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FCC/IC Test Report
on

PocketWizard Plus X Transceiver
Model: PX-FCC

Applicant Name:	Lab Partners Associates, Inc.
Customer P.O:	201133
Equipment Authorization:	Certification
Date of Report:	February 8, 2013
Test Report No:	R-5659N-1, Rev. A
Test Start Date:	January 7, 2013
Test Finish Date:	January 11, 2013
Test Technician:	M. Seamans
Laboratory Supervisor:	T. Hannemann
Branch Manager:	S. Wentworth
Report Prepared By:	J. Ramsey

Technical Information

MANUFACTURER		APPLICANT	
Name:	Lab Partners Associates, Inc.	Name:	Lab Partners Associates, Inc.
Address:	21 Gregory Drive, Suite 140	Address:	21 Gregory Drive, Suite 140
City, State, Zip:	South Burlington, VT 05403	City, State, Zip:	South Burlington, VT 05403

TEST SPECIFICATION:

FCC Rules and Regulations Part 15, Subpart C, Section 15.231

Radio Standards Specification, RSS-210, Issue 8, December 2010 and RSS-GEN, Issue 3, December 2010

TEST PROCEDURE: ANSI C63.4:2003

Test Sample Description

TEST SAMPLE: PocketWizard Plus X Transceiver

BRANDNAME(s): PocketWizard

MODEL: PX-FCC

FCC ID: KDS-PWX-100

IC : 2170A-PWX100

TYPE: Wireless Flash Control Transceiver

POWER REQUIREMENTS: 3VDC via 2 internal 1.5 VDC batteries

FREQUENCY OF OPERATION: 344.04MHz

SUPPORT EQUIPMENT:
The PocketWizard Plus X Transceiver was tested while mounted via hot shoe connector on a Kodak Digital Camera, Model DCS Pro 14N, Serial Number: P14N-1217.

PURPOSE:
The purpose of this test program was to demonstrate compliance of the PocketWizard Plus X Transceiver to the requirements of FCC Part 15.231 and RSS-210, Annex 1.

Tests Performed

The test methods performed on the PocketWizard Plus X Transceiver are shown below:

FCC Part 15, Subpart C	Industry Canada RSS-210 Issue 8, December 2010	Industry Canada RSS-GEN Issue 3, December 2010	Test Method
15.231(b)	A1.1.2(1)	N/A	Field Strength of Fundamental Emissions
15.231(b)(2)	A1.1.2(2)	4.5	Duty Cycle Determination
15.231(b)(3)	A1.1.2(3)	N/A	Field Strength of Spurious Emissions
15.231(c)	A1.1.3	N/A	Bandwidth of Emissions
N/A	N/A	4.10	Receiver Spurious Emissions

General Test Requirements

1. The measurement procedures of ANSI C63.4:2003 were utilized as specified in FCC Part 15, Subpart C, Section 15.31(a)(3) and IC RSS-GEN Section 4.1.
2. All radiated emissions measurements were performed on an Open Area Test Site (OATS), listed with the FCC and IC, in accordance with FCC Section 15.31(d) and IC Section 4.2.
3. The level of the fundamental field strength was recorded with a new battery installed in the EUT, in accordance with FCC Section 15.231(e) and IC Section 4.3(e).
4. All measurements were performed at the specified 3 meter test distance as required by FCC Section 15.31(f) and IC Section 7.25.
5. The EUT was rotated throughout 360 degrees for all radiated emissions measurements as specified in FCC Section 15.31(f)(5) and IC Section 4.3(h).
6. All readily accessible EUT controls were adjusted in such a manner as to maximize the level of emissions in accordance with FCC Section 15.31(g) and IC Section 4.3(h).
7. Appropriate accessories were attached to all EUT ports during the performance of radiated emissions measurements as required by FCC Section 15.31(i) and IC Section 4.3(d).
8. All measurements were taken with a peak detector function as specified in FCC Section 15.35(a) and IC Section 4.4. The duty cycle, calculated in accordance with FCC Section 15.35(c) and IC Section 4.5, was applied to the peak readings in order to obtain the average value of emissions. The peak value of emissions was verified to meet the 20 dB requirement of FCC Section 15.35(b) and IC Section 7.2.1.

Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Scott Wentworth
Branch Manager
NVLAP Approved Signatory

Todd Hannemann
Laboratory Supervisor
iNARTE Certified Technician ATL-0255-T

Non-Warranty Provision
The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement
This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

Revision History

Revisions to this document are listed below; the latest revised document supersedes all previous issues of this document.

Revision	Date	Pages Affected
-	January 22, 2013	Original Release
A	February 8, 2013	Page 30

Requirements and Test Results

Requirement:
FCC Section 15.231(a) - Periodic operation in the band 40.66 - 40.7 MHz and above 70 MHz
The provisions of this Section are restricted to periodic operation within the band 40.66-40.7 MHz and above 70 MHz. Except as shown in Paragraph (e) of this Section, the intentional radiator is restricted to the transmissions of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal.

IC RSS-210, A1.1 - Momentarily Operated Devices
The frequency bands and field strength limits in Tables 4 and 5 are only for the transmission of a control signal such as that used with alarm systems, door openers, remote switches, etc. Radio control of toys or model aircrafts, and continuous transmissions such as voice or video are not permitted except as provided in A1.1.5. Data is permitted to be sent with a control signal.

- Results:
  The device operates at a single frequency of 344.04 MHz and is used in the photography industry for the transmission of a control signal for the purpose of remote flash control.

Requirement:
FCC Sections 15.231(a)(1)-(5)
Periodic operation in the band 40.66 - 40.7 MHz and above 70 MHz
The following conditions were met in order to comply with the provisions for momentary operation:

IC RSS-210, A1.1.1(a)-(d) - Types of Momentary Signals
The following conditions were met in order to comply with the provisions for momentary operation:

FCC 15.231(a)(1): A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

IC A1.1.1 (a): A manually operated transmitter shall employ a push-to-operate switch and be under manual control at all transmission times. When released, the transmitter shall cease transmission (holdover time of up to 5 seconds of operation).

- Results:
  The device is a manually operated, push to operate transmitter under manual control. The device ceased transmission within 5 seconds of deactivation.

FCC 15.231(a)(2): A transmitter activated automatically shall cease transmission within 5 seconds after activation.

IC A1.1.1 (b): A transmitter activated automatically shall cease transmission with 5 seconds after activation, (i.e. maximum 5 seconds of operation).

- Results:
  Transmission is not automatically activated.

Requirements and Test Results (con't)

FCC 15.231(a)(3): Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

IC A1.1.1(c): Periodic transmissions at regular predetermined intervals are not permitted, except as provided in A1.1.5. However, polling or supervision transmissions, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed 2 seconds per hour for each transmitter.

- Results:
  The transmitter does not perform periodic transmissions.

FCC 15.231(a)(4): Intentional radiators which are employed for radio control purposes during emergencies involving fire, security and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.

IC A1.1.1 (d): Intentional radiators employed for radio control purposes during emergencies involving fire, security of goods (e.g. burglar alarms), and safety-of-life, when activated to signal an alarm, may operate during the interval of the alarm condition.

- Results:
  This device is not employed for radio control purposes during emergencies involving fire, security and safety for life.

FCC 15.231(a)(5): Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmission are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

- Results:
  The device is not employed for security systems.

Requirements and Test Results (con't)

Requirement:

FCC Section 15.231(b) - Field Strength of Emissions

In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the limits specified in Table 1.

IC RSS-210, A1.1.2(1) - Field Strengths and Frequency Bands

The field strength of emissions from momentarily operated intentional radiators shall not exceed the limits specified in Table 1:

Table 1 - Test Limits, Field Strength of Emissions

Fundamental Frequency (MHz)	Field Strength of Fundamental microvolts/meter @3 meters (watts, e.i.r.p.) Quasi Peak or Average	Field Strength of Spurious Emissions microvolts/meter @3 meters Quasi Peak or Average
40.66 to 40.70	2,250	225
70 to 130	1,250 (470 nW)	125
130 to 174	1,250 to 3,750**	125 to 375**
174 to 260	3,750 (4.2 µW)	375
260 to 470	3,750 to 12,500**	375 to 1,250**
Above 470	12,500 (47 µW)	1,250
**Linear Interpolations For 130-174 MHz: FS (microvolts/m) = (56.82 x F) - 6,136 For 260-470 MHz: FS (microvolts/m) = (41.67 x F) - 7,083 The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.		

The Fundamental and Harmonic Emissions limits for a device operating at 344.04 MHz are listed in Table 2.

Table 2 - Fundamental and Harmonic Limits

Frequency of Operation MHz	Fundamental µV/m	Harmonics µV/m
344.04	7251	725

- Results:
  The Fundamental and Harmonics field strengths did not exceed the limits specified in Table 2 at a test distance of 3 meters. See Table 3 for the worst case Fundamental and Harmonic emissions test results.

Requirements and Test Results (con't)

Field Strength Calculation:

The final average field strength of the emission was calculated by subtracting the duty cycle factor in dB from the maximized corrected peak reading in dBuV/m.

The maximized peak field strength of the emission was obtained as follows:

$P_C = M_R + C_F$

Where:
P_C = Corrected Peak Reading in dBµV/m
M_R = Uncorrected Meter Reading in dBµV
C_F = Correction Factor in dB (Antenna Factor + Cable Loss)

The final average field strength of the emission was obtained as follows:

$A_F = P_C - D_F$

Where:

A_F = Average Field Strength in dBµV/m
P_C= Corrected Peak Reading in dBµV/m
D_F = Duty Cycle Factor in dB

Example: For the PocketWizard Plus X at a frequency of 344.04 MHz:

M_R = 74.00 dBµV
C_F = 18.08 dB
P_C = 74.00 dBuV + 18.08dB = 92.08 dBµV/m
D_F = 20 dB

A_F = 92.08 dBuV/m – 20 dB = 72.08 dBuV/m

72.08 dBuV/m =4018 uV/m

Table 3 - Fundamental and Harmonics Test Results

Fundamental Frequency MHz	Maximum Fundamental µV/m	Maximum Harmonics µV/m
344.04	4018	191.87 at 688.08 MHz

Requirements and Test Results (con't)

Requirement:
FCC Section 15.231(b)(2) - Duty Cycle Determination-Pulsed Operation
Intentional radiators operating under the provisions of the Section shall demonstrate compliance with the limits on the field strength emissions, as shown in Table 1, based on the average value of the measured emissions. As an alternative, compliance with the limits in the Table 1 may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified in the application for equipment authorization. If average emission measurements are employed, the provisions in Section 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of Section 15.205 shall be demonstrated using the measurement instrumentation specified in that Section.

IC RSS-GEN, Paragraph 4.5, Pulsed Operation
When the field strength (or envelope power) is not constant or when it is in pulses, and an average detector is specified to be used, the value of field strength or power shall be determined by averaging over one complete pulse train, including blanking intervals within the pulse train, as long as the pulse train does not exceed 0.1 seconds. In cases where the pulse train exceeds 0.1 seconds, the average value (of field strength or output power) shall be determined during a 0.1 second interval during which the field strength or power is at its maximum value.

The unit's RF output was coupled to the input of the spectrum analyzer. The analyzer was set for a frequency span of 0 Hz. The sweep time was then adjusted in order to display one full pulse train. The transmitter on time was then summed and compared to the time for one full cycle in order to obtain the duty cycle. See Duty Cycle Plots for additional information.

- Results:
  See below for the exact method of calculating the duty cycle and average field strength.

Requirements and Test Results (con't)

The duty cycle of the PocketWizard Plus X Transceiver was evaluated in all possible channels and operating modes and the worst case duty cycle was determined. The following calculations were used to determine the duty cycle correction factor.

For the Pocket Wizard Plus X Transceiver at a frequency of 344.04 MHz:

Transmitter On Time =	1.09	milliseconds (maximum per cycle)
Transmitter Cycle Time =	39.87	milliseconds
Transmitter Duty Cycle =	.027	%

CALCULATION

There were 3 pulse bursts within the 39.87 msec cycle time:

On time pulse burst 1 =	420.84	microseconds
On time pulse burst 2 =	336.67	microseconds
On time pulse burst 3 =	336.67	microseconds
Total on time =	1.094	milliseconds
Duty Cycle (1.094/39.87) =	.027	%
Correction Factor = 20 log (0.027) =	-20	dB

Requirements and Test Results (con't)

Requirement:
FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
The limits on the field strength of the spurious emissions specified in Table 1 are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in Table 1 or to the general limits shown in Section 15.209, whichever limit permits a higher field strength.

IC RSS-210, A1.1.2(3) - Field Strength of Unwanted Emissions
The limits on the field strength of unwanted emissions in Table 4 of RSS-210 are based on the fundamental frequency of the intentional radiator. Unwanted emissions shall be attenuated to the limits shown in Table 2 of RSS-210 or to the limits shown in Table 4 of RSS-210, whichever is less stringent.

- Results:
  Other than the second harmonic no other spurious emissions were observed within 10 dB of the specified limit.

Requirement:
FCC Section 15.231(c) - Bandwidth of Emissions
The bandwidth of the emissions shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

- Results:
  The emission bandwidth was measured and did not exceed the specified limits. See Table 3 for the worst case occupied bandwidth test results.

Table 4 – Occupied Bandwidth Test Results

Fundamental Frequency MHz	Occupied Bandwidth kHz	Occupied Bandwidth Limit kHz
344.04	332.665	860 kHz

Requirements and Test Results (con't)

IC RSS-210, A1.1.3 - Bandwidth of Momentary Signals

For the purpose of Section A1.1, the 99% bandwidth shall be no wider than 0.25% of the center frequency for devices operating between 70-900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency.

- Results:
  The emission bandwidth was measured and did not exceed the specified limits. See Table 3 for the worst case 99% bandwidth test results.

Table 5 – 99% Bandwidth Test Results

Fundamental Frequency MHz	99% Bandwidth kHz	99% Bandwidth Limit kHz
344.04	761.52	860 kHz

IC RSS-GEN, 4.10 – Receiver Spurious Emissions

With the receiver operating in normal receive mode spurious radiated emissions measurements were performed in the frequency range of 30 MHz to 2 GHz. The field strength of receiver spurious emissions shall not exceed the limits specified in Table 6.

Table 6 – Spurious Emissions Limits for Receivers

Spurious Frequency MHz	Field Strength (microvolt/m at 3 Meters)
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

- Results:
  No Receiver Spurious Emissions were observed within 10dB of the specified limit.

Equipment Lists

FCC Section 15.231(b) - Field Strength of Fundamental Emissions
IC RSS-210, A1.1.2(1) - Field Strength and Frequency Bands

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
4029	RETLIF	OPEN AREA TEST SITE	3 / 10 Meters	RNH	7/24/2012	7/24/2015
5053	EMCO	BICONILOG ANTENNA	26 MHz - 3 GHz	3142C	11/14/2011	5/31/2013
R444	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A;A	7/6/2012	7/6/2013

FCC Section 15.231(b)(2) - Duty Cycle Determination - Pulsed Operation
IC RSS-210, A1.1.2(2), RSS-GEN, 4.5 - Pulsed Operation

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	11/6/2012	11/30/2013

FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
IC RSS-210, A1.1.2(3) - Field Strength of Unwanted Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1232	AGILENT / HP	PRE-AMPLIFIER	1 - 26.5GHz	8449B	5/30/2012	5/31/2013
3258	EMCO	DOUBLE RIDGED GUIDE ANTENNA	1 GHZ - 18GHZ	3115	2/24/2012	2/28/2013
4029	RETLIF	OPEN AREA TEST SITE	3 / 10 Meters	RNH	7/24/2012	7/24/2015
5053	EMCO	BICONILOG ANTENNA	26 MHz - 3 GHz	3142C	11/14/2011	5/31/2013
R444	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A;A	7/6/2012	7/6/2013

FCC Section 15.231(c) - Bandwidth of Emission
IC RSS-210, A1.1.3 - Bandwidth of Momentary Signals

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	11/6/2012	11/30/2013

IC RSS-GEN, 4.10 – Receiver Spurious Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
4029	RETLIF	OPEN AREA TEST SITE	3 / 10 Meters	RNH	7/24/2012	7/24/2015
5053	EMCO	BICONILOG ANTENNA	26 MHz - 3 GHz	3142C	11/14/2011	5/31/2013
R444	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A;A	7/6/2012	7/6/2013

FCC Section 15.231(b) - Field Strength of Fundamental Emissions
IC RSS-210, A1.1.2(1) - Field Strength and Frequency Bands

Photographs

Test Configuration

Horizontal Antenna Polarization

Vertical Antenna Polarization

FCC Section 15.231(b) - Field Strength of Fundamental Emissions
IC RSS-210, A1.1.2(1) - Field Strength and Frequency Bands

Test Data

RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

Test Method:	Fundamental Field Strength		
Customer:	LPA Design, Inc.	**Job No:**	R-5659N-1
Test Sample:	PocketWizard PLUS X Transceiver		
Model No:	PX-FCC	**Serial No:**	PXU
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)		
Operating Mode:	Continuously Transmitting		
Technician:	M.Seamans	**Date:**	January 7, 2013
Notes:	Corrected peak readings meet peak limit (20dB above average limit) per 15.35		

Transmit Frequency		Antenna/EUT Position	Meter Reading	Correction Factor	Corrected Peak	Duty Cycle Correction	Corrected Reading	Average Limit at 3 Meters	Converted Reading	Limit at 3 Meters
MHz		Polarization/Axis	dBuV	dBuV/m	dBuV/m	dB	dBuV/m	dBuV	uV/m	uVm
344.04		H/Z	74.00	18.08	92.08	-20.00	72.08	77.21	4017.91	7251.78

FCC Section 15.231(b)(2) - Duty Cycle Determination - Pulsed Operation
IC RSS-210, A1.1.2(2), RSS-GEN, 4.5 - Pulsed Operation

Test Photograph

Test Setup

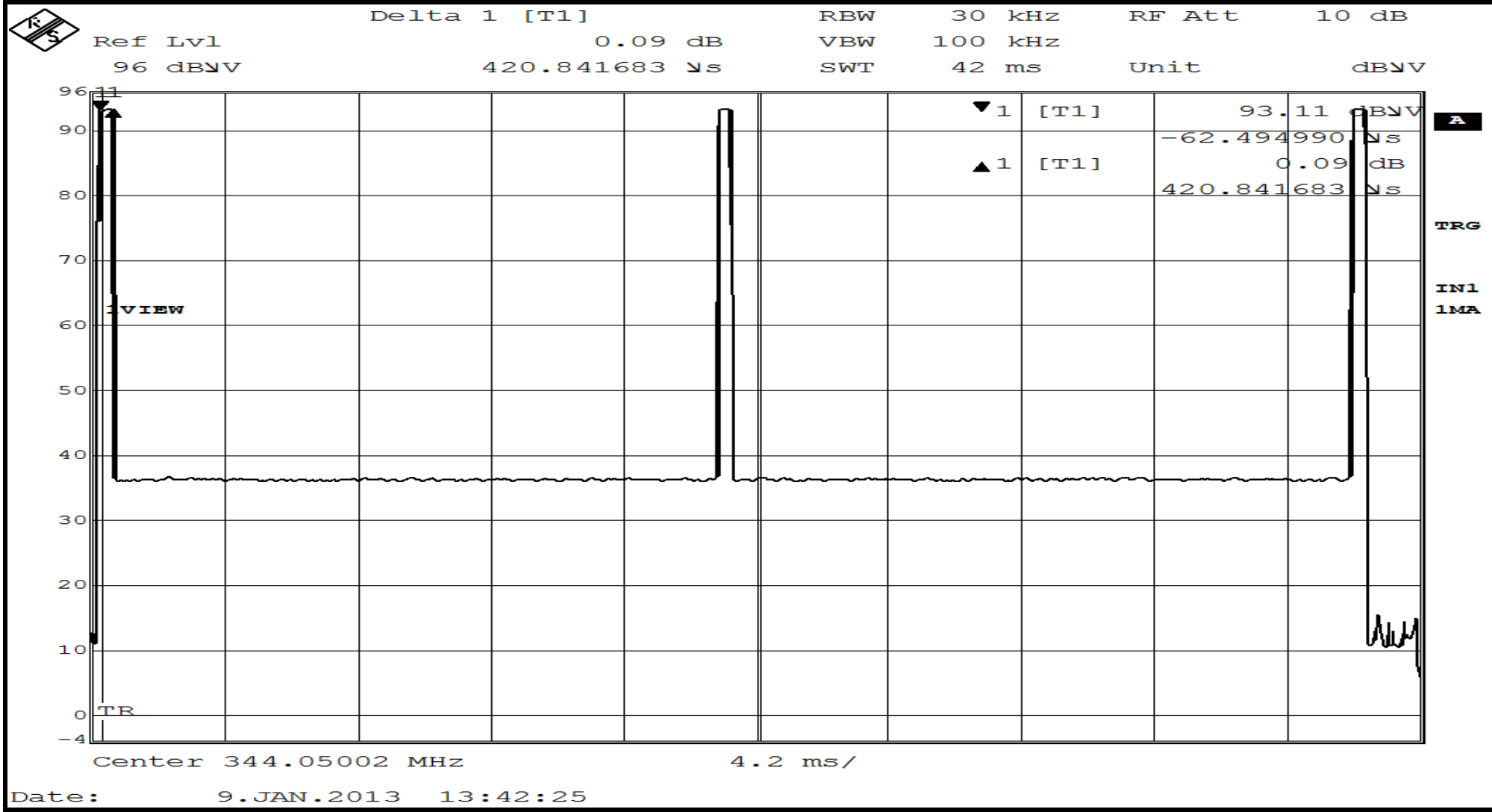
FCC Section 15.231(b)(2) - Duty Cycle Determination - Pulsed Operation
IC RSS-210, A1.1.2(2), RSS-GEN, 4.5 - Pulsed Operation

Test Data

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

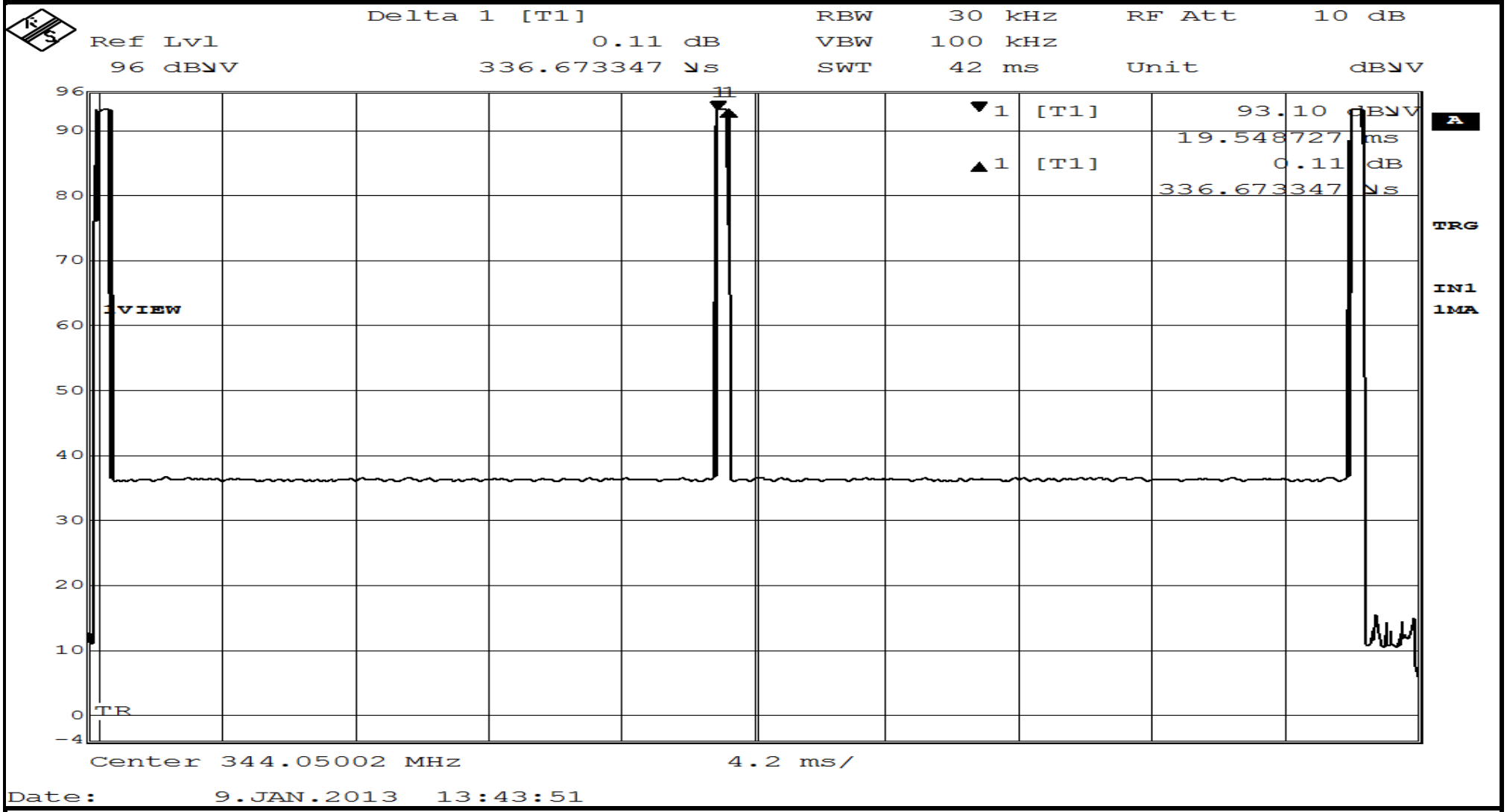
Test Method:	**Duty Cycle Plots**				
Customer:	LPA Design, Inc.	**Test Sample:**	PocketWizard PLUS X Transceiver	**Job No:**	R-5659N-1
Model No:	PX-FCC	**Serial No:**	PXU	**Technician:**	M. Seamans
Test Specification:	FCC Part 15, Subpart C	15.231(b)		**Date:**	1/9/2013
Operating Mode:	Single Transmission				
Notes:	Maximum Duty Cycle measured				



RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	**Duty Cycle Plots**				
Customer:	LPA Design, Inc.	**Test Sample:**	PocketWizard PLUS X Transceiver	**Job No:**	R-5659N-1
Model No:	PX-FCC	**Serial No:**	PXU	**Technician:**	M. Seamans
Test Specification:	FCC Part 15, Subpart C	15.231(b)		**Date:**	1/9/2013
Operating Mode:	Single Transmission				
Notes:	Maximum Duty Cycle measured				



Data Sheet 2 of 2 **R-5659N-1**

FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
IC RSS-210, A1.1.2(3) - Field Strength of Unwanted Emissions

Test Photographs

Test Configuration

Horizontal Antenna Polarization, 30 to 1000 MHz

Vertical Antenna Polarization, 30 to 1000 MHz

Horizontal Antenna Polarization, 1 to 4 GHz

Vertical Antenna Polarization, 1 to 4 GHz

FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
IC RSS-210, A1.1.2(3) - Field Strength of Unwanted Emissions

Test Data

RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

Test Method:	Spurious Emissions 30MHz to 3.5GHz		
Customer:	LPA Design, Inc.	**Job No:**	R-5659N-1
Test Sample:	PocketWizard PLUS X Transceiver		
Model No:	PX-FCC	**Serial No:**	PXU
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)		
Operating Mode:	Continuously Transmitting		
Technician:	M.Seamans	**Date:**	1/7/2013
Notes:	Fundamental Frequency: 344.04 MHz		

Harmonic Frequency		Antenna/EUT Position	Meter Reading	Correction Factor	Corrected Reading				Converted Reading	Limit at 3 Meters
MHz		Polarization/Axis	dBuV	dB	dBuV/m				uV/m	uVm
110.00										
688.08		H/Z	12.12	33.54	45.66				191.87	725.18
990.00		-	0.12	29.15	29.27	**			29.07	500.00
1032.12		-	12.5	2.7	15.2	*			5.77	500.00
1050.00		-	7.0	2.7	9.7	**			3.05	500.00
1376.16		-	11.6	7.5	19.1	*			8.99	500.00
1500.00		-	5.6	9.9	15.5	**			5.97	500.00
1720.20		-	13.6	16.2	29.8	*			31.01	500.00
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|		-	-	-	-				-	-
v		-	-	-	-				-	-
3500.00		-	*	-	-				-	500.00

*Measurement of Noise floor at harmonic frequencies. No Harmonic emissions or spurious emissions observed.

** Measurement of noise floor in restricted band. No EUT emissions observed.

FCC Section 15.231(c) - Bandwidth of Emission
IC RSS-210, A1.1.3 - Bandwidth of Momentary Signals

Test Photograph


ROHDE&SCHWARZ
ESIB 40
EMI TEST RECEIVER
Kodak
Kodak Professional
Test Setup

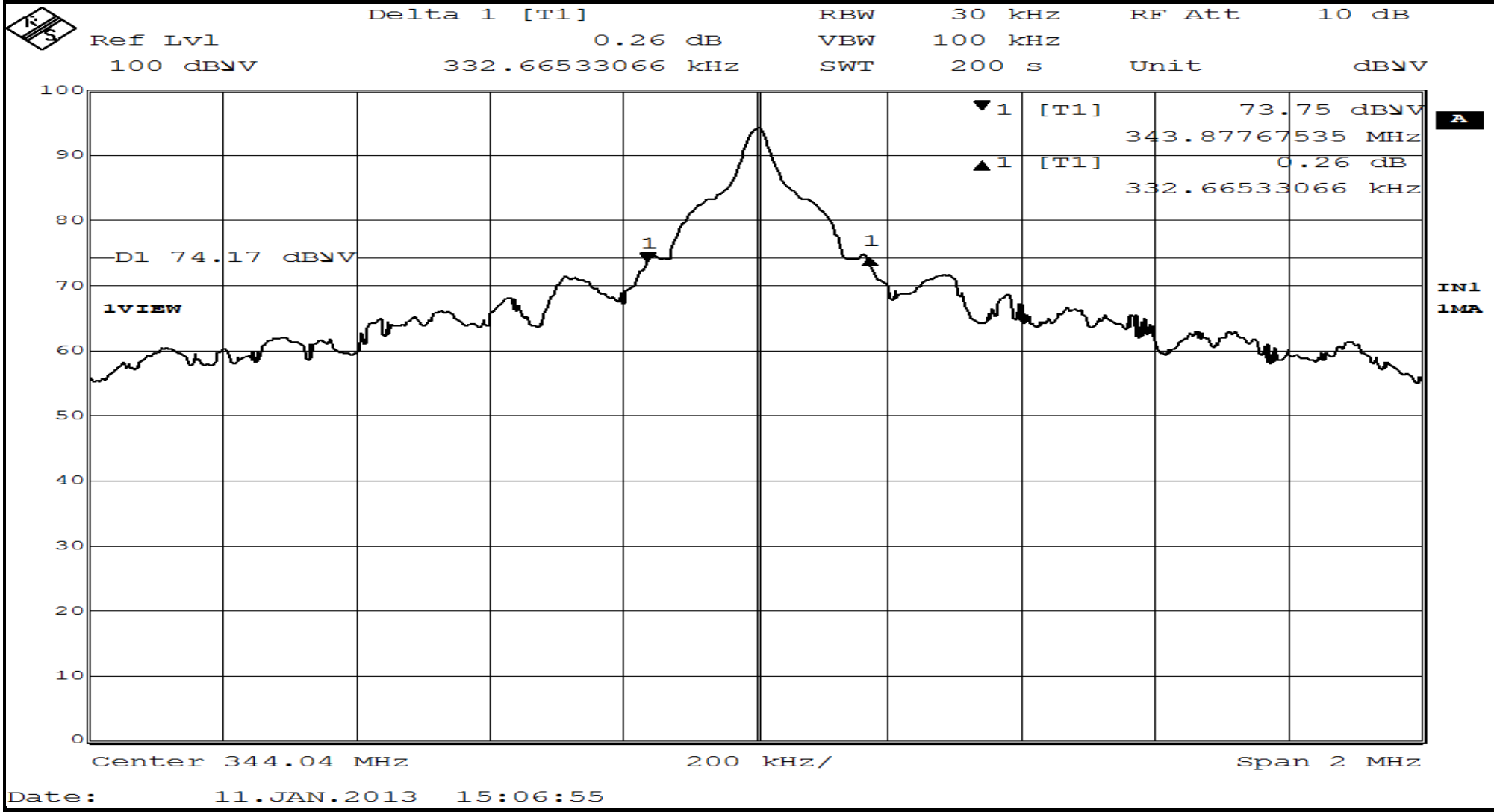
FCC Section 15.231(c) - Bandwidth of Emission
IC RSS-210, A1.1.3 - Bandwidth of Momentary Signals

Test Data

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	**Occupied Bandwidth**				
Customer:	LPA Design, Inc.	**Test Sample:**	PocketWizard PLUS X Transceiver	**Job No:**	R-5659N-1
Model No:	PX-FCC	**Serial No:**	PXU	**Technician:**	M. Seamans
Test Specification:	FCC Part 15, Subpart C	15.231(c)		**Date:**	January 11, 2013
Operating Mode:	Continuously Transmitting				
Notes:	Transmit Frequency 344.04 MHz Occupied Bandwidth: 332.665 kHz				

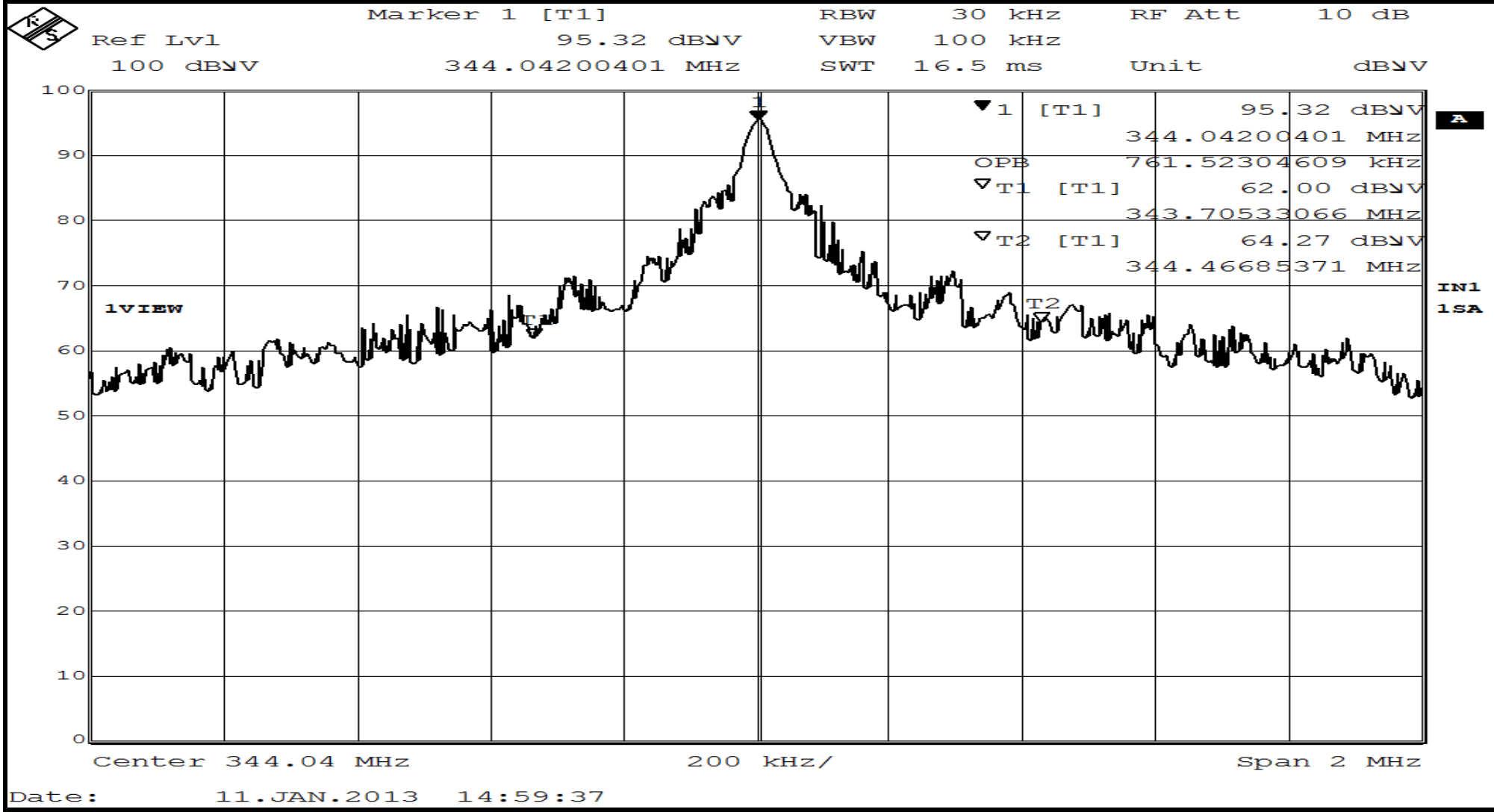


Data Sheet 1 of 1 **R-5659N-1**

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	**99% Bandwidth**				
Customer:	LPA Design, Inc.	**Test Sample:**	PocketWizard PLUS X Transceiver	**Job No:**	R-5659N-1
Model No:	PX-FCC	**Serial No:**	PXU	**Technician:**	M. Seamans
Test Specification:	RSS-210			**Date:**	January 11, 2013
Operating Mode:	Continously Transmitting				
Notes:	Transmit Frequency 344.04 MHz, 99% BW 761.523 kHz				



Data Sheet 1 of 1 **R-5659N-1**

IC RSS-GEN, 4.10 - Field Strength of Receiver Spurious Emissions

Test Photographs

Test Configuration

Horizontal Antenna Polarization, 30 to 2000 MHz

Vertical Antenna Polarization, 30 to 2000 MHz

IC RSS-GEN, 4.10 - Field Strength of Receiver Spurious Emissions

Test Data

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	**Radiated Emissions 30 MHz to 2 GHz**		
Customer	LPA Design, Inc.	**Job No.**	R-5659N-1
Test Sample	PocketWizard PLUS X Transceiver		
Model No.	PX-FCC	**Serial No.**	PXU
Test Specification:	RSS GEN		
Operating Mode:	Receiving Signal		
Technician:	M. Seamans	**Date:**	January 7, 2013
Notes:	Test Distance: 3 Meters Detector: Quasi-Peak<1000 MHz Average>1000 MHz		

Test Frequency	Antenna Position	Turntable Position	Uncorrected Reading	Correction Factor	Corrected Reading					Limit at 3 Meters
MHz	(H/V) - Height	Degrees	dBuV	dB	dBuV/m					dBuV/m
30.00	-	-	-	-	-					40.0
|	-	-	-	-	-					|
35.00	H-1m	0.0	-0.35	16.24	15.89	*				|
35.00	V-1m	0.0	6.65	16.24	22.89	*				|
|	-	-	-	-	-					|
88.00	-	-	-	-	-					40.0
88.00	-	-	-	-	-					43.5
|	-	-	-	-	-					|
110.00	H-1m	0.0	-1.48	10.03	8.55	*				|
110.00	V-1m	0.0	4.82	10.03	14.85	*				|
195.00	H-1m	0.0	11.21	12.40	23.61	*				|
195.00	V-1m	0.0	-0.54	12.40	11.86	*				|
205.00	H-1m	0.0	6.43	12.32	18.75	*				|
205.00	V-1m	0.0	-1.35	12.32	10.97	*				|
|	-	-	-	-	-					|
216.00	-	-	-	-	-					43.5
216.00	-	-	-	-	-					46.0
|	-	-	-	-	-					|
600.00	H-1m	0.0	-0.07	24.18	24.11	*				|
600.00	V-1m	0.0	-0.22	24.18	23.96	*				|
|	-	-	-	-	-					|
960.00	-	-	-	-	-					46.0
960.00	-	-	-	-	-					54.0
|	-	-	-	-	-					|
995.00	H-1m	0.0	0.12	29.15	29.27	*				|
995.00	V-1m	0.0	0.01	29.15	29.16	*				|
|	-	-	-	-	-					|
2000.00	-	-	-	-	-					54.0
	No EUT emissions within 10 dB of the specified test limit were observed at the specified test distance throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor)									

Data Sheet 1 of 1 R-5659N-1