

#### Test Report

And Application for Grant of Equipment Authorization

#### TEST REPORT PERTAINING TO:

<b>Equipment Under Test</b>	Model Number(s)	FCC ID
Wireless Device Server	WB2100LFS-03	R68WIBATTV3

#### **CONFIGURATION**

802.11b & 802.11g module with a Wanshih 2.15dBi Reverse SMA Antenna (MN: WSS002)

#### MEASUREMENTS PERFORMED IN ACCORDANCE WITH THE FOLLOWING STANDARD (S)

# **Regulatory Standard(s)**

# 47 CFR Part 15, Subpart C Section 15.247

#### Test Method:

ANSI C63.4: 2003 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz



Certificate Number: 1111.01

#### PREPARED FOR:

Lantronix Inc. 15353 Barranca Parkway Irvine, California 92618

Contact(s): Mr. Van Quach

#### PREPARED BY:

Aegis Labs, Inc. 8 Rancho Circle Lake Forest, CA 92630

Agent(s): Mr. Rick Candelas

Mr. Po-wen Cheng

Test Report #: LANTR-080507F

Test Report Revision: NONE



	REPORT BODY	APPENDICES		TOTAL PAGES
	KEPOKI BODY	A	В	TOTAL PAGES
PAGES	14	46	1	61

The contents of this report shall not be reproduced except in full, without the written approval of Aegis Labs, Inc. The Lantronix Inc. logo is used for identification purposes only and is a registered trademark of Lantronix Inc.



# **TABLE OF CONTENTS**

SECTION	TITLE	PAGE
	COVER SHEET	01
	TABLE OF CONTENTS	02
1.0	REGULATORY COMPLIANCE GUIDELINES	03
1.1	Guidelines For Testing To Emissions Standards	03
2.0	SUMMARY OF REGULATORY LIMITS	04
3.0	ADMINISTRATIVE DATA AND TEST DESCRIPTION	06
4.0	DESCRIPTION OF EUT CONFIGURATION	07
4.1	EUT Description	07
4.2	EUT Configuration.	08
4.3	List of EUT Sub-Assemblies and Host Equipment.	09
4.4	I/O Cabling Diagram and Description	10
4.5	EMC Test Hardware and Software Measurement Equipment	12
5.0	CONDITIONS DURING EMISSIONS MEASUREMENTS	13
5.1	General	13
5.2	Conducted Emissions Test Setup	13
5.3	Radiated Emissions Test Setup.	14

	APPENDIO	CES
A	Test Data	
В	Modifications And Recommendations	



#### 1.0 REGULATORY COMPLIANCE GUIDELINES

Aegis Labs, Inc. operates as both a Nevada and California Corporation with no organizational or financial relationship with any company, institution, or private individual. Testing and engineering functions provided by Aegis Labs were furnished by RF technicians and engineers with accredited qualifications and training credentials to carry out their duties.

The object of this report was to publish verifiable test results of an EUT subjected to the tests outlined in the standard listed on the cover page of this report.

#### 1.1 Guidelines For Testing To Emissions Standards

This standard for EMC emission requirements apply to electrical equipment for Information Technology Equipment (ITE). Compliance to these standards and in combination with the other standards listed in this test report can be used to demonstrate presumption of compliance with the protection requirements of the appropriate agency standard.

The purpose of this standard is to specify minimum requirements for emissions regarding electromagnetic compatibility (EMC) and protect the radio frequency spectrum 9 kHz. – 400 GHz. from unwanted interference generated from electrical/digital systems that intentionally or unintentionally generated RF energy. The emissions standards, normative documents and/or publications were used to conduct all tests performed on the equipment herein referred to as "Equipment Under Test".



#### 2.0 **SUMMARY OF TEST RESULTS**

# 802.11b Mode (2400-2483.5 MHz)

	EMISSIONS STANDARD	<u> </u>	
FCC Part 15 Section	Description	Results	Comments
15.247(a)(2)	The minimum 6dB bandwidth shall be at least 500 kHz.	PASSED	2412 MHz = 10.08 MHz 2437 MHz = 10.08 MHz 2462 MHz = 10.25 MHz
15.247(b)(3)	The maximum peak output power of the intentional radiator shall not exceed 1 watt.	PASSED	2412 MHz = 17.00 dBm = 50.12 mW 2437 MHz = 16.07 dBm = 40.46 mW 2462 MHz = 16.06 dBm = 40.36 mW
15.247(b)(5)	The intentional radiator shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the FCC guidelines per Section 1.1307(b)(1).	PASSED	Refer to SAR Test Report
15.247(c)	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.	PASSED	See Data Sheets
15.247(c)	Radiated emissions, which fall in the restricted bands, as defined in Sec. 15.205(a), must also comply with the radiated emission limits specified in Sec. 15.209(a). All others must be < -20dBc.	PASSED	See Data Sheets
15.247(d)	The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.	PASSED	2412 MHz = -14.17 dB 2437 MHz = -15.17 dB 2462 MHz = -12.33 dB
15.207	AC Conducted Emissions	PASSED	See Data Sheets
15.209	Radiated Emissions (30-1000 MHz)	PASSED	See Data Sheets

FCC ID: R68WIBATTV3



# 2.0 Summary of Test Results (Continued)

# 802.11g Mode (2400-2483.5 MHz)

	EMISSIONS STANDARD		
FCC Part 15 Section	Description	Results	Comments
15.247(a)(2)	The minimum 6dB bandwidth shall be at least 500 kHz.	PASSED	2412 MHz = 16.58 MHz 2437 MHz = 16.50 MHz 2462 MHz = 16.58 MHz
15.247(b)(3)	The maximum peak output power of the intentional radiator shall not exceed 1 watt.	PASSED	2412 MHz = 20.15 dBm = 103.51 mW 2437 MHz = 19.63 dBm = 91.83 mW 2462 MHz = 19.55 dBm = 90.16 mW
15.247(b)(5)	The intentional radiator shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the FCC guidelines per Section 1.1307(b)(1).	PASSED	Refer to SAR Test Report
15.247(c)	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.	PASSED	See Data Sheets
15.247(c)	Radiated emissions, which fall in the restricted bands, as defined in Sec. 15.205(a), must also comply with the radiated emission limits specified in Sec. 15.209(a). All others must be < -20dBc.	PASSED	See Data Sheets
15.247(d)	The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.	PASSED	2412 MHz = -15.00 dB 2437 MHz = -16.50 dB 2462 MHz = -15.67 dB
15.207	AC Conducted Emissions	PASSED	See Data Sheets
15.209	Radiated Emissions (30-1000 MHz)	PASSED	See Data Sheets

## **ANALYSIS AND CONCLUSIONS**

Based upon the measurement results we find that this equipment is within the limits of the standard listed on the cover page of this test report. All results are based on a test of one sample. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

**Approval Signatories** 

**Test and Report Completed By:** 

07/10/08

Po-wen Chengs

Date:

**Test Engineer** 

Aegis Labs, Inc.

**Report Approved By:** 

Rick Candelas

Date:

07/11/08

ck Candelas Date

**Quality Assurance & EMC Lab Manager** 

Aegis Labs, Inc.



## 3.0 ADMINISTRATIVE DATA AND TEST DESCRIPTION

DEVICE TESTED:	ITE Type: Wireless Device Server Model Number(s): WB2100LFS-03 Serial Number: None FCC ID: R68WIBATTV3
DATE EUT RECEIVED: TEST DATE(S):	June 27 <sup>th</sup> , 2008 June 27 <sup>th</sup> , July 7 <sup>th</sup> – 10 <sup>th</sup> , 2007
ORIGIN OF TEST SAMPLE(S):	Production
EQUIPMENT CLASS:	EUT tested as CLASS B device
RESPONSIBLE PARTY:	Lantronix Inc. 15353 Barranca Parkway Irvine, CA 92618
CLIENT CONTACT:	Mr. Van Quach
MANUFACTURER:	Lantronix Inc.
TEST LOCATION:	Aegis Labs, Inc. 32231 Trabuco Creek Road Trabuco Canyon, CA 92678 Open Area Test Site: #1 & #2
ACCREDITATION CERTIFICATE(s):	A2LA Certificate Number: 1111.01, Valid through February 28, 2010
PURPOSE OF TEST:	To demonstrate compliance with the standards as described in Sections 1.0 & 2.0 of this report.
UNCERTAINTY BUDGET:	Proficiency Testing and Uncertainty Calculations for all tests indicated in this report have been conducted in accordance with ISO 17025: 2005 requirements Section 5.4.6, and 5.9. Uncertainty Budgets and Proficiency Test results available upon request.
STATEMENT OF CALIBRATION:	All accredited equipment calibrations were performed by Liberty Labs, Inc. and World Cal. with typical calibration uncertainty estimates derived from ISO Guide to the determination of uncertainties with a Coverage Factor of k=2 for 95% level of confidence.



#### 4.0 DESCRIPTION OF EUT CONFIGURATION

# 4.1 EUT Description

Equipment Under Test (EUT)			
Trade Name:	Wireless Device Server		
Model Number:	WB2100LFS-03		
Frequency Range:	802.11b/g = 2400 - 2483.5  MHz		
<b>Type of Transmission:</b>	Direct Sequence Spread Spectrum		
Transfer Rate:	1/5.5/11 Mbps for 802.11b mode 6/36/54 Mbps for 802.11g mode		
Number of Channels:	802.11b mode (2400-2483.5 MHz) = 11 802.11g mode (2400-2483.5 MHz) = 11		
<b>Modulation Type:</b>	DBPSK, DQPSK, CCK, OFDM		
Antenna Type:	External Antenna with Reverse SMA connector		
Antenna Gain (See Note 2):	2.4  GHz = 2.15 dBi		
Transmit Output Power:	Ch. 1-11 14dBm Average (Typical) for 802.11b mode Ch. 1-11: 10dBm Average (Typical) for 802.11g mode Please see Appendix A (Data Sheets) for actual output power.		
Power Supply:	7.5VDC input from external 120VAC Adapter		
Number of External Test Ports Exercised:	1 Antenna Port & 1 Serial Port		

The Wireless Device Server provides a network-enabling solution based on the IEEE 802.11b/g wireless standard.

It was tested as a standalone device with a Wanshih (MN: WSS002) antenna continuously transmitting and receiving form the antenna port.

**NOTE 1:** For a more detailed description, please refer to the manufacture's specifications or User's Manual.

**NOTE 2:** The EUT was tested with a Wanshih antenna. (Refer to the antenna specifications exhibits).



# 4.2 EUT Configuration

The EUT was tested as a standalone device connected to a remotely located Dell computer via its serial port (RJ-11). The Dell computer was then connected to a Linksys wireless router, a Dell monitor, an Antec keyboard and IBM mouse via its Ethernet, video, keyboard and mouse ports respectively. A Wanshih external antenna (MN: WSS002) was connected to the EUT's antenna ports via its reverse SMA antenna connector. Data for the Wanshih antenna can be found in Appendix A (Data Sheets).

The low, middle, and high channels were tested in 802.11b/g mode. The EUT was placed in either continuous transmit or continuous receive mode by a program provided by the manufacturer (*Linktest*).



# 4.3 List of EUT, Sub-Assemblies and Host Equipment

<b>Equipment Under Test</b>				
Manufacturer	<b>Equipment Name</b>	Model or Part Number	Serial Number	
Lantronix Inc.	Wireless Device Server	WB2100LFS-03	None	

EUT Sub Assemblies					
Manufacturer Equipment Name Model or Part Number Serial Numb					
Wanshih	External Antenna	WSS002	None		
Group West	Power Supply	12UR-7.5-1500	N/A		
Top Microsystems	Power Supply	AYY-SAW-0751500	T054196		

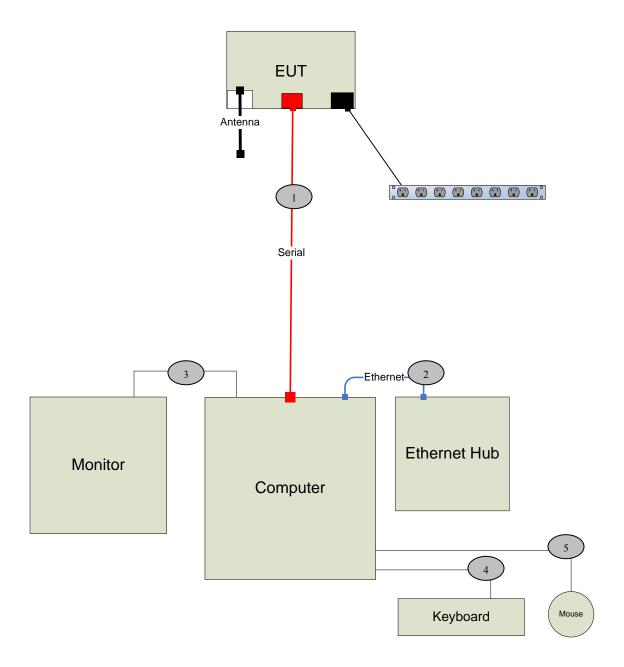
Remotely Located Support Equipment					
Manufacturer	<b>Equipment Name</b>	Model or Part Number	Serial Number		
Dell	Host Computer	L866r	EMLCC01		
Dell	Monitor	E550	MY-07753T-46632- 9BR-23D1		
Antec	Keyboard	K290	H0102105641		
IBM	Mouse	MO28VO	23-151242		
Linksys	Router	WRT54G ver.4	CDFA0E616322		

NOTE: All the power cords of the above support equipment are standard and non-shielded.

FCC ID: R68WIBATTV3



#### 4.4 I/O Cabling Diagram and Description



FCC ID: R68WIBATTV3



#### I/O Cabling Diagram and Description (continued) 4.4

			Signal Line Cabl	le Description			
Cable	Length	Construction	Source Connector	Destination Connector	Bundled Length	Ferrite Attached	Note
1	10.0m	Serial Cable	EUT's Serial Port: RJ-11	Host Computer: Metallic DB-9	N/A	N/A	N/A
2	1.5m	Round, Un- Shielded Twisted Pair (CAT 5)	Linksys Hub: Plastic RJ-45	Host Computer: Plastic RJ-45	N/A	N/A	N/A
3	1.5m	Round, Braid & Foil Shielded	Host Computer: Metallic DB-15	Monitor: Hardwired	N/A	N/A	N/A
4	1.5m	Round, Braid & Foil Shielded	Host Computer: Metallic 8-pin Mini DIN	Keyboard: Hardwired	N/A	N/A	N/A
5	1.5m	Round, Braid & Foil Shielded	Host Computer: Metallic 8-pin Mini DIN	Mouse: Hardwired	N/A	N/A	N/A



#### EMC Test Hardware and Software Measurement Equipment 4.5

TEST EQUIPMENT LIST - Emissions								
<b>Equipment Name</b>	Manufacturer	Model Number	Serial Number	Calibration Due Date	Maintenance Calibration Cycle			
Spectrum Analyzer	Agilent	8565EC	3946A00245	07/24/08	1 Year			
Antenna - Horn	ETS	3117	57423	03/21/09	1 Year			
Preamp	Aegis Labs, Inc	AEGIS-OATS1-1- 18	001	07/27/08	1 Year			
30 Foot Coax - Armored	Semflex	0619	S130SFBS10360	07/26/08	1 Year			
2.4 GHz Notch Filter	Micro-Tronics	BRM50702-02	003	NCR	NCR			
Antenna - 18-26.5 GHz Pre-amplified Horn	Aegis Labs, Inc.	H042	SLK-35-3W	02/08/09	1 Year			
EMI Receiver - RF Section	Hewlett Packard	8546A	3737A00407	10/09/08	1 Year			
EMI Receiver - RF Filter Section	Hewlett Packard	85460A	3704A00399	10/09/08	1 Year			
Antenna - Biconical	EMCO	3110	9108-1421	06/30/09	1 Year			
Antenna - Log Periodic	EMCO	3148	4947	06/30/09	1 Year			
Power Meter	Anritsu	ML2487A	6K00001785	05/29/09	1 Year			
Wide Bandwidth Sensor	Anritsu	MA2491A	31193	05/29/09	1 Year			
12dB Attenuator	Narda	4779-12	203	06/09/09	1 Year			
Temperature/Humidity Monitor	Dickson	TH550	7255185	04/13/09	1 Year			



#### 5.0 CONDITIONS DURING EMISSIONS MEASUREMENTS

#### 5.1 General

All measurements were made according to the procedures defined in or referred to by the standard listed on the cover page of this report. The measurements were made in the operating mode producing the largest emissions consistent with normal operation and connected to the minimum configuration of auxiliary devices.

## 5.2 Conducted Emissions Test Setup

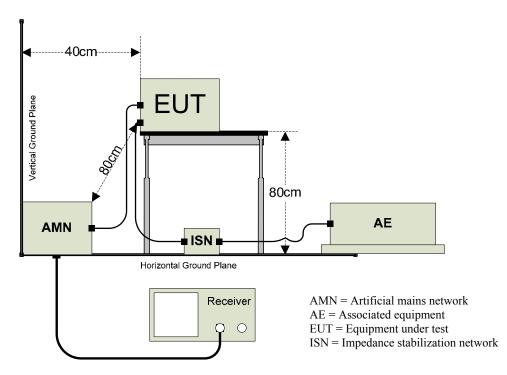
The following was the test configuration.

EUT signal cables that hung closer than 40 cm to the horizontal metal ground plane were folded back and forth forming a bundle 30 cm to 40 cm long. The power cord of the EUT was also bundled in the center and plugged into one of the artificial mains network (AMN). All peripheral equipment was powered from a second AMN via a multiple outlet strip placed at a distance on 10cm from each other. The AMN and ISN were positioned 80cm from the EUT. Signal cables that were not connected to an AE were terminated using the correct termination. If applicable, the current probe was placed at 0.1 m from the ISN.

Peak, quasi-peak and/or average detectors were used for testing performed between 150 kHz and 30 MHz. A swept frequency scan was performed for both Line 1 and Line 2. The six highest readings were compared against the limit and recorded in the data sheet along with a snapshot image of the sweep scan. The graphical scans in Appendix A only reflect peak readings while the tabulated data sheets reflect peak, average, and/or quasi-peak measurements.

#### Climatic Conditions:

The EUT was tested within its intended operating and climatic conditions.





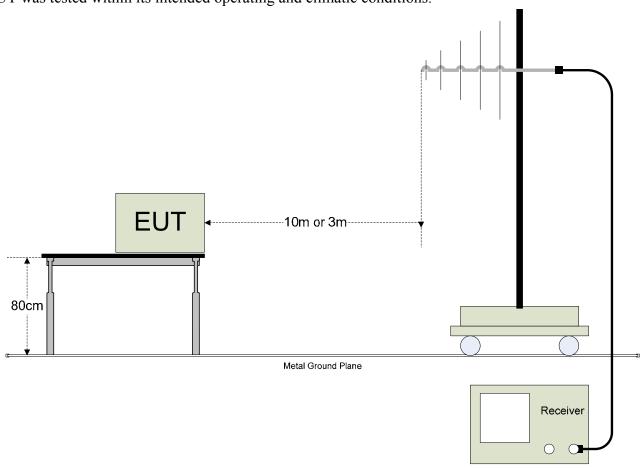
# 5.3 Radiated Emissions Test Setup

The Open Area Test Site (OATS) was used for radiated emission testing. The receiving (Rx) antenna(s) was placed 10m from the nearest side of the EUT facing the Rx antenna. The EUT (if floor-standing) was placed directly on the flush-mounted 360 degree rotating turntable. The EUT (if table-top) was placed directly on an 80cm high non-metallic table, and the table was placed on the rotating turntable. During the initial EMI scan, all the suspect frequencies, i.e.; harmonics, broadband signals were checked with the Rx broadband antennas in both vertical and horizontal polarities. The biconical Rx, log periodic Rx, and horn Rx antennas were used from 30MHz – 299.99MHz, 300MHz – 1000MHz, and 1GHz – 18GHz respectively.

Upon completion of all harmonic and broadband measurements, the balance of any remaining frequencies was checked between 30MHz – 18GHz. Any signals appearing within 20 dB of the classification limit was measured. Each signal was maximized by first rotating the turntable at least 360 degrees and recording the azimuth in the data sheet. Lastly, the Rx antenna was raised and/or lowered to maximize the signal elevation. If the measured signal was obtained using the peak detector and that signal appeared within 3 dB of the regulatory limit line, then the same signal was re-measured using the quasi-peak detector on the EMI receiver. Both meter readings if necessary were recorded on the data sheet.

#### Climatic Conditions:

The EUT was tested within its intended operating and climatic conditions.



Page 14 of 14 Report Number: LANTR-080507F Revision Number: NONE FCC ID: R68WIBATTV3



# **APPENDIX A**

# TEST DATA



# AC POWER PORT - CONDUCTED EMISSIONS TEST RESULTS

CLIENT:	Lantronix Inc.	DATE:	07/07/08
EUT:	Wireless Device Server	<b>PROJECT NUMBER:</b>	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	<b>TEST ENGINEER:</b>	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
	Tested with Group West	TEMPERATURE:	27 deg. C
<b>CONFIGURATION:</b>	Power Adaptor and Top	<b>HUMIDITY:</b>	25%
	Microsystems Power Adapter	TIME:	03:00 PM

<b>Description:</b>	Conducted Power RF Emissions (150 kHz – 30 MHz)					
<b>Results:</b>	PASSED Limits					
Note:	Conducted Emissions Measurements were performed on the EUT with the power source set at the following voltage.  • 120VAC / 60Hz					

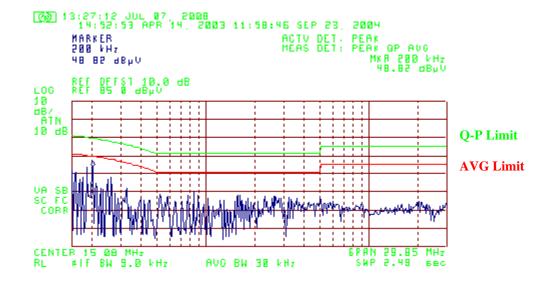
Conducted Limits							
Frequency (MHz) Quasi-Peak Limit (dBuV) Average Limit (dBuV)							
0.15-0.5	66 to 56*	56 to 46*					
0.5-5	56	46					
5-30	60	50					

<sup>\*</sup>Decreases with the logarithm of the frequency.



# Group West Power Adapter @ 120VAC / 60Hz (LANTR-080507-02)

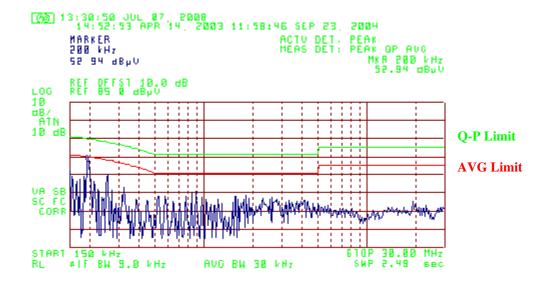
	FCC Part 15 CLASS B CONDUCTED EMISSIONS – LINE 1								
Freq. (MHz)	Meter Reading (dBuV)	Detector (PK/QP/AV)	Average Limit (dBuV)	Average Delta(dB)	Quasi-Peak Limit (dBuV)	Quasi-Peak Delta(dB)			
0.2000	48.82	PK	54.57	-5.75	64.57	-15.75			
0.2000	34.55	AV	54.57	-20.02	64.57	-30.02			
0.1900	48.38	PK	54.86	-6.48	64.86	-16.48			
0.1600	45.64	PK	55.71	-10.07	65.71	-20.07			
0.1800	42.76	PK	55.14	-12.38	65.14	-22.38			
0.2600	42.66	PK	52.86	-10.20	62.86	-20.20			
0.1700	42.01	PK	55.43	-13.42	65.43	-23.42			





# Group West Power Adapter @ 120VAC / 60Hz (LANTR-080507-02)

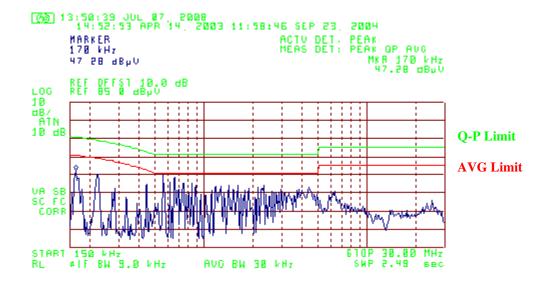
	FCC Part 15 CLASS B CONDUCTED EMISSIONS – LINE 2							
Freq. (MHz)	Meter Reading (dBuV)	Detector (PK/QP/AV)	Average Limit (dBuV)	Average Delta(dB)	Quasi-Peak Limit (dBuV)	Quasi-Peak Delta(dB)		
0.2000	52.94	PK	54.57	-1.63	64.57	-11.63		
0.2000	35.37	AV	54.57	-19.20	64.57	-29.20		
0.2600	44.93	PK	52.86	-7.93	62.86	-17.93		
0.1800	44.25	PK	55.14	-10.89	65.14	-20.89		
0.1600	43.92	PK	55.71	-11.79	65.71	-21.79		
0.1700	42.43	PK	55.43	-13.00	65.43	-23.00		
0.2100	41.04	PK	54.29	-13.25	64.29	-23.25		





## Top Microsystems Power Adapter @ 120VAC / 60Hz (LANTR-080507-03)

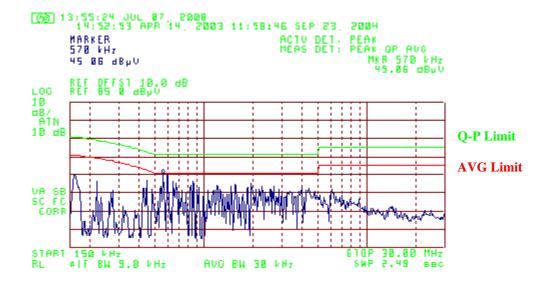
FCC Part 15 CLASS B CONDUCTED EMISSIONS – LINE 1							
Freq. (MHz)	Meter Reading (dBuV)	Detector (PK/QP/AV)	Average Limit (dBuV)	Average Delta(dB)	Quasi-Peak Limit (dBuV)	Quasi-Peak Delta(dB)	
0.1700	47.28	PK	55.43	-8.15	65.43	-18.15	
0.5600	45.82	PK	46.00	-0.18	56.00	-10.18	
0.5600	27.93	AV	46.00	-18.07	56.00	-28.07	
0.2300	44.79	PK	53.71	-8.92	63.71	-18.92	
0.6600	43.43	PK	46.00	-2.57	56.00	-12.57	
0.6600	26.53	AV	46.00	-19.47	56.00	-29.47	
0.6200	40.77	PK	46.00	-5.23	56.00	-15.23	
0.6200	23.55	AV	46.00	-22.45	56.00	-32.45	
0.8600	40.21	PK	46.00	-5.79	56.00	-15.79	
0.8600	9.45	AV	46.00	-36.55	56.00	-46.55	





## Top Microsystems Power Adapter @ 120VAC / 60Hz (LANTR-080507-03)

	FCC Part 15 CLASS B CONDUCTED EMISSIONS – LINE 2							
Freq. (MHz)	Meter Reading (dBuV)	Detector (PK/QP/AV)	Average Limit (dBuV)	Average Delta(dB)	Quasi-Peak Limit (dBuV)	Quasi-Peak Delta(dB)		
0.5700	45.06	PK	46.00	-0.94	56.00	-10.94		
0.5700	19.45	AV	46.00	-26.55	56.00	-36.55		
0.1600	44.79	PK	55.71	-10.92	65.71	-20.92		
0.5900	44.50	PK	46.00	-1.50	56.00	-11.50		
0.5900	9.38	AV	46.00	-36.62	56.00	-46.62		
0.4500	41.85	PK	47.43	-5.58	57.43	-15.58		
0.4500	25.65	AV	47.43	-21.78	57.43	-31.78		
0.2200	41.21	PK	54.00	-12.79	64.00	-22.79		
0.6500	40.95	PK	46.00	-5.05	56.00	-15.05		
0.6500	23.43	AV	46.00	-22.57	56.00	-32.57		





## RADIATED EMISSIONS TEST RESULTS

CLIENT:	Lantronix Inc.	DATE:	07/10/08
EUT:	Wireless Device Server	PROJECT NUMBER:	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
	Tested with a Wanshih	TEMPERATURE:	27 deg. C
<b>CONFIGURATION:</b>	2.15dBi antenna	<b>HUMIDITY:</b>	30% RH
	2.13ubi antenna	TIME:	01:00PM

<b>Description:</b>	Radiated RF Emissions (30 MHz – 1000 MHz)
<b>Results:</b>	PASSED Horizontal and Vertical Antenna Polarizations Class B Limits
Note:	During preliminary scans, there wasn't any difference which channel or data rate was
	used with the EUT; therefore only 802.11b mode at Channel 1 with a data rate of 1
	Mbps was used for final testing.

Radiated Limits						
Frequency (MHz)	Quasi-Peak Limit (dBuV)					
30-88	40					
88-216	43.52					
216-960	46.02					
960-1000	54					

Radiated Emissions Sample Calculations

Corrected Meter Reading = Meter Reading + F +C - D

Where, F = Antenna Factor

C = Cable Factor

G = Amplifier Gain

D = Distance Factor (if applicable)

Therefore, the equation for determining the Corrected Meter Reading Limit (CML) is:

CML = Specification Limit - F - C + D



# Wanshih @ 120VAC/60Hz (LANTR-080507-06a)

	RADIATED EMISSIONS - Horizontal Antenna Polarization										
Freq.	Meter	Antenna	Azimuth	Quasi pk or	· Cable	Ant.	Corrected	Limits	Diff(dB)		
(MHz)	Reading	Height	(degrees)	AVG	Factor	Factor	Reading	(dBuV)	+=FAIL		
	(dBuV)	(cm)		(dBuV)	(dB)	(dB)	(dBuV)				
80.02	10.36	400	0		2.22	6.20	18.78	40.00	-21.22		
111.39	4.58	400	0		2.32	11.41	18.31	43.50	-25.19		
333.31	13.35	350	135		3.26	15.47	32.08	46.00	-13.92		
374.99	8.82	300	135		3.44	15.70	27.96	46.00	-18.04		
416.63	25.27	250	0	24.33	3.60	16.70	44.63	46.00	-1.37		

	RADIATED EMISSIONS - Vertical Antenna Polarization														
Freq.	Meter	Antenna	Azimuth	Quasi pk or	Cable	Ant.	Corrected	Limits	Diff(dB)						
(MHz)	Reading	Height	(degrees)	AVG	Factor	Factor	Reading	(dBuV)	+=FAIL						
	(dBuV)	(cm)		(dBuV)	(dB)	(dB)	(dBuV)								
49.88	15.94	100	0		1.99	11.34	29.26	40.00	-10.74						
62.00	22.35	100	0		2.07	7.50	31.92	40.00	-8.08						
66.00	22.78	100	0		2.10	6.90	31.78	40.00	-8.22						
125.00	4.38	100	0		2.37	13.90	20.65	43.50	-22.85						
135.96	4.45	100	0		2.42	14.74	21.61	43.50	-21.89						
333.29	20.93	100	180		3.26	15.20	39.39	46.00	-6.61						
416.63	18.17	100	135		3.60	16.10	37.87	46.00	-8.13						



## RADIATED EMISSIONS TEST RESULTS

CLIENT:	Lantronix Inc.	DATE:	07/08/08
EUT:	Wireless Device Server	PROJECT NUMBER:	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
	Tested in <b>802.11b</b> ( <b>2400</b> -	TEMPERATURE:	25 deg. C
<b>CONFIGURATION:</b>	<b>2483.5 MHz) mode</b> with a	<b>HUMIDITY:</b>	34% RH
	Wanshih 2.15dBi antenna.	TIME:	08:40 AM

<b>Description:</b>	Radiated RF Emissions (1 GHz – 18 GHz)
<b>Results:</b>	PASSED Horizontal and Vertical Antenna Polarizations Class B Limits
Note:	Radiated Emissions Measurements were performed on the EUT with power supply set
	at the following voltage and frequency.
	• 120VAC / 60 Hz.

		<b>Unwanted Spurious Emissions</b>	Limits
Frequency (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m) (Emissions in the restricted bands)	Field Strength (dBm/MHz) (Emissions outside the restricted bands)
Above 960	500	54.00 (Average) 74.00 (Peak)	< -20 dBc

Radiated Emissions Sample Calculations

Corrected Meter Reading = Meter Reading + F +C - D

Where, F = Antenna Factor

C = Cable Factor

G = Amplifier Gain

D = Distance Factor (if applicable)

Therefore, the equation for determining the Corrected Meter Reading Limit (CML) is:

CML = Specification Limit - F - C + D



Fundamental Measurements in 802.11b mode (2400-2483.5 MHz)
Channels 1, 6, & 11
Continuous TX at MAIN Antenna port with Wanshih Antenna
Aegis Labs, Inc. File #: LANTR-080507-04

	RADIATED EMISSIONS - Horizontal Antenna Polarization														
Freq.	Meter	Antenna	Azimuth	Quasi pk	Quasi pk or		Ant.	Corrected	Limits	Diff(dB)	Comments				
(MHz)	Reading	Height	(degrees)	AVG (dBi	AVG (dBuV)		Factor	Reading	(dBuV)	+=FAIL					
	(dBuV)	(cm)					(dB)	(dBuV)							
2412.00	63.17	100	45			2.53	32.19	97.89			Ch. 1				
2412.00				58.97	A	2.53	32.19	93.69							
2437.00	61.67	150	45			2.54	32.22	96.43			Ch. 6				
2437.00				58.13	A	2.54	32.22	92.89							
2462.00	60.33	100	45			2.55	32.25	95.14			Ch. 11				
2462.00				56.69	Α	2.55	32.25	91.50							

	RADIATED EMISSIONS – Vertical Antenna Polarization														
Freq.	Meter	Antenna	Azimuth	Quasi pk	or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments				
(MHz)	Reading	Height	(degrees)	AVG (dBı	AVG (dBuV)		Factor	Reading	(dBuV)	+=FAIL					
	(dBuV)	(cm)			, i		(dB)	(dBuV)							
2412.00	73.17	125	135			2.53	31.92	107.62			Ch. 1				
2412.00				68.83	Α	2.53	31.92	103.28							
2437.00	70.50	100	225			2.54	31.97	105.01			Ch. 6				
2437.00				66.49	Α	2.54	31.97	101.00							
2462.00	70.17	125	225			2.55	32.02	104.75			Ch. 11				
2462.00				66.83	A	2.55	32.02	101.41							

NOTE: Fundamental signals measured to calculate the band edge field strengths using the "Marker Delta Method".



# Band Edge Field Strength Measurements in 802.11b mode (2400-2483.5 MHz) Channels 1 & 11 Continuous TX at MAIN Antenna port with Wanshih Antenna Aegis Labs, Inc. File #: LANTR-080507-04

	RADIATED EMISSIONS - Horizontal Antenna Polarization														
Freq.	Meter	Antenna	Azimuth	Quasi pk or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments					
(MHz)	Reading	Height	(degrees)	AVG(dBuV)	Factor	Factor	Reading	(dBuV)	+=FAIL						
	(dBuV)	(cm)			(dB)	(dB)	(dBuV)								
2390.00							45.72	74.00	-28.28	Ch. 1					
2390.00				A			33.53	54.00	-20.47						
2400.00	31.00	100	45		2.52	32.18	65.70	77.89	-12.19						
2483.50							44.31	74.00	-29.69	Ch. 11					
2483.50				A			32.17	54.00	-21.83						

	RADIATED EMISSIONS – Vertical Antenna Polarization														
Freq.	Meter	Antenna	Azimuth	Quasi pk or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments					
(MHz)	Reading	Height	(degrees)	AVG(dBuV)	Factor	Factor	Reading	(dBuV)	+=FAIL						
(dBuV) $(cm)$					(dB)	(dB)	(dBuV)								
2390.00							55.45	74.00	-18.55	Ch. 1					
2390.00				A			43.12	54.00	-10.88						
2400.00	31.83	100	135		2.52	31.90	66.25	87.62	-21.37						
2483.50							53.92	74.00	-20.09	Ch. 11					
2483.50				A			42.08	54.00	-11.93						

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:

 $BE = Fm - \Delta m$ 

#### Where

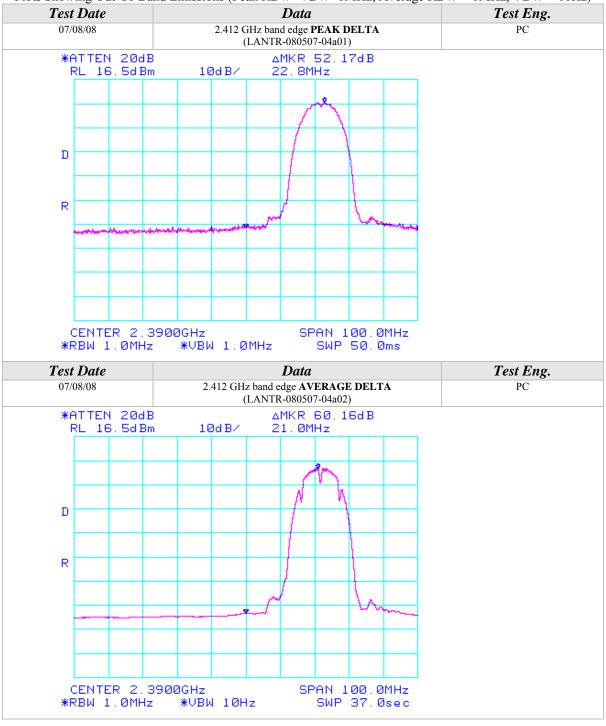
BE = Band Edge Field Strength

Fm = Measured Fundamental (Peak or Average)

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

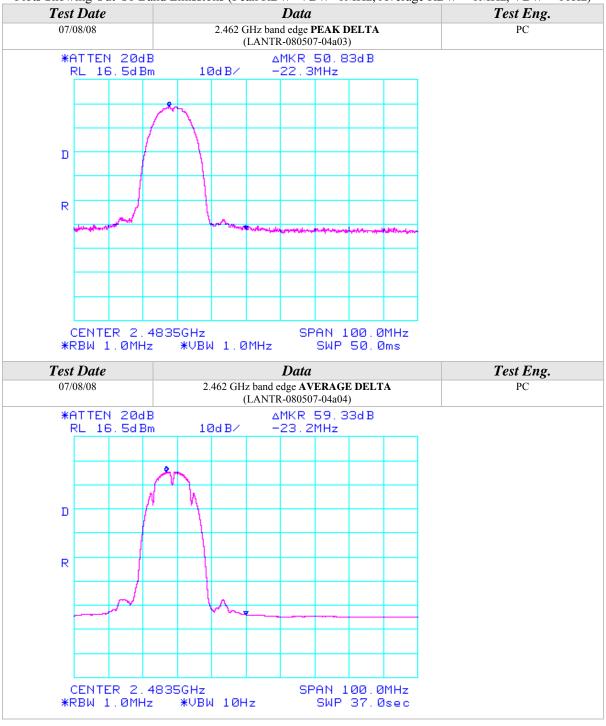














Spurious Emissions Measurements in 802.11b mode (2400-2483.5 MHz)
Channels 1, 6, & 11
Continuous TX at MAIN Antenna port with Wanshih Antenna
Aegis Labs, Inc. File #: LANTR-080507-05

	RADIATED EMISSIONS - Horizontal Antenna Polarization														
Freq. (MHz)	Meter	Antenna	Azimuth	Quasi pk	k or	Preamp	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments			
	Reading	Height	(degrees)	AVG (dB	AVG (dBuV)		Factor	Factor	Reading	(dBuV)	+=FAIL				
	(dBuV)	(cm)				(dB)	(dB)	(dB)	(dBuV)						
4824.00	53.50	100	225			46.31	3.59	34.21	40.12	74.00	-33.88	Ch. 1			
4824.00				41.21	Α	46.31	3.59	34.21	27.83	54.00	-26.17				
4873.99	52.33	100	225			46.31	3.64	34.18	38.99	74.00	-35.01	Ch. 6			
4873.99				40.56	A	46.31	3.64	34.18	27.22	54.00	-26.78				
4924.00	53.00	100	225			46.31	3.67	34.15	39.66	74.00	-34.34	Ch. 11			
4924.00				40.44	Α	46.31	3.67	34.15	27.10	54.00	-26.90				

	RADIATED EMISSIONS - Vertical Antenna Polarization														
Freq. (MHz)	Meter	Antenna	Azimuth	Quasi pk	or	Preamp	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments			
	Reading	Height	(degrees)	AVG (dB	AVG (dBuV)		Factor	Factor	Reading	(dBuV)	+=FAIL				
	(dBuV)	(cm)				(dB)	(dB)	(dB)	(dBuV)						
4824.01	52.83	100	180			46.31	3.59	34.24	39.48	74.00	-34.52	Ch. 1			
4824.01				40.86	Α	46.31	3.59	34.24	27.51	54.00	-26.49				
4873.99	52.50	100	180			46.31	3.64	34.23	39.21	74.00	-34.79	Ch. 6			
4873.99				40.19	Α	46.31	3.64	34.23	26.90	54.00	-27.10				
4924.05	52.00	100	180			46.31	3.67	34.22	38.73	74.00	-35.27	Ch. 11			
4924.05				40.10	Α	46.31	3.67	34.22	26.83	54.00	-27.17				



Spurious Emissions Measurements in 802.11b mode (2400-2483.5 MHz)
Channels 1, 6, & 11
Continuous RX at MAIN Antenna port with Wanshih Antenna
Aegis Labs, Inc. File #: LANTR-080507-05

	RADIATED EMISSIONS - Horizontal Antenna Polarization														
Freq. (MHz)	Meter	Antenna	Azimuth	Quasi pk	or	Preamp	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments			
	Reading	Height	(degrees)	AVG (dB	uV)	Factor	Factor	Factor	Reading	(dBuV)	+=FAIL				
	(dBuV)	(cm)				(dB)	(dB)	(dB)	(dBuV)						
4824.00	53.00	100	180			46.31	3.59	34.21	39.62	74.00	-34.38	Ch. 1			
4824.00				40.62	Α	46.31	3.59	34.21	27.24	54.00	-26.76				
4874.00	53.00	100	180			46.31	3.64	34.18	39.66	74.00	-34.34	Ch. 6			
4874.00				40.19	Α	46.31	3.64	34.18	26.85	54.00	-27.15				
4924.00	52.00	100	180			46.31	3.67	34.15	38.66	74.00	-35.34	Ch. 11			
4924.00				40.25	Α	46.31	3.67	34.15	26.91	54.00	-27.09				

	RADIATED EMISSIONS - Vertical Antenna Polarization														
Freq. (MHz)	Meter	Antenna	Azimuth	Quasi pk	or	Preamp	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments			
	Reading	Height	(degrees)	AVG (dB	AVG(dBuV)		Factor	Factor	Reading	(dBuV)	+=FAIL				
	(dBuV)	(cm)				(dB)	(dB)	(dB)	(dBuV)						
4824.00	53.17	100	180			46.31	3.59	34.24	39.82	74.00	-34.18	Ch. 1			
4824.00				41.04	Α	46.31	3.59	34.24	27.69	54.00	-26.31				
4874.00	52.67	100	180			46.31	3.64	34.23	39.38	74.00	-34.62	Ch. 6			
4874.00				40.53	Α	46.31	3.64	34.23	27.24	54.00	-26.76				
4924.00	52.83	100	180			46.31	3.67	34.22	39.56	74.00	-34.44	Ch. 11			
4924.00				40.47	Α	46.31	3.67	34.22	27.20	54.00	-26.80				



#### RADIATED EMISSIONS TEST RESULTS

CLIENT:	Lantronix Inc.	DATE:	07/08/08
EUT:	Wireless Device Server	PROJECT NUMBER:	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
	Tested in <b>802.11g</b> ( <b>2400</b> -		25 deg. C
CONFIGURATION:	<b>2483.5 MHz) mode</b> with a	<b>HUMIDITY:</b>	34% RH
	Wanshih 2.15dBi antenna.	TIME:	08:40 PM

<b>Description:</b>	Radiated RF Emissions (1 GHz – 18 GHz)				
<b>Results:</b>	PASSED Horizontal and Vertical Antenna Polarizations Class B Limits				
Note:	Radiated Emissions Measurements were performed on the EUT with power supply set				
	at the following voltage and frequency.				
	• 120VAC / 60 Hz.				

	Unwanted Spurious Emissions Limits								
Frequency (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m) (Emissions in the restricted bands)	Field Strength (dBm/MHz) (Emissions outside the restricted bands)						
Above 960	500	54.00 (Average) 74.00 (Peak)	< -20 dBc						

Radiated Emissions Sample Calculations

Corrected Meter Reading = Meter Reading + F +C - D

Where, F = Antenna Factor

C = Cable Factor

G = Amplifier Gain

D = Distance Factor (if applicable)

Therefore, the equation for determining the Corrected Meter Reading Limit (CML) is:

CML = Specification Limit - F - C + D



Fundamental Measurements in 802.11g mode (2400-2483.5 MHz)
Channels 1, 6, & 11
Continuous TX at MAIN Antenna port with Wanshih Antenna
Aegis Labs, Inc. File #: LANTR-080507-04

	RADIATED EMISSIONS - Horizontal Antenna Polarization										
Freq.	Meter	Antenna	Azimuth	Quasi pk	or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments
(MHz)	Reading	Height	(degrees)	AVG (dBi	uV)	Factor	Factor	Reading	(dBuV)	+=FAIL	
	(dBuV)	(cm)				(dB)	(dB)	(dBuV)			
2412.00	60.17	100	45			2.53	32.19	94.89			Ch. 1
2412.00				51.83	A	2.53	32.19	86.55			
2437.00	60.33	200	180			2.54	32.22	95.09			Ch. 6
2437.00				51.54	A	2.54	32.22	86.30			
2462.00	59.17	150	45			2.55	32.25	93.98			Ch. 11
2462.00				50.59	Α	2.55	32.25	85.40			

	RADIATED EMISSIONS – Vertical Antenna Polarization										
Freq.	Meter	Antenna	Azimuth	Quasi pk	or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments
(MHz)	Reading	Height	(degrees)	AVG (dBi	$\iota V)$	Factor	Factor	Reading	(dBuV)	+=FAIL	
	(dBuV)	(cm)				(dB)	(dB)	(dBuV)			
2412.00	71.17	100	135			2.53	31.92	105.62			Ch. 1
2412.00				62.56	Α	2.53	31.92	97.01			
2437.00	68.17	150	135			2.54	31.97	102.68			Ch. 6
2437.00				59.57	Α	2.54	31.97	94.08			
2462.00	67.67	100	225			2.55	32.02	102.25			Ch. 11
2462.00				58.93	A	2.55	32.02	93.51			

NOTE: Fundamental signals measured to calculate the band edge field strengths using the "Marker Delta Method".



# Band Edge Field Strength Measurements in 802.11g mode (2400-2483.5 MHz) Channels 1 & 11 Continuous TX at MAIN Antenna port with Wanshih Antenna Aegis Labs, Inc. File #: LANTR-080507-04

	RADIATED EMISSIONS - Horizontal Antenna Polarization									
Freq.	Meter	Antenna	Azimuth	Quasi pk or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments
(MHz)	Reading	Height	(degrees)	AVG(dBuV)	Factor	Factor	Reading	(dBuV)	+=FAIL	
	(dBuV)	(cm)			(dB)	(dB)	(dBuV)			
2390.00							50.56	74.00	-23.44	Ch. 1
2390.00				A			36.88	54.00	-17.12	
2400.00	35.83	100	45		2.52	32.18	70.53	74.89	-4.36	
2483.50							47.31	74.00	-26.69	Ch. 11
2483.50				A			35.24	54.00	-18.76	

	RADIATED EMISSIONS – Vertical Antenna Polarization									
Freq.	Meter	Antenna	Azimuth	Quasi pk or	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments
(MHz)	Reading	Height	(degrees)	AVG(dBuV)	Factor	Factor	Reading	(dBuV)	+=FAIL	
	(dBuV)	(cm)			(dB)	(dB)	(dBuV)			
2390.00							61.29	74.00	-12.71	Ch. 1
2390.00				A			47.34	54.00	-6.66	
2400.00	44.83	100	135		2.52	31.90	79.25	85.62	-6.37	
2483.50							55.58	74.00	-18.43	Ch. 11
2483.50				A			43.35	54.00	-10.66	

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:

 $BE = Fm - \Delta m$ 

#### Where

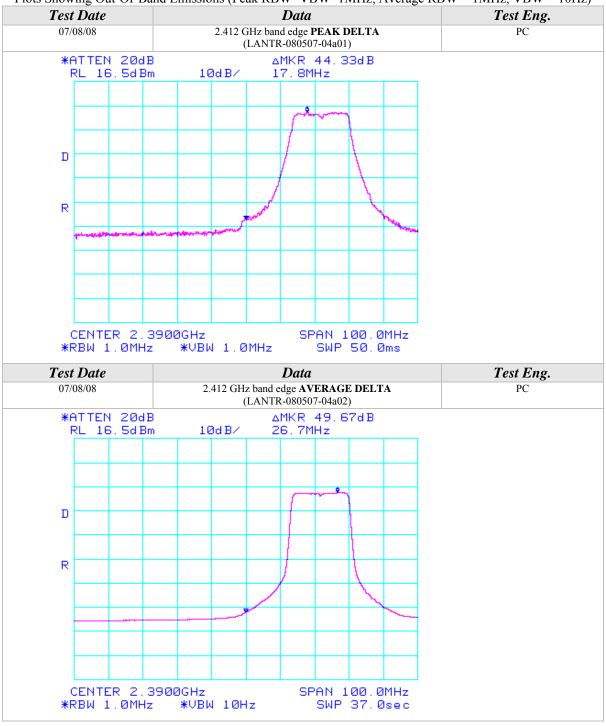
BE = Band Edge Field Strength

Fm = Measured Fundamental (Peak or Average)

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

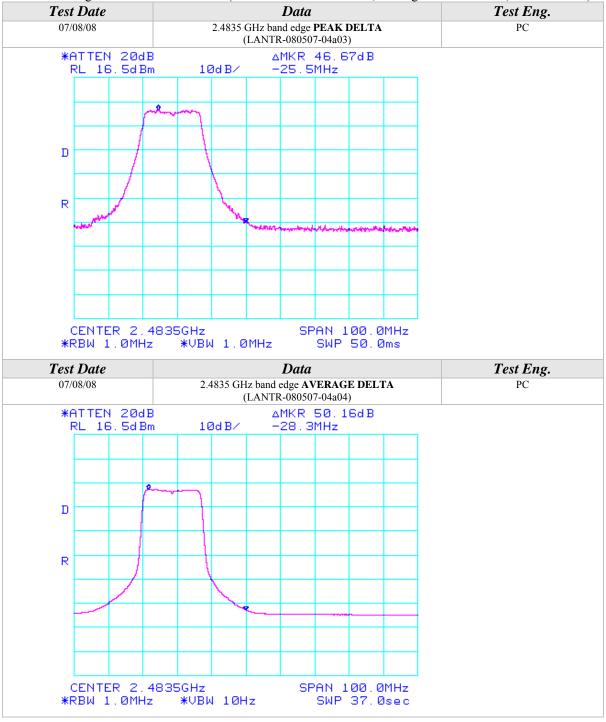














Spurious Emissions Measurements in 802.11g mode (2400-2483.5 MHz)

Channels 1, 6, & 11

Continuous TX at MAIN Antenna port with Wanshih Antenna

Aegis Labs, Inc. File #: LANTR-080507-05

	RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	Meter	Antenna	Azimuth	Quasi pl	kor	Preamp	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments
	Reading	Height	(degrees)	AVG (dB	uV)	Factor	Factor	Factor	Reading	(dBuV)	+=FAIL	
	(dBuV)	(cm)				(dB)	(dB)	(dB)	(dBuV)			
4824.00	52.83	100	225			46.31	3.59	34.21	39.45	74.00	-34.55	Ch. 1
4824.00				40.62	Α	46.31	3.59	34.21	27.24	54.00	-26.76	
4873.99	52.50	100	225			46.31	3.64	34.18	39.16	74.00	-34.84	Ch. 6
4873.99				40.10	Α	46.31	3.64	34.18	26.76	54.00	-27.24	
4924.00	52.50	100	225			46.31	3.67	34.15	39.16	74.00	-34.84	Ch. 11
4924.00				40.13	A	46.31	3.67	34.15	26.79	54.00	-27.21	

	RADIATED EMISSIONS - Vertical Antenna Polarization											
Freq. (MHz)	Meter	Antenna	Azimuth	Quasi pk	or	Preamp	Cable	Ant.	Corrected	Limits	Diff(dB)	Comments
	Reading	Height	(degrees)	AVG (dB	uV)	Factor	Factor	Factor	Reading	(dBuV)	+=FAIL	
	(dBuV)	(cm)				(dB)	(dB)	(dB)	(dBuV)			
4824.00	52.17	100	180			46.31	3.59	34.24	38.82	74.00	-35.18	Ch. 1
4824.00				40.13	Α	46.31	3.59	34.24	26.78	54.00	-27.22	
4873.99	52.50	100	180			46.31	3.64	34.23	39.21	74.00	-34.79	Ch. 6
4873.99				39.83	Α	46.31	3.64	34.23	26.54	54.00	-27.46	
4924.00	51.67	100	180			46.31	3.67	34.22	38.40	74.00	-35.60	Ch. 11
4924.00				40.00	Α	46.31	3.67	34.22	26.73	54.00	-27.27	



# PEAK TRANSMIT POWER

CLIENT:	Lantronix Inc.	DATE:	07/07/08
EUT:	Wireless Device Server	PROJECT NUMBER:	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
	Total mid a Wandil	TEMPERATURE:	23 deg C
CONFIGURATION:	Tested with a Wanshih 2.15dBi antenna.	<b>HUMIDITY:</b>	47%
		TIME:	09:00AM

<b>Description:</b>	The maximum peak output power of the intentional radiator shall not exceed 1 watt.				
<b>Results:</b>	See Data Sheet				
Note:	Conducted Emissions Measurements were performed on the EUT with power supply				
	set at the following voltage and frequency.				
	• 120VAC / 60 Hz.				

Peak Transmit Power Limits						
Frequency (MHz)	Output Power (W)					
2412-2462	1					



## Peak Transmit Power (Continued)

Mode	Channel	Frequency (MHz)	Rate (Mbps)	Average Power (dBm)	Average Power (mW)	Peak Power (dBm)	Peak Power (mW)
802.11b	1	2412	1	14.42	27.67	17.00	50.12
802.11b	1	2412	5.5	14.16	26.06	16.27	42.36
802.11b	1	2412	11	14.05	25.41	16.77	47.53
802.11b	6	2437	1	13.50	22.39	16.07	40.46
802.11b	6	2437	5.5	13.34	21.58	15.51	35.56
802.11b	6	2437	11	13.31	21.43	15.99	39.72
802.11b	11	2462	1	13.52	22.49	16.06	40.36
802.11b	11	2462	5.5	13.39	21.83	15.54	35.81
802.11b	11	2462	11	13.40	21.88	16.08	40.55
802.11g	1	2412	6	9.99	9.98	20.15	103.51
802.11g	1	2412	36	9.93	9.84	19.97	99.31
802.11g	1	2412	54	9.94	9.86	19.66	92.47
802.11g	6	2437	6	9.41	8.73	19.63	91.83
802.11g	6	2437	36	9.32	8.55	19.34	85.90
802.11g	6	2437	54	9.33	8.57	19.06	80.54
802.11g	11	2462	6	9.49	8.89	19.55	90.16
802.11g	11	2462	36	9.43	8.77	19.40	87.10
802.11g	11	2462	54	9.45	8.81	19.10	81.28

NOTE: The output power measurement is conducted.



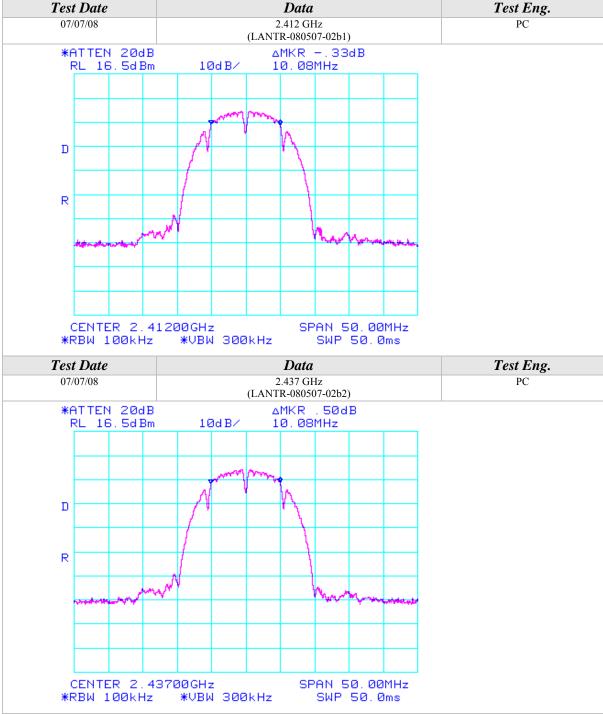
## 6dB EMISSIONS BANDWIDTH

CLIENT:	Lantronix Inc.	DATE:	07/07/08
EUT:	Wireless Device Server	<b>PROJECT NUMBER:</b>	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
CONFIGURATION:	T 4 1 14 W 11	<b>TEMPERATURE:</b> 23 deg C	23 deg C
	Tested with a Wanshih 2.15dBi antenna.	<b>HUMIDITY:</b>	47%
	2.13dBi antenna.	TIME:	11:00 AM

<b>Description:</b>	The minimum 6 dB bandwidth shall be at least 500 kHz.
<b>Results:</b>	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply
	set at the following voltage and frequency.
	• 120VAC / 60 Hz.

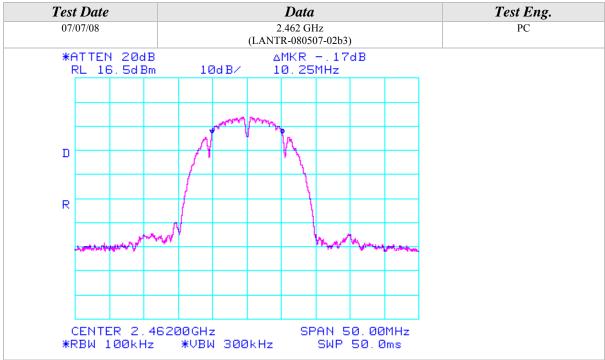




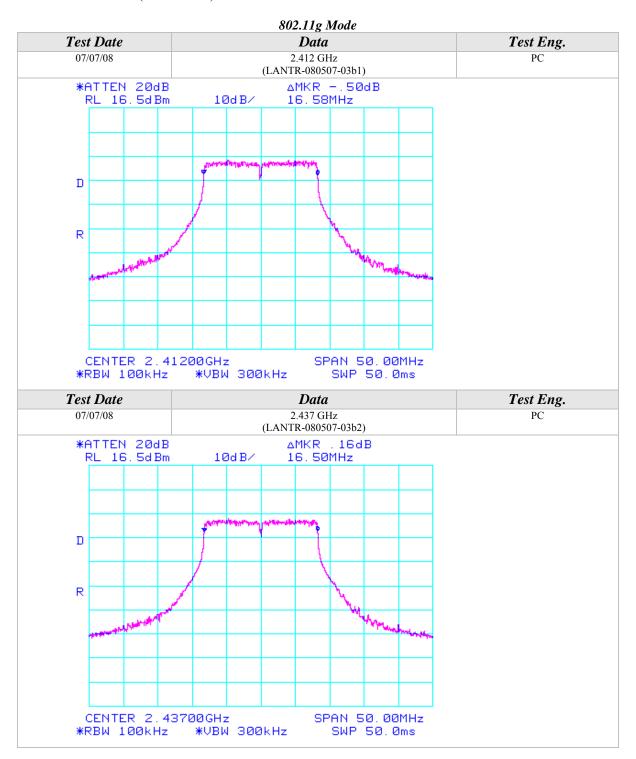




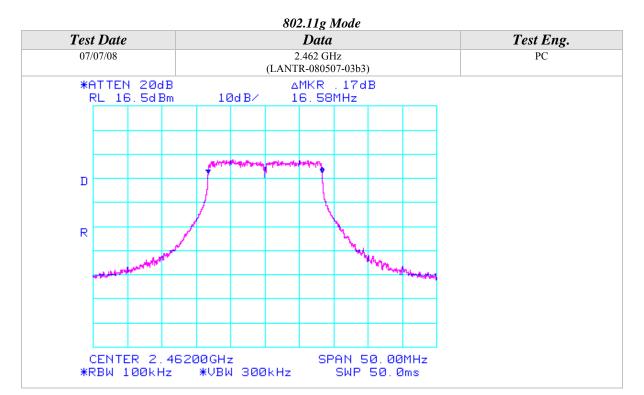














## PEAK POWER SPECTRAL DENSITY

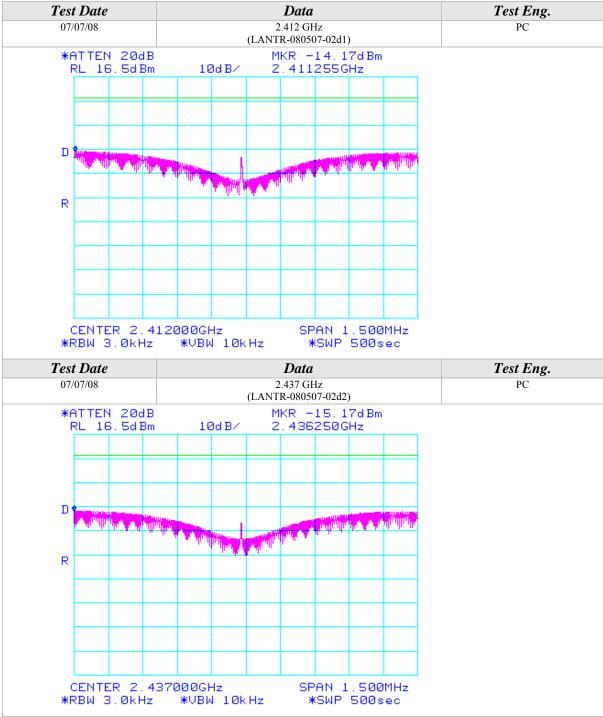
CLIENT:	Lantronix Inc.	DATE:	07/07/08
EUT:	Wireless Device Server	PROJECT NUMBER:	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
CONFIGURATION:	Total with a Wantil	TEMPERATURE:	23deg C
	Tested with a Wanshih 2.15dBi antenna.	<b>HUMIDITY:</b>	47%
	2.13dbi unternia.	TIME:	01:00 PM

Description:	The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
<b>Results:</b>	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency.  • 120VAC / 60 Hz.

Peak Power Spectral Density Limits		
Frequency (MHz)	Limit (dBm)	
2412-2462	8	

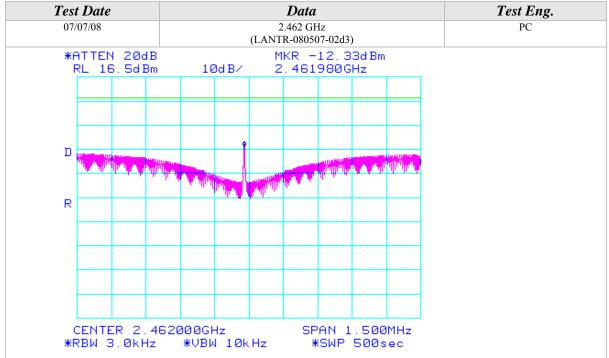




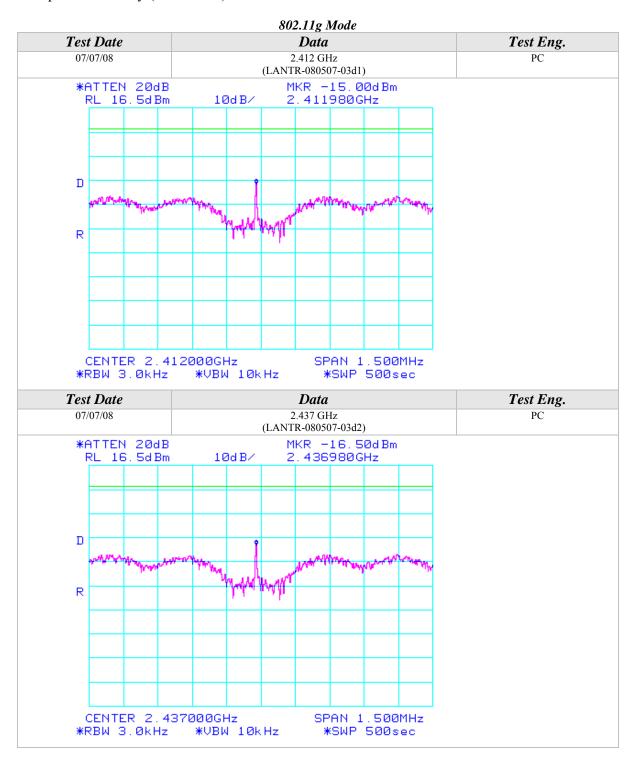




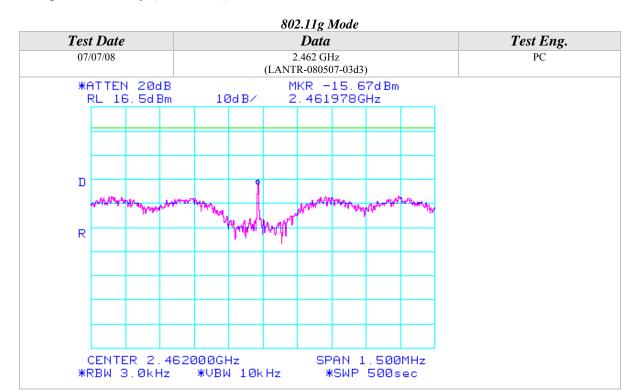














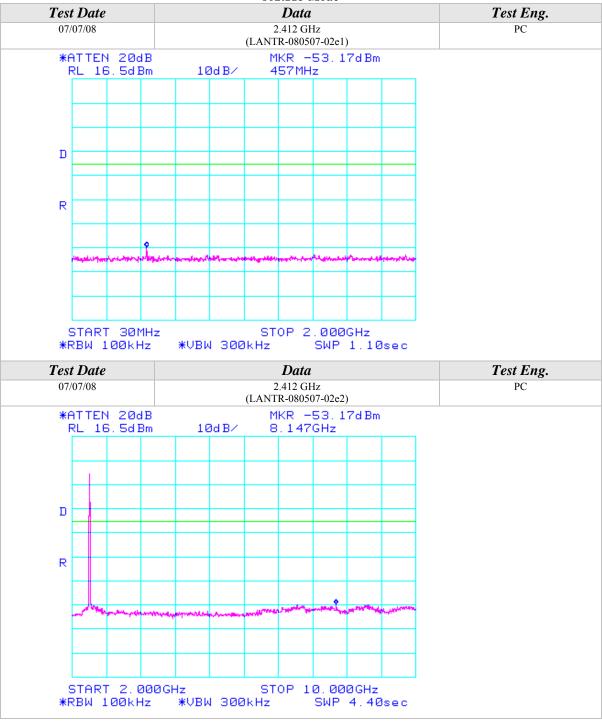
## CONDUCTED OUT OF BAND EMISSIONS

CLIENT:	Lantronix Inc.	DATE:	07/07/08
EUT:	Wireless Device Server	PROJECT NUMBER:	LANTR-080507
<b>MODEL NUMBER:</b>	WB2100LFS-03	TEST ENGINEER:	PC
<b>SERIAL NUMBER:</b>	None	SITE #:	1
CONFIGURATION:	T4-1	<b>TEMPERATURE:</b> 23deg C	23deg C
	Tested with a Wanshih 2.15dBi antenna.	<b>HUMIDITY:</b>	45%
	2.13dDi antonia.	TIME:	02:00 PM

Description:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.
<b>Results:</b>	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency.  • 120VAC / 60 Hz.

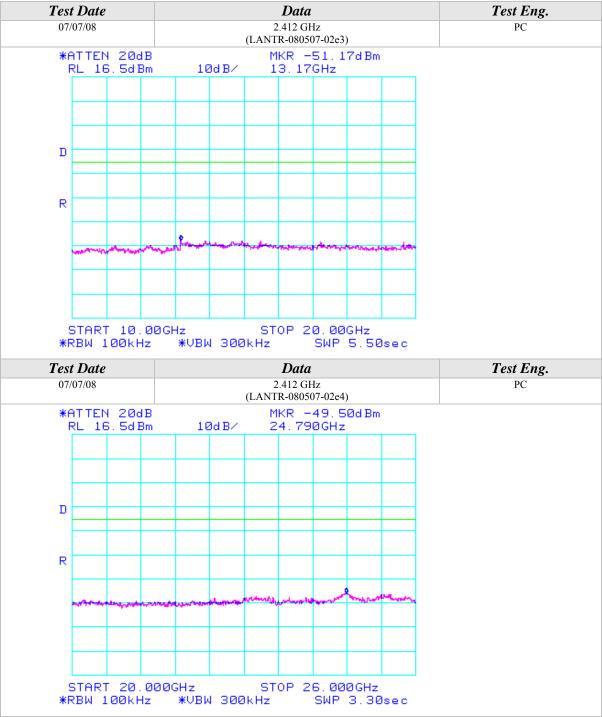






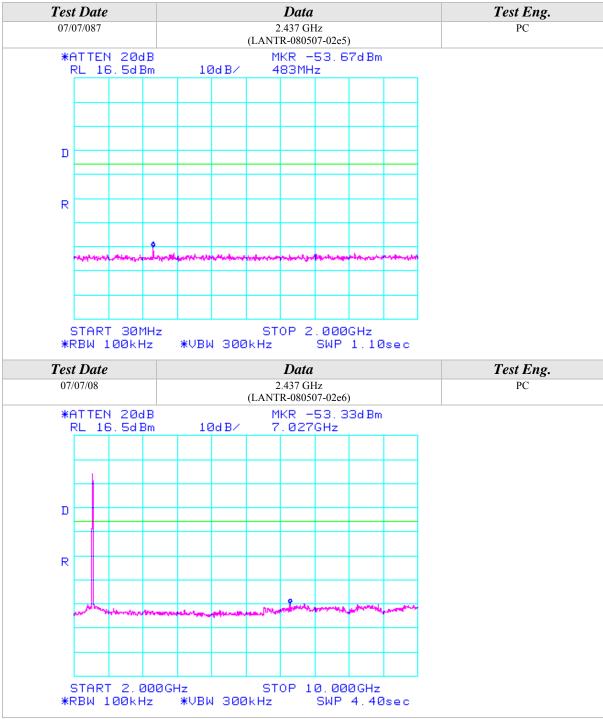






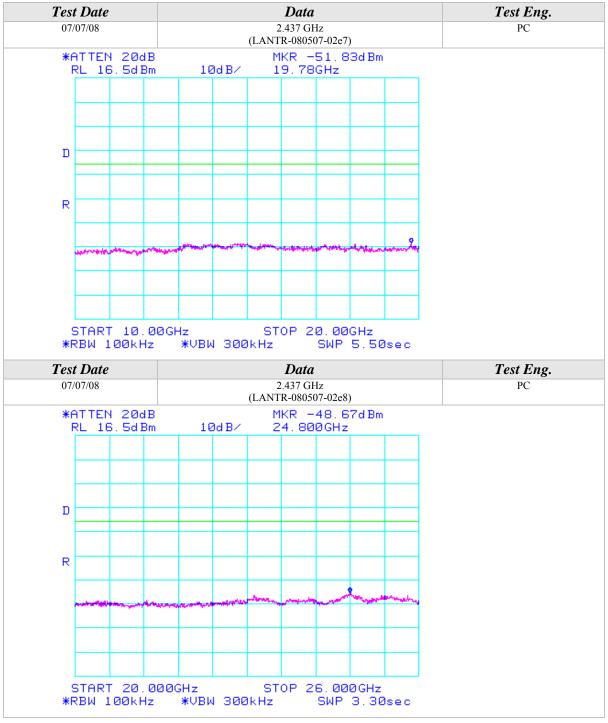






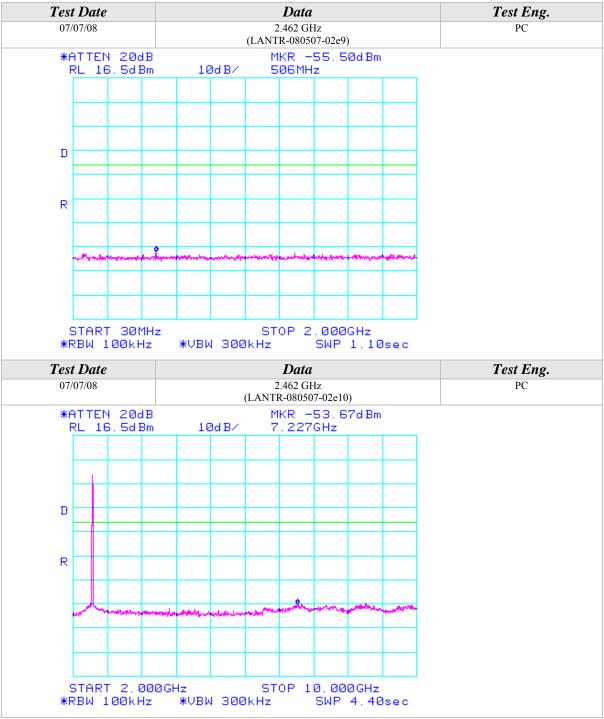






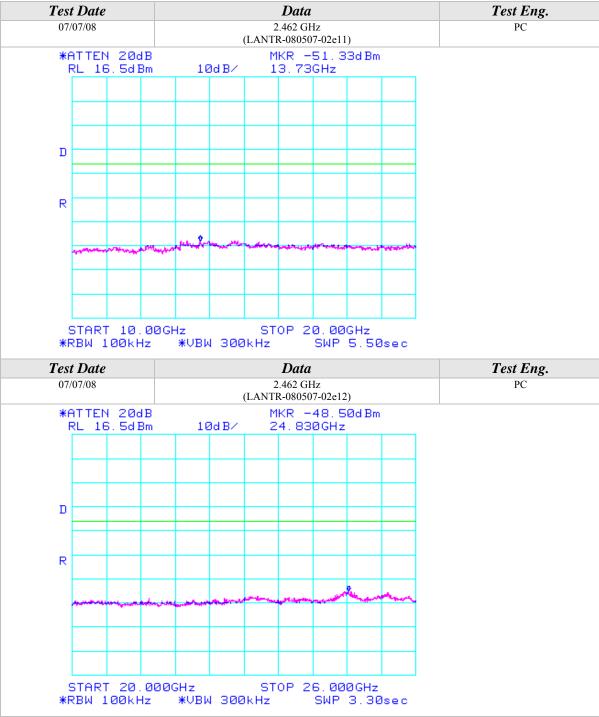




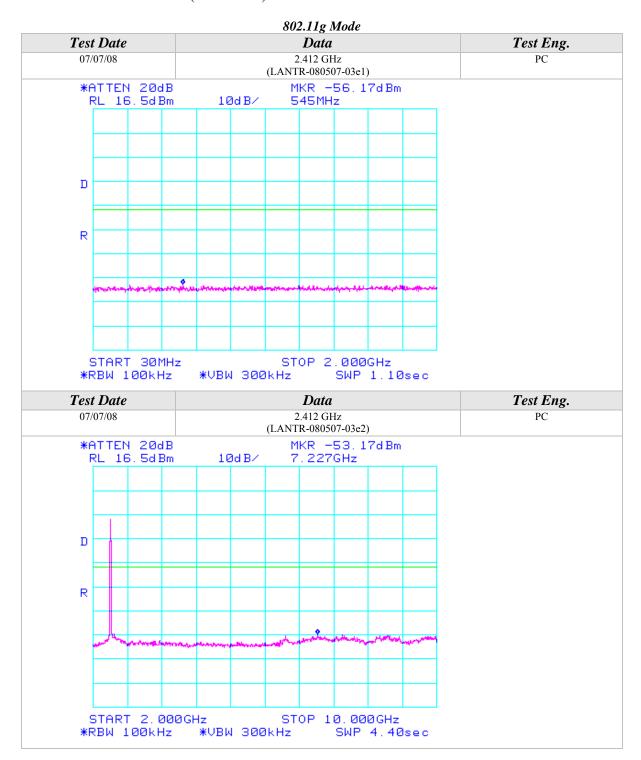




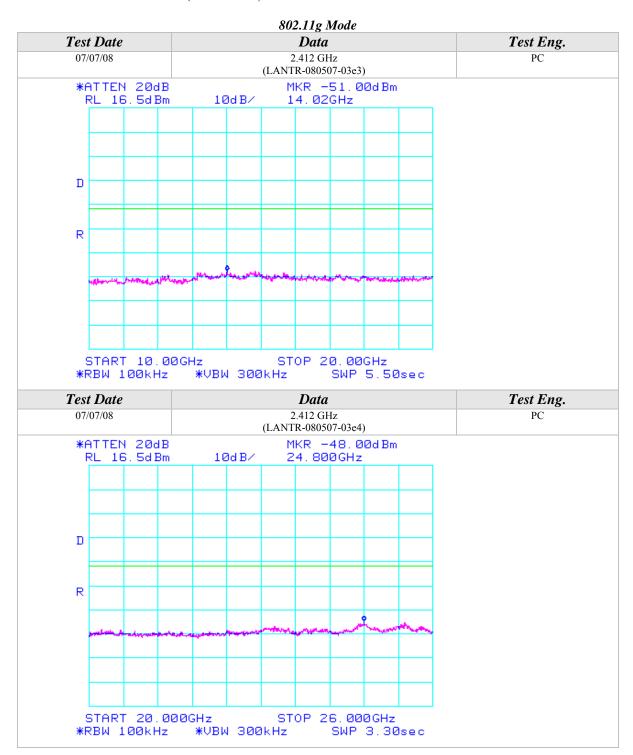




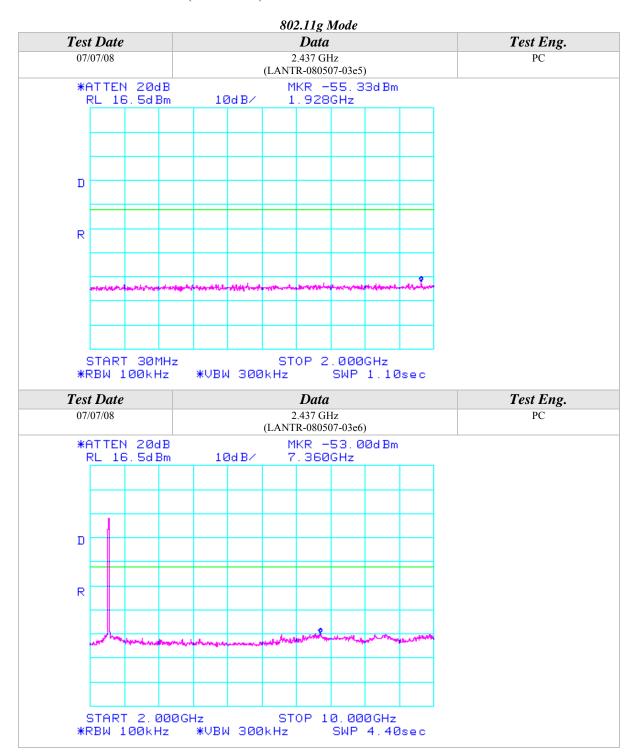




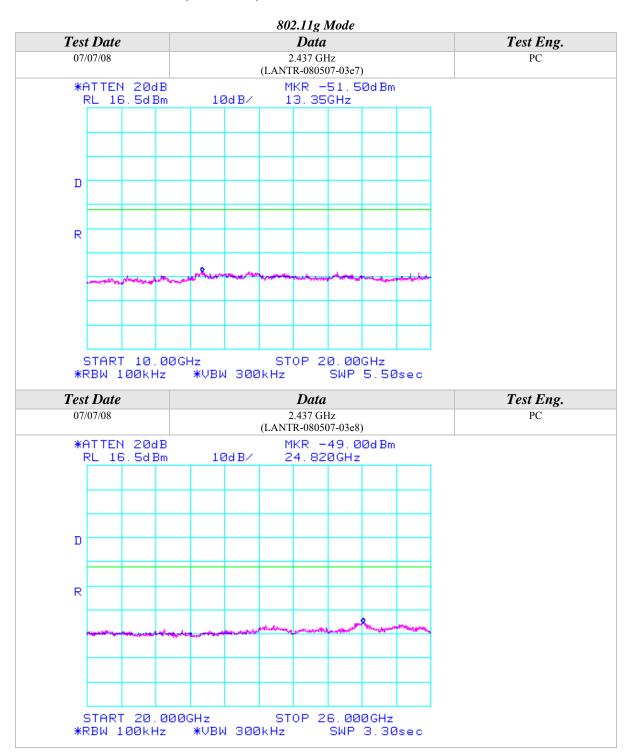




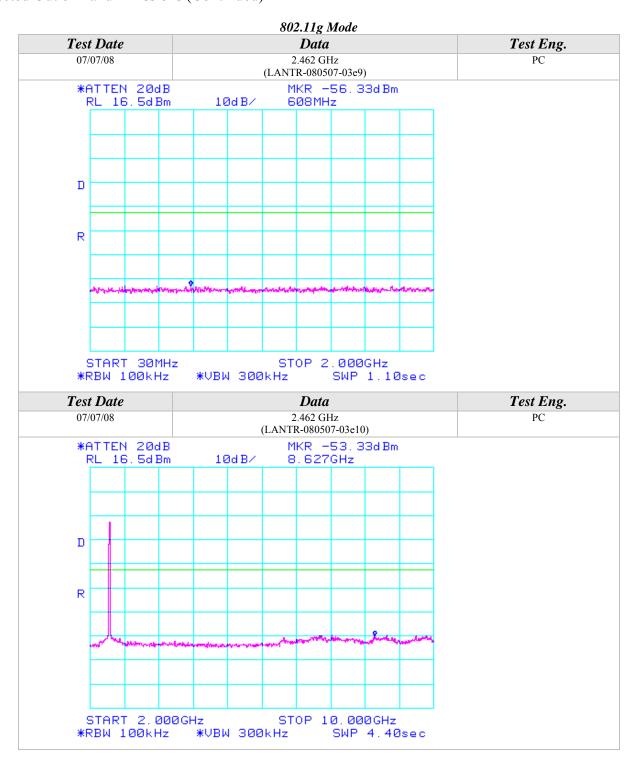




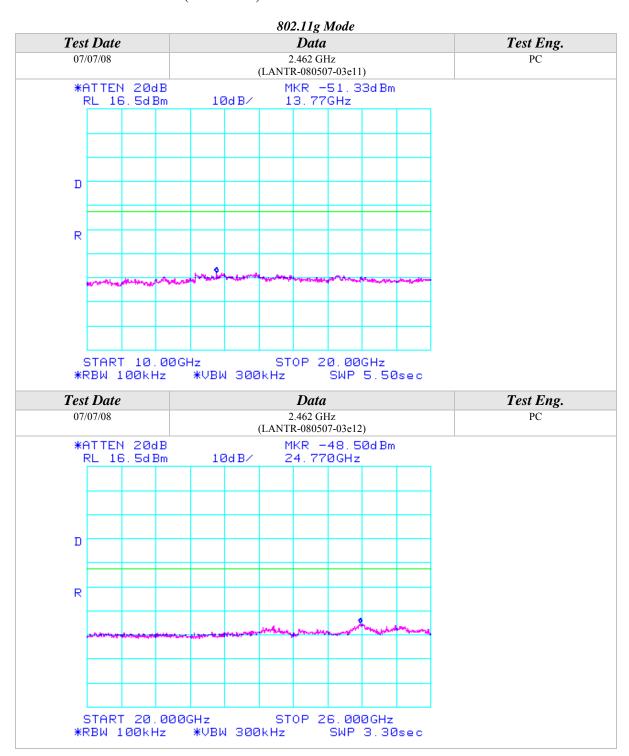














## **APPENDIX B**

# **MODIFICATIONS AND RECOMMENDATIONS**

1.0	NONE