



Engineering and Testing for EMC and Safety Compliance

CERTIFICATION APPLICATION REPORT
FCC PART 15.247 & INDUSTRY CANADA RSS-210

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FCC ID:	GU66037LA4121	GRANTEE FRN NUMBER:	0003583150
PLAT FORM:	N/A	RTL WORK ORDER NUMBER:	2003210
MODEL(S):	6037	RTL QUOTE NUMBER:	QRTL03-117
DATE OF TEST REPORT:	January 27, 2004		
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):	Part 15.247: Operation within the bands 920-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz Direct Sequence System 97-114: Amendment of Parts 2 and 15 of the Commission's Rules Regarding Spread Spectrum Transmitters; ET Docket No. 96-8		
Industry Canada Standard:	RSS-210: Low Power License-Exempt Radio Communication Devices (All Frequency Bands)		
Digital Interface Information	Digital Interface was found to be compliant		
Receiver Information	Receiver was found to be compliant		
Frequency Range (MHz)	Output Power* (W)	Frequency Tolerance	Emission Designator
2412-2462	0.096	N/A	N/A

* output power is maximum peak conducted

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 FCC Part 2, FCC Part 15, FCC 97-114, Industry Canada RSS-210, and ANSI C63.4.

Signature: 

Date: January 27, 2004

Typed/Printed Name: Desmond A. Fraser

Position: President

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TABLE OF CONTENTS

1	GENERAL INFORMATION	5
1.1	Scope	5
1.2	Test Facility	5
1.3	Related Submittal(s)/Grant(s).....	5
1.4	Modifications.....	5
2	TEST INFORMATION.....	6
2.1	Test Justification.....	6
2.2	Exercising The EUT	6
2.3	Test Result Summary	6
2.4	Test System Details	7
2.5	Configuration of Tested System.....	7
3	COMPLIANCE WITH FCC §15.31(M)	8
4	COMPLIANCE WITH FCC §15.203.....	8
5	COMPLIANCE WITH FCC §15.204.....	8
6	COMPLIANCE WITH THE BAND EDGE – FCC §15.247(C), §15.205; IC RSS-210 §6.3	8
6.1	Test Procedure.....	8
6.2	Band Edge Test Equipment.....	8
6.3	Restricted Band Edge Plots.....	9
7	RADIATED EMISSION; DIGITAL/RECEIVER INTERFACE – FCC §15.209; IC RSS-210 §7.3.....	15
7.1	Digital/Receiver Interface Radiated Emission Limits Test Procedure.....	15
7.2	Digital/Receiver Interface Radiated Emissions Test Equipment	15
7.3	Digital/Receiver Interface Radiated Emission Limits Test Data.....	16
8	RADIATED EMISSION; SPURIOUS AND HARMONICS – FCC §15.247(C); IC RSS-210 §6.3	17
8.1	Radiated Spurious Emission Limits Test Procedure	17
8.2	Radiated Spurious Test Equipment.....	17
8.3	Radiated Emissions Harmonics/Spurious Test Data.....	18
9	MODULATED BANDWIDTH - §15.247(A)(2)	20
9.1	Modulated Bandwidth Test Procedure – minimum 6 db bandwidth.....	20
10	PEAK OUTPUT POWER - §15.247(B)(1)	24
10.1	Power Output Test Procedure.....	24
10.2	Power Output Test Equipment	24
10.3	Power Output Test Data.....	24
11	ANTENNA CONDUCTED SPURIOUS EMISSIONS - §15.247(C); IC RSS-210 §6.2.2(O)(E1).....	25
11.1	Antenna Conducted Spurious Emissions Test Procedures.....	25
11.2	Antenna Conducted Spurious Test Equipment	25
11.3	Antenna Conducted Spurious Emissions (TX Frequency: 2412 MHz).....	25
11.4	Antenna Conducted Spurious Emissions (TX Frequency: 2437 MHz).....	26
11.5	Antenna Conducted Spurious Emissions (TX Frequency: 2462 MHz).....	27
12	POWER SPECTRAL DENSITY - §15.247(D).....	28
12.1	Power Spectral Density Test Procedure	28
12.2	Power Spectral Density Test Equipment.....	28
12.3	Power Spectral Density Test Data.....	28
12.4	power spectral density plots	29
13	CONCLUSION.....	32

FIGURE INDEX

Figure 1: Worst Case Configuration Of System Under Test..... 7

TABLE INDEX

Table 2-1: Test Result Summary For FCC Rules and Regulations..... 6
 Table 2-2: Equipment Under Test (EUT)..... 7
 Table 6-1: Band Edge Test Equipment 8
 Table 7-1: Digital/Receiver Interface Radiated Emissions Test Equipment..... 15
 Table 7-2: Digital/Receiver Interface Radiated Emission..... 16
 Table 8-1: Radiated Spurious Emissions Test Equipment..... 17
 Table 8-2: Radiated Emissions Harmonics/Spurious (TX Frequency: 2412 MHz)..... 18
 Table 8-3: Radiated Emissions Harmonics/Spurious (TX Frequency: 2437 MHz)..... 18
 Table 8-4: Radiated Emissions Harmonics/Spurious (TX Frequency: 2462 MHz)..... 19
 Table 9-1: 6 dB Bandwidth Test Equipment..... 20
 Table 9-2: Modulated Bandwidth Test Data..... 20
 Table 10-1: Power Output Test Equipment..... 24
 Table 10-2: Power Output Test Data..... 24
 Table 11-1: Antenna Conducted Spurious Test Equipment..... 25
 Table 11-2: Conducted Spurious Emissions (TX Frequency: 2412 MHz)..... 25
 Table 11-3: Conducted Spurious Emissions (TX Frequency: 2437 MHz)..... 26
 Table 11-4: Conducted Spurious Emissions (TX Frequency: 927.7695 MHz)..... 27
 Table 12-1: Power Spectral Density Test Equipment 28
 Table 12-2: Power Spectral Density test data..... 28
 Table 13-1: Equipment Used For Testing Emission Bandwidth..... 33
 Table 13-2: Emission Bandwidth (20 dB)..... 33

PLOT INDEX

Plot 6-1: Lower Band Edge: Marker-Delta Method (TX Frequency: 2412 MHz)..... 9
 Plot 6-2: Lower Band Edge: Peak Measurement (TX Frequency: 2412 MHz)..... 10
 Plot 6-3: Lower Band Edge: Average Measurement (TX Frequency: 2412 MHz)..... 11
 Plot 6-4: Upper Band Edge: Marker-Delta Method (TX Frequency: 2462 MHz)..... 12
 Plot 6-5: Upper Band Edge: Peak Measurement (TX Frequency: 2462 MHz)..... 13
 Plot 6-6: Upper Band Edge: Average measurement (TX Frequency: 2462 MHz)..... 14
 Plot 9-1: 6 dB Bandwidth (TX Frequency: 2412 MHz)..... 21
 Plot 9-2: 6 dB Bandwidth (TX Frequency: 2437 MHz)..... 22
 Plot 9-3: 6 dB Bandwidth (TX Frequency: 2462 MHz)..... 23
 Plot 12-1: Power Spectral Density: Channel 1 29
 Plot 12-2: Power Spectral Density: Channel 6 30
 Plot 12-3: Power Spectral Density: Channel 11 31
 Plot 13-1: Emission Bandwidth (20 dB)..... 34
 Plot 13-2: Emission Bandwidth (20 dB)..... 35
 Plot 13-3: Emission Bandwidth (20 dB)..... 36

APPENDIX INDEX

Appendix A:	Information for Industry Canada - Emission Bandwidth – rss-210 §5.9.1	33
Appendix B:	FCC Part 1.1307, 1.1310, 2.1091, 2.1093 RF Exposure	37
Appendix C:	Antenna Specifications Per FCC §15.204(c)	38
Appendix D:	Agency Authorization Letter	39
Appendix E:	Confidentiality Request Letter.....	40
Appendix F:	Technical Operational Description.....	41
Appendix G:	Label and Label Location	42
Appendix H:	Schematics	44
Appendix I:	Block Diagram	45
Appendix J:	Manual.....	46
Appendix K:	Test Photographs	47
Appendix L:	External Photographs.....	49
Appendix M:	Internal Photographs.....	57

PHOTOGRAPH INDEX

Photograph 1:	Location of FCC ID Label and 2-Part Statement Label	42
Photograph 2:	FCC 2-Part Statement Label	43
Photograph 3:	Radiated Testing – Front View	47
Photograph 4:	Radiated Testing – Rear View	48
Photograph 5:	Top View.....	49
Photograph 6:	Right Side View	50
Photograph 7:	Left Side View	51
Photograph 8:	Front View	52
Photograph 9:	Bottom View	53
Photograph 10:	Back View	54
Photograph 11:	Battery Top View.....	55
Photograph 12:	Battery Bottom View with Label	56
Photograph 13:	Location of Antenna Relative To The Keypad, On Edge Of The PCB	57
Photograph 14:	Antenna and Connector.....	58
Photograph 15:	PCMCIA Card Slot; Coax Routed Between Card And Antenna.....	59
Photograph 16:	Inside Front	60
Photograph 17:	PCB's In Unit Side View	61
Photograph 18:	Top Of Upper PCB with Antenna Connector and trace.....	62
Photograph 19:	Bottom of Upper PCB.....	63
Photograph 20:	Top of Middle PCB.....	64
Photograph 21:	Bottom of Middle PCB	65
Photograph 22:	Top of Lower PCB.....	66
Photograph 23:	Bottom of Lower PCB	67
Photograph 24:	Inside Front Panel	68

1 GENERAL INFORMATION

1.1 SCOPE

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.

IC RSS-210 Section 6.2.2(o): 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.

A direct sequence (DS) system is a spread spectrum (SS) system in which the carrier has been modulated by a high speed spreading code and an information data stream. The high-speed code sequence dominates the "modulating function" and is the direct cause of the wide spreading of the transmitted signal.

1.2 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 2001).

1.3 RELATED SUBMITTAL(S)/GRANT(S)

This is an original application for Certification for Paxar Americas, Inc. Printer Model 6037 with a wireless PCMCIA card, FCC ID: GU66037LA4121. The IF, LO and up to the 2nd LO were investigated and tested.

1.4 MODIFICATIONS

No modifications were made to the EUT.

2 TEST INFORMATION

2.1 TEST JUSTIFICATION

The EUT was tested in all three orthogonal planes in order to determine worst-case emissions. Channel 1 at 2412 MHz, channel 6 at 2437 MHz and channel 11 at 2462 MHz were tested and investigated from 9 kHz to 24 GHz. Data for all three channels are presented in this report.

The EUT contains an internal antenna. The antenna transmits, receives, and is connected to the internal PCMCIA card.

Data rates of 1 Mbps, 2 Mbps, 5.5 Mbps, and 11 Mbps were investigated and found to be in compliance; data for 11 Mbps is shown in this report. The change in envelope did not cause the EUT to be non-compliant in any of the aforementioned modes.

2.2 EXERCISING THE EUT

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 2-1: TEST RESULT SUMMARY FOR FCC RULES AND REGULATIONS

STANDARD	TEST	PASS/FAIL OR N/A
FCC 15.205	Compliance with the Restricted Band Edge	Pass
FCC 15.207	Conducted Emissions	Pass
FCC 15.209	Radiated Emissions	Pass
FCC 15.247(a)(2)	Modulated Bandwidth	Pass
FCC 15.247(b)	Power Output	Pass
FCC 15.247(c)	Antenna Conducted Spurious Emissions	Pass
FCC 15.247(d)	Power Spectral Density	Pass

2.4 TEST SYSTEM DETAILS

The test sample was received on December 29, 2003. The FCC identifiers for all applicable equipment, plus descriptions of all cables used in the tested system, are identified in Table 2-2.

TABLE 2-2: EQUIPMENT UNDER TEST (EUT)

PART	MANUFACTURER	MODEL	SERIAL NUMBER	FCC ID	CABLE DESCRIPTION	RTL BAR CODE
Printer	Paxar Americas Inc.	6037	0300274	GU66037LA4121	N/A	15618
Lithium-Ion Battery Pack	Paxar Americas Inc.	MH28127	120095	N/A	N/A	15631
WLAN PCMCIA Card	Symbol	LA-4121-1100-US	00A0F8A786FE	H9PLA4121	Shielded	15620

2.5 CONFIGURATION OF TESTED SYSTEM

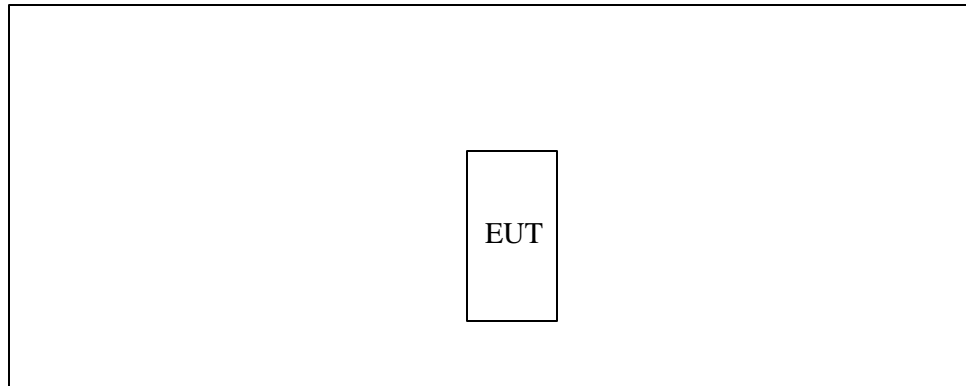


FIGURE 1: WORST CASE CONFIGURATION OF SYSTEM UNDER TEST

3 COMPLIANCE WITH FCC §15.31(M)

In accordance with FCC 15.31(m), and because the EUT utilizes an operating band greater than 10 MHz, three frequencies were investigated for those tests that required the hopping function to be disabled. The following frequencies were tested: 2412 MHz, 2437 MHz and 2462 MHz.

4 COMPLIANCE WITH FCC §15.203

The RF connector is internal to the device and is not accessible by the end user.

5 COMPLIANCE WITH FCC §15.204

Please see Appendix B for antenna specifications.

6 COMPLIANCE WITH THE BAND EDGE – FCC §15.247(C), §15.205; IC RSS-210 §6.3

6.1 TEST PROCEDURE

Compliance with the band edges was performed using the FCC's "Radiated Measurement at a Band Edge" guidance document. The data taken in this report represents the worst case operation.

6.2 BAND EDGE TEST EQUIPMENT

TABLE 6-1: BAND EDGE TEST EQUIPMENT

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
901020	Hewlett Packard	8564E	Portable Spectrum Analyzer (9 kHz - 40 GHz)	3943A01719	7/15/04
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	3/15/04

6.3 RESTRICTED BAND EDGE PLOTS

Calculation of Upper Band Edge

The level 85.8 dBuV/m is the average field strength measurement, from which the delta measurement of 42.2 dB is subtracted (reference plots), which is equivalent to a level of 43.6 dB. This level has a margin of 10.4 dB below the limit of 54 dBuV/m.

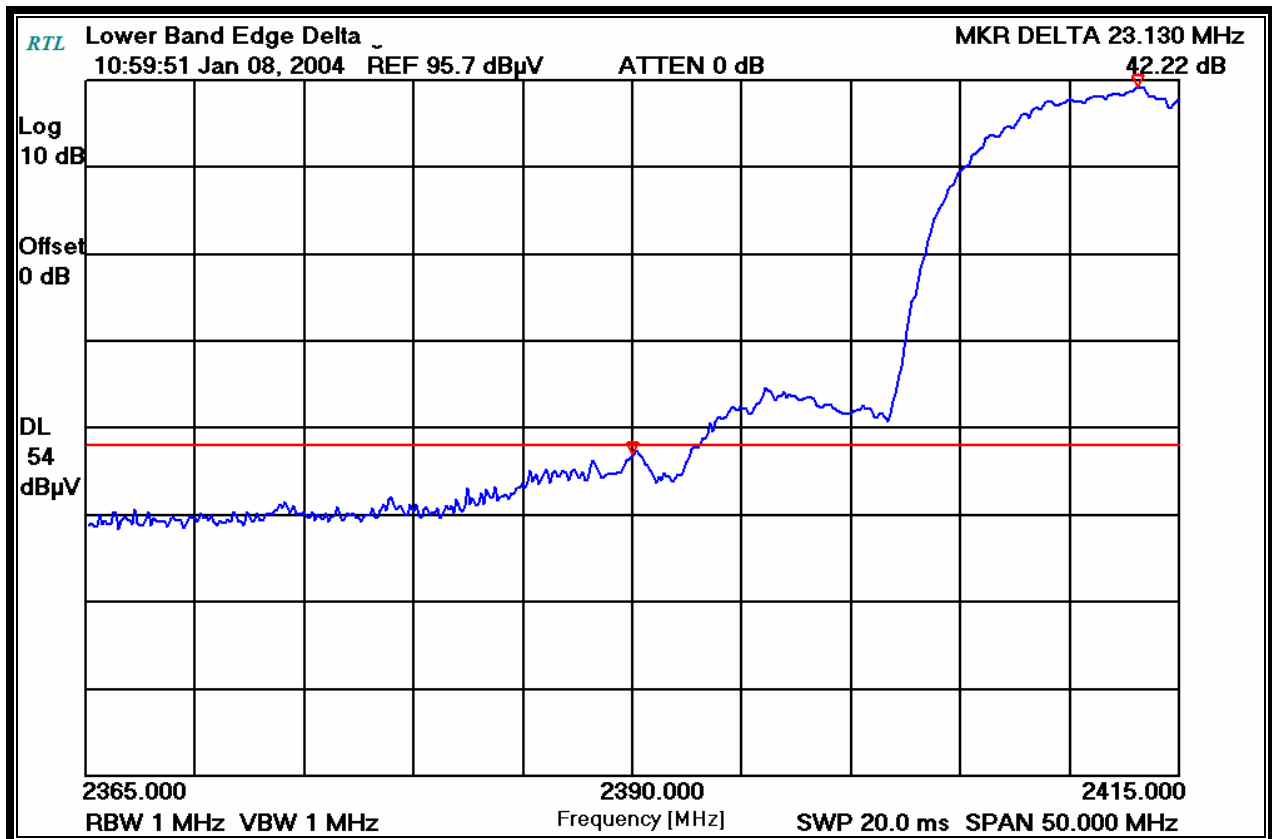
Calculation: $85.8 \text{ dBuV/m} - 42.2 \text{ dB} - 54 \text{ dBuV/m} = -10.4 \text{ dB}$

Peak field strength of Upper Band Edge (1 MHz RBW/1 MHz VBW) = 95.7 dBuV/m

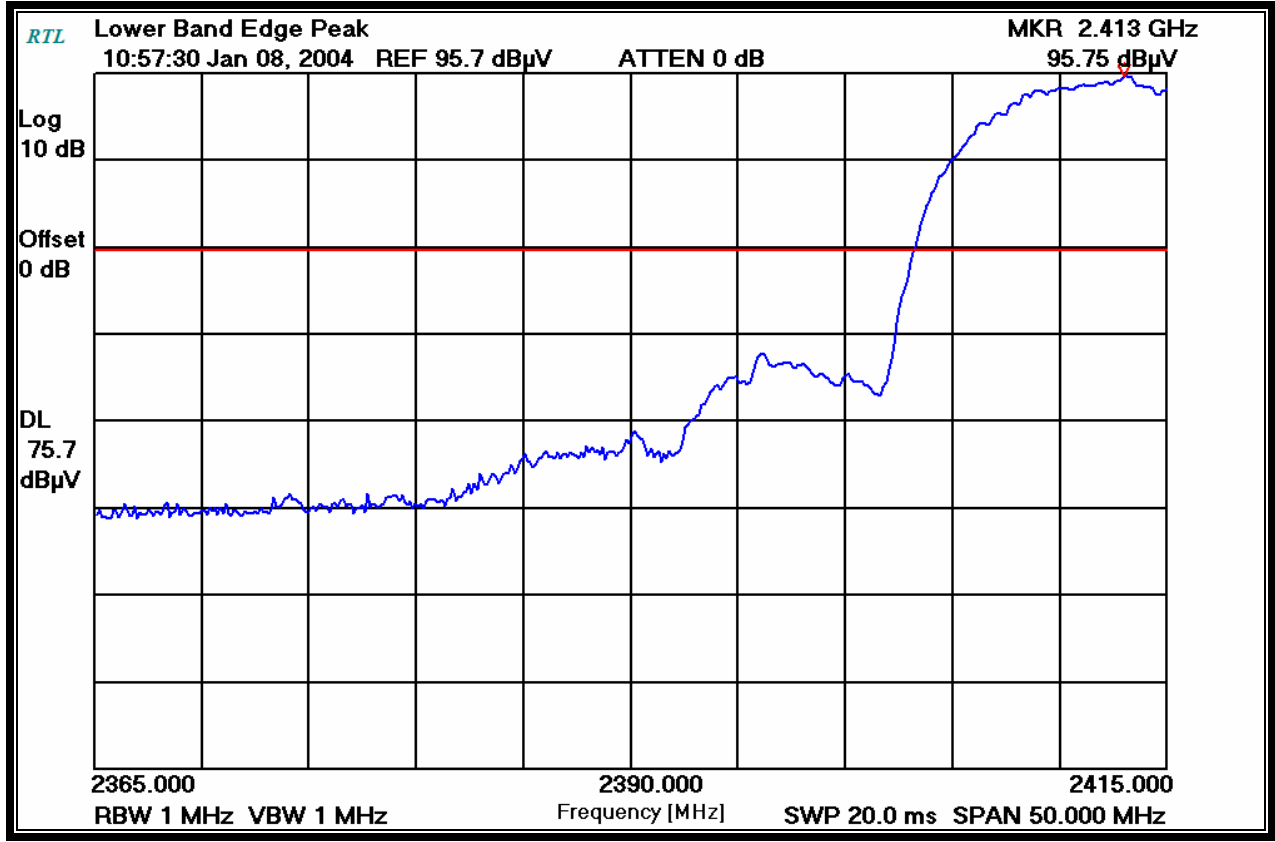
Average field strength of Upper Band Edge(1 MHz RBW/10 Hz VBW) = 85.8 dBuV/m

Delta measurement = 42.2 dB

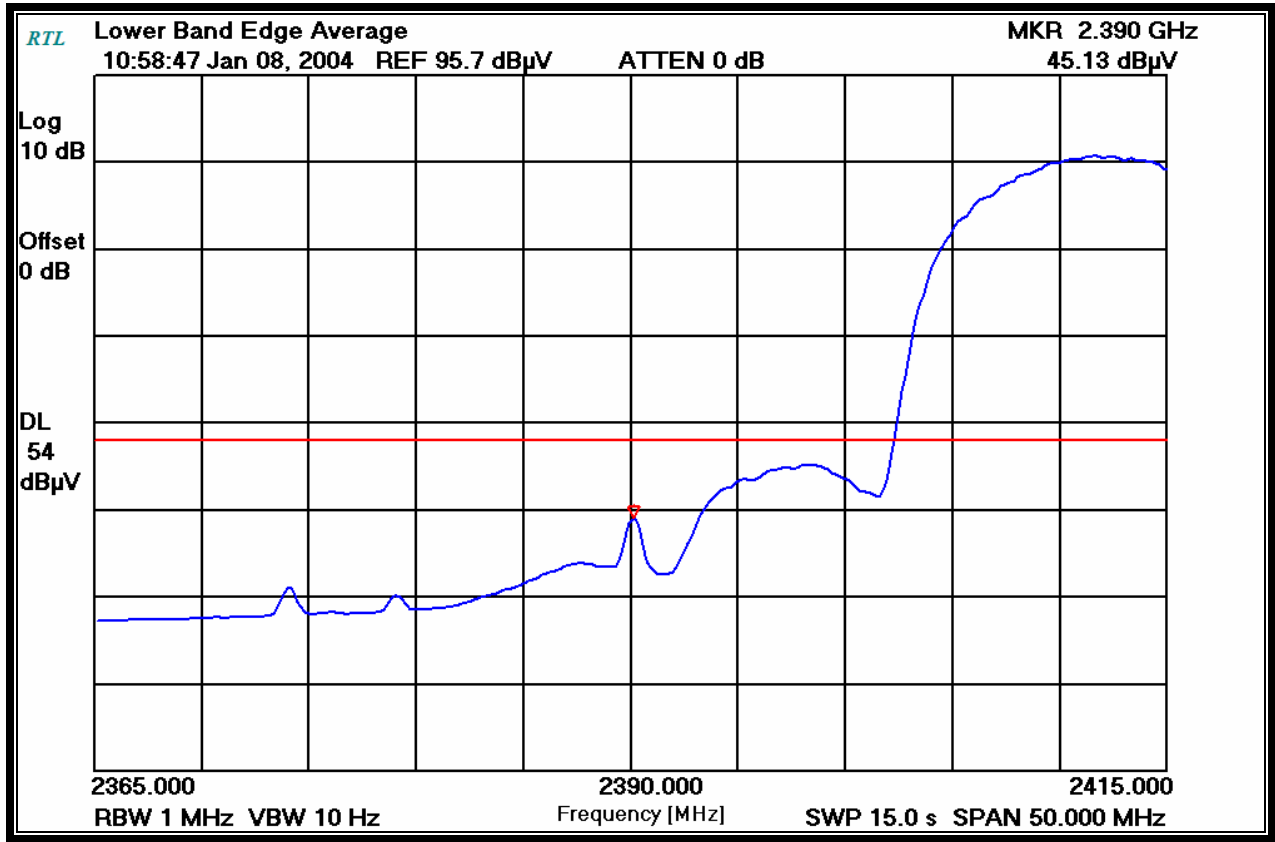
PLOT 6-1: LOWER BAND EDGE: MARKER-DELTA METHOD (TX FREQUENCY: 2412 MHZ)



PLOT 6-2: LOWER BAND EDGE: PEAK MEASUREMENT (TX FREQUENCY: 2412 MHZ)



PLOT 6-3: LOWER BAND EDGE: AVERAGE MEASUREMENT (TX FREQUENCY: 2412 MHZ)



Calculation of Upper Band Edge

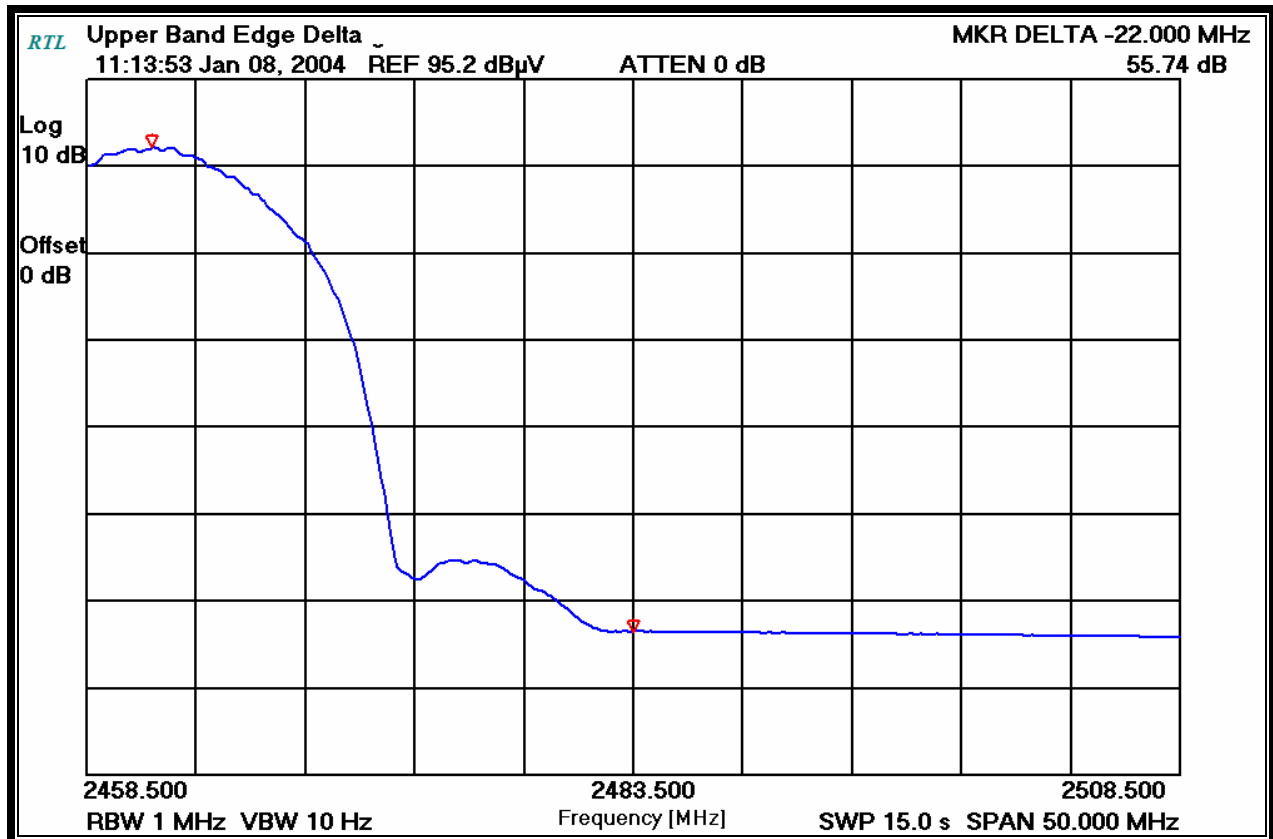
The level 87.4 dBuV/m is the average field strength measurement, from which the delta measurement of 55.7 dB is subtracted (reference plots), which is equivalent to a level of 31.7 dB. This level has a margin of 22.3 dB below the limit of 54 dBuV/m.

Calculation: $87.4 \text{ dBuV/m} - 55.7 \text{ dB} - 54 \text{ dBuV/m} = -22.3 \text{ dB}$

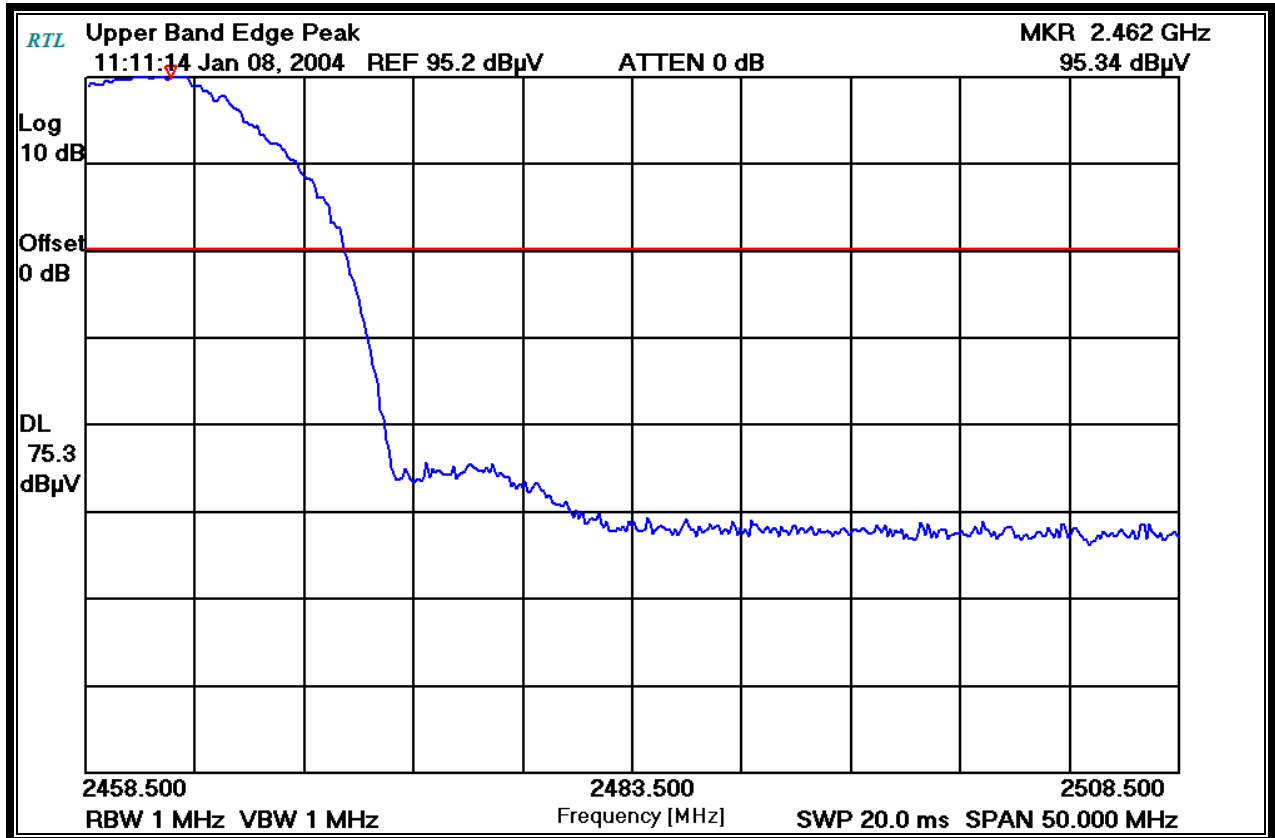
Peak field strength of Upper Band Edge (1 MHz RBW/1 MHz VBW) = 95.2 dBuV/m
 Average field strength of Upper Band Edge(1 MHz RBW/10 Hz VBW) = 87.4 dBuV/m

Delta measurement = 55.7 dB

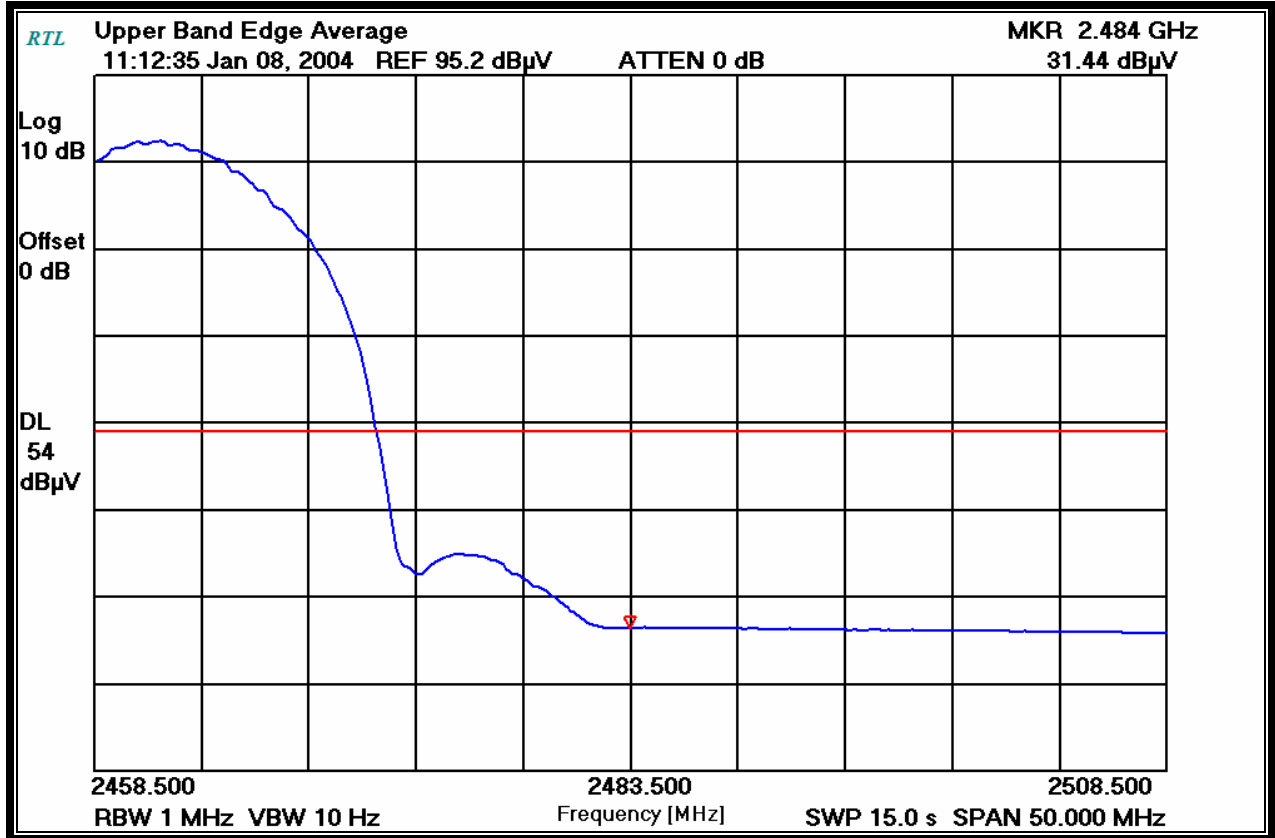
PLOT 6-4: UPPER BAND EDGE: MARKER-DELTA METHOD (TX FREQUENCY: 2462 MHZ)



PLOT 6-5: UPPER BAND EDGE: PEAK MEASUREMENT (TX FREQUENCY: 2462 MHZ)



PLOT 6-6: UPPER BAND EDGE: AVERAGE MEASUREMENT (TX FREQUENCY: 2462 MHZ)



TEST PERSONNEL:

Daniel W. Baltzell
Test Engineer

Signature

January 8, 2003
Dates Of Test

7 RADIATED EMISSION; DIGITAL/RECEIVER INTERFACE – FCC §15.209; IC RSS-210 §7.3

7.1 DIGITAL/RECEIVER INTERFACE RADIATED EMISSION LIMITS TEST PROCEDURE

Emissions from the digital portion of the transceiver circuitry of the EUT were tested and found to comply with the requirements of FCC Part 15.209.

7.2 DIGITAL/RECEIVER INTERFACE RADIATED EMISSIONS TEST EQUIPMENT

TABLE 7-1: DIGITAL/RECEIVER INTERFACE RADIATED EMISSIONS TEST EQUIPMENT

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
900889	Hewlett Packard	85685A	RF Preselector for HP 8566B or 8568B (20 Hz - 2 GHz)	3146A01309	3/5/04
900905	Rhein Tech Labs	PR-1040	Amplifier	900905	9/15/04
900969	Hewlett Packard	85650A	Quasi-Peak Adapter	2412A00414	5/12/04
901053	Schaffner Chase	CBL6112B	Bi-Log Antenna (20 MHz - 2 GHz)	2648	7/03/04
900930	Hewlett Packard	85662A	Spectrum Analyzer Display Section	3144A20839	5/12/04
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	5/12/04

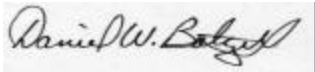
7.3 DIGITAL/RECEIVER INTERFACE RADIATED EMISSION LIMITS TEST DATA

TABLE 7-2: DIGITAL/RECEIVER INTERFACE RADIATED EMISSION

		Temperature: 23°F			Humidity: 95%				
Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
200.084	Qp	H	120	1.0	51.6	-19.0	32.6	43.5	-10.9
225.111	Qp	H	270	2.0	46.6	-18.3	28.3	46.0	-17.7
250.084	Qp	H	120	1.0	49.0	-16.1	32.9	46.0	-13.1
287.678	Qp	H	270	2.5	55.7	-14.9	40.8	46.0	-5.2
312.892	Qp	H	255	2.0	54.2	-14.2	40.0	46.0	-6.0
325.207	Qp	H	250	1.8	55.9	-13.7	42.2	46.0	-3.8
337.584	Qp	H	200	1.8	55.7	-13.8	41.9	46.0	-4.1
350.207	Qp	H	270	1.8	56.5	-13.4	43.1	46.0	-2.9

QP: RES. =100 KHZ, VID= 100 KHZ

TEST PERSONNEL:

Daniel W. Baltzell EMC Test Engineer	 Signature	December 31, 2003 Date Of Test
---	--	-----------------------------------

8 RADIATED EMISSION; SPURIOUS AND HARMONICS – FCC §15.247(C); IC RSS-210 §6.3

8.1 RADIATED SPURIOUS EMISSION LIMITS TEST PROCEDURE

Radiated Spurious Emissions applies to harmonics and spurious emissions that fall in the restricted and non-restricted bands. The restricted bands are listed in Part 15.205. The maximum permitted average field strength for the restricted band is listed in Part 15.209. The EUT was tested in the 3 orthogonal planes

8.2 RADIATED SPURIOUS TEST EQUIPMENT

TABLE 8-1: RADIATED SPURIOUS EMISSIONS TEST EQUIPMENT

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	3/15/04
900323	EMCO	3160-7	Horn Antennas (8.2 - 12.4 GHz)	9605-1054	6/10/04
900356	EMCO	3160-08	Horn Antennas (12.4 - 18 GHz)	9607-1044	6/10/04
900321	EMCO	3161-03	Horn Antenna (4.0 - 8.2 GHz)	9508-1020	4/10/04
901053	Schaffner & Chase	CBL6112B	Bilog Antenna (20 MHz - 2 GHz)	2648	7/3/04
900932	Hewlett Packard	8449B	Microwave Preamplifier (1 - 26.5 GHz)	3008A00505	4/22/04
901020	Hewlett Packard	8564E	Portable Spectrum Analyzer (9 kHz - 40 GHz)	3943A01719	7/15/04
901232	IW Microwave Products	KPW-1503-2400-KPS	High Frequency RF Cables	240"	1/30/04
901235	IW Microwave Products	KPS-1503-360-KPS	High Frequency RF Cables	36"	1/30/04

8.3 RADIATED EMISSIONS HARMONICS/SPURIOUS TEST DATA

Field Strength = $95.7 - 20 = 75.7$ limit for non-restricted band spurious emissions.

TABLE 8-2: RADIATED EMISSIONS HARMONICS/SPURIOUS (TX FREQUENCY: 2412 MHZ)

Emission Frequency (MHz)	Analyzer Reading (dBuV) Peak	Analyzer Reading (dBuV) Average	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
4824.0	34.7	31.4	13.8	45.2	54.0	-8.8
7236.0	42.3	30.1	13.2	43.3	75.7	-32.4
9648.0	34.0	23.3	15.5	38.8	75.7	-36.9
12060.0	32.5	22.3	18.9	41.2	54.0	-12.8
14472.0	35.2	24.2	24.6	48.8	54.0	-5.2
16884.0	34.3	23.8	22.7	46.5	75.7	-29.2
19296.0	33.8	23.5	23.5	47.0	54.0	-7.0
21708.0	33.8	24.0	27.6	51.6	75.7	-24.1
24120.0	37.2	26.5	28.4	54.9	75.7	-20.8

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz

Field Strength = $91.3 - 20 = 71.3$ limit for non-restricted band spurious emissions.

TABLE 8-3: RADIATED EMISSIONS HARMONICS/SPURIOUS (TX FREQUENCY: 2437 MHZ)

Emission Frequency (MHz)	Analyzer Reading (dBuV) Peak	Analyzer Reading (dBuV) Average	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
4874.0	34.8	22.1	14.2	36.3	54.0	-17.7
7311.0	43.0	30.3	12.6	42.9	54.0	-11.1
9748.0	32.8	23.5	15.4	38.9	71.3	-32.4
12185.0	32.0	22.5	19.2	41.7	54.0	-12.3
14622.0	34.3	24.2	25.5	49.7	71.3	-21.6
17059.0	33.8	24.0	22.5	46.5	71.3	-24.8
19496.0	35.3	23.8	23.6	47.4	54.0	-6.6
21933.0	34.8	24.2	27.7	51.9	71.3	-19.4
24370.0	33.8	24.5	28.5	53.0	71.3	-18.3

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz


Field Strength = 95.2 – 20 = 75.2 limit for non-restricted band spurious emissions.

TABLE 8-4: RADIATED EMISSIONS HARMONICS/SPURIOUS (TX FREQUENCY: 2462 MHZ)

Emission Frequency (MHz)	Analyzer Reading (dBuV) Peak	Analyzer Reading (dBuV) Average	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
4924.0	35.8	23.8	14.0	37.8	54.0	-16.2
7386.0	37.3	25.1	13.9	39.0	54.0	-15.0
9848.0	35.3	24.0	16.1	40.1	75.2	-35.1
12310.0	33.3	22.7	18.6	41.3	54.0	-12.7
14772.0	36.5	24.0	26.5	50.5	75.2	-24.7
17234.0	34.2	23.7	22.3	46.0	75.2	-29.2
19696.0	34.3	24.2	23.4	47.6	54.0	-6.4
22158.0	34.0	23.8	27.8	51.6	75.2	-23.6
24620.0	37.0	26.2	28.6	54.8	75.2	-20.4

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz

TEST PERSONNEL:

Daniel W. Baltzell EMC Test Engineer	 Signature	January 7, 2004 Date Of Test
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9 MODULATED BANDWIDTH - §15.247(A)(2)

9.1 MODULATED BANDWIDTH TEST PROCEDURE – MINIMUM 6 DB BANDWIDTH

The minimum 6 dB bandwidths per FCC 15.247 (a)(2) were measured using a 50 ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 1 MHz. The device was modulated using the maximum 11 Mbps data rate. The minimum 6 dB bandwidths are presented in Table 9-2.

TABLE 9-1: 6 DB BANDWIDTH TEST EQUIPMENT

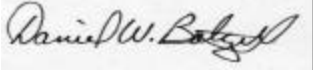
RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3138A07771	5/12/04

TABLE 9-2: MODULATED BANDWIDTH TEST DATA

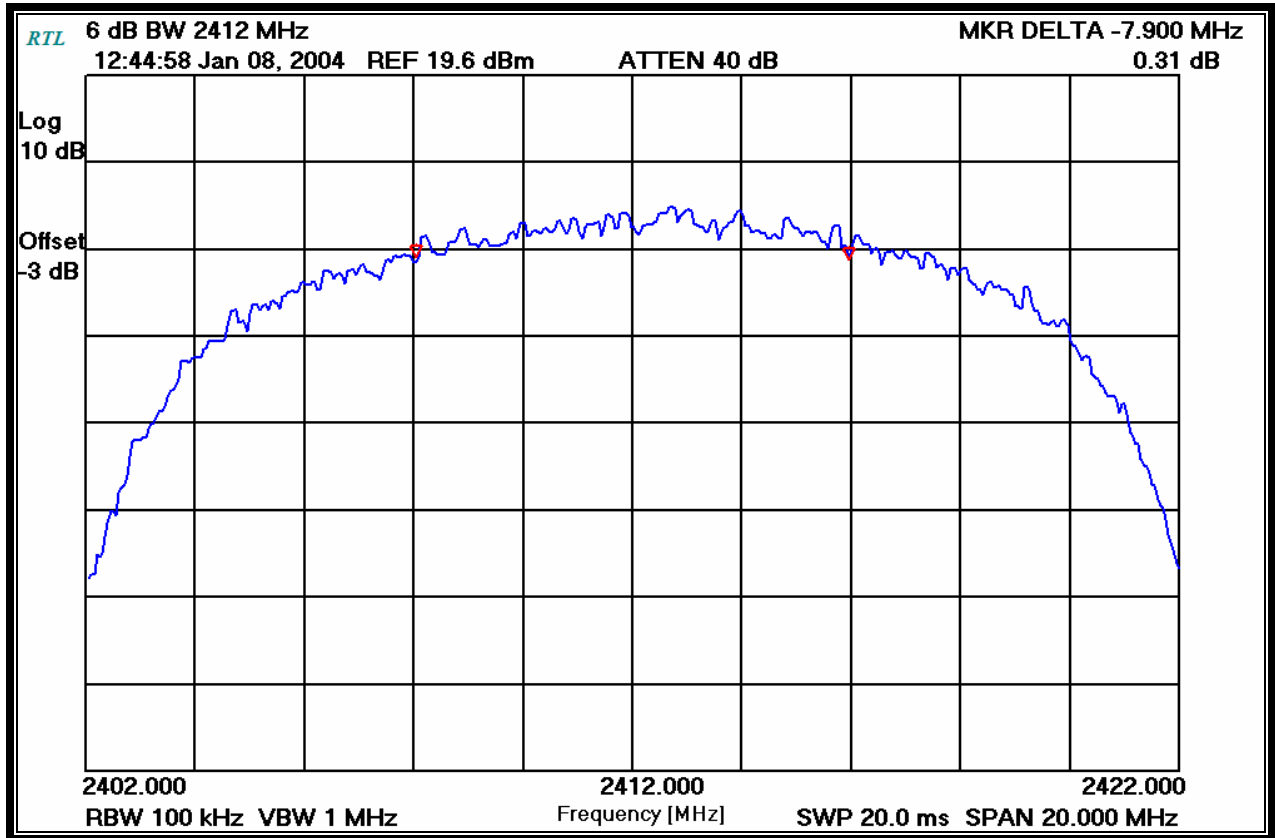
Minimum 6 dB bandwidths

FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)
2412	7.9
2437	9.2
2462	9.2

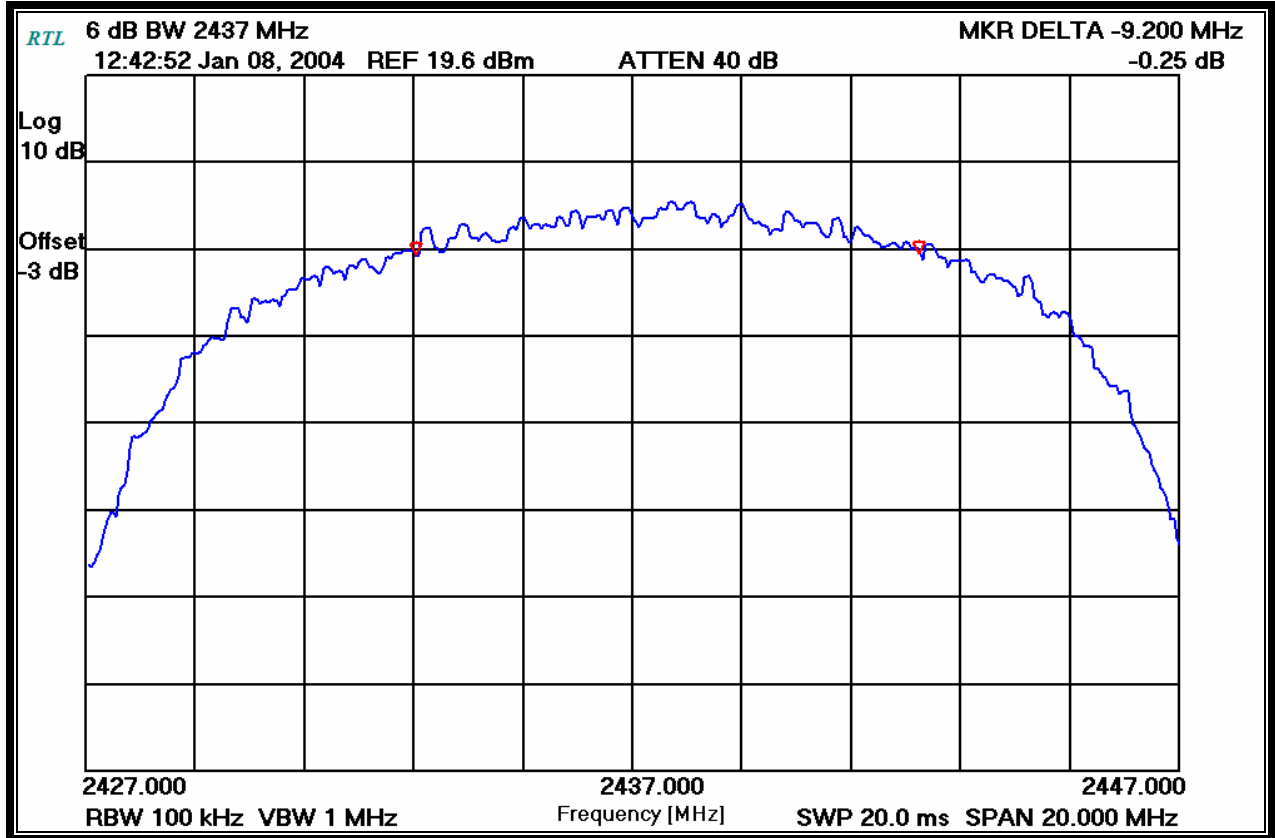
TEST PERSONNEL:

Daniel W. Baltzell EMC Test Engineer	 Signature	January 8, 2004 Date Of Test
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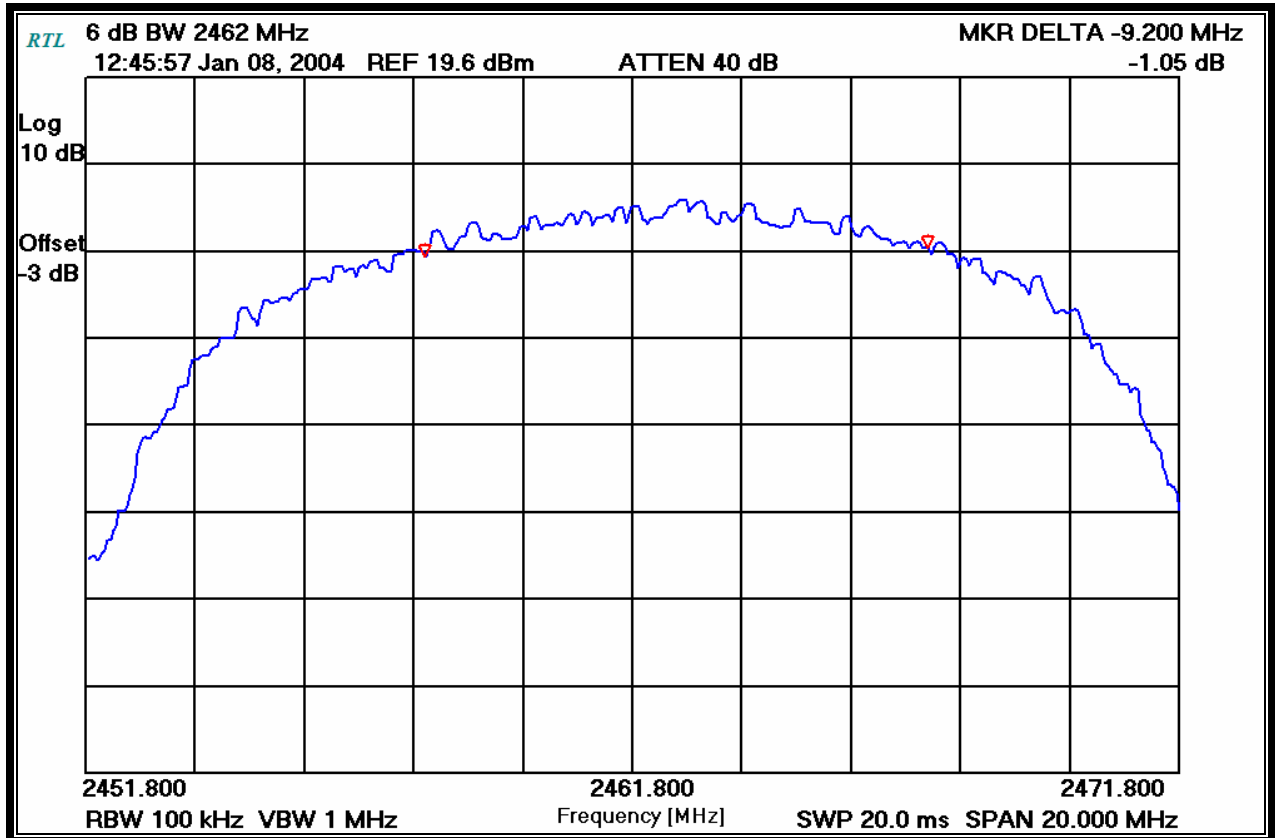
PLOT 9-1: 6 DB BANDWIDTH (TX FREQUENCY: 2412 MHZ)



PLOT 9-2: 6 DB BANDWIDTH (TX FREQUENCY: 2437 MHZ)



PLOT 9-3: 6 DB BANDWIDTH (TX FREQUENCY: 2462 MHZ)



TEST PERSONNEL:

Daniel W. Baltzell
EMC Test Engineer

Signature

January 8, 2004
Date Of Test

10 PEAK OUTPUT POWER - §15.247(B)(1)

10.1 POWER OUTPUT TEST PROCEDURE

A conducted power measurement of the EUT was measured using an Agilent 4416A EPM-P Series Power Meter with an E9323A Peak and Average Power Sensor.

10.2 POWER OUTPUT TEST EQUIPMENT

TABLE 10-1: POWER OUTPUT TEST EQUIPMENT

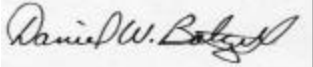
RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
901186	Agilent Technologies	E9323A	Peak & Avg. Power Sensor (50 MHz - 6 GHz)	US40410380	7/30/04
901184	Agilent Technologies	E4416A	EPM-P Power Meter, Single Channel	GB41050573	7/30/04
901140	Weinschel Corp.	47-10-34 DC-18GHz	Attenuator, 50W 10dB	BK6203	5/13/04

10.3 POWER OUTPUT TEST DATA

TABLE 10-2: POWER OUTPUT TEST DATA

FREQUENCY (MHZ)	CHANNEL	PEAK POWER CONDUCTED OUTPUT (dBm)
2412	1	19.6
2437	6	19.2
2462	11	19.8

TEST PERSONNEL:

Daniel W. Baltzell EMC Test Engineer	 Signature	December 23, 2003 Date Of Test
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11 ANTENNA CONDUCTED SPURIOUS EMISSIONS - §15.247(C); IC RSS-210 §6.2.2(O)(E1)

11.1 ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST PROCEDURES

Antenna spurious emission per FCC 15.247(c) was 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 300 kHz. The modulated carrier was identified at the following frequencies: 2412 MHz, 2437 MHz and 2462 MHz. No other harmonics or spurs were found within 20 dB of the carrier level from 9 kHz to the carrier 10th harmonic. See the Antenna Conducted Spurious Noise Table. The low, middle, and high frequencies were investigated and tested.

11.2 ANTENNA CONDUCTED SPURIOUS TEST EQUIPMENT

TABLE 11-1: ANTENNA CONDUCTED SPURIOUS TEST EQUIPMENT

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3138A07771	5/12/04

11.3 ANTENNA CONDUCTED SPURIOUS EMISSIONS (TX FREQUENCY: 2412 MHz)

Operating Frequency (MHz): 2412
 Measured Level with 100 kHz RBW (dBm): 3.13
 Limit (dBm): -16.87

TABLE 11-2: CONDUCTED SPURIOUS EMISSIONS (TX FREQUENCY: 2412 MHz)

Frequency (MHz)	Measured Level (dBm)	Measured Level (dBc)	Limit (dBc)	Margin (dB)
4824.0	-67.0	70.1	20.0	-50.1
7236.0	-63.7	66.8	20.0	-46.8
9648.0	-78.7	81.8	20.0	-61.8
12060.0	-81.2	84.3	20.0	-64.3
14472.0	-77.5	80.6	20.0	-60.6
16884.0	-68.2	71.3	20.0	-51.3
19296.0	-54.4	57.5	20.0	-37.5
21708.0	-82.5	85.6	20.0	-65.6
24120.0	-80.2	83.3	20.0	-63.3

11.4 ANTENNA CONDUCTED SPURIOUS EMISSIONS (TX FREQUENCY: 2437 MHz)

Operating Frequency (MHz): 2437
Measured Level at 100 kHz RBW(dBm): 1.92
Limit (dBm): -18.08

TABLE 11-3: CONDUCTED SPURIOUS EMISSIONS (TX FREQUENCY: 2437 MHz)

Frequency (MHz)	Measured Level (dBm)	Measured Level (dBc)	Limit (dBc)	Margin (dB)
4874.0	-66.6	68.5	20.0	-48.5
7311.0	-64.6	66.5	20.0	-46.5
9748.0	-79.5	81.4	20.0	-61.4
12185.0	-81.2	83.1	20.0	-63.1
14622.0	-80.6	82.5	20.0	-62.5
17059.0	-67.5	69.4	20.0	-49.4
19496.0	-52.2	54.1	20.0	-34.1
21933.0	-83.0	84.9	20.0	-64.9
24370.0	-82.5	84.4	20.0	-64.4

11.5 ANTENNA CONDUCTED SPURIOUS EMISSIONS (TX FREQUENCY: 2462 MHz)

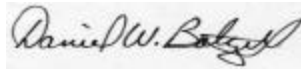
Operating Frequency (MHz): 2462
Measured Level at 100 kHz RBW (dBm): 3.33
Limit (dBm): -16.67

TABLE 11-4: CONDUCTED SPURIOUS EMISSIONS (TX FREQUENCY: 927.7695 MHz)

Frequency (MHz)	Measured Level (dBm)	Measured Level (dBc)	Limit (dBc)	Margin (dB)
4924.0	-54.0	57.3	20.0	-37.3
7386.0	-52.7	56.0	20.0	-36.0
9848.0	-77.5	80.8	20.0	-60.8
12310.0	-75.5	78.8	20.0	-58.8
14772.0	-76.5	79.8	20.0	-59.8
17234.0	-62.3	65.6	20.0	-45.6
19696.0	-52.0	55.3	20.0	-35.3
22158.0	-81.0	84.3	20.0	-64.3
24620.0	-79.5	82.8	20.0	-62.8

TEST PERSONNEL:

Daniel W. Baltzell
 EMC Test Engineer



Signature

December 29, 2003

Date Of Test

12 POWER SPECTRAL DENSITY - §15.247(D)

12.1 POWER SPECTRAL DENSITY TEST PROCEDURE

The power spectral density per FCC 15.247(d) was measured using a 50 ohm spectrum analyzer with the resolution bandwidth set at 3 kHz, the video bandwidth set at 10 kHz, and the sweep time set at 1000 seconds. The spectral lines were resolved for the modulated carriers at 2.412 GHz, 2.437 GHz, and 2.462 GHz respectively. These levels are below the +8 dBm limit. See the power spectral density table and plots that follow.

12.2 POWER SPECTRAL DENSITY TEST EQUIPMENT

TABLE 12-1: POWER SPECTRAL DENSITY TEST EQUIPMENT

RTL ASSET#	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DUE DATE
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3138A07771	5/12/04

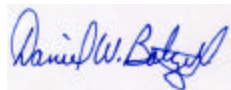
12.3 POWER SPECTRAL DENSITY TEST DATA

TABLE 12-2: POWER SPECTRAL DENSITY TEST DATA

CHANNEL	FREQUENCY (MHZ)	POWER SPECTRAL DENSITY LIMIT = +8 dBm
1	2412	-3.0
6	2437	-2.4
11	2462	-3.7

TEST PERSONNEL:

Daniel W. Baltzell
 EMC Test Engineer



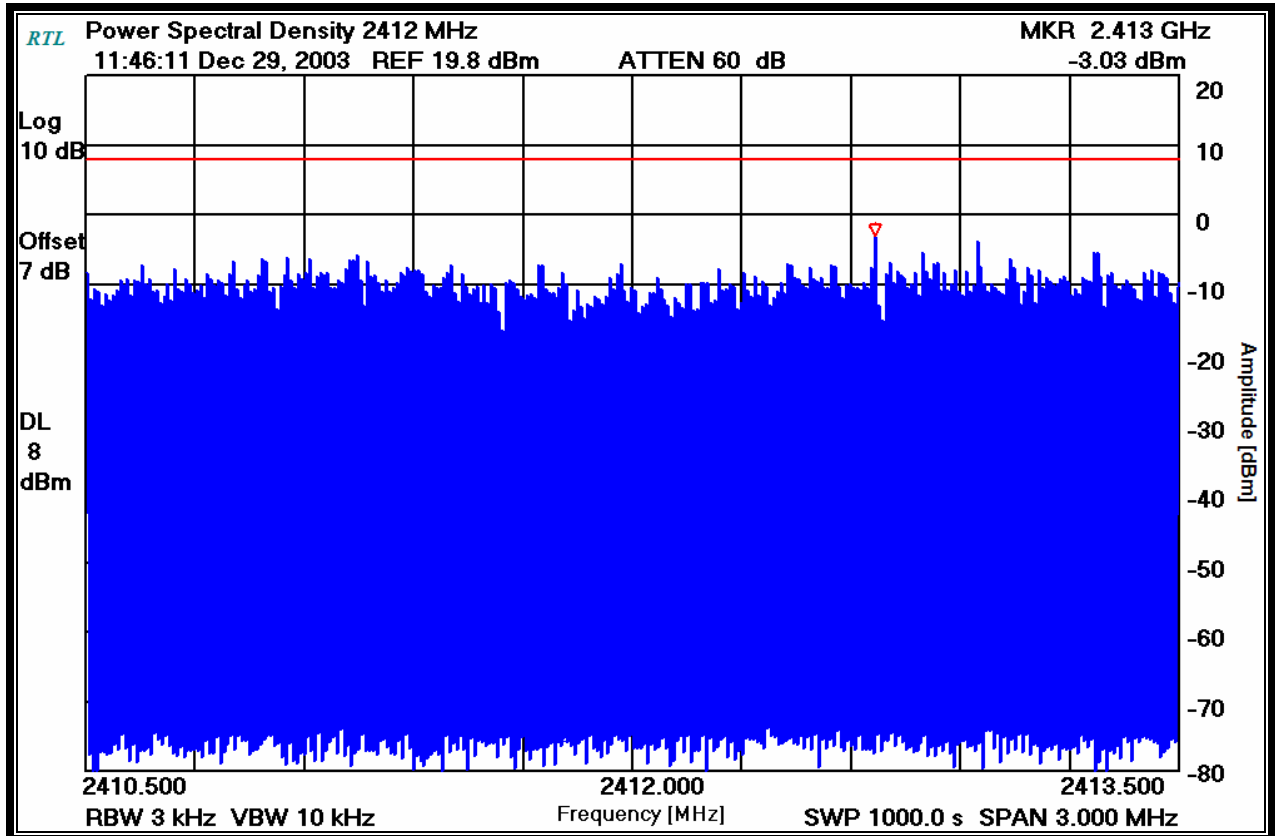
Signature

December 29, 2003
 Date Of Test

12.4 POWER SPECTRAL DENSITY PLOTS

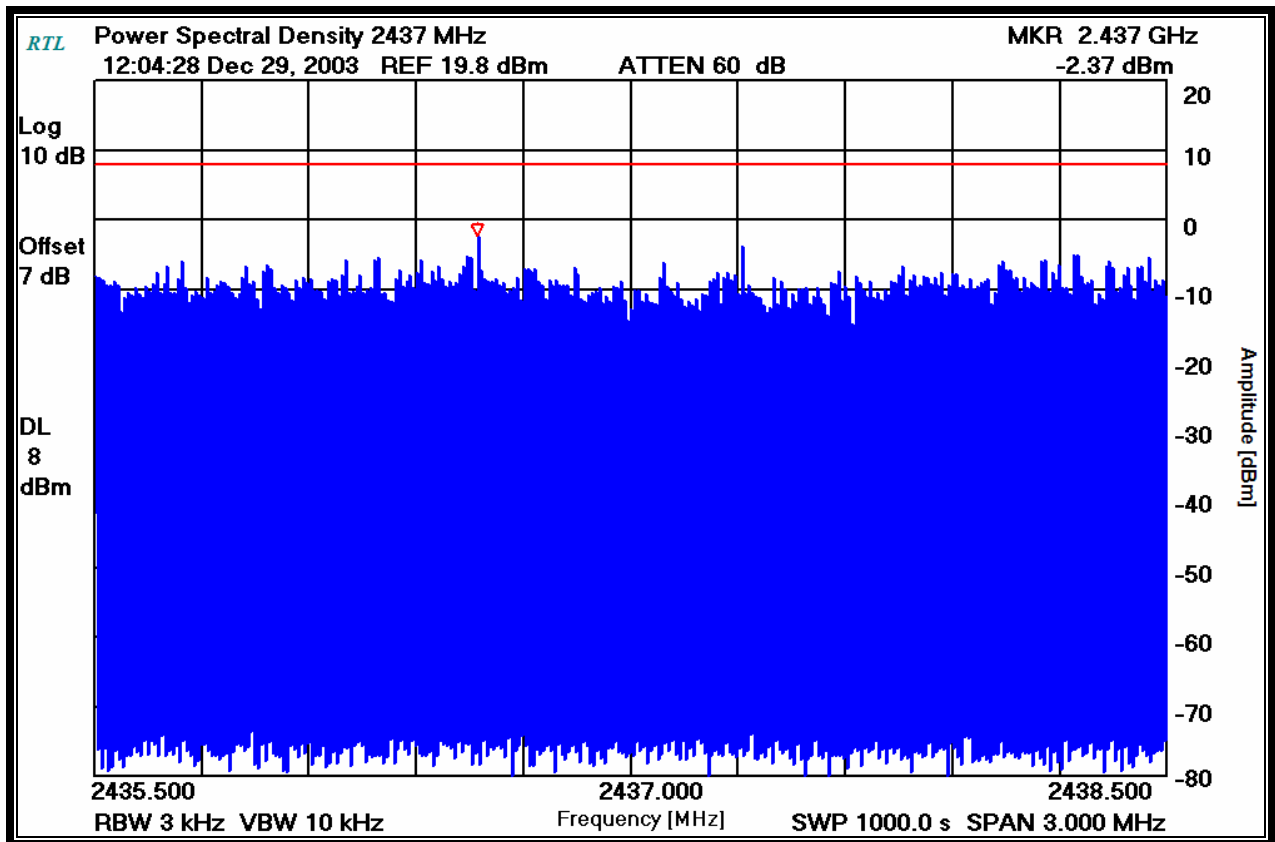
Operating Frequency (MHz): 2412
Channel: 1
Measured Cond. Pwr. (dBm): 19.6
Bandwidth Resolution (kHz): 3
Bandwidth Video (kHz): 10
Sweep Time (sec.): 1000.0

PLOT 12-1: POWER SPECTRAL DENSITY: CHANNEL 1



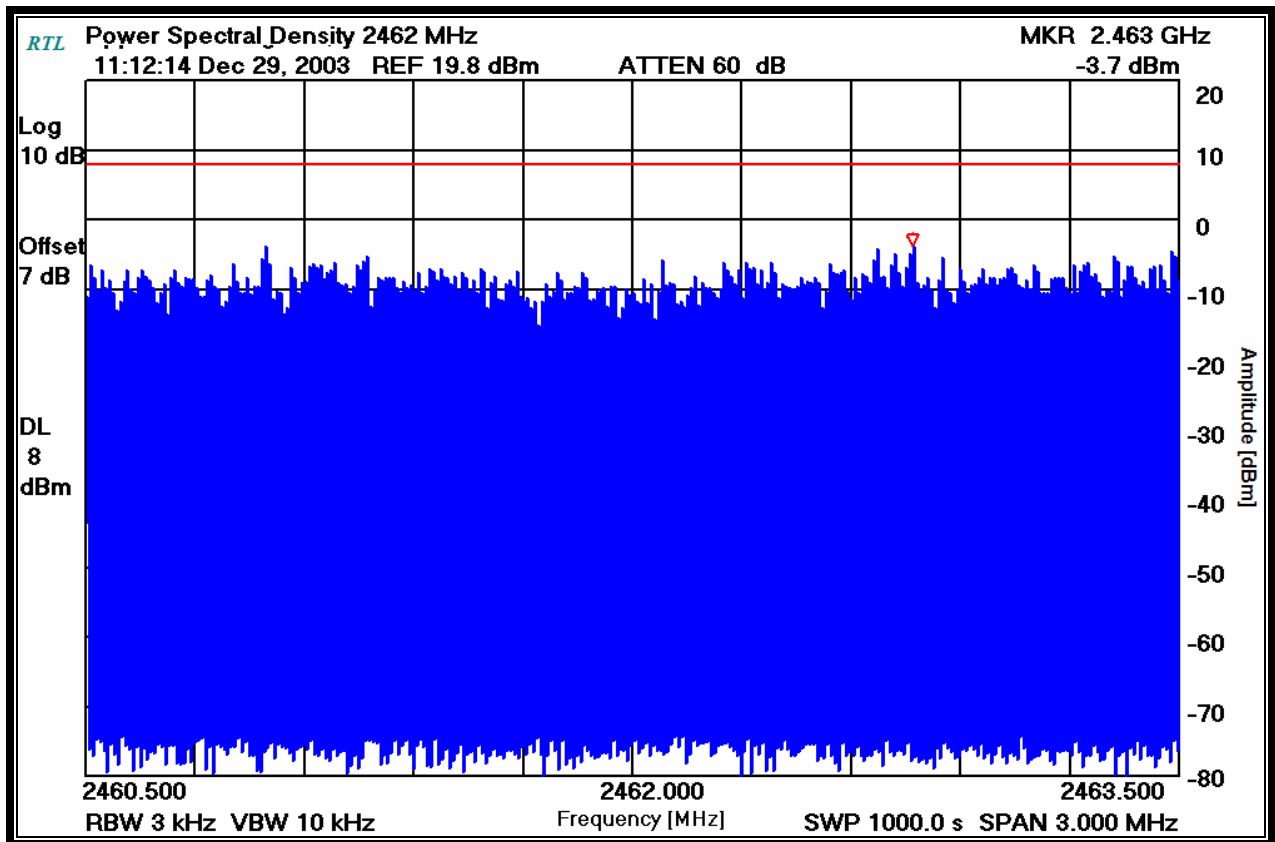
Operating Frequency (MHz): 2437
Channel: 6
Measured Cond. Pwr. (dBm): 19.2
Bandwidth Resolution (kHz): 3
Bandwidth Video (kHz): 10
Sweep Time (sec.): 1000.0

PLOT 12-2: POWER SPECTRAL DENSITY: CHANNEL 6



Operating Frequency (MHz): 2462
Channel: 11
Measured Cond. Pwr. (dBm): 19.8
Bandwidth Resolution (kHz): 3
Bandwidth Video (kHz): 10
Sweep Time (sec.): 1000.0

PLOT 12-3: POWER SPECTRAL DENSITY: CHANNEL 11



TEST PERSONNEL:

Daniel W. Baltzell
EMC Test Engineer

Signature

December 29, 2003
Date Of Test

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

Client: Paxar America's, Inc.
Model: 6037 with Symbol LA-4121
Standards: FCC 15.247 & IC RSS-210
FCC ID: GU66037LA4121
Report #: 2003210

13 CONCLUSION

The data in this measurement report shows that the EUT as tested, FCC ID: GU66037LA4121, complies with all the applicable requirements of Parts 2 and 15 of the FCC Rules and Regulations.