



FCC Certification Test Report
for
PAT America
FCC ID: RMH3001

Revision 1
November 11, 2003

Prepared for:

PAT America
1665 Orchard Drive
Chambersburg, PA 17201

Prepared By:

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FCC Certification Test Program

FCC Certification Test Report for the PAT America PATB2 Warning Transmitter RMH3001

Revision 1

November 11, 2003

WLL JOB# 7848

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Abstract

This report has been prepared on behalf of PAT America to support the attached Application for Equipment Authorization. The test report and application are submitted for a Intentional Radiator under Part 15.249 of the FCC Rules and Regulations. This Federal Communication Commission (FCC) Certification Test Report documents the test configuration and test results for a PAT America PATB2 Warning Transmitter.

Testing was performed on an Open Area Test Site (OATS) of Washington Laboratories, Ltd, 7560 Lindbergh Drive, Gaithersburg, MD 20879. Site description and site attenuation data have been placed on file with the FCC's Sampling and Measurements Branch at the FCC laboratory in Columbia, MD. Washington Laboratories, Ltd. has been accepted by the FCC and approved by NIST NVLAP (NVLAP Lab Code: 200066-0) as an independent FCC test laboratory.

The PAT America PATB2 Warning Transmitter complies with the limits for an Intentional Radiator device under Part 15.249 of the FCC Rules and Regulations.

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1 Introduction

1.1 Compliance Statement

The PAT America PATB2 Warning Transmitter complies with the limits for an Intentional Radiator device under Part 15.249 of the FCC Rules and Regulations.

This test report reflects the testing performed for the certification of the PATB2 Host. Separate testing was performed for the digital and receiver portion under the DoC process.

1.2 Test Scope

Tests for radiated emissions were performed. All measurements were performed according to the 2001 version of ANSI C63.4. The measurement equipment conforms to ANSI C63.2 Specifications for Electromagnetic Noise and Field Strength Instrumentation.

1.3 Contract Information

Customer: PAT America
1665 Orchard Drive
Chambersburg, PA 17201

WLL Quotation Number: 61219

1.4 Test Dates

Testing was performed on November 5 and 6, 2003.

1.5 Test and Support Personnel

Washington Laboratories, LTD	Steve Koster
Client Representative	Paul Eyster, Michael Coons

1.6 Abbreviations

A	Ampere
Ac	alternating current
AM	Amplitude Modulation
Amps	Amperes
b/s	bits per second
BW	Bandwidth
CE	Conducted Emission
cm	centimeter
CW	Continuous Wave
dB	decibel
dc	direct current
EMI	Electromagnetic Interference
EUT	Equipment Under Test
FM	Frequency Modulation
G	giga - prefix for 10^9 multiplier
Hz	Hertz
IF	Intermediate Frequency
k	kilo - prefix for 10^3 multiplier
M	Mega - prefix for 10^6 multiplier
m	Meter
μ	micro - prefix for 10^{-6} multiplier
NB	Narrowband
LISN	Line Impedance Stabilization Network
RE	Radiated Emissions
RF	Radio Frequency
rms	root-mean-square
SN	Serial Number
S/A	Spectrum Analyzer
V	Volt

2 Equipment Under Test

2.1 EUT Identification & Description

The PAT America PATB2 Warning Transmitter is an Anti-Two-block System that has been designed to warn the crane operator of a two-blocking condition of the crane. If a two-blocking condition is approached, the system will warn the operator by sounding an audible alarm, lighting a warning light and locking out those functions which may aggravate the crane's condition, whenever applicable.

The term "two-block" is a crane term that refers to a condition when the load handling device comes in contact with the boom head. This condition, if not prevented, may cause the wire rope to break, allowing the load to fall. Either raising the load into the boom head, or telescoping the boom out without paying attention to the hoist line can cause a "two- block" condition.

Table 1. Device Summary

ITEM	DESCRIPTION
Manufacturer:	PAT America
FCC ID Number	RMH3001
EUT Name:	Warning Transmitter
Model:	PATB2
FCC Rule Parts:	§15.249
Frequency Range:	906.35 – 921.35 MHz
Maximum Output Power:	<1mW
Modulation:	FSK
Occupied Bandwidth:	314 kHz
Keying:	Automatic
Type of Information:	Control
Number of Channels:	3
Antenna Type	¼ Wave Whip, Reverse SMA Connector
Interface Cables:	None
Power Source & Voltage:	6 Vdc from 4 "C" batteries

2.2 Test Configuration

The PATB2 was tested in a stand-alone configuration. The EUT was positioned on the test site turn-table as it will be mounted in use.

2.3 Testing Algorithm

The PATB2 was set for continuous transmission on the three channels.

Worst case emission levels are provided in the test results data.

2.4 Test Location

All measurements herein were performed at Washington Laboratories, Ltd. Test center in Gaithersburg, MD. Site description and site attenuation data have been placed on file with the FCC's Sampling and Measurements Branch at the FCC laboratory in Columbia, MD. Washington Laboratories, Ltd. Has been accepted by the FCC and approved by NIST NVLAP (NVLAP Lab Code: 200066-0) as an independent FCC test laboratory.

2.5 Measurements

2.5.1 References

ANSI C63.2 Specifications for Electromagnetic Noise and Field Strength Instrumentation

ANSI C63.4 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

Land Mobile FM or PM Communications Equipment Measurement and Performance Standards (ANSI/TIA/EIA-603-93)

2.6 Measurement Uncertainty

All results reported herein relate only to the equipment tested. For the purposes of the measurements performed by Washington Laboratories, the measurement uncertainty is ± 2.3 dB. This has been calculated for a *worst-case situation* (radiated emissions measurements performed on an open area test site).

The following measurement uncertainty calculation is provided:

$$\text{Total Uncertainty} = (A^2 + B^2 + C^2)^{1/2}/(n-1)$$

where:

A = Antenna calibration uncertainty, in dB = 2 dB

B = Spectrum Analyzer uncertainty, in dB = 1 dB

C = Site uncertainty, in dB = 4 dB

n = number of factors in uncertainty calculation = 3

Thus, Total Uncertainty = $0.5 (2^2 + 1^2 + 4^2)^{1/2} = \pm 2.3$ dB.

3 Test Equipment

Table 2 shows a list of the test equipment used for measurements along with the calibration information.

Table 2: Test Equipment List

Manufacturer	Model/Type	Function	Identification	Cal. Due
HP	8568B	Spectrum Analyzer	2634A02888	7/07/04
HP	85650A	Quasi-Peak Adapter	3303A01786	7/08/04
ARA	LPB-2520	BiconiLog Antenna	1044	6/20/04
HP	85685A	RF Preselector	3221A01395	7/07/04
EMCO	3110B	Biconical Antenna	9808-1078	6/20/04
EMCO	3146A	Log Periodic Antenna	8912-1129	6/20/04
HP	8564E	Spectrum Analyzer	3643A00657	5/22/04
ARA	DRG-118/A	Horn Antenna	1010	11/28/2003
HP	8449B	Pre-Amplifier	3008A00729	2/11/04

4 Test Results

4.1 Occupied Bandwidth: (FCC Part §2.1049)

Occupied bandwidth was performed by coupling the output of the EUT to the input of a spectrum analyzer.

At full modulation, the occupied bandwidth was measured as shown:

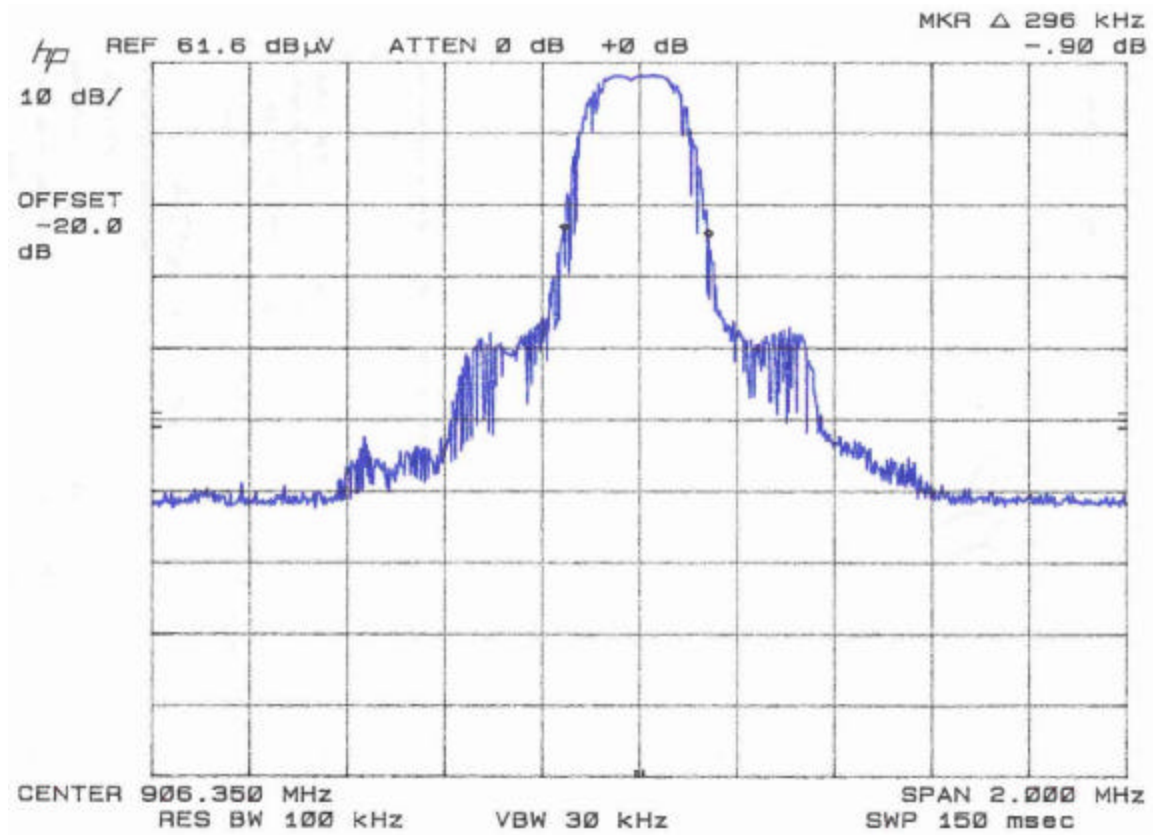


Figure 1. Occupied Bandwidth, Channel 1

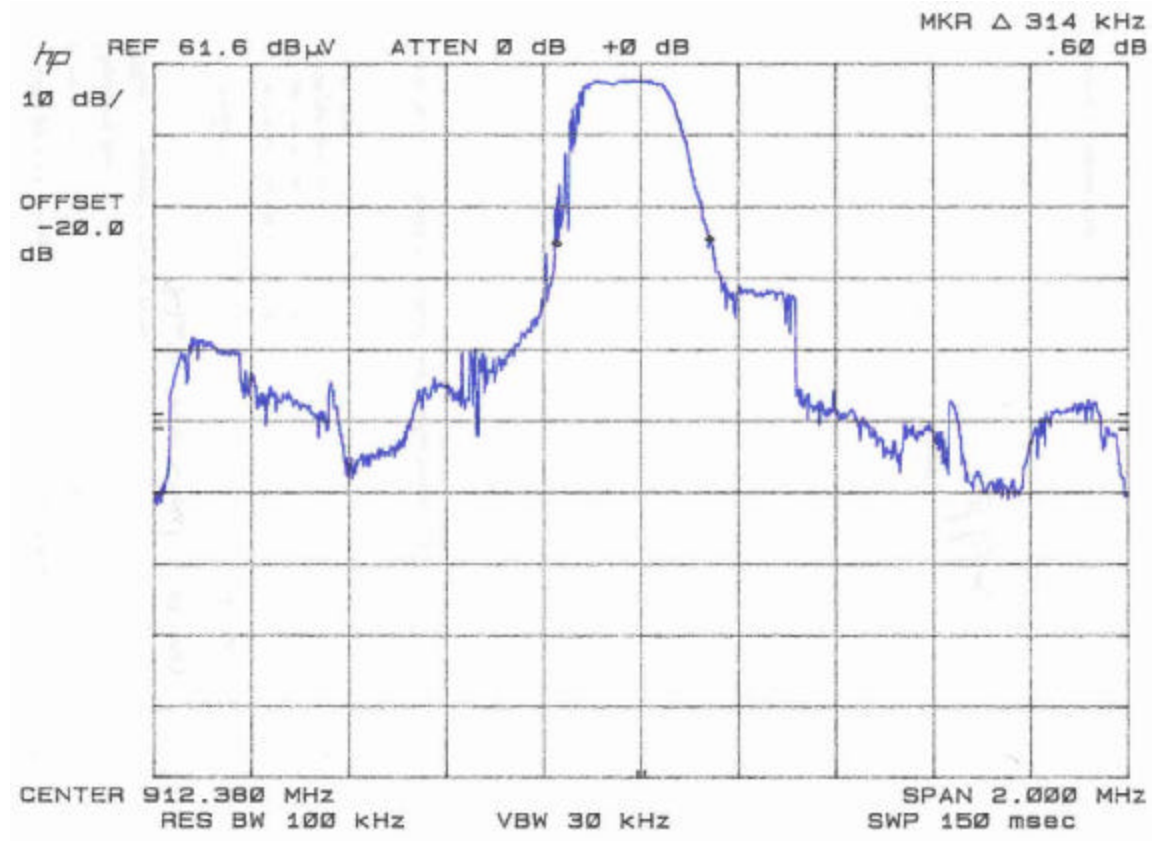


Figure 2. Occupied Bandwidth, Channel 2

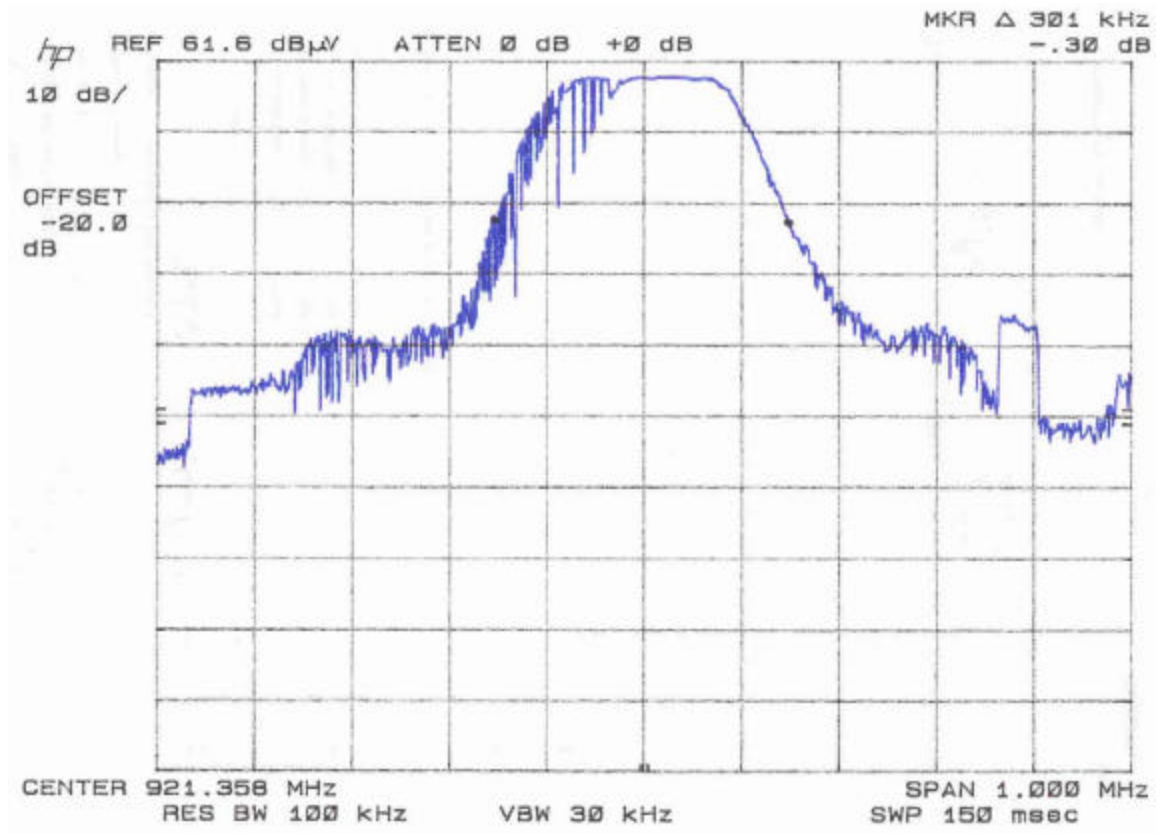


Figure 3. Occupied Bandwidth, Channel 3

Table 3 provides a summary of the Occupied Bandwidth Results.

Table 3. Occupied Bandwidth Results

Frequency	Bandwidth
Channel 1 906.35MHz	296kHz
Channel 2 912.38MHz	314kHz
Channel 3 921.35MHz	301kHz

4.2 Band Edge Plots:

Band edge plots at 902MHz and 928MHz were made with the unit transmitting in the Low channel (906.35MHz) and the High channel (921.35MHz) respectively. The marker on the graph is located at the 902MHz and 928MHz band edge respectively. The emissions were made on the OATS and no correction factors have been applied to the levels indicated on the plots. However, Table 4 lists the corrected peak levels of the emissions at the band edge for comparison to the limit. Figure 4 and Figure 5 are plots of the band edge emissions.

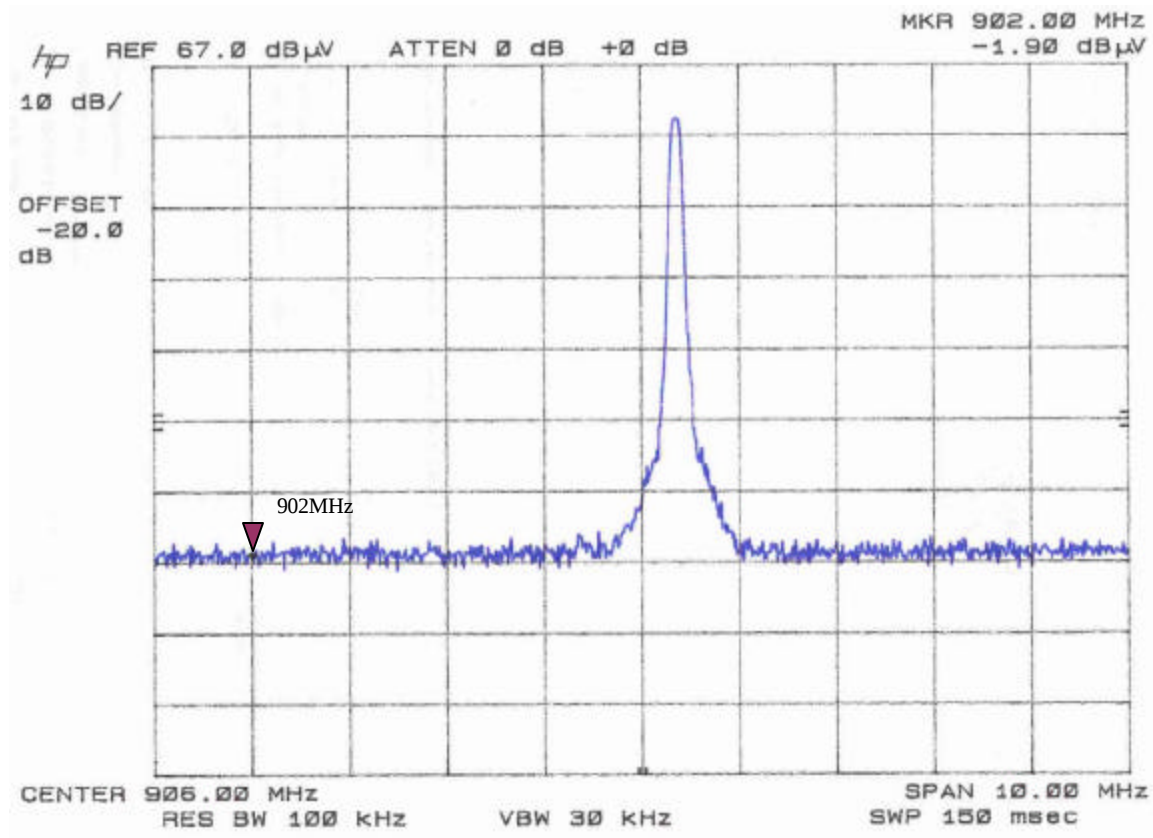


Figure 4: 906MHz Band Edge Plot

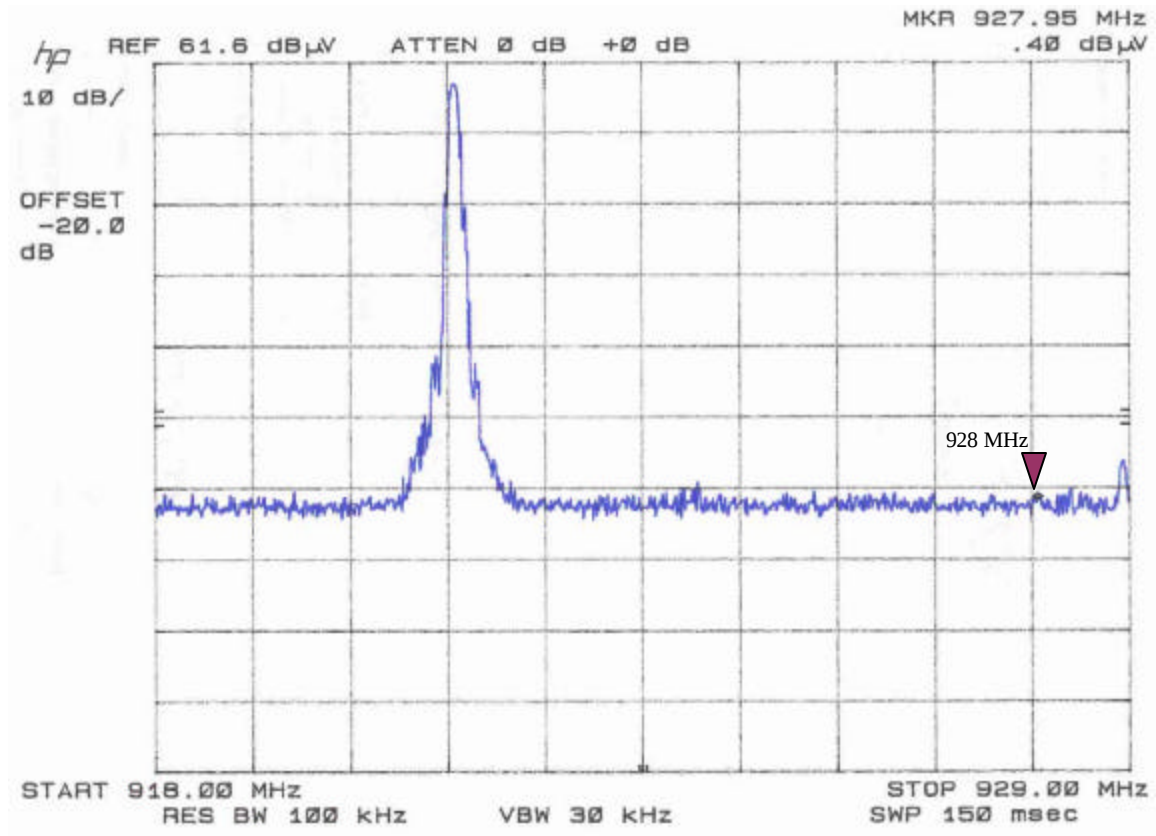


Figure 5: 921MHz Band Edge Plot

Table 4. Band Edge Emission Levels

Frequency (MHz)	Level (dB μ V)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
902	-1.9	24.3	54	-29.7
928	0.4	27.4	54	-26.6

4.3 Radiated Emissions: (FCC Part §2.1053)

The EUT must comply with the radiated emission limits of 15.249(a). The limits are as shown in the following table.

Table 5. Radiated Emissions Limits

Fundamental Frequency	Field Strength of Fundamental ($\mu\text{V/m}$)	Field Strength of Harmonics ($\mu\text{V/m}$)
902 – 928 MHz	50,000	500
2400 – 2483.5 MHz	50,000	500
5725 – 5875 MHz	50,000	500
24.00 – 24.25 GHz	250,000	2500

4.3.1 Test Procedure

The EUT was placed on motorized turntable for radiated testing on a 3-meter open field test site. The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. Receiving antennas were mounted on an antenna mast to determine the height of maximum emissions. The height of the antenna was varied between 1 and 4 meters. Each of the three channels of the EUT was tested. Both the horizontal and vertical field components were measured.

The emissions were measured using the following resolution bandwidths:

Frequency Range	Resolution Bandwidth	Video Bandwidth
30MHz-1000 MHz	100kHz	>100kHz
>1000 MHz	1 MHz	1MHz (peak), 30 Hz (Avg.)

Emissions were measured to the 10th harmonic of each transmit frequency. Worst case emission levels are reported. Measurements below 1GHz are made using a Quasi-Peak detector unless otherwise indicated.

The following is a sample calculation used in the data tables for calculating the final field strength of spurious emissions and comparing these levels to the specified limits.

Sample Calculation:

Spectrum Analyzer Voltage (SA Level): V dB μ V

Antenna Factor (Ant Corr): AFdB/m

Cable Loss Correction (Cable Corr): CCdB

Amplifier Gain: GdB

Electric Field (Corr Level): EdB μ V/m = VdB μ V + AFdB/m + CCdB -
GdB

Table 6. Radiated Emissions Test Data, Fundamental Frequencies

CLIENT:	PAT America	DATE:	11/5/03
TESTER:	Steve Koster	JOB #:	7848
<u>EUT Information:</u>		<u>Test Requirements:</u>	
EUT:	PATB2	TEST STANDARD:	FCC Part 15.249
CONFIGURATION:	Constant Transmit	DISTANCE:	3m
CLOCKS:	906 - 921 MHz	CLASS:	B
S/N:	382.0		
<u>Test Equipment/Limit:</u>			
ANTENNA:	A_00007	LIMIT:	LFCC_3m_Class_B
CABLE:	CSITE2_3m	AMPLIFIER (dB)	None

Quasi-Peak Data :

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Hght (m)	SA Level (QP) (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin dB
906.35	V	0.0	1.5	59.8	21.7	4.5	85.9	19833.4	50000.0	-8.0
906.35	H	0.0	1.5	60.1	21.7	4.5	86.2	20530.4	50000.0	-7.7
912.42	V	180.0	1.0	58.9	22.0	4.5	85.4	18543.0	50000.0	-8.6
912.37	H	180.0	1.0	56.0	22.0	4.5	82.5	13276.4	50000.0	-11.5
921.37	H	0.0	1.5	55.2	22.4	4.6	82.1	12769.0	50000.0	-11.9
921.37	V	180.0	1.5	59.6	22.4	4.6	86.5	21191.3	50000.0	-7.5

Table 7. Radiated Emissions Data, Channel 1 Harmonics

CLIENT:	PAT America	DATE:	11/6/03
TESTER:	Steve Koster	JOB #:	7848
<u>EUT Information:</u>		<u>Test Requirements:</u>	
EUT:	PATB2	TEST STANDARD:	FCC Part 15.249
CONFIGURATION:	Constant Transmit	DISTANCE:	3m
CLOCKS:	906.35 MHz	CLASS:	B
S/N:	382.0		
<u>Test Equipment/Limit:</u>			
ANTENNA:	A_00425	LIMIT:	LFCC_3m_Class_B
CABLE:	CSITE2_HF	AMPLIFIER (dB)	A_00066

Average Data:

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Hght (m)	SA Level (Avg) (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin dB
1812.60	V	315.0	1.0	48.2	28.6	3.1	35.6	44.3	164.2	500.0	-9.7
2718.90	V	270.0	1.0	43.8	30.3	2.9	35.6	41.4	117.6	500.0	-12.6
3625.20	V	270.0	1.0	47.3	31.0	2.8	35.5	45.6	191.3	500.0	-8.3
4531.50	V	270.0	1.0	37.7	32.6	3.7	35.7	38.3	82.0	500.0	-15.7
5437.80	V	0.0	1.0	31.5	34.4	4.3	35.8	34.4	52.4	500.0	-19.6
6344.10	V	0.0	1.0	32.2	36.0	4.2	35.6	36.7	68.7	500.0	-17.2
7250.40	V	0.0	1.0	33.2	37.6	4.5	35.9	39.5	93.9	500.0	-14.5
8156.70	V	0.0	1.0	33.5	38.4	4.9	36.1	40.6	107.6	500.0	-13.3
9063.00	V	0.0	1.0	33.7	39.1	4.9	36.2	41.4	118.1	500.0	-12.5
1812.60	H	315.0	1.0	49.8	28.6	3.1	35.6	45.9	198.0	500.0	-8.0
2718.90	H	315.0	1.0	44.3	30.3	2.9	35.6	41.9	125.0	500.0	-12.0
3625.20	H	337.5	1.0	44.8	31.0	2.8	35.5	43.1	143.4	500.0	-10.8
4531.50	H	315.0	1.0	37.7	32.6	3.7	35.7	38.3	81.8	500.0	-15.7
5437.80	H	0.0	1.0	31.5	34.4	4.3	35.8	34.4	52.4	500.0	-19.6
6344.10	H	0.0	1.0	32.2	36.0	4.2	35.6	36.7	68.7	500.0	-17.2
7250.40	H	0.0	1.0	33.2	37.6	4.5	35.9	39.5	93.9	500.0	-14.5
8156.70	H	0.0	1.0	33.5	38.4	4.9	36.1	40.6	107.6	500.0	-13.3
9063.00	H	0.0	1.0	33.7	39.1	4.9	36.2	41.4	118.1	500.0	-12.5

Table 7. Radiated Emissions Data, Channel 1 Harmonics continued

Peak Data, Channel 1:

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Hght (m)	SA Level (Peak) (dB μ V)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Corr. Level (dB μ V/m)	Corr. Level (μ V/m)	Limit (μ V/m)	Margin dB
1812.60	V	315.0	1.0	52.5	28.6	3.1	35.6	48.6	269.3	5000.0	-25.4
2718.90	V	270.0	1.0	49.8	30.3	2.9	35.6	47.4	234.6	5000.0	-26.6
3625.20	V	270.0	1.0	51.3	31.0	2.8	35.5	49.6	303.1	5000.0	-24.3
4531.50	V	270.0	1.0	46.5	32.6	3.7	35.7	47.1	226.0	5000.0	-26.9
5437.80	V	0.0	1.0	42.8	34.4	4.3	35.8	45.7	192.5	5000.0	-28.3
6344.10	V	0.0	1.0	43.3	36.0	4.2	35.6	47.9	248.3	5000.0	-26.1
7250.40	V	0.0	1.0	45.3	37.6	4.5	35.9	51.6	380.9	5000.0	-22.4
8156.70	V	0.0	1.0	45.3	38.4	4.9	36.1	52.5	420.2	5000.0	-21.5
9063.00	V	0.0	1.0	45.3	39.1	4.9	36.2	53.1	452.1	5000.0	-20.9
1812.60	H	315.0	1.0	53.7	28.6	3.1	35.6	49.8	308.2	5000.0	-24.2
2718.90	H	315.0	1.0	50.2	30.3	2.9	35.6	47.8	244.8	5000.0	-26.2
3625.20	H	337.5	1.0	49.7	31.0	2.8	35.5	48.0	250.4	5000.0	-26.0
4531.50	H	315.0	1.0	46.2	32.6	3.7	35.7	46.8	217.5	5000.0	-27.2
5437.80	H	0.0	1.0	44.0	34.4	4.3	35.8	46.9	221.0	5000.0	-27.1
6344.10	H	0.0	1.0	45.2	36.0	4.2	35.6	49.7	306.9	5000.0	-24.2
7250.40	H	0.0	1.0	44.3	37.6	4.5	35.9	50.6	339.5	5000.0	-23.4
8156.70	H	0.0	1.0	45.2	38.4	4.9	36.1	52.3	412.5	5000.0	-21.7
9063.00	H	0.0	1.0	44.8	39.1	4.9	36.2	52.6	426.8	5000.0	-21.4

Table 8. Radiated Emissions Data, Channel 2 Harmonics

CLIENT:	PAT America	DATE:	11/6/03
TESTER:	Steve Koster	JOB #:	7848
<u>EUT Information:</u>		<u>Test Requirements:</u>	
EUT:	PATB2	TEST STANDARD:	FCC Part 15.249
CONFIGURATION:	Constant Transmit	DISTANCE:	3m
CLOCKS:	912.4 MHz	CLASS:	B
S/N:	382.0		
<u>Test Equipment/Limit:</u>			
ANTENNA:	A_00425	LIMIT:	LFCC_3m_Class_B
CABLE:	CSITE2_HF	AMPLIFIER (dB)	A_00066

Average Data:

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Hght (m)	SA Level (Avg) (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin dB
1824.80	V	45.0	1.5	45.5	28.7	3.1	35.6	41.7	121.3	500.0	-12.3
2737.17	V	180.0	1.5	38.2	30.4	2.9	35.6	35.8	61.6	500.0	-18.2
3649.55	V	315.0	1.5	45.7	31.0	2.8	35.5	44.0	158.9	500.0	-10.0
4561.95	V	270.0	1.5	35.3	32.7	3.8	35.8	36.0	63.2	500.0	-18.0
5474.35	V	0.0	1.5	31.3	34.4	4.3	35.8	34.3	51.7	500.0	-19.7
6386.68	V	0.0	1.5	31.7	36.1	4.2	35.6	36.4	65.8	500.0	-17.6
7299.07	V	0.0	1.5	32.8	37.7	4.6	35.9	39.1	90.5	500.0	-14.8
8211.46	V	0.0	1.5	32.7	38.5	4.9	36.1	39.9	98.6	500.0	-14.1
9123.84	V	0.0	1.5	32.7	39.1	4.9	36.2	40.6	106.6	500.0	-13.4
1824.80	H	315.0	1.0	49.5	28.7	3.1	35.6	45.7	192.2	500.0	-8.3
2737.17	H	0.0	1.0	43.5	30.4	2.9	35.6	41.1	113.7	500.0	-12.9
3649.55	H	315.0	1.0	44.8	31.0	2.8	35.5	43.1	143.3	500.0	-10.9
4561.95	H	22.5	1.0	31.5	32.7	3.8	35.8	32.2	40.7	500.0	-21.8
5474.35	H	0.0	1.5	31.0	34.4	4.3	35.8	33.9	49.8	500.0	-20.0
6386.68	H	0.0	1.5	31.7	36.1	4.2	35.6	36.4	65.8	500.0	-17.6
7299.07	H	0.0	1.5	32.7	37.7	4.6	35.9	39.0	89.5	500.0	-14.9
8211.46	H	0.0	1.5	32.8	38.5	4.9	36.1	40.0	99.7	500.0	-14.0
9123.84	H	0.0	1.5	32.8	39.1	4.9	36.2	40.7	107.9	500.0	-13.3

Table 8. Radiated Emissions Data, Channel 2 Harmonics continued

Peak Data, Channel 2:

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Hght (m)	SA Level (Peak) (dB μ V)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Corr. Level (dB μ V/m)	Corr. Level (μ V/m)	Limit (μ V/m)	Margin dB
1824.80	V	45.0	1.5	50.5	28.7	3.1	35.6	46.7	215.7	5000.0	-27.3
2737.17	V	180.0	1.5	47.0	30.4	2.9	35.6	44.6	170.1	5000.0	-29.4
3649.55	V	315.0	1.5	50.5	31.0	2.8	35.5	48.8	276.1	5000.0	-25.2
4561.95	V	270.0	1.5	43.5	32.7	3.8	35.8	44.2	161.9	5000.0	-29.8
5474.35	V	0.0	1.5	43.3	34.4	4.3	35.8	46.2	205.2	5000.0	-27.7
6386.68	V	0.0	1.5	44.8	36.1	4.2	35.6	49.5	297.5	5000.0	-24.5
7299.07	V	0.0	1.5	45.5	37.7	4.6	35.9	51.8	390.7	5000.0	-22.1
8211.46	V	0.0	1.5	44.7	38.5	4.9	36.1	51.9	392.5	5000.0	-22.1
9123.84	V	0.0	1.5	45.7	39.1	4.9	36.2	53.6	476.3	5000.0	-20.4
1824.80	H	315.0	1.0	53.2	28.7	3.1	35.6	49.4	294.4	5000.0	-24.6
2737.17	H	0.0	1.0	49.0	30.4	2.9	35.6	46.6	214.2	5000.0	-27.4
3649.55	H	315.0	1.0	50.2	31.0	2.8	35.5	48.5	265.8	5000.0	-25.5
4561.95	H	22.5	1.0	44.2	32.7	3.8	35.8	44.9	175.5	5000.0	-29.1
5474.35	H	0.0	1.5	43.7	34.4	4.3	35.8	46.6	214.9	5000.0	-27.3
6386.68	H	0.0	1.5	43.8	36.1	4.2	35.6	48.5	265.1	5000.0	-25.5
7299.07	H	0.0	1.5	44.7	37.7	4.6	35.9	51.0	356.3	5000.0	-22.9
8211.46	H	0.0	1.5	44.5	38.5	4.9	36.1	51.7	383.5	5000.0	-22.3
9123.84	H	0.0	1.5	44.2	39.1	4.9	36.2	52.1	400.7	5000.0	-21.9

Table 9. Radiated Emissions Data, Channel 3 Harmonics

CLIENT:	PAT America	DATE:	11/6/03
TESTER:	Steve Koster	JOB #:	7848
<u>EUT Information:</u>		<u>Test Requirements:</u>	
EUT:	PATB2	TEST STANDARD:	FCC Part 15.249
CONFIGURATION:	Constant Transmit	DISTANCE:	3m
CLOCKS:	921.38 MHz	CLASS:	B
S/N:	382.0		
<u>Test Equipment/Limit:</u>			
ANTENNA:	A_00425	LIMIT:	LFCC_3m_Class_B
CABLE:	CSITE2_HF	AMPLIFIER (dB)	A_00066

Average Data:

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Height (m)	SA Level (Avg) (dBμV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Corr. Level (dBμV/m)	Corr. Level (μV/m)	Limit (μV/m)	Margin dB
1842.76	V	0.0	1.5	44.0	28.7	3.2	35.6	40.3	103.3	50000.0	-53.7
2764.13	V	157.5	1.5	39.0	30.4	2.9	35.7	36.6	67.8	500.0	-17.3
3685.46	V	315.0	1.5	45.0	31.1	2.8	35.5	43.4	147.1	500.0	-10.6
4606.91	V	180.0	1.5	31.8	32.8	3.9	35.8	32.6	42.9	500.0	-21.3
5528.27	V	0.0	1.5	31.3	34.5	4.2	35.7	34.4	52.2	500.0	-19.6
6449.66	V	0.0	1.5	31.0	36.2	4.2	35.6	35.8	61.8	500.0	-18.2
7371.04	V	0.0	1.5	32.2	37.7	4.6	35.9	38.6	85.2	500.0	-15.4
8292.42	V	0.0	1.5	33.2	38.5	4.9	36.1	40.4	104.7	500.0	-13.6
9213.80	V	0.0	1.5	33.0	39.2	5.0	36.3	41.0	111.9	500.0	-13.0
1842.76	H	225.0	1.5	47.5	28.7	3.2	35.6	43.8	154.6	500.0	-10.2
2764.13	H	22.5	1.5	42.7	30.4	2.9	35.7	40.3	103.5	500.0	-13.7
3685.46	H	225.0	1.5	42.7	31.1	2.8	35.5	41.0	112.5	500.0	-13.0
4606.91	H	180.0	1.5	31.0	32.8	3.9	35.8	31.8	39.1	500.0	-22.1
5528.27	H	270.0	1.5	31.0	34.5	4.2	35.7	34.0	50.3	500.0	-19.9
6449.66	H	0.0	1.5	30.7	36.2	4.2	35.6	35.5	59.5	500.0	-18.5
7371.04	H	0.0	1.5	32.3	37.7	4.6	35.9	38.7	86.5	500.0	-15.2
8292.42	H	0.0	1.5	33.0	38.5	4.9	36.1	40.2	102.7	500.0	-13.7
9213.80	H	0.0	1.5	32.8	39.2	5.0	36.3	40.8	109.4	500.0	-13.2

Table 9. Radiated Emissions Data, Channel 3 Harmonics continued

Peak Data, Channel 3:

Frequency (MHz)	Polarity H/V	Azimuth Degree	Ant. Height (m)	SA Level (Peak) (dB μ V)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Corr. Level (dB μ V/m)	Corr. Level (μ V/m)	Limit (μ V/m)	Margin dB
1842.76	V	0.0	1.5	50.5	28.7	3.2	35.6	46.8	218.3	50000.0	-47.2
2764.13	V	157.5	1.5	47.8	30.4	2.9	35.7	45.5	187.5	5000.0	-28.5
3685.46	V	315.0	1.5	49.8	31.1	2.8	35.5	48.2	256.5	5000.0	-25.8
4606.91	V	180.0	1.5	43.7	32.8	3.9	35.8	44.5	168.7	5000.0	-29.4
5528.27	V	0.0	1.5	43.7	34.5	4.2	35.7	46.7	216.3	5000.0	-27.3
6449.66	V	0.0	1.5	43.3	36.2	4.2	35.6	48.1	255.4	5000.0	-25.8
7371.04	V	0.0	1.5	43.5	37.7	4.6	35.9	49.9	313.0	5000.0	-24.1
8292.42	V	0.0	1.5	45.3	38.5	4.9	36.1	52.6	424.7	5000.0	-21.4
9213.80	V	0.0	1.5	45.0	39.2	5.0	36.3	53.0	445.5	5000.0	-21.0
1842.76	H	225.0	1.5	51.3	28.7	3.2	35.6	47.6	240.2	5000.0	-26.4
2764.13	H	22.5	1.5	49.3	30.4	2.9	35.7	47.0	222.9	5000.0	-27.0
3685.46	H	225.0	1.5	48.3	31.1	2.8	35.5	46.7	215.8	5000.0	-27.3
4606.91	H	180.0	1.5	42.5	32.8	3.9	35.8	43.3	147.0	5000.0	-30.6
5528.27	H	270.0	1.5	43.7	34.5	4.2	35.7	46.7	216.3	5000.0	-27.3
6449.66	H	0.0	1.5	42.5	36.2	4.2	35.6	47.3	232.1	5000.0	-26.7
7371.04	H	0.0	1.5	44.7	37.7	4.6	35.9	51.1	358.1	5000.0	-22.9
8292.42	H	0.0	1.5	45.3	38.5	4.9	36.1	52.6	424.7	5000.0	-21.4
9213.80	H	0.0	1.5	45.3	39.2	5.0	36.3	53.3	462.8	5000.0	-20.7