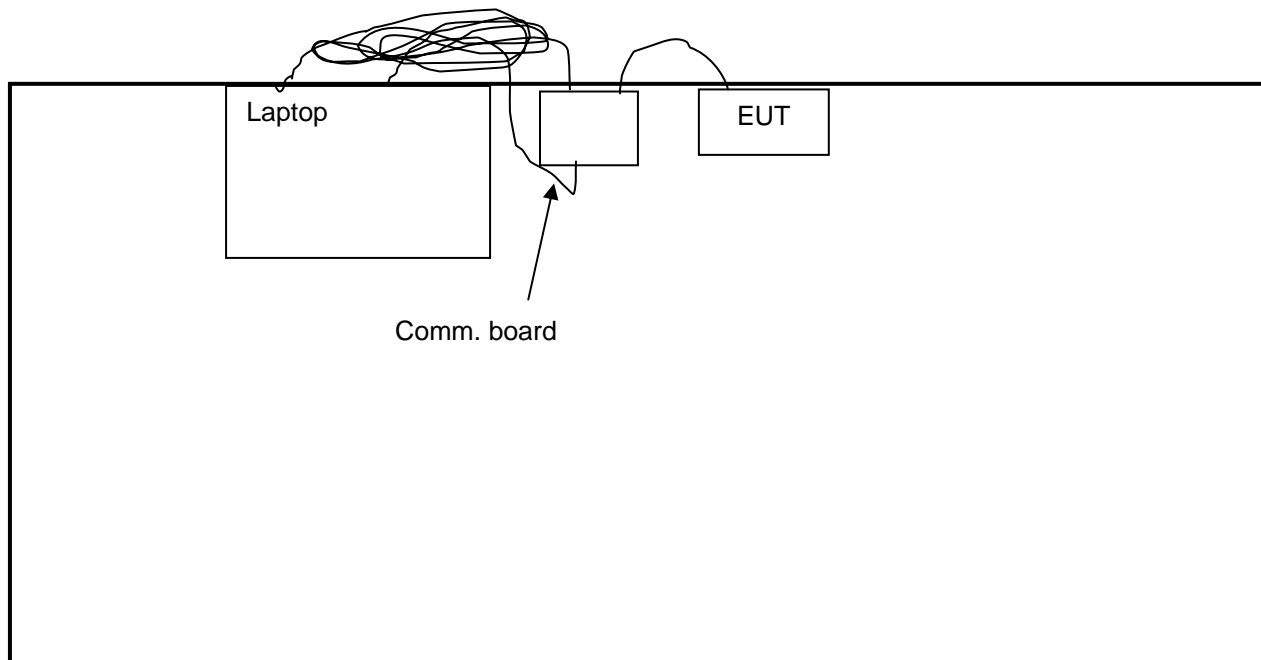


Figure 2-1: Configuration of System Under Test

3 Peak Output Power - §15.247(b)(1); RSS-210 §6.6.2(o)

3.1 Power Output Test Procedure

A conducted power measurement of the EUT was taken using an Agilent 4448A spectrum analyzer.

Table 3-1: Power Output Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901413	Agilent Technologies	E4448A	Spectrum Analyzer (3 Hz – 50 GHz)	US440203416	7/13/08

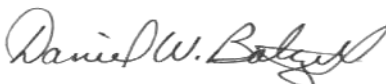
3.2 Power Output Test Data

Table 3-2: Power Output Test Data

Frequency (MHz)	Peak Conducted Power (dBm)
2402	18.10
2441	18.01
2480	18.03

Test Personnel:

Daniel W. Baltzell
EMC Test Engineer



Signature

July 2, 2008
Date of Test

4 Band-Edge Compliance of RF Conducted Emissions – FCC §15.247(d); RSS-210 §2.2

4.1 Band Edge Test Procedure

The EUT was connected to the spectrum analyzer through suitable attenuation. The span was set wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation. The spectrum analyzer was set to the following:

RBW > = 1% of the span
VBW > = RBW
Sweep = auto
Detector function = peak
Trace = max hold

The trace was allowed to stabilize. The marker was set on the emission at the band edge. The marker-delta was used to show the delta between the maximum in-band emission and the emission at the band edge, and was compared to the 20 dBc requirement of 15.247(d) (when using peak emissions). This measurement was taken in both fixed frequency and hopping modes.

Table 4-1: Test Equipment

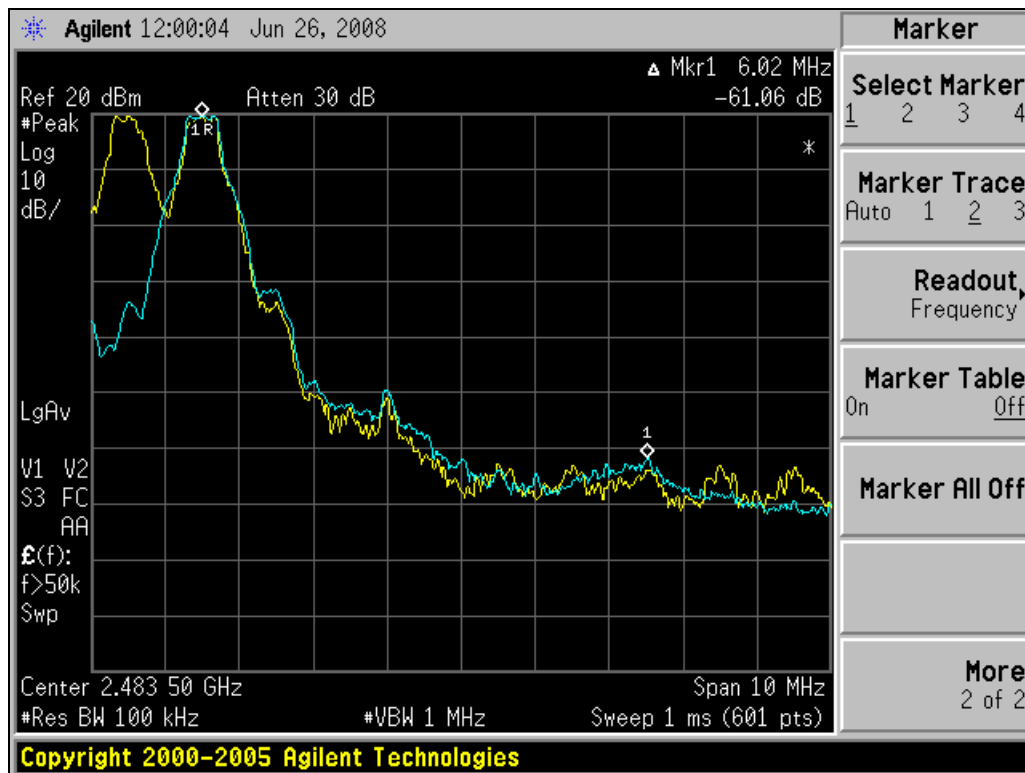
RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901413	Agilent Technologies	E4448A	Spectrum Analyzer (3 Hz – 50 GHz)	US440203416	7/13/08

4.2 Test Results

Plot 4-1: Lower Band Edge (Fixed Frequency 2402 MHz in Blue, Hopping in Yellow)



Plot 4-2: Upper Band Edge (Fixed Frequency 2480 MHz in Blue, Hopping in Yellow)



Test Personnel:

Richard B. McMurray, P.E.
 EMC Test Engineer

Richard B. McMurray
 Signature

June 26, 2008
 Date of Tests

5 Antenna Conducted Spurious Emissions - §15.247(d); RSS-210 §6.6.2(o)

5.1 Antenna Conducted Spurious Emissions Test Procedures

Antenna spurious emissions per FCC 15.247(c) were measured from the EUT antenna port using a 50 ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 100 kHz. The modulated carrier was identified at the following frequencies: 2402 MHz, 2441 MHz and 2480 MHz. The carrier to the 10th harmonic of the carrier frequency was investigated.

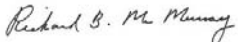
5.2 Antenna Conducted Spurious Emissions Test Results

All spurious emissions were greater than 20 dB (note that we are reporting power as peak) below the limit. Per FCC 15.31(o), no data is being reported.

Table 5-1: Antenna Conducted Spurious Emissions Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901413	Agilent Technologies	E4448A	Spectrum Analyzer (3 Hz – 50 GHz)	US440203416	7/13/08

Test Personnel:

Richard B. McMurray, P.E. EMC Test Engineer	 Signature	June 26, 2008 Date of Test
------------------------------------------------	--------------------------------------------------------------------------------------------------	-------------------------------

6 20 dB Bandwidth – FCC §15.247(a)(1)(ii); IC RSS-210 §5.9.1

6.1 20 dB Bandwidth Test Procedure

The minimum 20 dB bandwidths were measured using a 50 ohm spectrum analyzer. The carrier was adjusted on the analyzer so that it was displayed entirely on the Spectrum Analyzer. The sweep time was set to 1 second and allowed through several sweeps with the max hold function used in peak detector mode. The resolution bandwidth was set to 30 kHz, and the video bandwidth set at 300 kHz. The minimum 20 dB bandwidths were measured using the spectrum analyzer delta marker set 20 dB down from the peak of the carrier. The table below contains the bandwidth measurement results.

Table 6-1: 20 dB Bandwidth Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901413	Agilent Technologies	E4448A	Spectrum Analyzer (3 Hz – 50 GHz)	US440203416	7/13/08

6.2 20 dB Modulated Bandwidth Test Data

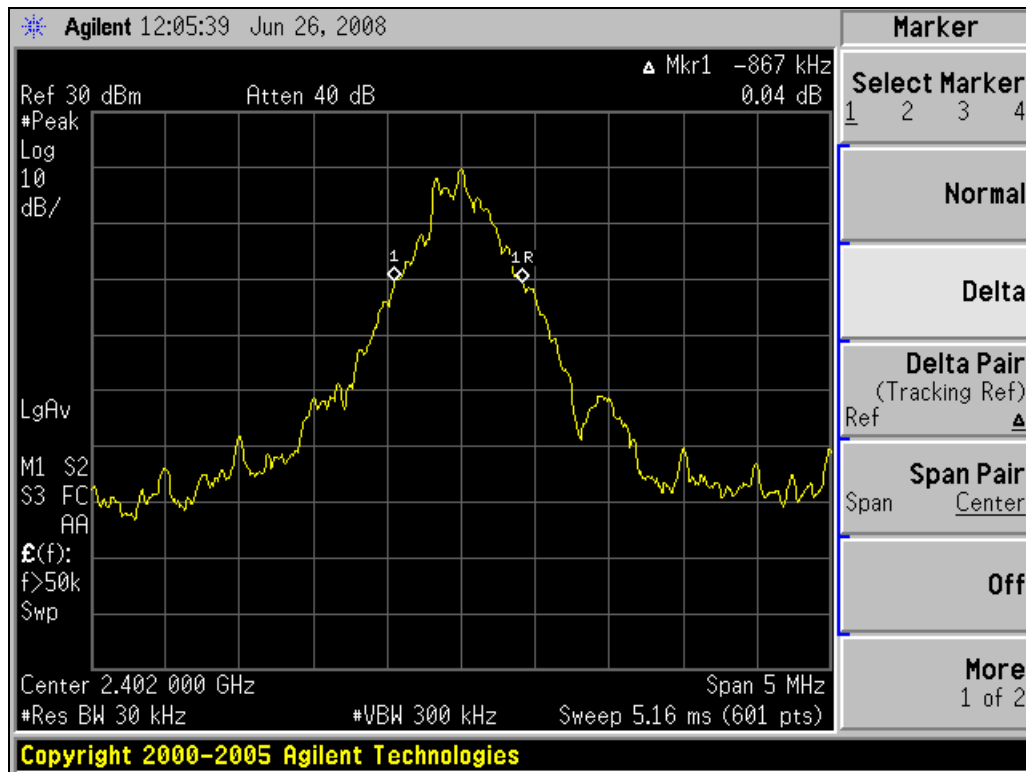
Table 6-2: 20 dB Modulated Bandwidth Test Data

Minimum 20 dB Bandwidth

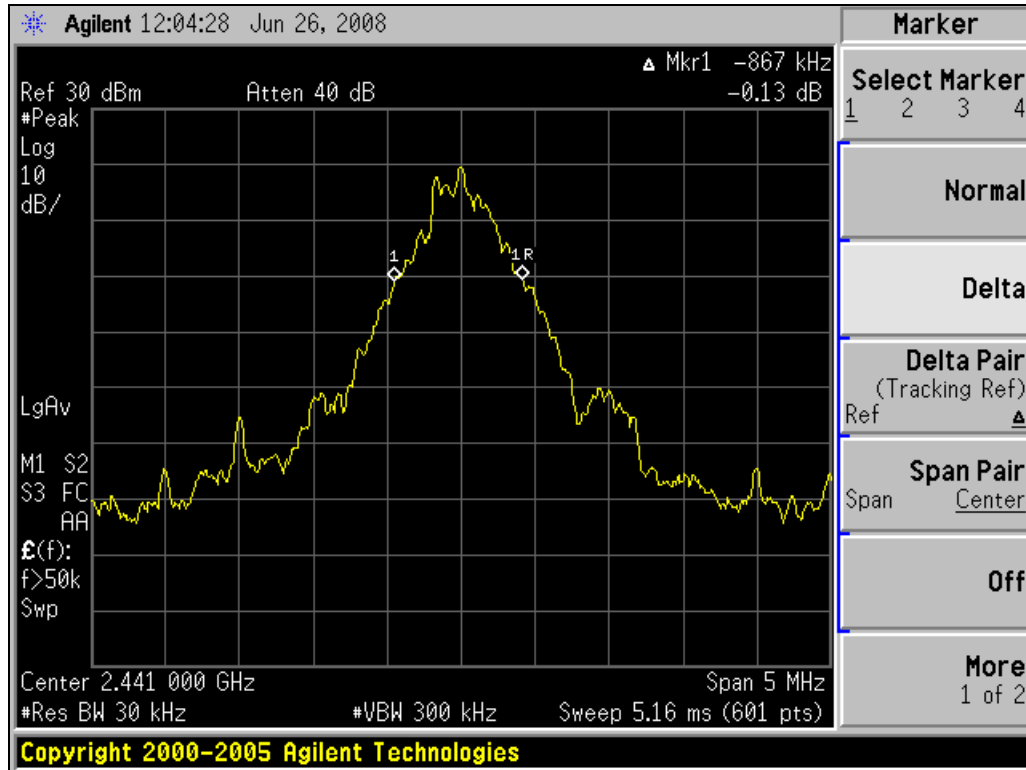
Frequency (MHz)	20 dB Bandwidth (kHz)
2402	867 kHz
2441	867 kHz
2480	842 kHz

6.3 20 dB Bandwidth Plots

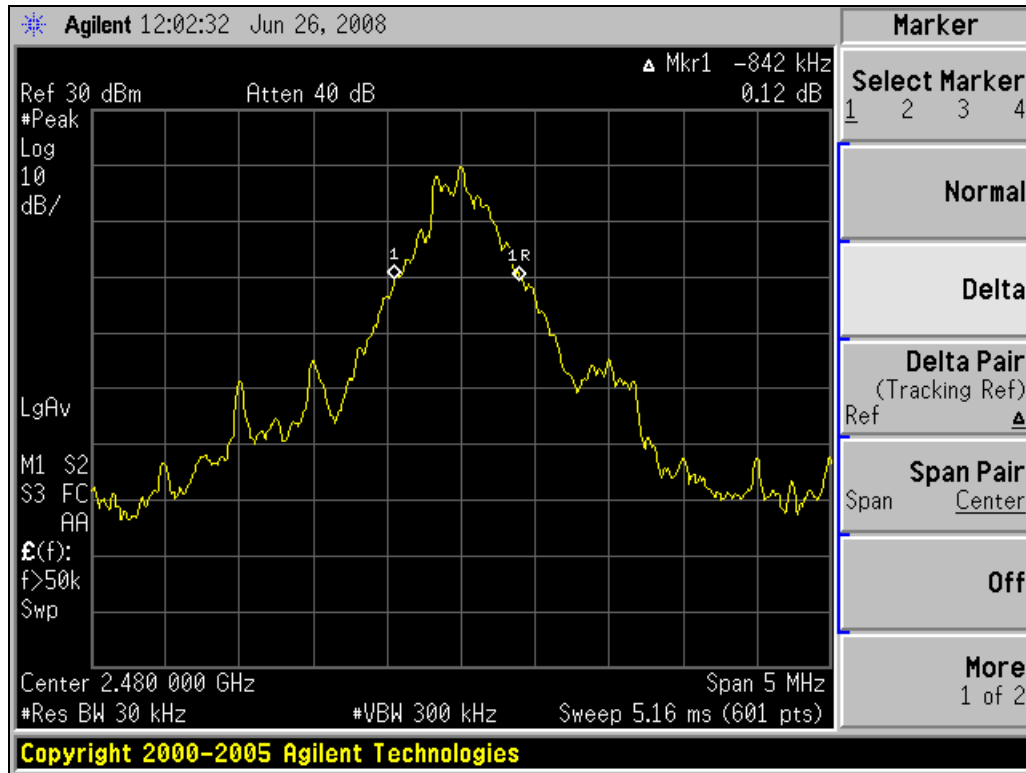
Plot 6-1: 20 dB Bandwidth 2402 MHz



Plot 6-2: 20 dB Bandwidth 2441 MHz



Plot 6-3: 20 dB Bandwidth 2480 MHz



Test Personnel:

Richard B. McMurray, P.E.
 EMC Test Engineer

Richard B. McMurray
 Signature

June 26, 2008
 Date of Test

7 Carrier Frequency Separation - §15.247(a)(1)

7.1 Carrier Frequency Separation Test Procedure

Frequency Hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

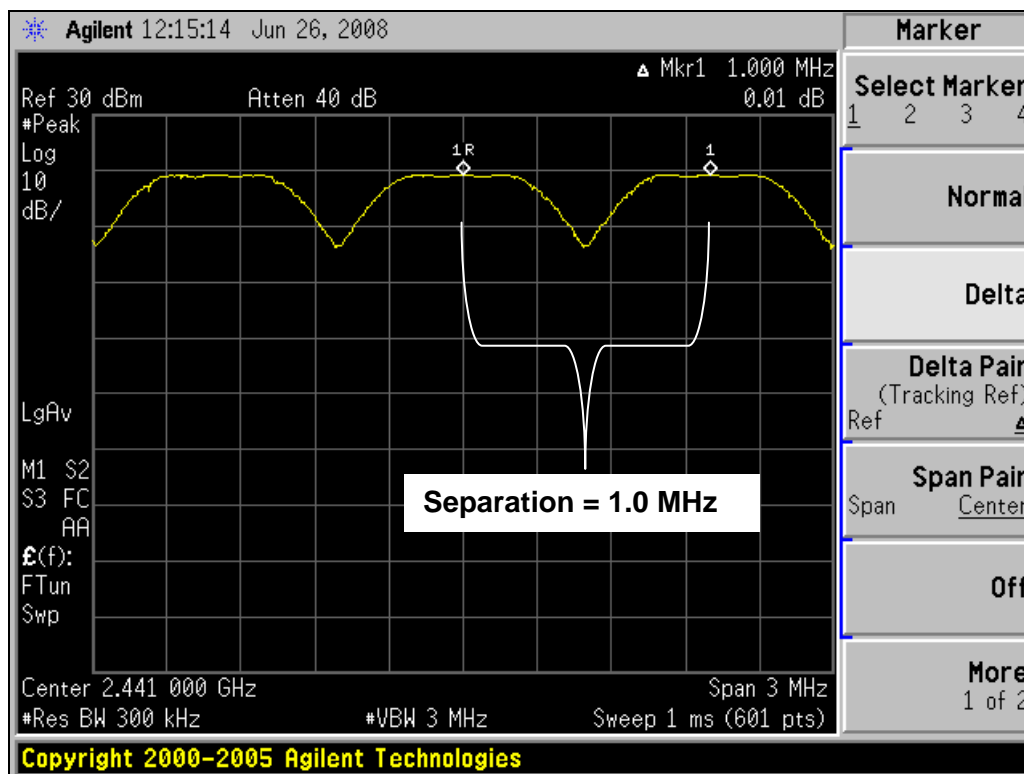
Measured frequency separation = 1.0 MHz

Table 7-1: Carrier Frequency Separation Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901413	Agilent Technologies	E4448A	Spectrum Analyzer (3 Hz – 50 GHz)	US440203416	7/13/08

7.2 Carrier Frequency Separation Test Data

Plot 7-1: Carrier Frequency Separation



Test Personnel:

Richard B. McMurray, P.E.
EMC Test Engineer

Richard B. McMurray
Signature

June 26, 2008
Date of Test

8 Hopping Characteristics – FCC §15.247(a)(1)(iii); IC RSS-210 §6.2.2(o)

8.1 Hopping Characteristics Test Procedure

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

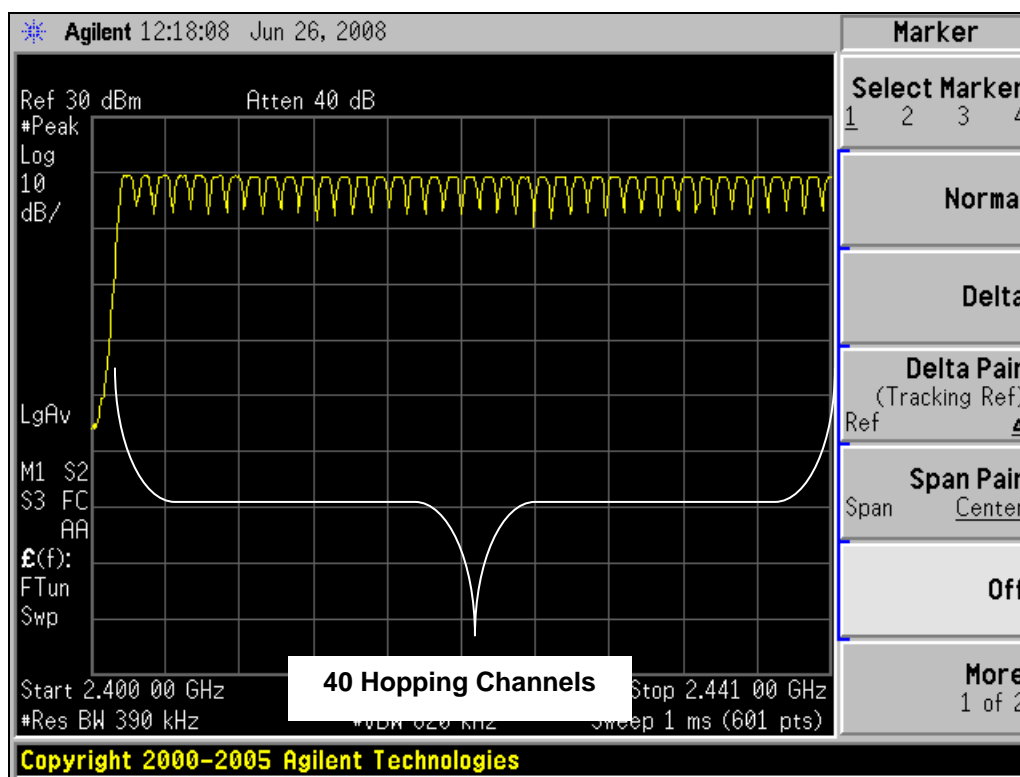
Table 8-1: Hopping Characteristics Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901413	Agilent Technologies	E4448A	Spectrum Analyzer (3 Hz – 50 GHz)	US440203416	7/13/08

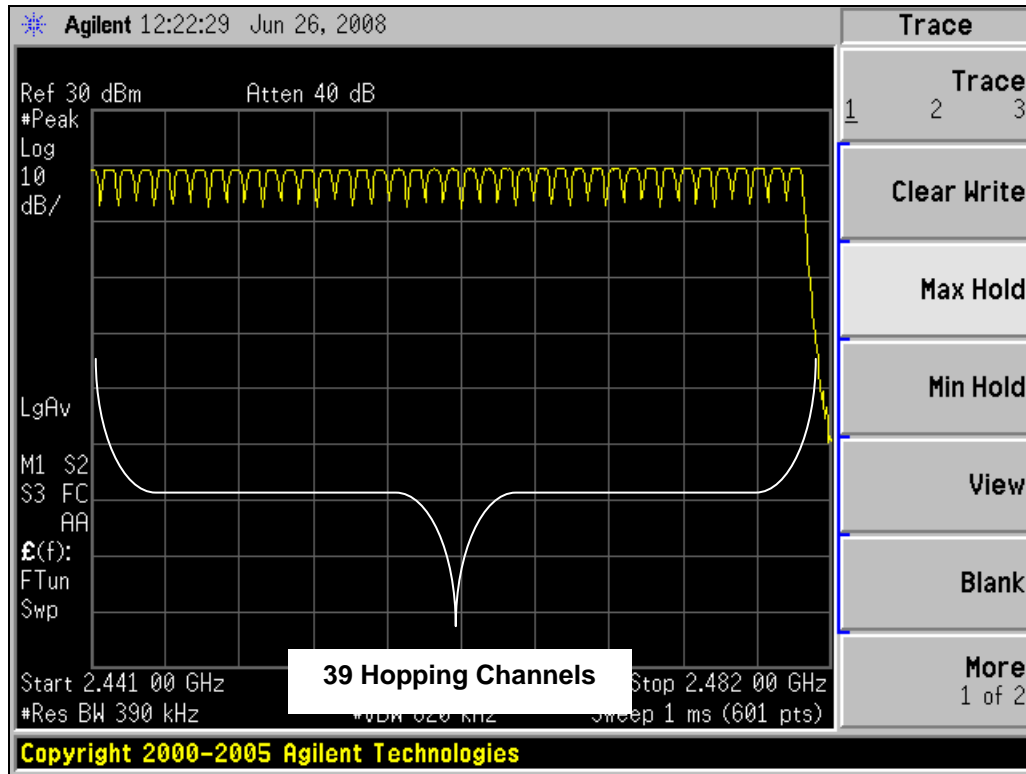
8.2 Number of Hopping Frequencies

Measured number of hopping frequencies = 40 + 39 = 79

Plot 8-1: Number of Hopping Frequencies



Plot 8-2: Number of Hopping Frequencies



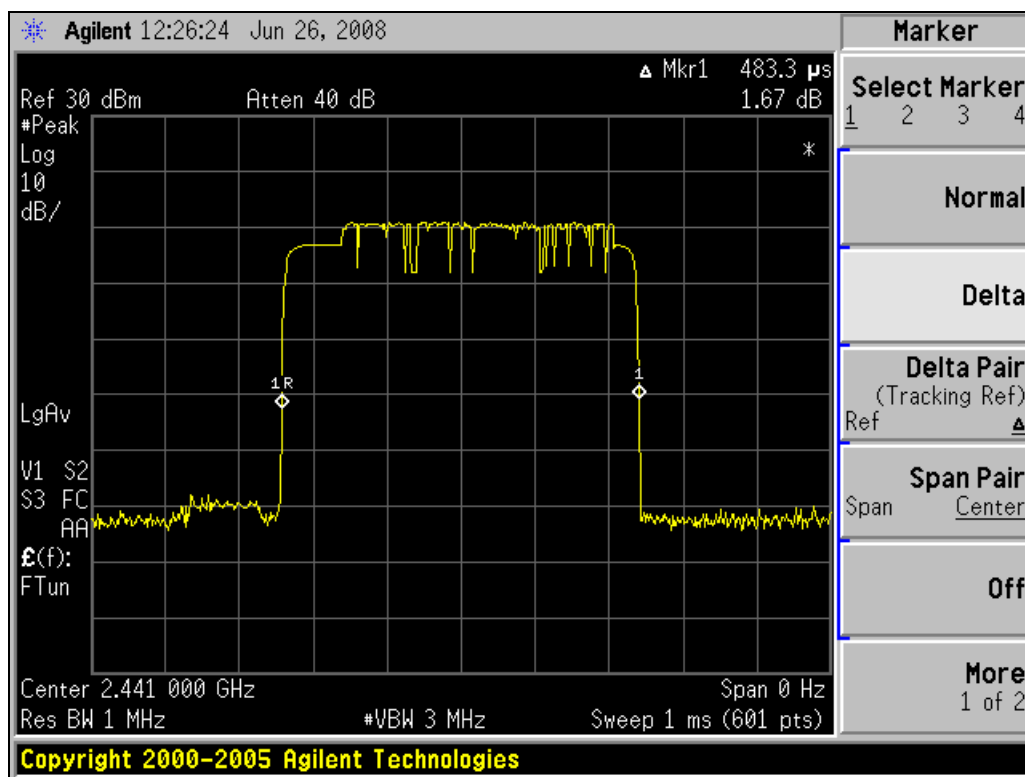
8.3 Average Time of Occupancy

The spectrum analyzer sweep was set to 1 ms, with a zero span and max hold until a pulse from the device under test was captured. A marker delta was used to measure the dwell time for this pulse. The sweep was then set to single sweep for 5 s (it was not possible to get a suitable display with a sweep time of 31.6 s).

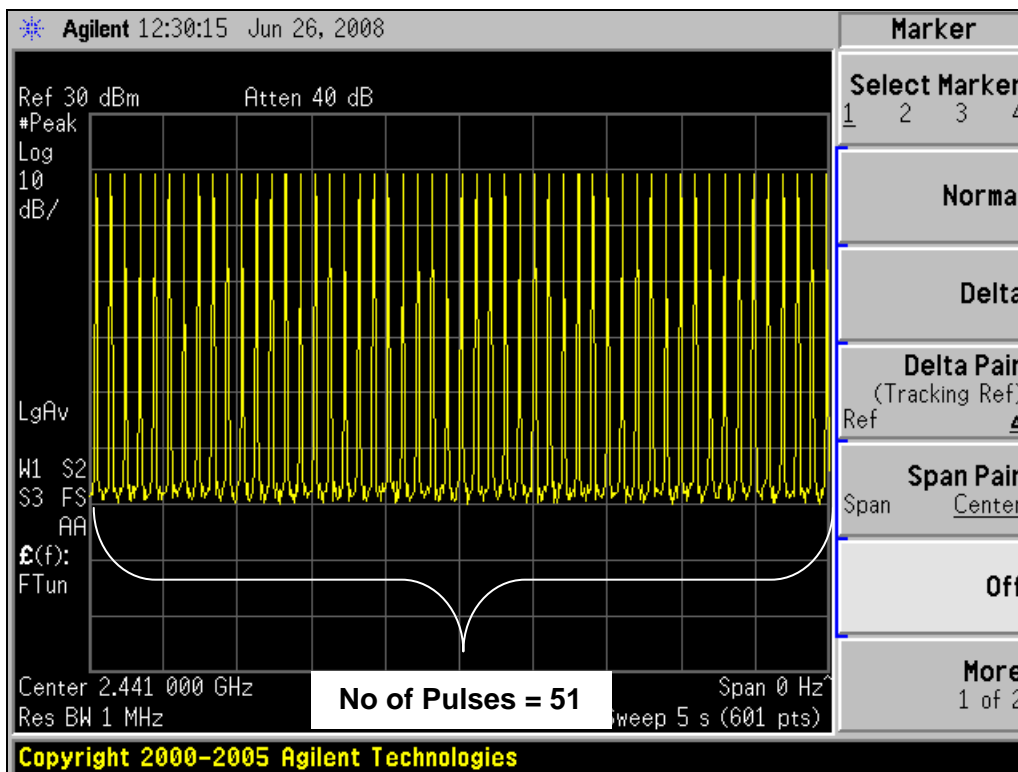
The number of pulses in 5 s was 51. Therefore, the number of pulses in a period of 0.4 seconds X 79 hopping channels (31.6 s) would be 322 pulses.

The average time of occupancy in the above period (31.6 s) is equal to 322 pulses X 483 us = 155 ms, which meets the limit as defined by 15.247(a)(1)(iii) of 0.4 seconds.

Plot 8-3: Time of Occupancy (Dwell Time)



Plot 8-4: Time of Occupancy (Dwell Time 5 Second Sweep)



Number of pulses in 5 seconds: 51. Therefore, the number of pulses in the period of 0.4 s X 79 channels would be 322 pulses.

Test Personnel:

Richard B. McMurray, P.E.
 EMC Test Engineer

Richard B. McMurray
 Signature

June 26, 2008
 Date of Test

9 Conducted Emissions Measurement Limits – FCC §15.207; RSS-210 §9

9.1 Limits of Conducted Emissions Measurement

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

9.2 Conducted Emissions Measurement Test Procedure

The power line conducted emission measurements were performed in a Series 81 type shielded enclosure manufactured by Rayproof. The EUT was assembled on a wooden table 80 centimeters high. Power was fed to the EUT through a 50 ohm / 50 micro Henry Line Impedance Stabilization Network (EUT LISN). The EUT LISN was fed power through an A.C. filter box on the outside of the shielded enclosure. The filter box and EUT LISN housing are bonded to the ground plane of the shielded enclosure. A second LISN, the peripheral LISN, provides isolation for the EUT test peripherals. This peripheral LISN was also fed A.C. power. A metal power outlet box, which is bonded to the ground plane and electrically connected to the peripheral LISN, powers the EUT host peripherals.

The spectrum analyzer was connected to the A.C. line through an isolation transformer. The 50 ohm output of the EUT LISN was connected to the spectrum analyzer input. Conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The analyzer's 6 dB bandwidth was set to 9 kHz. No video filter less than 10 times the resolution bandwidth was used. Average measurements are performed in linear mode using a 10 kHz resolution bandwidth, a 1 Hz video bandwidth, and by increasing the sweep time in order to obtain a calibrated measurement. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in this report.

9.3 Conducted Emissions Line Test Equipment

Table 9-1: Conducted Emissions Line Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
900901	Hewlett Packard	85650A	Quasi-Peak Adapter	3145A01599	4/2/2009
900896	Hewlett Packard	85662A	Display Section	2816A16471	4/2/2009
900897	Hewlett Packard	8567A	Spectrum Analyzer (10 KHz - 1.5 GHz)	2727A00535	4/2/2009
901082	AFJ International	LS16	16A LISN	1.6E+10	2/4/2009

9.4 Conducted Line Emission Test Data

Table 9-2: Conducted Emissions (Neutral Side); Transmitting (2441 MHz)

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail
0.199	Av	46.9	0.2	47.1			53.7	-6.6	Pass
0.199	Qp	61.7	0.2	61.9	63.7	-1.8			Pass
0.227	Av	46.4	0.2	46.6			52.6	-6.0	Pass
0.227	Qp	52.6	0.2	52.8	62.6	-9.8			Pass
0.931	Qp	43.5	0.3	43.8	56.0	-12.2			Pass
5.335	Qp	47.2	1.4	48.6	60.0	-11.4			Pass

Table 9-3: Conducted Emissions (Phase Side); Transmitting (2441 MHz)

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail
0.198	Av	48.3	0.2	48.5			53.7	-5.2	Pass
0.198	Qp	62.3	0.2	62.5	63.7	-1.2			Pass
0.227	Av	46.9	0.2	47.1			52.6	-5.5	Pass
0.227	Qp	53.8	0.2	54.0	62.6	-8.6			Pass
5.649	Av	38.8	1.4	40.2			50.0	-9.8	Pass
5.649	Qp	49.5	1.4	50.9	60.0	-9.1			Pass

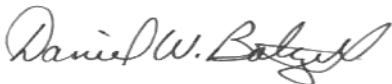
Table 9-4: Conducted Emissions (Neutral Side); Receive Mode

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail
0.199	Av	41.0	0.2	41.2			53.7	-12.5	Pass
0.199	Qp	60.9	0.2	61.1	63.7	-2.6			Pass
0.224	Av	43.7	0.2	43.9			52.4	-8.5	Pass
0.224	Qp	49.9	0.2	50.1	62.7	-12.6			Pass
0.807	Qp	40.5	0.3	40.8	56.0	-15.2			Pass
5.311	Qp	41.2	1.4	42.6	60.0	-17.4			Pass

Table 9-5: Conducted Emissions (Phase Side); Receive Mode

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)	Pass/Fail
0.199	Av	42.5	0.2	42.7			53.7	-11.0	Pass
0.199	Qp	61.0	0.2	61.2	63.7	-2.5			Pass
0.228	Av	43.4	0.2	43.6			52.5	-8.9	Pass
0.228	Qp	52.3	0.2	52.5	62.5	-10.0			Pass
0.324	Av	36.3	0.2	36.5			49.6	-13.1	Pass
5.760	Qp	46.2	1.5	47.7	60.0	-12.3			Pass

Test Personnel:

Daniel W. Baltzell EMC Test Engineer	 Signature	June 19, 2008 Date Of Test
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10 Radiated Emissions - §15.209; RSS-210 §6.2.1

10.1 Limits of Radiated Emissions Measurement

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009-0.490	2400/f (kHz)	300
0.490-1.705	2400/f (kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any circumstances of modulation.

10.2 Radiated Emissions Measurement Test Procedure

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at one and three meter distances. This was done in order to determine its emissions spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. This process was repeated during final radiated emissions measurements on the open-field range, at each frequency, in order to ensure that maximum emission amplitudes were attained.

Final radiated emissions measurements were made on the three/ten-meter, open-field test site. The EUT was placed on a nonconductive turntable 0.8 meters above the ground plane. The spectrum was examined from 9 kHz to the 10th harmonic of the highest fundamental transmitter frequency (24.8 GHz).

At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations. For frequencies between 30 and 1000 MHz, the spectrum analyzer's 6 dB bandwidth was set to 120 kHz, and the analyzer was operated in the CISPR quasi-peak detection mode. For emissions above 1000 MHz, emissions are measured using the average detector function with a minimum resolution bandwidth of 1 MHz. No video filter less than 10 times the resolution bandwidth was used. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

Table 10-1: Radiated Emissions Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901365	MITEQ	JS4-00102600-41-5P	Amplifier, 0.1-26 GHz, 30dB gain	N/A	10/8/08
901413	Agilent Technologies	E4448A	Spectrum Analyzer	US44020346	7/13/08
900878	Rhein Tech Labs	AM3-1197-0005	3 meter antenna mast, polarizing	Outdoor Range 1	Not Required
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	10/5/08
901425	Insulated Wire, Inc.	KPS-1503-2400-KPS	RF cable, 20'	NA	10/5/08
901242	Rhein Tech Labs	WRT-000-0003	Wood rotating table	N/A	Not Required
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	6/14/10
900321	EMCO	3161-03	Horn Antennas (4 - 8,2GHz)	9508-1020	6/14/10
900323	EMCO	3160-7	Horn Antennas (8,2 - 12,4 GHz)	9605-1054	6/14/10
900356	EMCO	3160-08	Horn Antenna (12.4 - 18 GHz)	9607-1044	6/14/10
900325	EMCO	3160-9	Horn Antennas (18 - 26.5 GHz)	9605-1051	6/14/10
900392	Hewlett Packard	1197OK	Harmonic Mixer (18 – 26.5 GHz)	3525A00159	11/27/08
900913	Hewlett Packard	85462A	EMI Receiver RF Section (9 KHz – 6.5 GHz)	3325A00159	11/27/08
901215	Hewlett Packard	8596EM	Spectrum Analyzer (9 KHz - 12.8 GHz)	3826A00144	10/17/08

10.3 Radiated Emissions Test Results

10.3.1 Radiated Emissions Harmonics/Spurious

Table 10-2: Radiated Emissions Harmonics/Spurious TX Frequency 2402 MHz

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Average Analyzer Reading (dBuV) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
2402.0	108.0	75.7	-2.8	fundamental		
4804.0	57.2	38.0	4.8	42.8	54.0	-11.2
7206.0	59.8	38.9	6.7	45.6	85.2	-39.6
9608.0	45.8	32.4	13.9	46.3	85.2	-38.9
12010.0	40.6	30.3	14.8	45.1	54.0	-8.9

Table 10-3: Radiated Emissions Harmonics/Spurious TX Frequency 2441 MHz

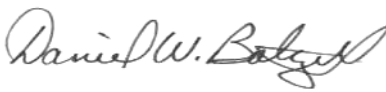
Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Average Analyzer Reading (dBuV) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
2441.0	108.2	77.2	-2.9	fundamental		
4882.0	63.9	41.1	4.8	45.9	54.0	-8.1
7323.0	60.5	39.8	6.5	46.3	54.0	-7.7
9764.0	48.0	32.4	13.7	46.1	85.3	-39.2
12205.0	44.8	30.8	14.7	45.5	54.0	-8.5

Table 10-4: Radiated Emissions Harmonics/Spurious TX Frequency 2480 MHz

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Average Analyzer Reading (dBuV) (1 MHz RBW/ 10 Hz VBW)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
2480.0	105.1	73.9	-2.7	fundamental		
4960.0	58.3	38.8	5.1	43.9	54.0	-10.1
7440.0	60.4	39.4	7.3	46.7	54.0	-7.3
9920.0	49.7	34.6	14.0	48.6	82.4	-33.8
12400.0	43.3	30.0	18.5	48.5	54.0	-5.5

Test Personnel:

Daniel W. Baltzell
EMC Test Engineer



Signature

July 2, 2008
Date Of Test

Rhein Tech Laboratories, Inc.
360 Herndon Parkway
Suite 1400
Herndon, VA 20170
<http://www.rheintech.com>

Client: Power Monitors, Inc.
Model: REVOLUTION
Standards: FCC 15.247 & RSS-210
IDs: RO9REVOL0608/4806A-REVOL0608
Report #: 2008116

11 Conclusion

The data in this measurement report shows that the EUT as tested, Power Monitors, Inc. Model REVOLUTION, FCC ID: RO9REVOL0608, IC: 4806A-REVOL0608, complies with all the applicable requirements of Parts 2 and 15 of the FCC Rules and Regulations, and Industry Canada RSS-210.