Excellence in Compliance Testing

Certification Test Report

FCC ID: DXXWT0707-00000
IC: 3547A-WT0707

FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210

ACS Report Number: 08-0308 - 15C

Manufacturer: Datascope Corp
Model(s): 0998-00-0707-01, 0998-00-0707-02

Test Begin Date: August 21, 2008
Test End Date: September 3, 2008

Report Issue Date: April 24, 2009

FOR THE SCOPE OF ACCREDITATION UNDER LAB Code 200612-0

This report is not be used to claim certification, approval, or endorsement by NVLAP, NIST or any government agency.

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1.0 GENERAL

1.1 Purpose

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations and Industry Canada's Radio Standards Specification RSS-210.

1.2 Product Description

1.2.1 General

The EUT (Equipment Under Test) is a portable, wireless patient telemetry unit that can operate for an extended period of time on a disposable battery source. It can measure 3 or 5 Lead ECG and can also report on SpO2 data when the optional SpO2 module is attached. The EUT provides basic remote ECG monitoring of a patient, which includes heart rate, ST, PVC, and arrhythmia. It utilizes the 2.4 GHz wireless band (802.11 b/g) which communicates directly to a central station via a wireless Access Point network installed throughout the specified coverage area.

Manufacturer/Applicant Information:
Datascope Patient Monitoring, a Mindray Global Company
800 MacArthur Blvd
Mahwah NJ 07430

Serial Number(s) of EUT:
52223691

Test Sample Condition:
The test samples were provided in good working order with no visible defects.

1.2.2 Intended Use

The EUT is designed as a potable wireless patient monitor.

1.3 Test Methodology and Considerations

For radiated emissions the EUT was evaluated in multiple orientations. All modes of operation where evaluated which included all available data rates for 802.11b/g. The worst case data from all orientations and mode of operation are presented in this report.

EUT mode of operation determined for final testing:
802.11b – 1Mbps Data Rate
802.11g – 6Mbps Data Rate

2.0 TEST FACILITIES

2.1 Location

The radiated and conducted emissions test sites are located at the following address:

Advanced Compliance Solutions
5015 B.U. Bowman Drive
Buford, GA 30518
Phone: (770) 831-8048
Fax: (770) 831-8598

2.2 Laboratory Accreditations/Recognitions/Certifications

The Semi-Anechoic Chamber Test Site, Open Area Test Site (OATS) and Conducted Emissions Site have been fully described, submitted to, and accepted by the FCC, Industry Canada and the Japanese Voluntary Control Council for Interference by information technology equipment. In addition, ACS is compliant to ISO/IEC 17025 as certified by the National Institute of Standards and Technology under their National Voluntary Laboratory Accreditation Program. The following certification numbers have been issued in recognition of these accreditations and certifications:

FCC Registration Number: 894540
Industry Canada Lab Code: IC 4175
VCCI Member Number: 1831

- VCCI OATS Registration Number R-1526
- VCCI Conducted Emissions Site Registration Number: C-1608

NVLAP Lab Code: 200612-0

2.3 Radiated Emissions Test Site Description

2.3.1 Semi-Anechoic Chamber Test Site

The Semi-Anechoic Chamber Test Site consists of a 20' x 30' x 18' shielded enclosure. The chamber is lined with Toyo Ferrite Grid Absorber, model number FFG-1000. The ferrite tile grid is 101 x 101 x 19mm thick and weighs approximately 550 grams. These tiles are mounted on steel panels and installed directly on the inner walls of the chamber.

The turntable is 150cm in diameter and is located 160cm from the back wall of the chamber. The chamber is grounded via 1 - 8' copper ground rod, installed at the center of the back wall, it is bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is all steel, flush mounted table installed in an all steel frame. The table is remotely operated from inside the control room located 25' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Behind the turntable is a 3' x 6' x 4' deep shielded pit used for support equipment if necessary. The pit is equipped with 1 - 4" PVC chases from the turntable to the pit that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit.

A diagram of the Semi-Anechoic Chamber Test Site is shown in Figure 2.3-1 below:

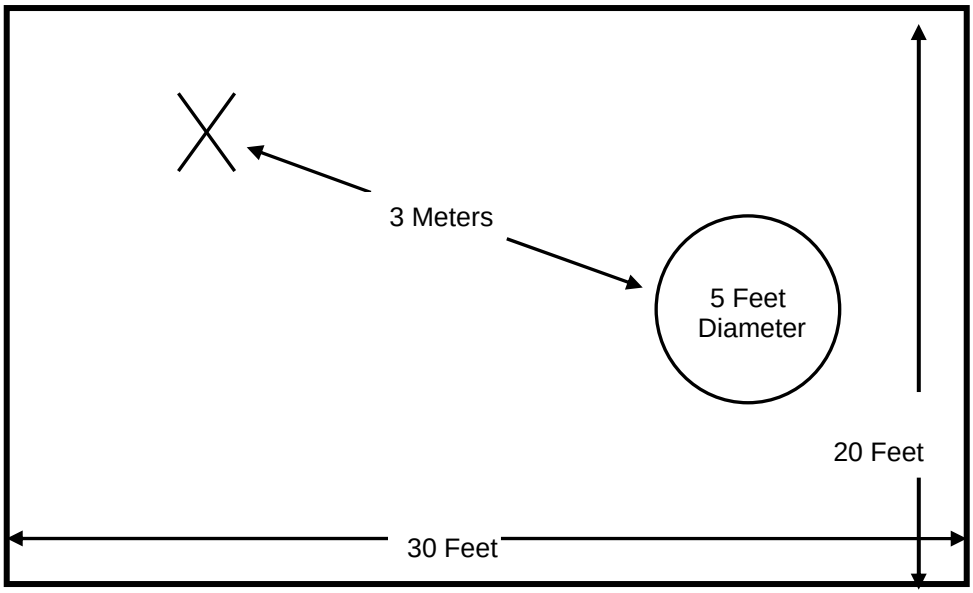

Figure 2.3-1: Semi-Anechoic Chamber Test Site

2.3.2 Open Area Tests Site (OATS)

The open area test site consists of a 40' x 66' concrete pad covered with a perforated electro-plated galvanized sheet metal. The perforations in the sheet metal are 1/8" holes that are staggered every 3/16". The individual sheets are placed to overlap each other by 1/4" and are riveted together to provide a continuous seam. Rivets are spaced every 3" in a 3 x 20 meter perimeter around the antenna mast and EUT area. Rivets in the remaining area are spaced as necessary to properly secure the ground plane and maintain the electrical continuity.

The entire ground plane extends 12' beyond the turntable edge and 16' beyond the antenna mast when set to a 10 meter measurement distance. The ground plane is grounded via 4 - 8' copper ground rods, each installed at a corner of the ground plane and bound to the ground plane using 3/4" stainless steel braided cable.

The turntable is an all aluminum 10' flush mounted table installed in an all aluminum frame. The table is remotely operated from inside the control room located 40' from the range. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.

Adjacent to the turntable is a 7' x 7' square and 4' deep concrete pit used for support equipment if necessary. The pit is equipped with 5 - 4" PVC chases from the pit to the control room that allow for cabling to the EUT if necessary. The underside of the turntable can be accessed from the pit so cables can be supplied to the EUT from the pit. The pit is covered with 2 sheets of 1/4" diamond style re-enforced steel sheets. The sheets are painted to match the perforated steel ground plane; however the underside edges have been masked off to maintain the electrical continuity of the ground plane. All reflecting objects are located outside of the ellipse defined in ANSI C63.4.

A diagram of the Open Area Test Site is shown in Figure 2.3-2 below:

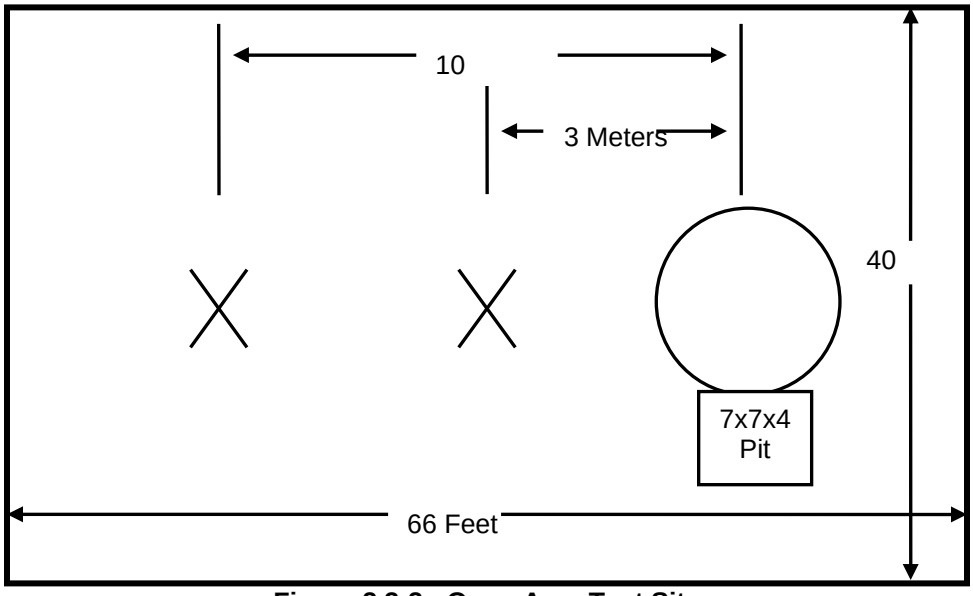

Figure 2.3-2: Open Area Test Site

2.4 Conducted Emissions Test Site Description

The AC mains conducted EMI site is located in the main EMC lab. It consists of an 8' x 8' solid aluminum horizontal group reference plane (GRP) bonded every 3" to an 8' X 8' vertical ground plane.

The site is of sufficient size to test table top and floor standing equipment in accordance with section 6.1.4 of ANSI C63.4.

A diagram of the room is shown below in figure 4.1.3-1:

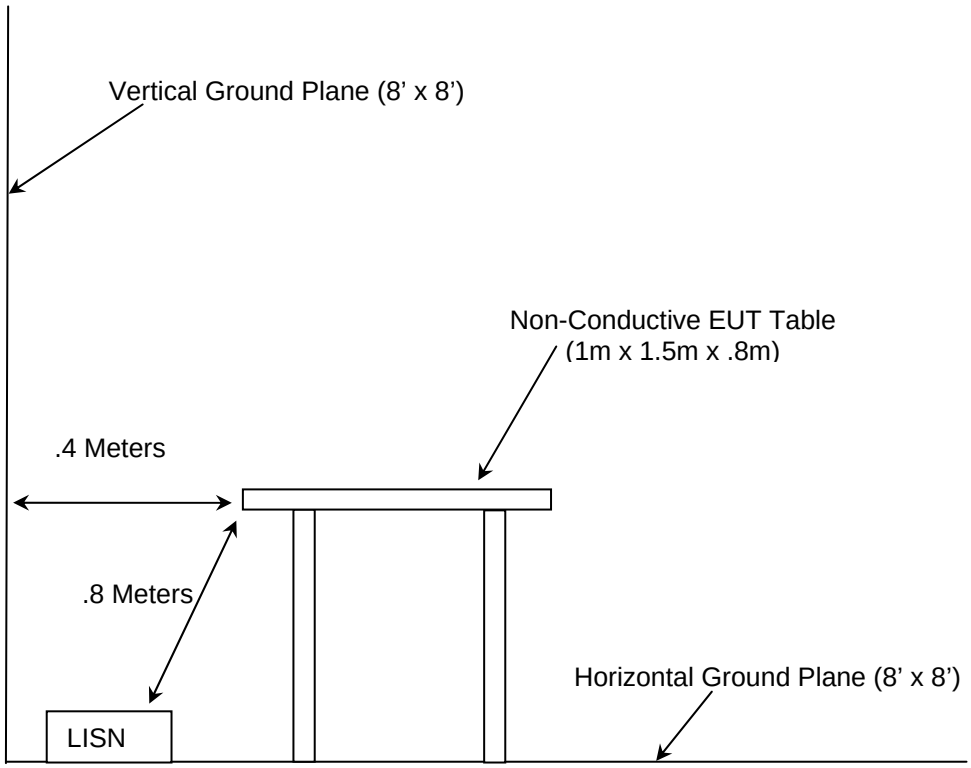

Figure 2.4-1: AC Mains Conducted EMI Site

3.0 APPLICABLE STANDARD REFERENCES

The following standards were used:

- ANSI C63.4-2003: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz
- US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2008
- US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2008
- FCC OET Bulletin 65 Appendix C - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, 2001
- FCC KDB Publication No. 558074 - Guidance on Measurements for Digital Transmission Systems (47 CFR 15.247), March 2005
- Industry Canada Radio Standards Specification: RSS-210 - Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment, Issue 7 June 2007
- Industry Canada Radio Standards Specification: RSS-GEN – General Requirements and Information for the Certification of Radiocommunication Equipment, Issue2, June 2007.

4.0 LIST OF TEST EQUIPMENT

The calibration interval of test equipment is annually or the manufacturer's recommendations. Where the calibration interval deviates from the annual cycle based on the instrument manufacturer's recommendations, it shall be stated below.

Table 4-1: Test Equipment

Equipment Calibration Information					
ACS#	**Mfg.**	**Eq. type**	**Model**	**S/N**	**Cal. Due**
3	Rohde & Schwarz	ESMI-Display	839379/011	Spectrum Analyzer	10/26/08
4	Rohde & Schwarz	ESMI-Receiver	833827/003	Spectrum Analyzer	10/26/08
282	Microwave Circuits	H2G020G4	74541	Filter	02/25/09 (See Note1)
22	Aglient	8449B	3008A00526	Pre-Amplifier	10/25/08
30	Spectrum Technologies	DRH-0118	970102	Antenna	05/07/09
291	Florida RF Cables	Cables	SMRE-200W-12.0-SMRE	None	11/21/08 (See Note1)
292	Florida RF Cables	Cables	SMR-290AW-480.0-SMR	None	11/21/08 (See Note1)
422	Florida RF	Cables	SMS-200AW-72.0-SMR	805	02/25/09 (See Note1)
73	TEC	PA 102	44927	Pre-Amplifier	12/19/08
167	ACS	Cables	Cable Set	167	01/04/09
25	Chase	Antennas	CBL6111	1043	08/22/09
283	Rohde & Schwarz	FSP40	1000033	Spectrum Analyzer	11/09/08
340	Aeroflex/Weinschel	56-10	7136	Attenuator	10/24/08 (See Note2)
339	Aeroflex/Weinschel	44-10	93459	Attenuator	7/8/09 (See Note2)
267	Agilent	N1911A	MY45100129	Power Meter	10/15/08
268	Agilent	N1921A	MY45240184	Meter Sensor	10/15/08

Note1: Items characterized on an annual cycle. The date shown indicates the next characterization due date.
Note2: Items verified on an annual cycle. The date shown indicates the next verification due date.

5.0 SUPPORT EQUIPMENT

Table 5-1: Support Equipment

Item #	Manufacturer	Equipment Type	Model Number	Serial Number
1	Datascope Patient Monitoring, a Mindray Global Company	EUT	0998-00-0707-01	52223691

6.0 EQUIPMENT UNDER TEST SETUP BLOCK DIAGRAM

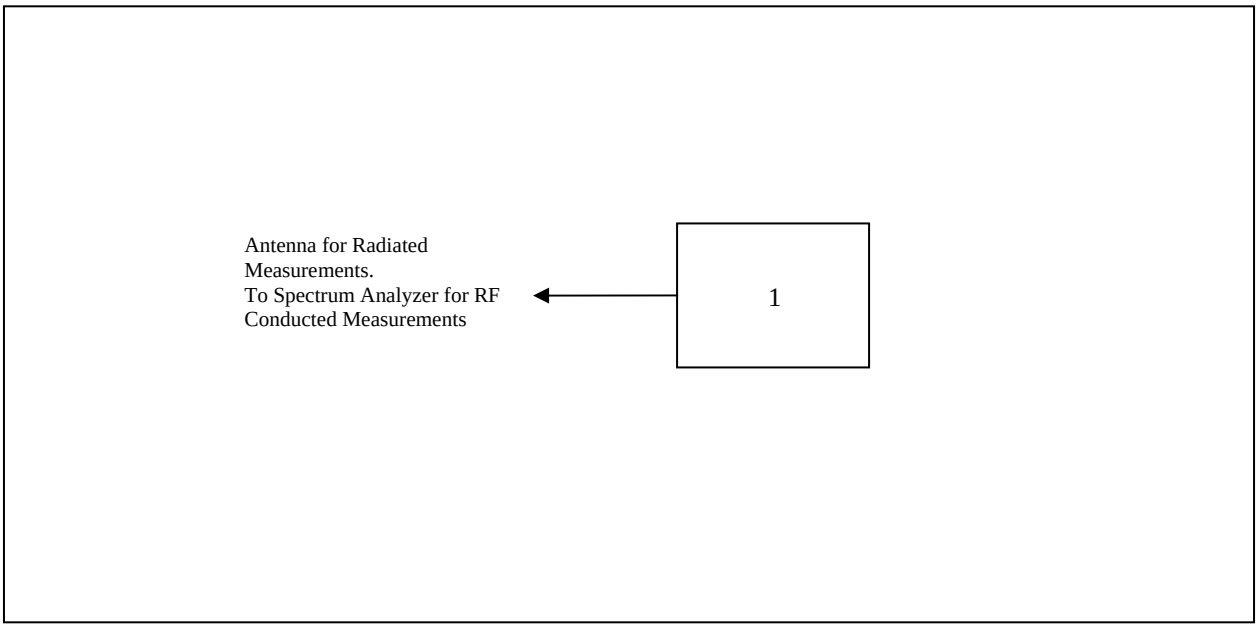

Figure 6-1: EUT Test Setup

*See Test Setup photographs for additional detail.

7.0 SUMMARY OF TESTS

Along with the tabular data shown below, plots were taken of all signals deemed important enough to document.

7.1 Antenna Requirement – FCC: Section 15.203

The radio PCB includes a connector for an external cabled antenna (Wieson P/N G9851B002-022). This is a ¼ wavelength dipole antenna with an integrated GND reference. Maximum specified gain is 2.7dBi. The antenna and antenna connector are not accessible to the user and are integrated internally to the device enclosure.

7.2 Power Line Conducted Emissions – FCC: Section 15.207 IC: RSS-Gen 7.2.2

Device is battery operated and therefore Conducted Emissions are not applicable.

7.3 Radiated Emissions – FCC: Section 15.109(Unintentional Radiation) IC: RSS-210 2.6

7.3.1 Test Methodology

Radiated emissions tests were performed over the frequency range of 30MHz to 12.5 GHz. Measurements of the radiated field strength were made at a distance of 3m from the boundary of the equipment under test (EUT) and the receiving antenna. The antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. Radiated measurements above 30MHz and below 1GHz were made with the Spectrum Analyzer's resolution bandwidth set to 120 KHz using a Quasi-peak detector. Above 1GHz, peak and average measurements are taken with the RBW and VBW were set to 1MHz and 3MHz respectively.

7.3.2 Test Results

Results of the test are given in Table 7.3.2-1 below:

Table 7.3.2-1: Radiated Emissions Tabulated Data

Frequency (MHz)	Level (dBuV)		Antenna Polarity (H/V)	Correction Factors (dB)	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg			pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
30	20.00	20.20	H	-7.30	---------	12.90	--------	40.0	---------	27.10
97.9	30.60	22.32	V	-13.99	---------	8.33	--------	43.5	---------	35.17
128.08	20.30	18.26	H	-13.94	---------	4.32	--------	43.5	---------	39.18
467.58	21.70	20.72	H	-7.15	---------	13.57	--------	46.0	---------	32.43
591.52	23.40	21.33	V	-3.22	---------	18.11	--------	46.0	---------	27.89
934.26	22.60	20.17	H	1.67	---------	21.84	--------	46.0	---------	24.16

* Note: All emissions above 934.26 MHz were attenuated below the permissible limit.

7.4 6dB Bandwidth – FCC: Section 15.247(a)(2) IC: RSS-210 A8.2(a)

7.4.1 Test Methodology

The 6dB bandwidth was measured in accordance with the FCC KDB Publication No. 558074 "Guidance on Measurements for Digital Transmission Systems (47 CFR 15.247)". The RBW of the spectrum analyzer was set to 100 kHz and VBW 300 kHz. Span was set large enough to capture the entire emissions and >> RBW.

7.4.2 Test Results

Results are shown below in tables 7.4.2-1 to 7.4.2-2 and figures 7.4.2-1 to 7.4.2-6:

Table 7.4.2-1: 6dB Bandwidth 802.11b

Frequency [MHz]	Bandwidth [MHz]
2412	10.11
2437	10.28
2462	9.80

Table 7.4.2-2: 6dB Bandwidth 802.11g

Frequency [MHz]	Bandwidth [MHz]
2412	16.6
2437	16.56
2462	16.6

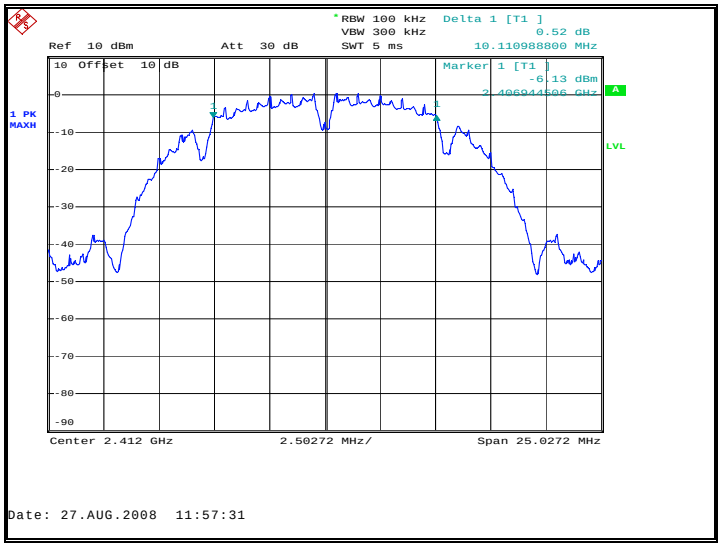

Figure 7.4.2-1: 6dB Bandwidth Plot – Low Channel 802.11b

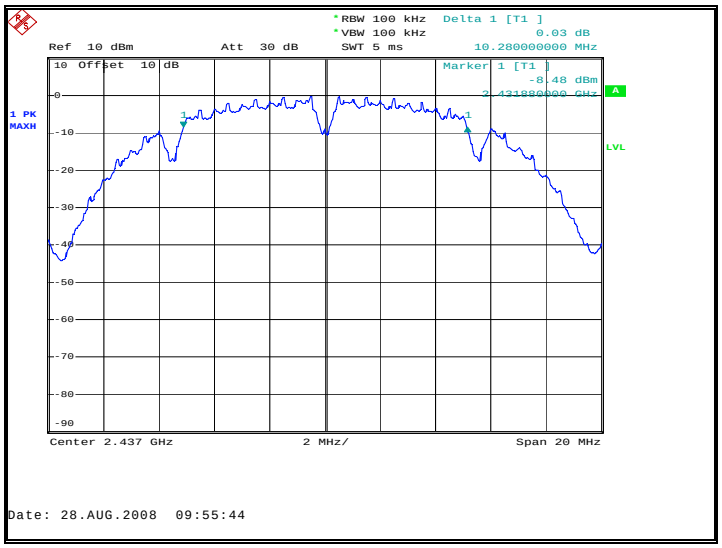

Figure 7.4.2-2: 6dB Bandwidth Plot – Mid Channel 802.11b

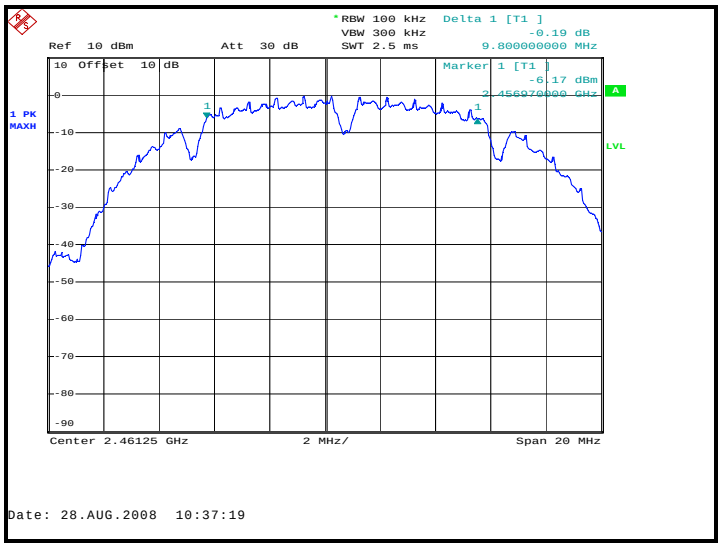

Figure 7.4.2-3: 6dB Bandwidth Plot – High Channel 802.11b

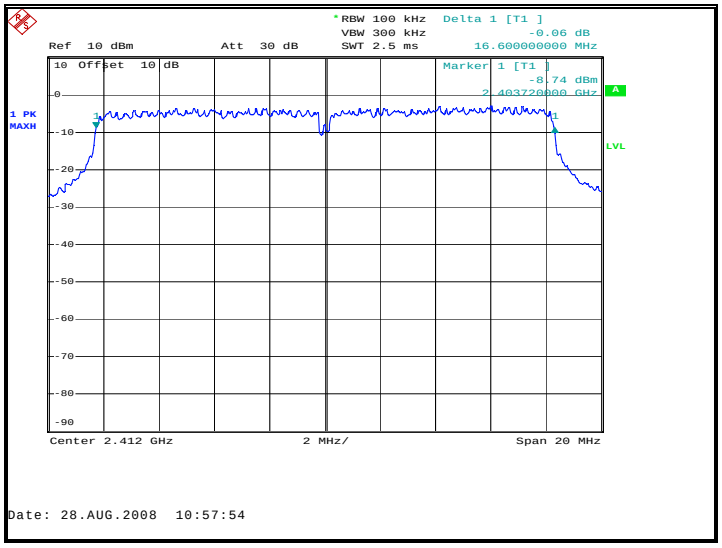

Figure 7.4.2-4: 6dB Bandwidth Plot – Low Channel 802.11g

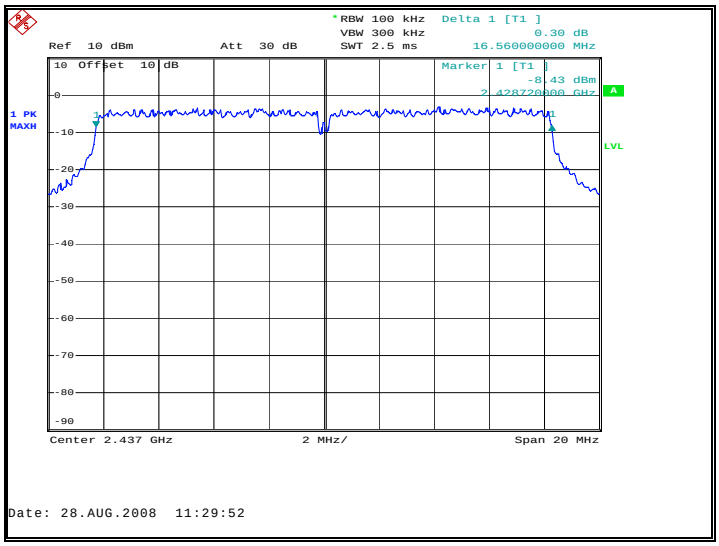

Figure 7.4.2-5: 6dB Bandwidth Plot – Mid Channel 802.11g

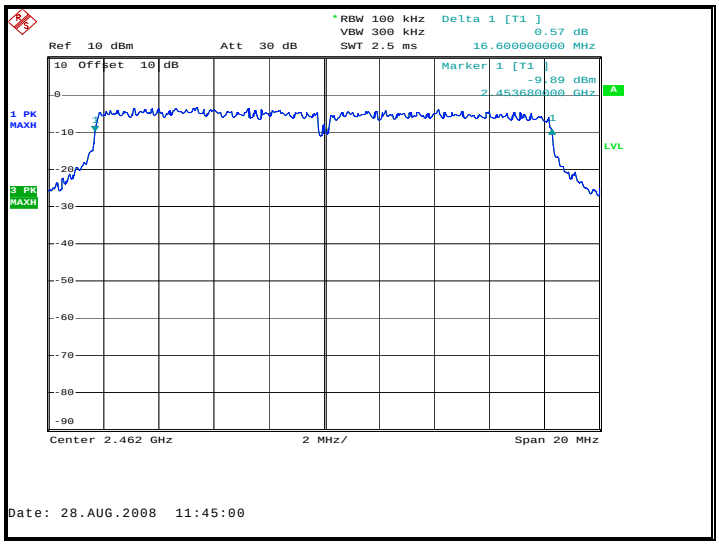

Figure 7.4.2-6: 6dB Bandwidth Plot – High Channel 802.11g

7.5 Peak Output Power Requirement - FCC Section 15.247(b)(3) IC: RSS-210 A8.4(4)

7.5.1 Test Methodology

The Peak Output Power was measured in accordance with the FCC KDB Publication No. 558074 "Guidance on Measurements for Digital Transmission Systems (47 CFR 15.247)" Power Option 1. The RF output of the equipment under test was directly connected to the input of the wideband power meter.

Data was collected with the EUT operating at maximum power. All modes of operation and data rates were evaluated. Worst case data presented in section 7.5.2 below.

7.5.2 Test Results

Results are shown below in Tables 7.5.2-1 to 7.5.2-2

Table 7.5.2-1: Peak Output Power 802.11b

Frequency (MHz)	Output Power (dBm)
2412	14.0
2437	14.1
2462	13.37

Table 7.5.2-2: Peak Output Power 802.11g

Frequency (MHz)	Output Power (dBm)
2412	19.4
2437	18.15
2462	17.03

7.6 Band-Edge Compliance and Spurious Emissions - FCC Section 15.247(d) IC: RSS-210 2.6, A8.5

7.6.1 Band-Edge Compliance of RF Emissions

7.6.1.1 Test Methodology

The EUT was investigated at the low and high channels of operation to determine band-edge compliance. All antenna types were evaluated. Because the upper band-edge coincides with a restricted band, band-edge compliance for the upper band-edge was determined using the radiated mark-delta method as outlined in FCC DA 00-705. The radiated field strength of the fundamental emission was first determined and then the mark-delta method was used to determine the field strength of the band-edge emissions.

The lower band-edge compliance was determined using the marker-delta method in which the radio frequency power that is produced by the EUT is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

7.6.1.2 Test Results

Band-edge compliance is displayed in Table 7.6.1.2-1 to 7.6.1.2-2 and Figure 7.6.1.2-1 – 7.6.1.2-4.

Table 7.6.1.2-1: Upper Band-edge Marker Delta Method 802.11b

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Fundamental Field Strength (dBuV/m)		Delta-Marker (dB)	Band-edge Field Strength (dBuV/m)		Margin to Limit (dBuV/m) 74	54
	pk	avg	(H/V)	(dB)	pk	avg		pk	avg	pk	avg
Fundamental Frequency											
2462	103.49	98.36	V	-0.80	102.69	72.91	51.28	51.41	21.63	22.59	32.37

Table 7.6.1.2-2: Upper Band-edge Marker Delta Method 802.11g

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Fundamental Field Strength (dBuV/m)		Delta-Marker (dB)	Band-edge Field Strength (dBuV/m)		Margin to Limit (dBuV/m) 74	54
	pk	avg	(H/V)	(dB)	pk	avg		pk	avg	pk	avg
Fundamental Frequency											
2462	103.00	92.83	V	-0.80	102.20	67.38	39.4	62.80	27.98	11.20	26.02

Figure 7.6.1.2-1: Upper Band-edge (Radiated) 802.11b

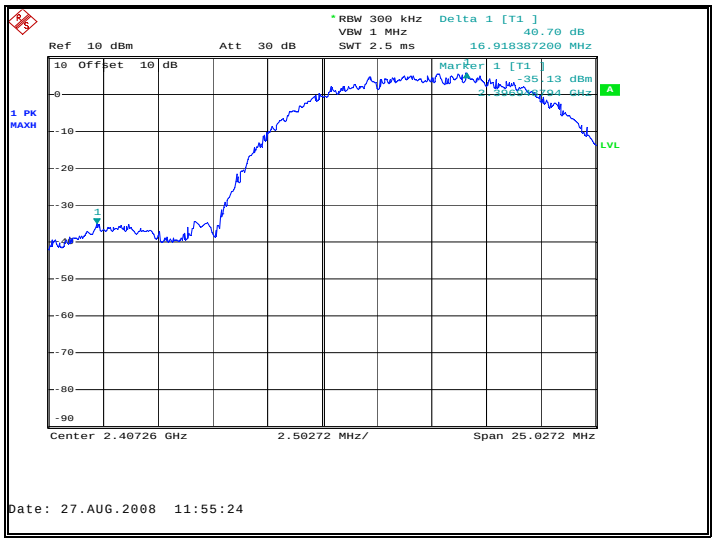

Figure 7.6.1.2-2: Lower Band-edge (Conducted) 802.11b

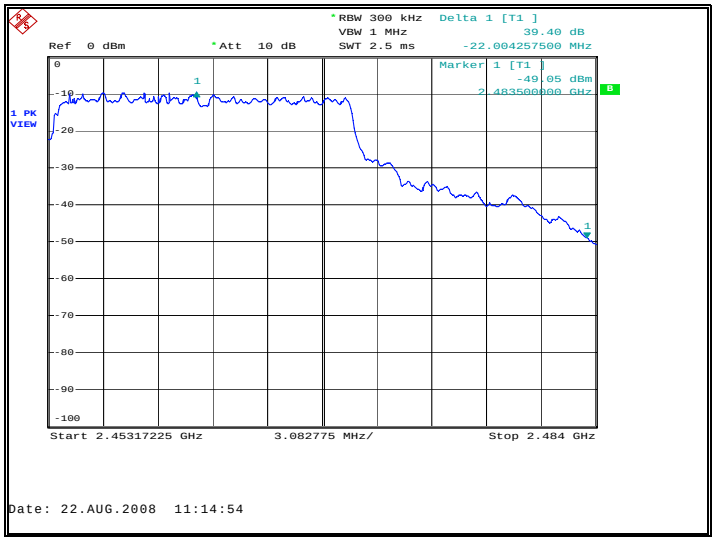

Figure 7.6.1.2-3: Upper Band-edge (Radiated) 802.11g

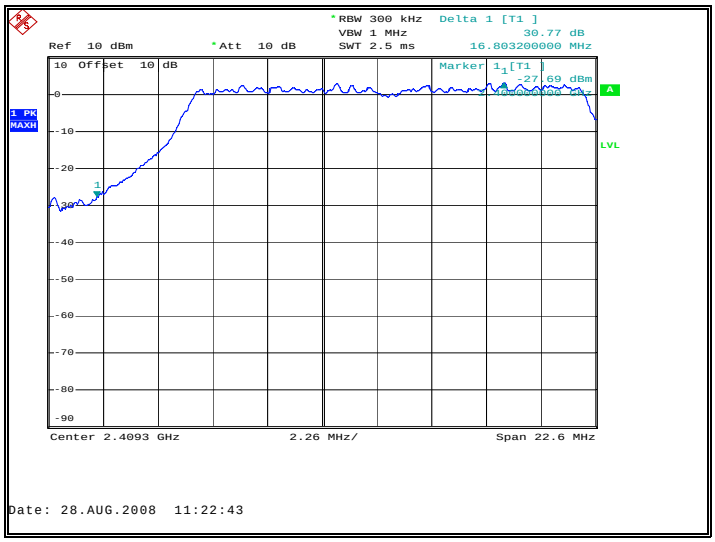

Figure 7.6.1.2-4: Lower Band-edge (Conducted) 802.11g

7.6.2 RF Conducted Spurious Emissions

The RF Conducted Spurious Emissions were measured in accordance with the FCC KDB Publication No. 558074 "Guidance on Measurements for Digital Transmission Systems (47 CFR 15.247)". The RF output of the equipment under test was directly connected to the input of the Spectrum Analyzer. The EUT was investigated for conducted spurious emissions from 30MHz to 25GHz, 10 times the highest fundamental frequency. For each measurement, the spectrum analyzer's RBW was set to 100 kHz and the VBW was set to 300 kHz. The peak detector and Max Hold function of the analyzer were utilized.

7.6.2.2 Test Results

In a 100 kHz bandwidth, the radio frequency power that was produced by the EUT emissions is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. RF Conducted Emissions are displayed in Figures 7.6.2.2-1 through 7.6.2.2-18.

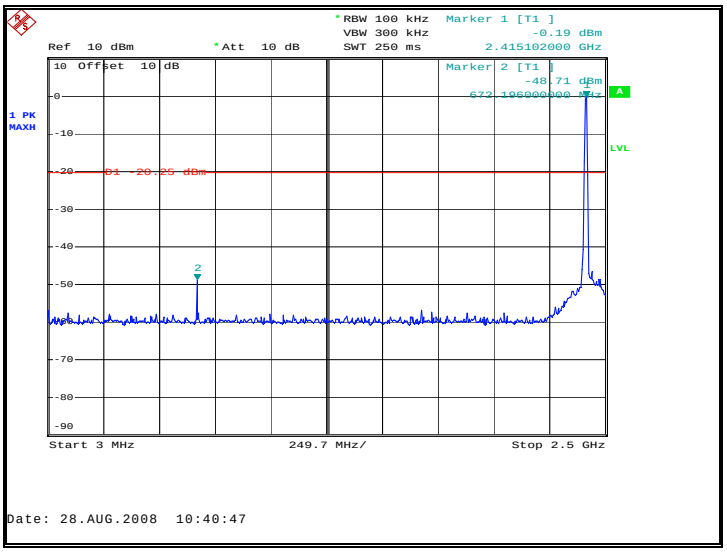

Figure 7.6.2.2-1: 30 MHz – 2.5 GHz – Low Channel 802.11b

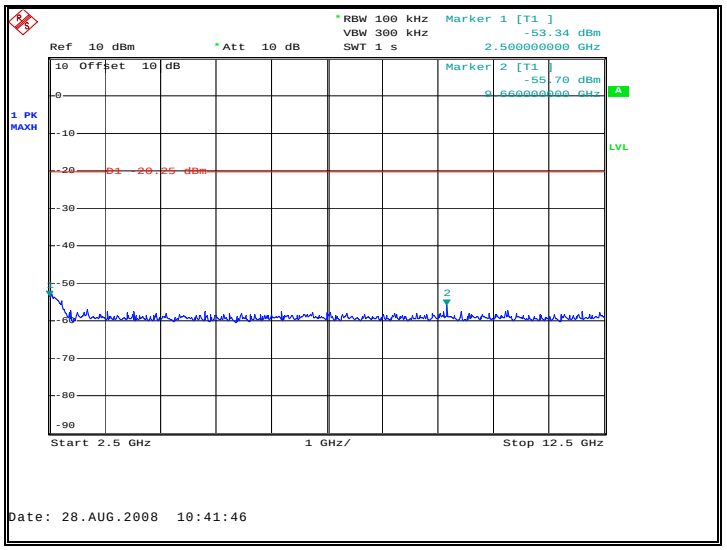

Figure 7.6.2.2-2: 2.5 GHz – 12.5 GHz – Low Channel 802.11b

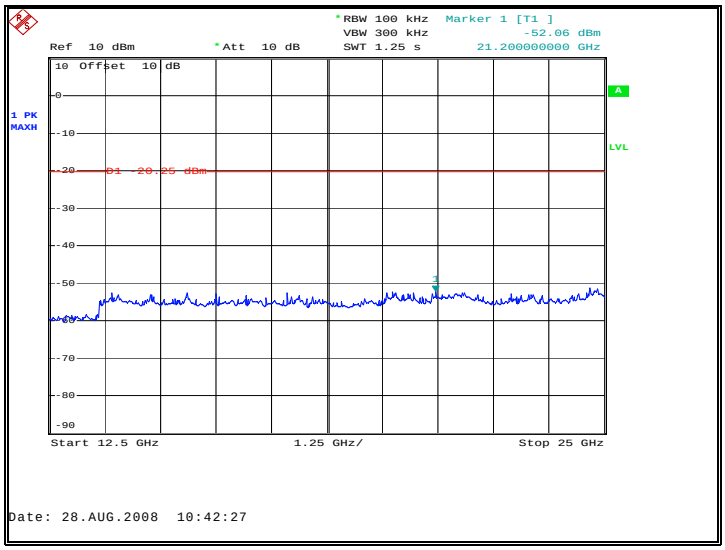

Figure 7.6.2.2-3: 12.5 GHz – 25 GHz – Low Channel 802.11b

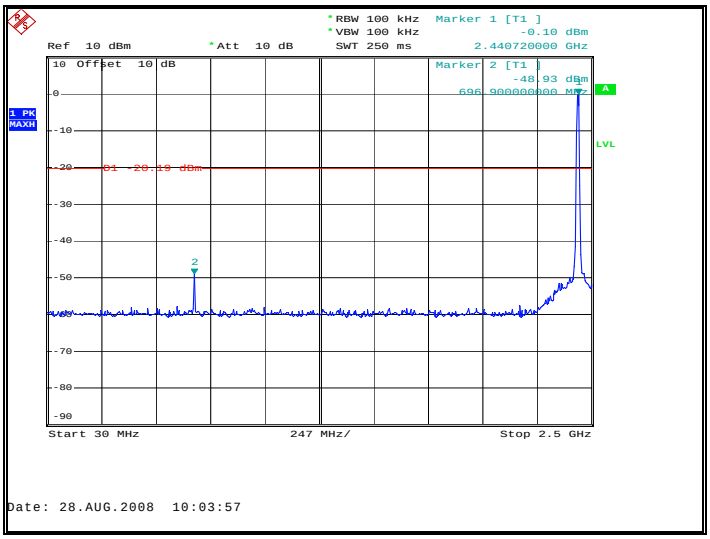

Figure 7.6.2.2-4: 30 MHz – 2.5 GHz –Mid Channel 802.11b

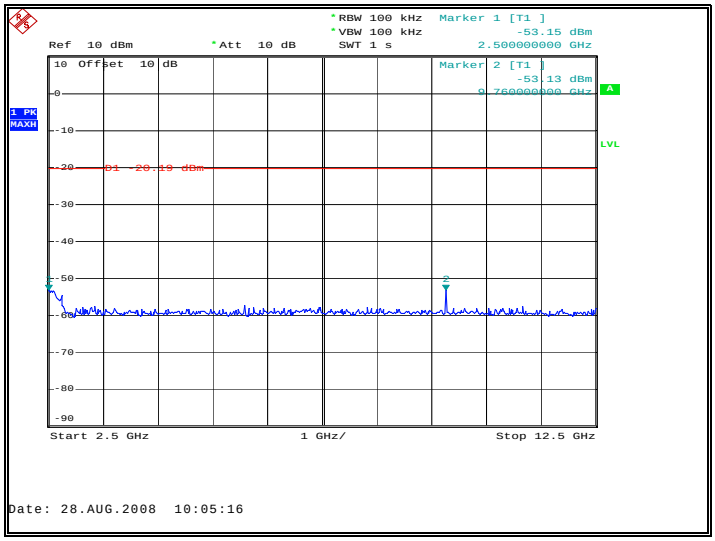

Figure 7.6.2.2-5: 2.5 GHz – 12.5 GHz – Mid Channel 802.11b

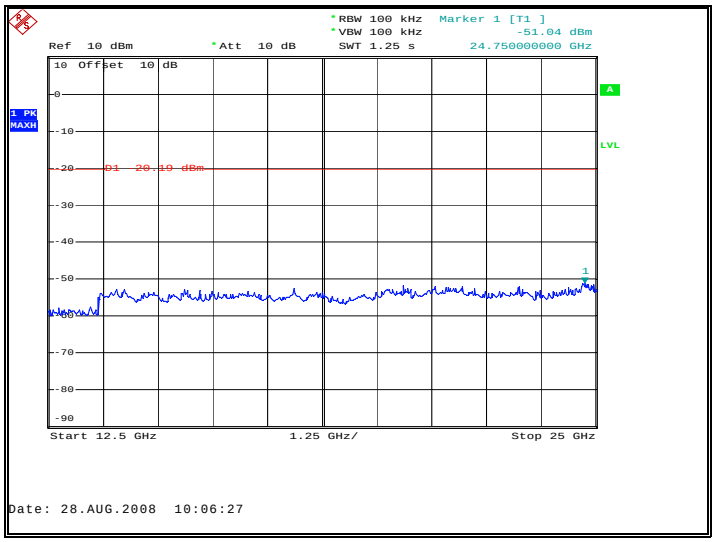

Figure 7.6.2.2-6: 12.5 GHz – 25 GHz – Mid Channel 802.11b

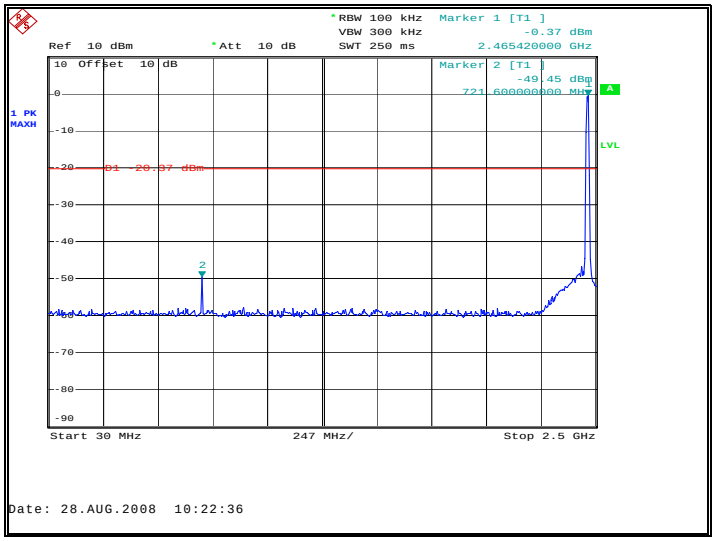

Figure 7.6.2.2-7: 30 MHz – 2.5 GHz – High Channel 802.11b

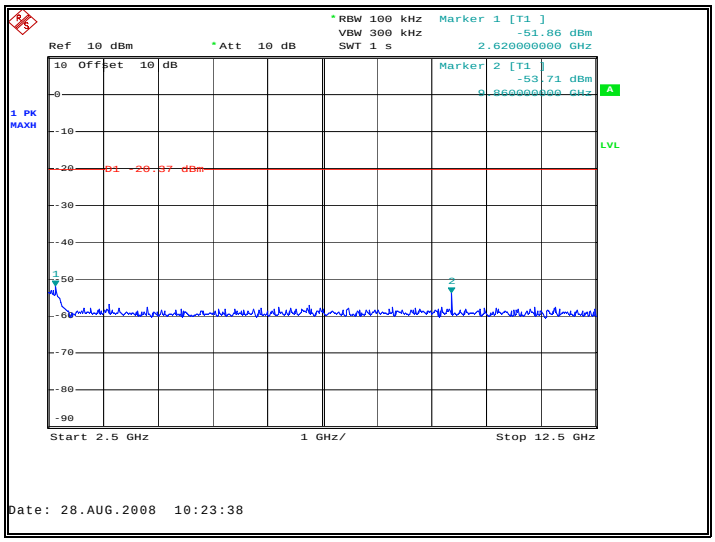

Figure 7.6.2.2-8: 2.5 GHz – 12.5 GHz –High Channel 802.11b

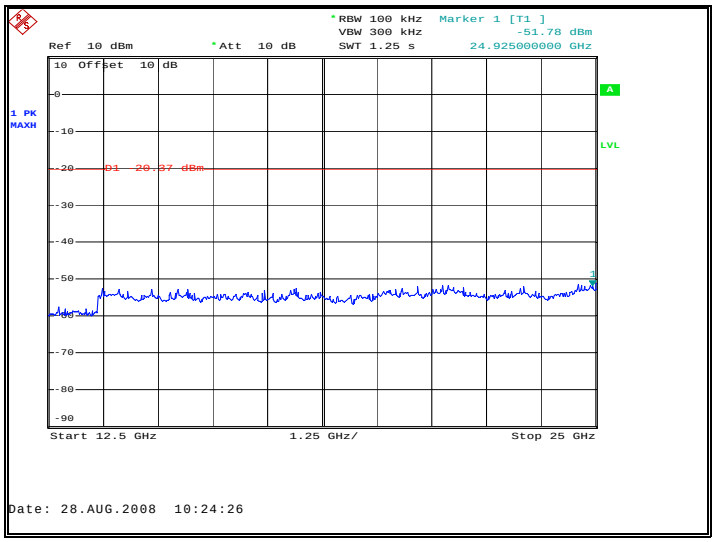

Figure 7.6.2.2-9: 12.5 GHz – 25 GHz –High Channel 802.11b

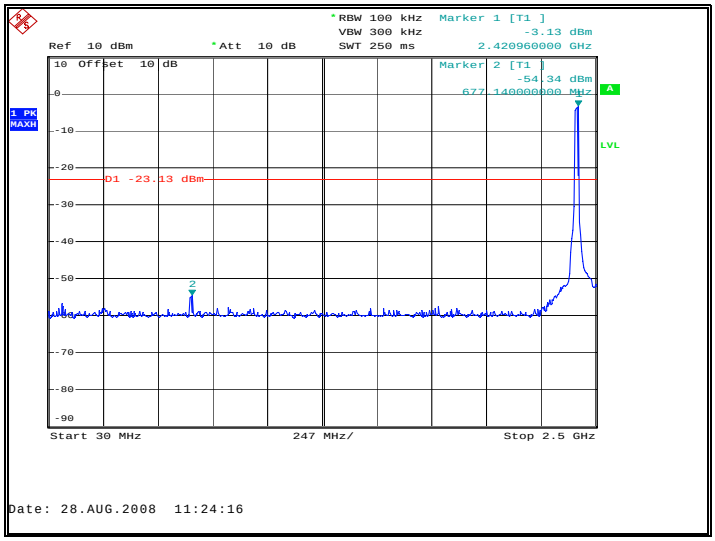

Figure 7.6.2.2-10: 30 MHz – 2.5 GHz – Low Channel 802.11g

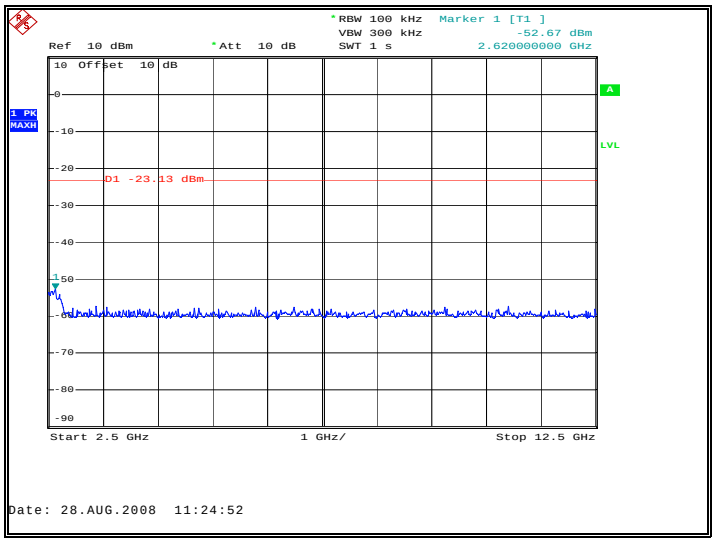

Figure 7.6.2.2-11: 2.5 GHz – 12.5 GHz – Low Channel 802.11g

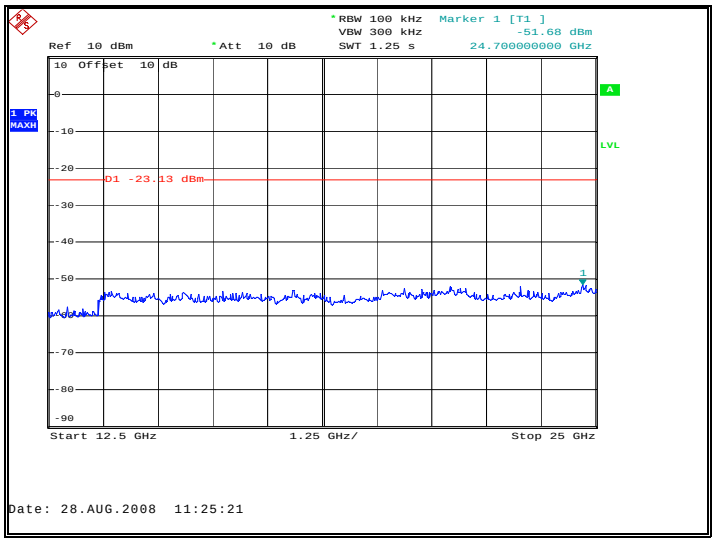

Figure 7.6.2.2-12: 12.5 GHz – 25 GHz – Low Channel 802.11g

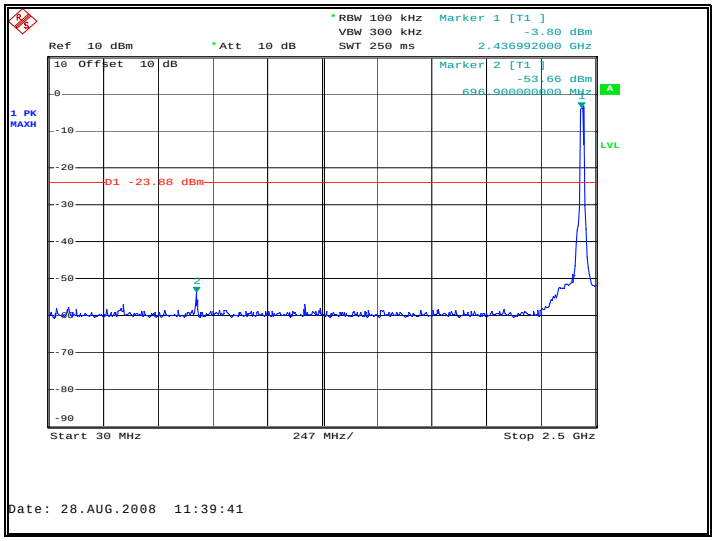

Figure 7.6.2.2-13: 30 MHz – 2.5 GHz –Mid Channel 802.11g

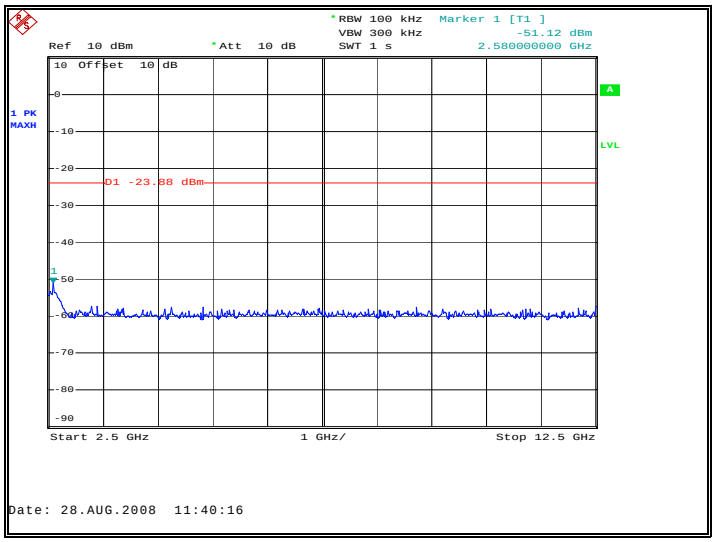

Figure 7.6.2.2-14: 2.5 GHz – 12.5 GHz – Mid Channel 802.11g

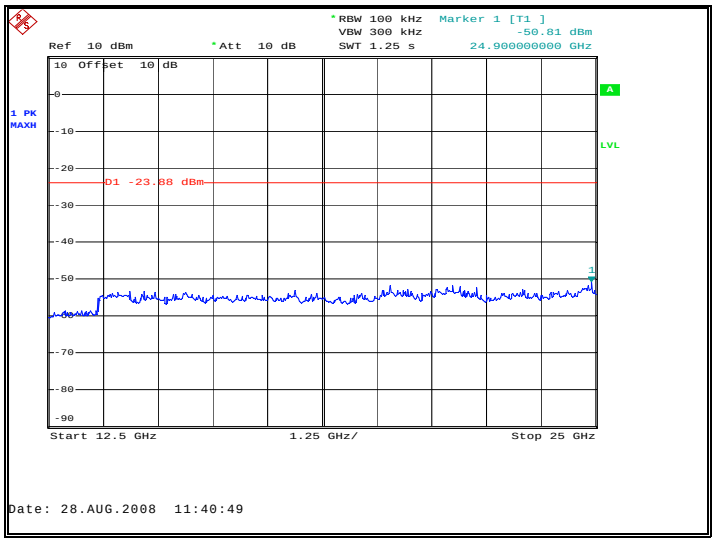

Figure 7.6.2.2-15: 12.5 GHz – 25 GHz – Mid Channel 802.11g

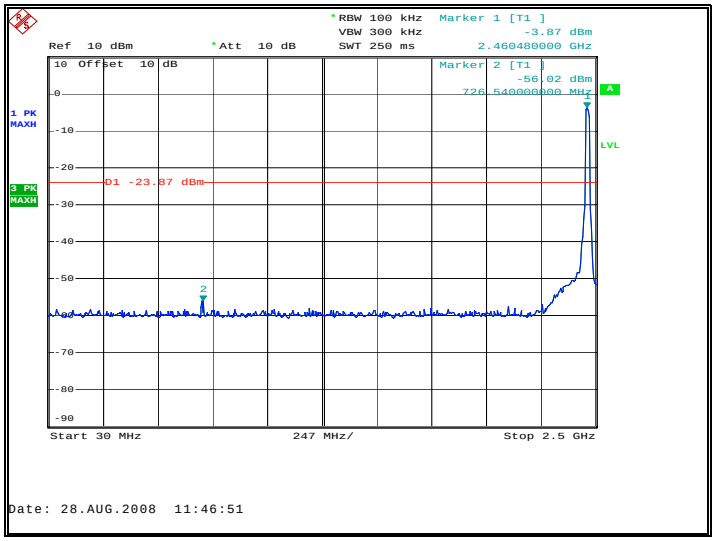

Figure 7.6.2.2-16: 30 MHz – 2.5 GHz – High Channel 802.11g

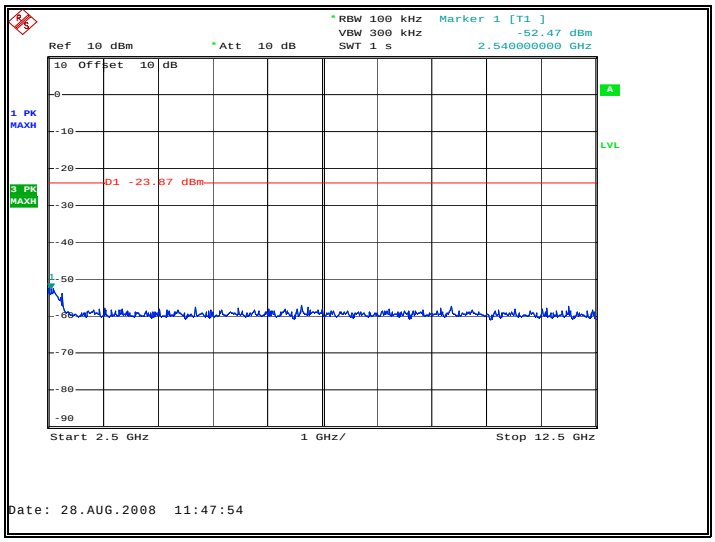

Figure 7.6.2.2-17: 2.5 GHz – 12.5 GHz –High Channel 802.11g

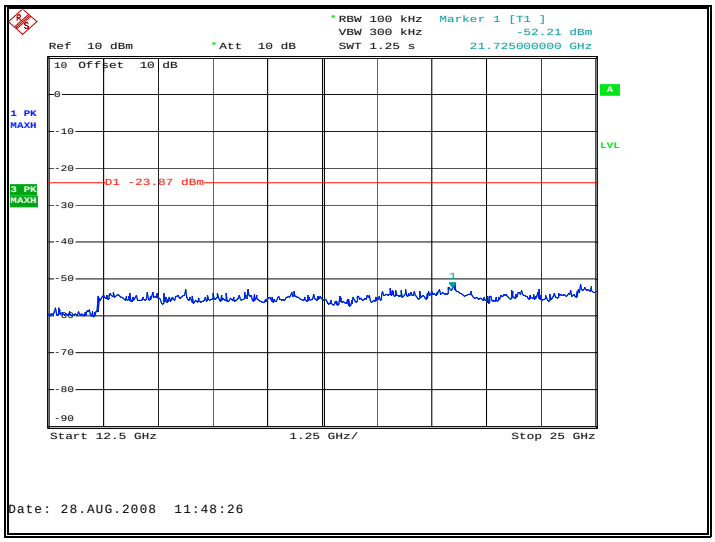

Figure 7.6.2.2-18: 12.5 GHz – 25 GHz –High Channel 802.11g

7.6.3 Radiated Spurious Emissions (Restricted Bands) - FCC Section 15.205 IC: RSS-210 2.6

7.6.3.1 Test Methodology

Radiated emissions tests were made over the frequency range of 30MHz to 25GHz, 10 times the highest fundamental frequency.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000MHz, peak measurements made with RBW and VBW of 1 MHz. Average measurements were made with RBW of 1MHz and a VBW of 10Hz. The average emissions were further corrected by applying the duty cycle correction of the EUT to the average measurements for comparison to the average limit.

7.6.3.2 Duty Cycle Correction

For average radiated measurements, the measured level was reduced by a factor 24.65 dB to account for the duty cycle of the EUT. The maximum percent on time of the transmitter is 5.852%. The duty cycle correction factor is determined using the formula: 20log (5.852/100) = 24.65 dB.

A detailed analysis of the duty cycle timing is provided in the theory of operations accompanying this report.

7.6.3.3 Test Results

Using the procedures set forth in the FCC KDB Publication No. 558074 “Guidance on Measurements for Digital Transmission Systems (47 CFR 15.247)”, radiated spurious emissions found in the band of 30MHz to 25GHz are reported in Table 7.6.3.3-1 to 7.6.3.3-3. Each emission found to be in a restricted band as defined by section 15.205, was compared to the radiated emission limits as defined in section 15.209.

Table 7.6.3.3-1: Radiated Spurious Emissions 802.11b

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
4824	52.29	40.47	H	7.00	59.29	22.82	74.0	54.0	14.71	31.18
4824	53.35	44.26	V	7.10	60.45	26.71	74.0	54.0	13.55	27.29
Mid Channel										
4874	45.95	34.35	H	7.16	53.11	16.85	74.0	54.0	20.89	37.15
4874	48.82	36.54	V	7.26	56.08	19.14	74.0	54.0	17.92	34.86
High Channel										
4924	52.99	47.81	H	7.31	60.30	30.47	74.0	54.0	13.70	23.53
4924	54.51	50.05	V	7.41	61.92	32.81	74.0	54.0	12.08	21.19

Table 7.6.3.3-1: Radiated Spurious Emissions 802.11g

Frequency (MHz)	Level (dBuV)		Antenna Polarity	Correction Factors	Corrected Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
	pk	Qpk/Avg	(H/V)	(dB)	pk	Qpk/Avg	pk	Qpk/Avg	pk	Qpk/Avg
Low Channel										
4824	44.79	34.68	H	7.00	51.79	17.03	74.0	54.0	22.21	36.97
4824	47.68	36.51	V	7.10	54.78	18.96	74.0	54.0	19.22	35.04
Mid Channel										
4874	47.10	35.62	H	7.16	54.26	18.12	74.0	54.0	19.74	35.88
4874	49.15	38.11	V	7.26	56.41	20.71	74.0	54.0	17.59	33.29
High Channel										
4924	45.17	34.63	H	7.31	52.48	17.29	74.0	54.0	21.52	36.71
4924	47.55	37.32	V	7.41	54.96	20.08	74.0	54.0	19.04	33.92

7.6.3.4 Sample Calculation:

$R_C = R_U + CF_T$

Where:

CF_T = Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
R_U = Uncorrected Reading
R_C = Corrected Level
AF = Antenna Factor
CA = Cable Attenuation
AG = Amplifier Gain
DC = Duty Cycle Correction Factor

Example Calculation: Peak

Corrected Level: 52.29 + 7.00 = 59.29dBuV/m
Margin: 74dBuV/m – 59.29dBuV/m = 14.71dB

Example Calculation: Average

Corrected Level: 40.47 + 7.00 - 24.65= 22.82dBuV
Margin: 54dBuV – 22.82dBuV = 31.18dB

7.7 Peak Power Spectral Density- FCC Section 15.247(d) IC: RSS-210 A8.2(b)

7.7.1 Test Methodology

The power spectral density was measured in accordance with the FCC KDB Publication No. 558074 "Guidance on Measurements for Digital Transmission Systems (47 CFR 15.247)". The emission peaks within the pass band were located and zoomed in on. The spectrum analyzer RBW was set to 3 kHz and VBW 10 kHz. Span was adjusted to 500 kHz and the sweep time was calculated to be 168s (Span/3 kHz).

7.7.2 Test Results

Results are shown below in table 7.7.2-1 to 7.7.2-1 and figures 7.7.2-1 – 7.7.2-6:

Table 7.7.2-1: Peak Power Spectral Density 802.11b

Frequency (MHz)	PSD Level (dBm)
2412	-16.44
2437	-18.26
2462	-18.72

Table 7.7.2-2: Peak Power Spectral Density 802.11g

Frequency (MHz)	PSD Level (dBm)
2412	-13.87
2437	-13.48
2462	-13.79

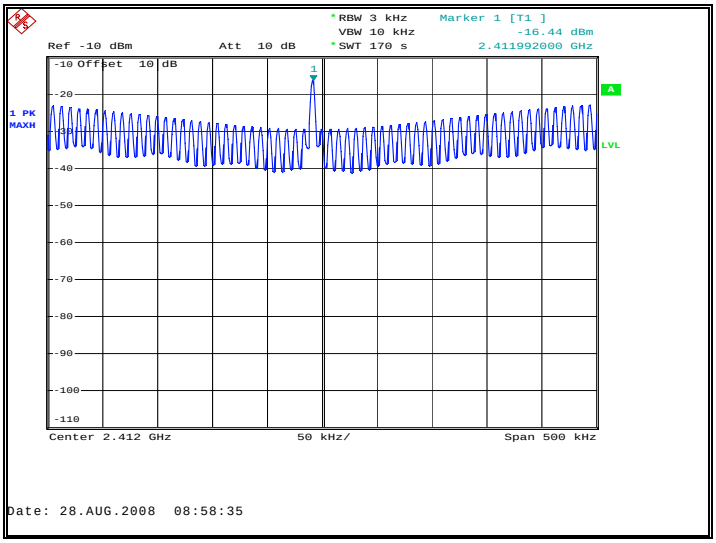

Figure 7.7.2-1: Power Spectral Density Plot – Low Channel 802.11b

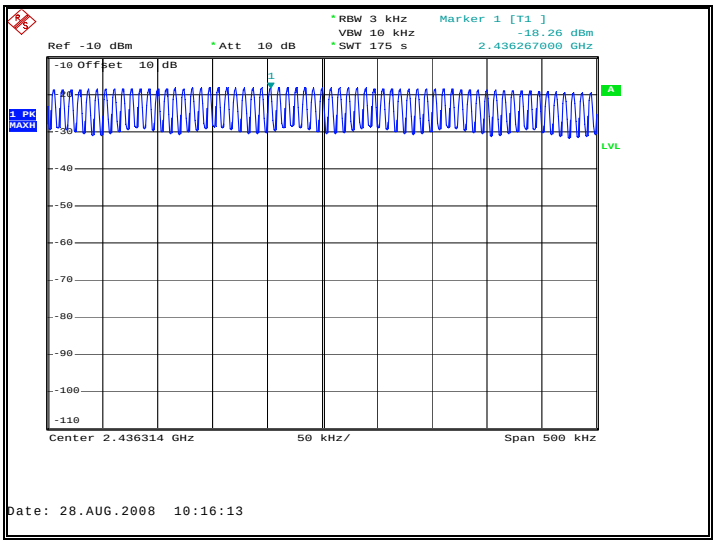

Figure 7.7.2-2: Power Spectral Density Plot – Mid Channel 802.11b

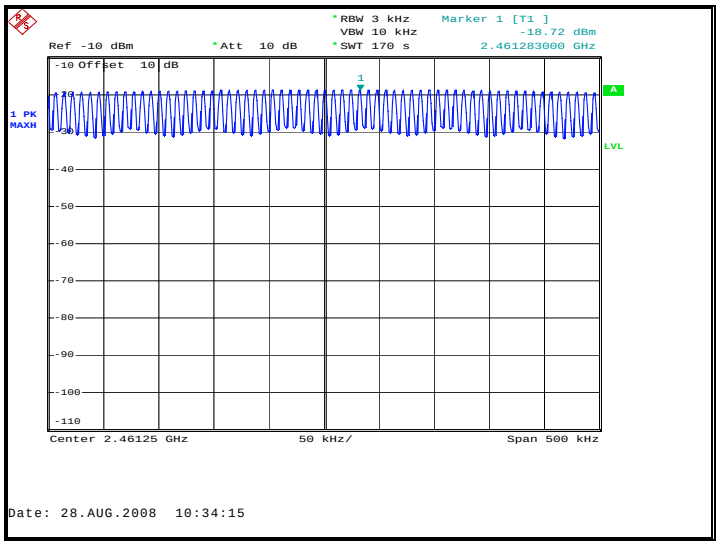

Figure 7.7.2-3: Power Spectral Density Plot – High Channel 802.11b

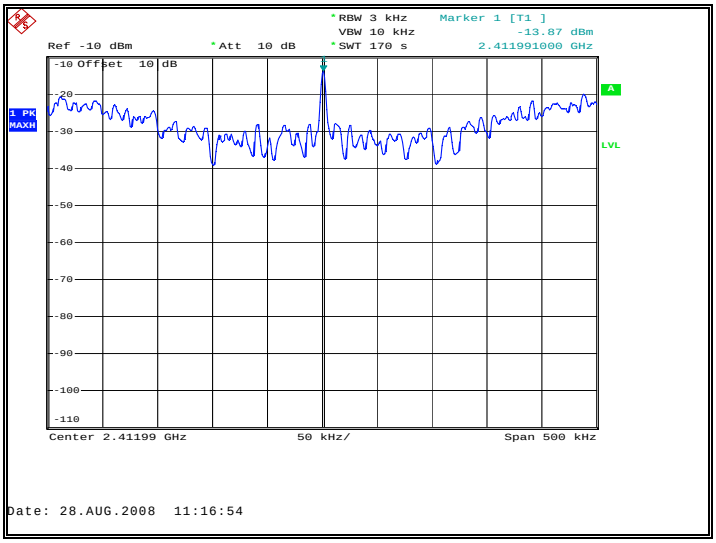

Figure 7.7.2-4: Power Spectral Density Plot – Low Channel 802.11g

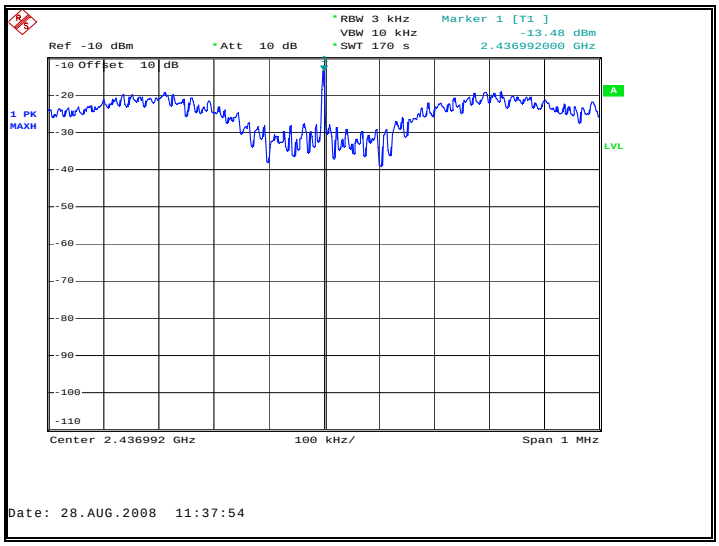

Figure 7.7.2-5: Power Spectral Density Plot – Mid Channel 802.11g

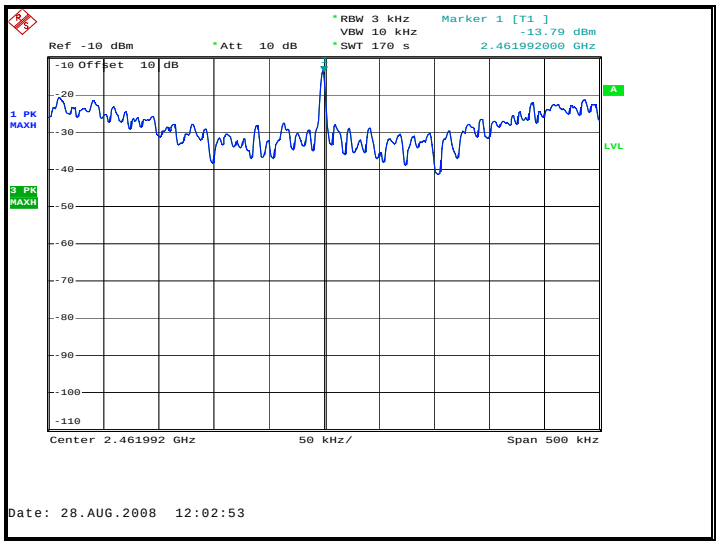

Figure 7.7.2-6: Power Spectral Density Plot – High Channel 802.11g

8.0 CONCLUSION

In the opinion of ACS, Inc., models 0998-00-0707-01 and 0998-00-0707-02 manufactured by Datascope Corp , meet the requirements of FCC Part 15 subpart C and Industry Canada's Radio Standards Specification RSS-210.

END REPORT