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FCC PART 15 REPORT of MEASUREMENTS on PocketWizard FlexTT5 Transceiver

Company Name: LPA Design

Customer P.O.: K1141

Date of Report: February 6, 2009

Test Report No.: R-5125N-1

Test Start Date: January 13, 2009

Test Finish Date: February 4, 2009

Test Technicians: Michael Hippert, Matthew Seamans

Laboratory Supervisor: Todd Hannemann

Manager: Scott Wentworth

Results Prepared By: Jamie Ramsey

Government Source Inspection: N/A

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We certify that these Test Results are true results obtained from the tests of the equipment stated, and relates only to the equipment tested. We further certify that the measurements shown in this Test Results package were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Todd Hannemann Laboratory Supervisor

Scott Wentworth Branch Manager

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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.

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Revision History

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

Revision	Date	Pages Affected
-	February 6, 2009	Original Release



Test Program Summary

Job Number: R-5093N-1

Applicant: LPA Design

Address: 4 IDX Drive, Suite 265

South Burlington, VT 05403

Test Sample: FlexTT5 Remote Flash Control Transceiver

Part Number: N/A

Model Number: TT5-C-US

Brand Name: PocketWizard FlexTT5

Serial Number: 5CU101092

Power Requirements: 3VDC via internal battery

Frequency Band of

Operation: 340.0MHz to 354MHz

Modulation: OOK (on/off keying)

Type of Transmission: Control Signal (Pulse Recognition Codes)

Application: Remote Triggering of a Flashpack

Frequencies Tested: 340MHz, 347MHz, 354MHz

Test Specification:

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

Test Procedure:

ANSI C3.4:2003

Purpose:

The purpose of this test program was to demonstrate compliance of the PocketWizard FlexTT5 Remote Flash Control Transceiver to the requirements of FCC Part 15.231.

Test Methods:

The following table depicts the test methods that were performed on the EUT and the corresponding test results:

Testing		Test
Date(s)	Test Method	Results
1/14/09	15.231(b)Spurious Radiated Emissions	
	(30MHz to 3.6GHz)	Complied
1/14/09	15.231(b), Field Strength of Fundamental	Complied
1/14/09	15.231(c) Occupied Bandwidth, 0.25% of Fundamental Frequency	Complied
2/4/09	Duty Cycle Determination	N/A



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Test Sample Operation:

The device is normally manually operated and transmits a control signal for remote triggering of a flashpack. Normal operation of the EUT complies with the parameters required in Part 15, Subpart C, Section 15.231 for momentary operated devices. For testing purposes only, the EUT was configured to continuously transmit.

Test Sample/Test Program:

- The transmitter is manually activated and employs a switch that automatically deactivates the transmitter within 5 seconds of being released.
- The transmitter does not perform periodic transmission at regularly predetermined intervals.
- The device can not be employed for RC purposes involving security.
- The device uses a permanently attached external plastic encased helix coiled spring antenna with no antenna connector.
- The device is powered by internal battery with no connections to the AC mains.
- The fundamental field strength did not exceed the specified limit at a test distance of 3.0 meters.
- The peak value of fundamental emissions did not exceed a peak field strength limit corresponding to 20dB above the maximum permitted average limit.
- The field strength of harmonic and spurious emissions did not exceed the applicable limit. No harmonic or spurious emissions were observed within 10dB of the specified limit at test distances of 1 or 3 meters.
- Radiated Emissions from the EUT were measured in all three axis. The attached Radiated Emissions test data is representative of the worst case orientation.
- The 20dB bandwidth and 99% bandwidth of fundamental emissions did not exceed 0.25% of the center operating frequency and were determined as follows:

Fundamental Frequency = 340.0MHz0.25% of Center Frequency = 0.850MHz

0.850 divided by 2 = 0.425MHz Bandwidth Range = Fundamental Frequency + and – 0.425MHz 340.0MHz – 0.425MHz = 339.5751MHz

340.0MHz + 0.4250MHz = 340.425Hz

= 339.575MHz - 340.425MHzBandwidth Range

Fundamental Frequency = 347.0MHz0.25% of Center Frequency = 0.868MHz

0.868 divided by 2 = 0.434MHz Bandwidth Range = Fundamental Frequency + and – 0.434MHz 347.0MHz – 0.434MHz = 346.560MHz

347.0MHz + 0.434MHz = 347.434MHz

Bandwidth Range = 346.560MHz - 347.434MHz



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Fundamental Frequency = 354.0MHz 0.25% of Center Frequency= 0.885Hz

0.885 divided by 2 = 0.4425MHz Bandwidth Range = Fundamental Frequency + and – 0.442MHz 354.0MHz – 0.442MHz = 353.558MHz

354.0MHz + 0.442MHz = 354.442MHz

= 353.558MHz - 354.442MHzBandwidth Range

Determination of Field Strength Limits:

The field strength limits shown below were calculated as instructed in Section 15.231.

Fundamental Frequency: 340.0MHz

Where F is the frequency in MHz, the formula for calculating the maximum permitted fundamental field strength for the band 260-470MHz, µV/m at 3 meters is as follows:

41.6667(F) - 7083.3333 = Field Strength Limit (µV/m)

41.6667 x 340.0 14166.68 = 14166.68 - 7083.3333 Field Strength Limit = 7083

 $7083\mu V/m = 77.0dBuV/M$

The maximum permitted unwanted emission level is 20dB below the maximum permitted fundamental level which equals 708uV/m = 57.0dBuV/M.

Fundamental Frequency: 347.0MHz

Where F is the frequency in MHz, the formula for calculating the maximum permitted fundamental field strength for the band 260-470MHz, µV/m at 3 meters is as follows:

41.6667(F) - 7083.3333 = Field Strength Limit (µV/m)

= = 41.6667 x 347.0 14458.35 14458.35 - 7083.3333 7375

Field Strength Limit $7375\mu V/m = 77.36dBuV/M$

The maximum permitted unwanted emission level is 20dB below the maximum permitted fundamental level which equals 738uV/m = 57.36dBuV/M.



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Fundamental Frequency: 354.0MHz

Where F is the frequency in MHz, the formula for calculating the maximum permitted fundamental field strength for the band 260-470MHz, μ V/m at 3 meters is as follows:

41.6667(F) - 7083.3333 = Field Strength Limit (µV/m)

41.6667 x 354.0 = 14750 14750 - 7083.3333 = 7667

Field Strength Limit = $7667\mu\text{V/m} = 77.69\text{dBuV/M}$

The maximum permitted unwanted emission level is 20dB below the maximum permitted fundamental level which equals $767\mu\text{V/m} = 57.69\text{dBuV/M}$.

Determination of Duty Cycle:

The transmitter controls were adjusted to maximize the transmitted duty cycle. The analyzer was set for a frequency span of 0Hz. 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. The pulse train exceeded 100msec so 100msec was used as the cycle time and the period with the "worst case" on time was used to calculate the duty cycle. The on times were determined as follows:

The transmitter pulse train was the same for all 3 frequencies tested. The individual pulses within the pulse train were measured and summed in order to obtain the total "on time". Within the 100msec there were a total of 10 pulses (8 pulses with 521.04usec duration, 1 pulse with 547.09 usec and 1 pulse with 416.83usec duration).

Transmitter On Time = 5.132milliseconds
Transmitter Cycle Time = 100milliseconds

Transmitter Duty Cycle = 5.132%

On Time divided by Cycle Time = Duty Cycle Factor

5.132 divided by 100 = 0.05132 0.05132 converted to dB (LOG₁₀ .05132)20 = -25.79 **Duty Cycle Factor** = **-25.79dB**

Duty Cycle Factor Determination Plots are included in this report.



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Test Methods:

15.231 (b) Fundamental & Spurious Radiated Emissions

The test sample was placed on a 80cm high wooden test stand which was located 3 meters from the test antenna on an FCC listed open area test site. Emissions from the EUT were maximized by rotating the test sample and adjusting the test sample orientation and antenna polarization. The maximized peak field strength of each emission was measured and recorded and compared to the limit specified in 15.35 (b) (peak limit corresponds to 20dB above the maximum permitted average limit). The duty cycle factor was applied to the peak readings in order to determine the average field strength of the emissions for comparison to the specified average limits.

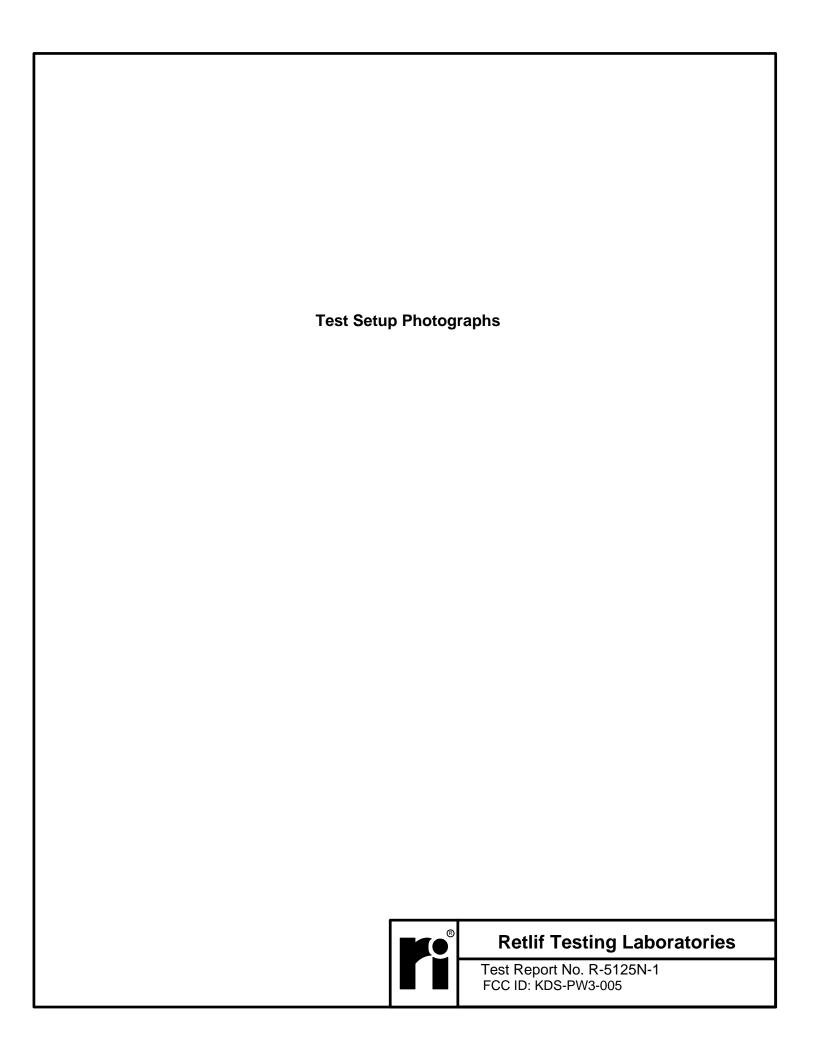
Test Results: The worst case maximum peak field strength of the fundamental frequency at 340.0MHz was 93.96dBuV/M which met the peak limit of 97.0dBuV. The maximum average field strength at 340.0MHz was 68.17dBuV which met the specified average limit of 77.0dBuV. The worst case maximum peak field strength of the fundamental frequency at 347.0MHz was 93.96dBuV/M which met the peak limit of 97.36BuV. The maximum average field strength at 347.0MHz was 68.17dBuV which met the specified average limit of 77.360dBuV. The worst case maximum peak field strength of the fundamental frequency at 354.0MHz was 94.61dBuV/M which met the peak limit of 97.69dBuV. The maximum average field strength at 354.0MHz was 68.82dBuV which met the specified average limit of 77.69dBuV. No harmonic/spurious frequencies were observed above the noise floor of the test equipment which was a minimum of 10dB below the specified limit.

15.231 (c) Occupied Bandwidth

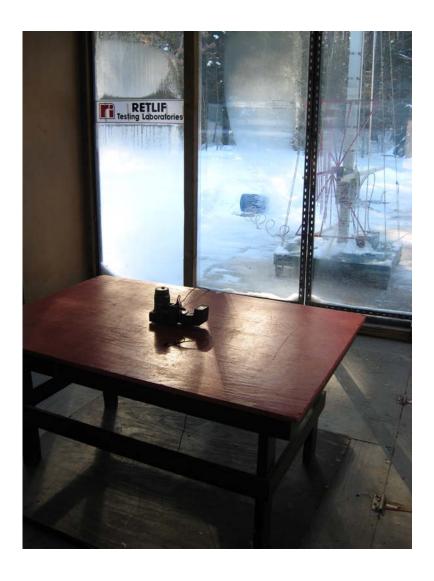
The test sample was placed on a test bench and configured to transmit its normal modulated signal at maximum power. The spectrum analyzers resolution bandwidth, sweep rate and span were adjusted for the frequency being measured. The upper and lower frequency points corresponding to levels 20dB down from the peak of the modulated carrier frequency were used to determine the occupied bandwidth.

Test Results: The bandwidth of the emission at 340.0MHz, 347.0MHz and 354.0MHz was less than 0.25% of the center frequency and met the requirements of 15.231 (c).





Test Photographs Spurious Radiated Emissions





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Test Photographs Spurious Radiated Emissions





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Test Photograph Field Strength of Fundamental





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Test Photograph Occupied Bandwidth & Duty Cycle





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Equipment Lists

Fundamental & Spurious Radiated Emissions

EN	Туре	Manufacturer	Description	Model No.	Cal Date Due	Date
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	8/31/2007 1/31/	2009
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0 A	1630	1/31/2008 1/31/	2009
3258	Double Ridge Guide	EMCO	1 - 18 GHz	3115	8/20/2008 8/20/	2009
4029B	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	7/21/2008 7/21/	2009
5053	Biconilog	EMCO	26 MHz - 3 GHz	3142C	10/4/2007 2/4/2	2009
712	EMI Test Receiver	Rohde & Schwarz	20 Hz – 26.5 GHz	ESIB26	9/11/2007 3/11/	2009

Occupied Bandwidth

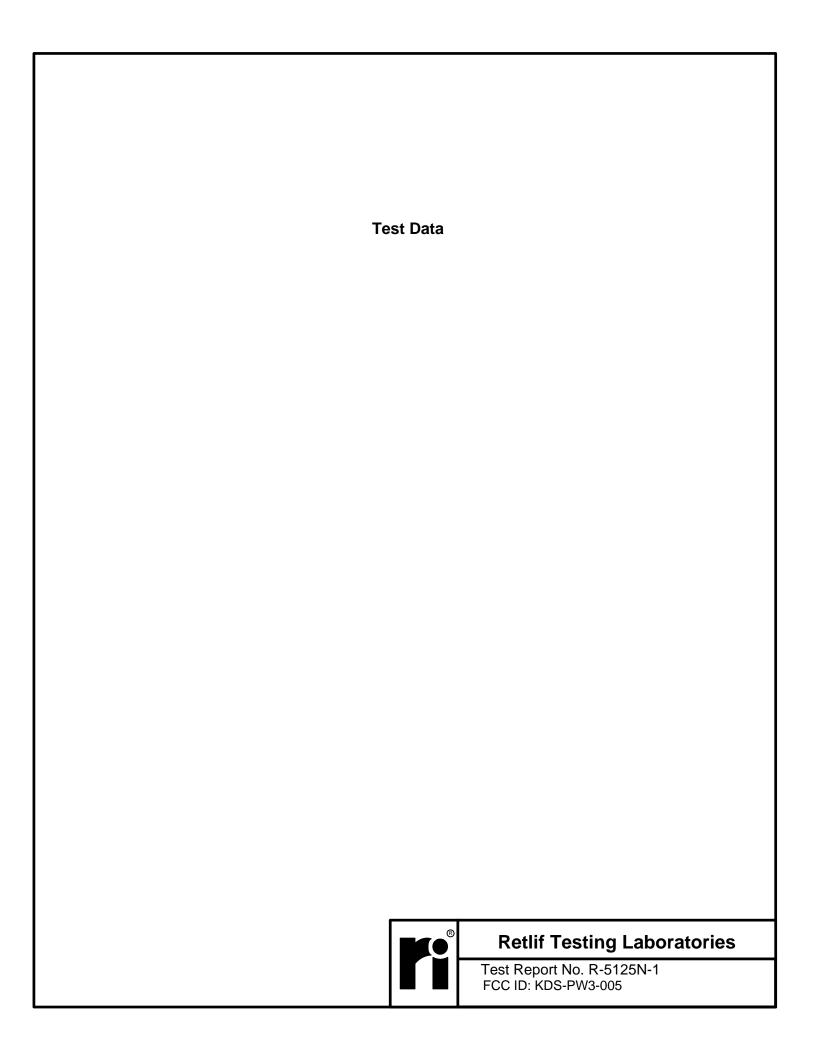
EN	Type	Manufacturer	Description	Model No.	Cal Date Due Date
712	EMI Test Receiver	Rohde & Schwarz	20 Hz – 26.5 GHz	ESIB26	9/11/2007 3/11/2009

Duty Cycle

EN	Туре	Manufacturer	Description	Model No.	Cal Date Due Date
5070	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	1/14/2009 1/14/2010



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	= RE	TLIF	TESTI	NG L	ABOR	ATOR	IES ≡		
				AR DATA	SHEET				
Test Method:	Fundamental	Field Strength							
Customer:	LPA Design, I	nc.			Job No:	R-5125N-1			
Test Sample:	PocketWizard	Flex TT5 Tra	nsceiver						
Model No:	TT5-C-US				Serial No:	5CU101092			
Test Specification:	FCC Part 15,	Subpart C			Dorograph 4	F 221/b)			
Operating Mode:	Continuously [*]	Transmitting			Paragraph: 1	ن.دی ۱(۵)			
Technician:	M.Seamans				Date:	January 14, 2	2009		
Notes:	Corrected pea	ak readings me	eet peak limit (2	20dB above a	verage limit) pe	er 15.35			
Transmit	Antenna/EUT	Meter	Correction	Corrected	Duty Cycle	Corrected	Average Limit	Converted	Limit
Frequency	Position	Reading	Factor	Peak	Correction	Reading	at 3 Meters	Reading	at 3 Meters
MHz	Polarization/Axis	dBuV	dB	dBuV/m	dB	dBuV/m	dBuV	uV/m	uVm
340.00	H/Z	75.88	18.08	93.96	-25.79	68.17	77.00	2561.53	7083.45
347.00 354.00	H/Z H/Z	75.61 76.10	18.35 18.51	93.96 94.61	-25.79 -25.79	68.17 68.82	77.36 77.69	2561.53 2761.34	7375.12 7666.78
554.00	17/2	70.10	10.51	J4.01	-23.18	00.02	77.08	2101.34	7000.70
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Data Sheet 1 of	1								R-5125N-1
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				TABIII	AR DATA	CHEET							
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Test Method	ı:	Spurious Emis		10 3.6GHZ		1	D = (= 1) (
Customer:		LPA Design, In				Job No:	R-5125N-1						
Test Sample):	PocketWizard	Flex TT5 Trar	nsceiver									
Model No:		TT5-C-US				Serial No:	5CU101092						
Test Specific	cation:	FCC Part 15, S	Subpart C			Paragraph: 1	15 231(h)						
Operating M	ode:	Paragraph: 15.231(b) Continuously Transmitting											
Technician:		M.Seamans				Date:	1/14/2009						
Notes:		Fundamental Frequency: 340 MHz											
		Fundamental Frequency: 340 MHz											
Harmonic		Antenna/EUT	Meter	Correction	Duty Cycle	Corrected		Converted	Limit				
Frequency		Position	Reading	Factor	Correction	Reading		Reading	at 3 Meters				
MHz		Polarization/Axis	dBuV	dB	dB	dBuV/m		uV/m	uVm				
680.00		-	-	-	-	-		-	708.34				
1020.00		-	-	-	-	-		-	500.00				
1360.00		-	-	-	-	-		-	500.00				
1700.00		-	-	-	-	-		-	500.00				
2040.00		-	-	-	-	-		-	708.34				
2380.00		-	-	-	-	-		-	500.00				
2720.00		-	-	-	-	-		-	500.00				
3060.00		-	-	-	-	-		-	708.34				
3400.00		-	-	-	-	-		-	708.34				
			e observed a	bove the noise	floor of the te	st equipment	which was a minimum	of 10 dB					
	below the lin	nit.											
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Data Shee	t 1 of 1								R-5125N-1				

				TABIII	AR DATA	CHEET							
Test Method	ı .	Spurious Emis	oiona 20MUz		AK DATA	SHEET							
	l .			10 3.0GHZ		1	D 5405N 4						
Customer:		LPA Design, In				Job No:	R-5125N-1						
Test Sample	:	PocketWizard	Flex TT5 Trar	nsceiver									
Model No:		TT5-C-US				Serial No:	5CU101092						
Test Specific	cation:	FCC Part 15, Subpart C Paragraph: 15.231(b)											
		Paragraph: 15.231(b) Continuously Transmitting											
Operating Mode:		Continuously T	ransmitting										
Technician:		M.Seamans				Date:	1/14/2009						
Notes:		Fundamental F	Fundamental Frequency: 347 MHz										
		Fundamental Frequency: 347 MHz											
Harmonic		Antenna/EUT	Meter	Correction	Duty Cycle	Corrected		Converted	Limit				
Frequency		Position	Reading	Factor	Correction	Reading		Reading	at 3 Meters				
MHz		Polarization/Axis	dBuV	dB	dB	dBuV/m		uV/m	uVm				
694.00		-	-	-	-	-		-	737.51				
1041.00		-	=	-	-	-		-	500.00				
1388.00		-	-	-	-	-		-	500.00				
1735.00		-	=	-	-	-		-	737.51				
2082.00		+ - +	-	-	-	-		-	737.51				
2429.00		-	-	-	-	-		-	737.51 500.00				
2776.00 3123.00		-	-	-	-	-		-	737.51				
3470.00		-	<u>-</u>	<u>-</u>	-	<u>-</u>		-	737.51				
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	No harmoni	c frequencies wer	e observed a	bove the noise	floor of the te	st equipment	which was a minimum	of 10 dB					
	below the lin												
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Test Method	ı .	Spurious Emis	niona 20MUz		AK DATA	SHEET						
	l .			10 3.0GHZ		1	D 5405N 4					
Customer:		LPA Design, In				Job No:	R-5125N-1					
Test Sample	:	PocketWizard	Flex TT5 Trar	nsceiver								
Model No:		TT5-C-US				Serial No:	5CU101092					
Test Specific	cation:	FCC Part 15, S	Subpart C		15 231(h)							
Operating M	ode:	Paragraph: 15.231(b) Continuously Transmitting										
Technician:		M.Seamans				Date:	1/14/2009					
Notes:		Fundamental F	requency: 35	4 MHz								
itoles.		Tundamentari	requeriey. 30	77 IVII 12								
Harmonic		Antenna/EUT	Meter	Correction	Duty Cycle	Corrected		Converted	Limit			
Frequency		Position	Reading	Factor	Correction	Reading		Reading	at 3 Meters			
MHz		Polarization/Axis	dBuV	dB	dB	dBuV/m		uV/m	uVm			
708.00		-	-	-	-	-		-	766.68			
1062.00		-	-	-	-	-		-	500.00			
1416.00		-	-	-	-	-		-	500.00			
1770.00		-	-	-	-	-		-	766.68			
2124.00		-	-	-	-	-		-	766.68			
2478.00		-	=	-	-	-		-	766.68			
2832.00		-	-	-	-	-		-	500.00			
3186.00		-	-	-	-	-		-	766.68			
3540.00		-	-	-	-	-		-	766.68			
		+ -										
		+										
		1										
			e observed a	bove the noise	floor of the te	st equipment	which was a minimum	of 10 dB				
	below the lin	nit.										
Data Shee	t 1 of 1								R-5125N-1			

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Occupied Bandwidth Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 Technician: M. Seamans FCC Part 15. Subpart C Test Specification: Date: 1/14/2009 15.231(c) Operating Mode: Continuously Transmitting Transmit Frequency 340 MHz Occupied Bandwidth: 448.897 kHz Notes: Delta 1 [T1] RBW 30 kHz RF Att 10 dB Ref Lvl 0.13 dB VBW 100 kHz 102 dBµV 448.89779559 kHz 33 ଛ Unit SWT dΒμV 102 [[[dBuV -D1 98.28 dBµV А 339.84969940 MHz [T1] 90 448.89779559 kHz 80 78.28 dBuV-IN1 70 1VIEW 1MA 2**√**\\ **TEW** 2MA PO 50 40 3.0 20 10 Center 340 MHz 200 kHz/ Span 2 MHz Date: 14.JAN.2009 12:27:33

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ethod:	Occupied Bandwid	dth			ATTA STILL	•				
ner:	LPA Design, Inc.			Test Sample:	PocketWizard	Flex TT5 Transce	ver		Job No:	R-5125N-
No:	TT5-C-US			Serial No:	5CU101092				Technician:	
pecification:	FCC Part 15, Subpa	art C			15.231(c)				Date:	1/14/2009
ing Mode:	Continuously Transı				,					
			Bandwidth: 316.633	kHz						
	Lvl dBµV		a 1 [T1] 0 316.63326	.01 dB 653 kHz	RBW VBW SWT		EHZ EHZ S	RF Att	10 d	lB βμV
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50										F
40										
30										
20										
10										
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ethod:	Occupied Band	width									
ner:	LPA Design, Inc.				Test Sample:	PocketWizard	Flex TT5 Transcei	ver		Job No:	R-5125N
No:	TT5-C-US				Serial No:	5CU101092				Technician	M. Seam
ecification:	FCC Part 15, Sul	bpart C				15.231(c)				Date:	1/14/2009
ng Mode:	Continuously Tra	nsmitting									
	Transmit Freque	ncy 354 MHz Oco	cupied Band	width: 320.641 kl	Hz						
> Ref 102	Lvl dBµV	Del			.06 dB 256 kHz	RBW VBW SWT		Hz Hz s	RF Att		dB BµV
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RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: 5CU101092 Serial No: Technician: T. Hannemann FCC Part 15. Subpart C Test Specification: Date: 2/4/2009 15.231(b) Operating Mode: Continuously Transmitting Notes: Maximum Duty Cycle RBW 100 kHz 10 dB Ref Lvl VBW 100 kHz 102 dbyv SWT 100 ms Unit **dbyv** 102 90 TRG IN1 LVEW 1MA 60 50 40 30 20 10 Center 340 MHz 10 ms/ Date: 4.FEB.2009 17:35:16

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 T. Hannemann Technician: FCC Part 15. Subpart C 2/4/2009 Test Specification: Date: 15.231(b) Operating Mode: Continuously Transmitting Notes: Maximum Duty Cycle Delta 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl -5.73 dB 100 kHz VBW 102 dByV 521.042084 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 IN1 1MA 60 50 40 30 20 10 TR Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:24:53

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 T. Hannemann Technician: FCC Part 15. Subpart C 2/4/2009 Test Specification: Date: 15.231(b) Operating Mode: Continuously Transmitting Notes: Maximum Duty Cycle Delta 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl 4.12 dB 100 kHz VBW 102 dByV 521.042084 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 IN1 1MA 60 50 40 30 20 10 TR Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:25:31

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 T. Hannemann Technician: FCC Part 15. Subpart C 2/4/2009 Test Specification: Date: 15.231(b) Operating Mode: Continuously Transmitting Notes: Maximum Duty Cycle Delta 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl 2.54 dB 100 kHz VBW 102 dByV 521.042084 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 INL 1MA 60 50 40 30 20 10 TR Center 340 MHz 1.3 ms/ Date: 4.FEB.2009 17:26:00

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 T. Hannemann Technician: FCC Part 15. Subpart C 2/4/2009 Test Specification: Date: 15.231(b) Operating Mode: Continuously Transmitting Notes: Maximum Duty Cycle Delta 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl 4.47 dB 100 kHz VBW 102 dByV 521.042084 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 IN1 1MA 60 50 40 30 20 10 TR Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:26:39

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RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 T. Hannemann Technician: FCC Part 15. Subpart C 2/4/2009 Test Specification: Date: 15.231(b) Operating Mode: Continuously Transmitting Fundamental Frequency: 340 MHz Notes: Delta 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl 3.58 dB 100 kHz VBW 102 dByV 521.042084 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 IN1 1MA 60 50 40 30 20 10 TR Center 340 MHz 1.3 ms/ Date: 4.FEB.2009 17:27:08

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: Serial No: 5CU101092 T. Hannemann Technician: FCC Part 15. Subpart C 2/4/2009 Test Specification: Date: 15.231(b) Operating Mode: Continuously Transmitting Fundamental Frequency: 340 MHz Notes: Marker 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl 71.15 dB**y**V 100 kHz VBW 102 dByV 9.034028 ms SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 INL 1MA 60 50 40 30 20 10 TR Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:28:12

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RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: 5CU101092 T. Hannemann Serial No: Technician: FCC Part 15. Subpart C Test Specification: Date: 2/4/2009 15.231(b) Operating Mode: Continuously Transmitting Fundamental Frequency: 340 MHz Notes: RBW 100 kHz RF Att 10 dB Ref Lvl 5.59 dB VBW 100 kHz 102 dbyv 521.042084 ****s SWT 13 ms Unit **dbyv** 102 90 SGL TRG 80 INL 1MA 60 5 C 4 C 30 20 10 Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:31:16

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: 5CU101092 T. Hannemann Serial No: Technician: FCC Part 15. Subpart C Test Specification: Date: 2/4/2009 15.231(b) Operating Mode: Continuously Transmitting Notes: Fundamental Frequency: 347MHz RBW 100 kHz RF Att 10 dB Ref Lvl 1.99 dB VBW 100 kHz 102 dbyv 547.094188 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 INL 1MA 60 50 4 C 30 20 10 Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:31:44

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: 5CU101092 Serial No: Technician: T. Hannemann FCC Part 15. Subpart C Test Specification: Date: 2/4/2009 15.231(b) Operating Mode: Continuously Transmitting Notes: Fundamental Frequency: 347MHz Delta 1 [T1] RBW 100 kHz RF Att 10 dB Ref Lvl -1.00 dB VBW 100 kHz 102 dByV SWT 13 ms Unit **VĽ**Bb 416.833667 **\s** 102 90 SGL TRG 80 INL 1MA 60 50 4 C 30 20 10 Center 340 MHz 1.3 ms/Date: 4.FEB.2009 17:32:12

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Duty Cycle Plots Test Method: LPA Design, Inc. PocketWizard Flex TT5 Transceiver R-5125N-1 Customer: Test Sample: Job No: TT5-C-US Model No: 5CU101092 T. Hannemann Serial No: Technician: FCC Part 15. Subpart C Test Specification: Date: 2/4/2009 15.231(b) Operating Mode: Continuously Transmitting Notes: Fundamental Frequency: 347MHz RBW 100 kHz RF Att 10 dB Ref Lvl 4.40 dB VBW 100 kHz 102 dbyv 521.042084 ****s SWT 13 ms Unit **VĽ**Bb 102 90 SGL TRG 80 INL 1MA 60 5 C 4 C 30 20 10 Center 340 MHz $1.3 \, \text{ms}/$ Date: 4.FEB.2009 17:32:40