



Retlif Testing Laboratories

101 New Boston Road, Goffstown, NH 03045
603-497-4600 - Fax: 603-497-5281

CORPORATE OFFICE
795 Marconi Avenue
Roslindale, MA 02126
617-737-1500 Fax 617-737-1497
(A NY Corporation)

BRANCH LABORATORIES
3131 Detwiler Road
Harleysville, PA 19438
215-256-4133 Fax 215-256-4130

WASHINGTON
REGULATORY OFFICE
703-533-1614 Fax 703-533-1612



REPORT OF MEASUREMENTS

FOR

LAB PARTNERS ASSOCIATES, INC.

FLASH CONTROL TRANSCEIVER

MODEL: POCKETWIZARD MULTIMAX

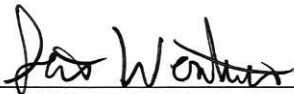
FCC ID: KDS-PW2-101
IC: 2170A-PW101

Company Name:	Lab Partners, Associates, Inc.
Date of Report:	December 12, 2007
Test Report No:	R-4901N-1
Test Start Date:	October 2, 2007
Test Finish Date:	October 29, 2007
Test Technician:	Matt Seamans
Lab Supervisor:	Todd Hannemann
Report Prepared By:	Jamie Ramsey

Our letters, procedures and reports are for the exclusive use of the customer to whom they are addressed, and their communications to any other or the use of the name of Retlif Testing Laboratories must receive our prior written approval. Our letters, procedures and reports apply only to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar products. The letters, procedures and reports and the name of Retlif Testing Laboratories or insignia are not to be used under any circumstances in advertising to the general public. This test report shall not be reproduced, except in full, without the written approval of Retlif Testing Laboratories.

Certification and Signatures

We certify that this report is a true report of the 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 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

Non-Warranty Provision

The testing services have been performed, findings obtained, and reports prepared in accordance with generally accepted testing laboratory principles and practices. This warranty is in lieu of all other warranties, either express 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 report must not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

APPLICANT	
------------------	--

Lab Partners Associates, Inc 41 IDX Drive South Burlington, VT 05403	
--	--

TEST SPECIFICATIONS: FCC Rules and Regulations Part 15, Subpart C, Para. 15.231
RSS 210, Issue 7

TEST PROCEDURE: ANSI C63.4:2003/RSS-210, Issue 7

PURPOSE:

The purpose of this test program was to demonstrate compliance of the PocketWizard MultiMAX Flash Control Transceiver to the requirements of FCC Part 15.231 and RSS, 210, Issue 7.

TEST SAMPLE DESCRIPTION:

BRANDNAME: PocketWizard

MODEL: MultiMAX

TYPE: Flash Control Transceiver

POWER REQUIREMENTS: 3VDC via 120VAC, 60Hz AC/DC Power Adapter

FREQUENCY BAND OF OPERATION: 344.04MHz to 354.0MHz

MODULATION: OOK (On/Off Keying)

TYPE OF TRANSMISSION: Control Signal (Pulse Recognition Codes)

APPLICATION: Remote Triggering of Flashpack

FREQUENCIES TESTED: 344.04MHz, 354.0MHz

TESTS PERFORMED:

15.231 (b)/RSS-210 Annex 1, Spurious Radiated Emissions (30MHz to 3.6GHz)

15.231 (b)/RSS-210 Annex 1, Field Strength of Fundamental

15.231 (c) Occupied Bandwidth, 0.25% of Fundamental Frequency

RSS-210, Annex 1, A1.1.3, 99% bandwidth, 0.25% of Center Frequency

Duty Cycle Determination

NOTE: Testing was performed at 2 frequencies (low and high) within the operational band as required for devices operating within a 1 - 10MHz band but not exceeding 10MHz.

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 and RSS 210 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 transmissions at regularly predetermined intervals.
- The device can not be employed for RC purposes involving security.
- The device uses an external permanently attached rubber coated helix coiled spring antenna.
- The fundamental field strength at 344.04MHz did not exceed 7252 μ V/M (Average) at a test distance of 3 meters.
The fundamental field strength at 354.0MHz did not exceed 7667 μ V/M (Average) at a test distance of 3 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 725 μ V/M or 500 μ V/M as applicable for a fundamental frequency of 344.04MHz.
The field strength of harmonic and spurious emissions did not exceed 766 μ V/M or 500 μ V/M as applicable for a fundamental frequency of 354.0MHz.
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.

TEST SAMPLE / TEST PROGRAM (continued)

- The device can operate within the range of 344.04 to 354.00MHz. The device was tested at the frequencies of 344.04MHz and 354.0MHz. The 20dB bandwidth and 99% bandwidth of emissions did not exceed 0.25% of the center operating frequency and was determined as follows:

Fundamental Frequency	=	344.04MHz
0.25% of Center Frequency	=	0.860MHz
0.860 divided by 2	=	0.430MHz
Bandwidth Range	=	Fundamental Frequency + and - 0.430MHz
344.04MHz - 0.430MHz	=	343.61MHz
344.04MHz + 0.430MHz	=	344.47MHz
Bandwidth Range	=	343.61MHz - 344.47MHz

Fundamental Frequency	=	354.0MHz
0.25% of Center Frequency	=	0.885MHz
0.884 divided by 2	=	0.4425MHz
Bandwidth Range	=	Fundamental Frequency + and - 0.442MHz
354.0MHz - 0.442MHz	=	353.558MHz
353.5MHz + 0.442MHz	=	354.442MHz
Bandwidth Range	=	353.558MHz - 354.442MHz

DETERMINATION OF FIELD STRENGTH LIMITS

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

Fundamental Frequency: 344.04MHz

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

$41.6667(F) - 7083.3333$	=	Field Strength Limit ($\mu\text{V/m}$)
41.6667×344.04	=	14335.011
$14335.011 - 7083.3333$	=	7252
Field Strength Limit	=	$7252\mu\text{V/m} = 77.21\text{dBuV/M}$

The maximum permitted unwanted emission level is 20dB below the maximum permitted fundamental level which equals $725\mu\text{V/m} = 57.21\text{dBuV/M}$.

TEST SAMPLE / TEST PROGRAM (continued)

Field Strength Limit Calculations continued:

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, $\mu\text{V/m}$ at 3 meters is as follows:

$$\begin{aligned} 41.6667(F) - 7083.3333 &= \text{Field Strength Limit } (\mu\text{V/m}) \\ 41.6667 \times 353.5 &= 14729.178 \\ 14729.178 - 7083.3333 &= 7666.679 \\ \text{Field Strength Limit} &= 7666.679\mu\text{V/m} = 77.69\text{dBuV/M} \end{aligned}$$

The maximum permitted unwanted emission level is 20dB below the maximum permitted fundamental level which equals $766.67\mu\text{V/m} = 57.69\text{dBuV/M}$

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. As the cycle time exceeded 100msec then 100msec was used as the cycle time. The on times were determined as follows:

The transmitter pulse train consisted of multiple pulse bursts. The individual pulses within each burst were measured and summed in order to obtain the total "on time".

Fundamental Frequency: 344.04MHz

$$\begin{aligned} \text{Transmitter On Time} &= .6998\text{milliseconds} \\ \text{Transmitter Cycle Time} &= 100\text{milliseconds} \\ \text{Transmitter Duty Cycle} &= .6998 \% \\ \text{On Time divided by Cycle Time} &= \text{Duty Cycle Factor} \\ .6998 \text{ divided by } 100 &= 0.006998 \\ 0.006998 \text{ converted to dB } (\text{LOG}_{10} .006998)20 &= -43.1 \\ \text{Duty Cycle Factor} &= -43.1\text{dB} \end{aligned}$$

DETERMINATION OF DUTY CYCLE (continued)

Fundamental Frequency: 354.0MHz

Transmitter On Time	=	0.9306 milliseconds
Transmitter Cycle Time	=	100 milliseconds
Transmitter Duty Cycle	=	.9306 %
On Time divided by Cycle Time	=	Duty Cycle Factor
.9306 divided by 100	=	0.009306
.009306 converted to dB ($\text{LOG}_{10} .009306$)20	=	-40.63
<i>Duty Cycle Factor</i>	=	<i>-40.63dB</i>

Duty Cycle Factor Determination Plots are included with this application as a separate attachment.

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 344.04MHz was 96.55dBuV/M which met the peak limit of 97.21dBuV. The maximum average field strength at 344.04MHz was 53.45dBuV which met the specified average limit of 77.21dBuV. The worst case maximum peak field strength of the fundamental frequency at 354.0MHz was 95.43dBuV/M which met the peak limit of 97.69dBuV. The maximum average field strength at 354.0MHz was 54.80dBuV which met the specified average limit of 77.69 dBuV. 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 344.04MHz and at 354.0MHz was less than 0.25% of the center frequency and met the requirements of 15.231 (c).

RSS 210, A1.1.3, 99% 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. Using the spectrum analyzer 99% bandwidth function the 99% bandwidth of the modulated carrier frequency was measured and recorded.

Test Results: The 99% bandwidth of the emission at 344.04MHz and at 354.0MHz was less than 0.25% of the center frequency and met the requirements of RSS-210.

15.207 (a) AC Line Conducted Emissions

The test sample was placed on a 0.8m high wooden test stand above the floor of the test area (ground plane). The rear of the test sample was aligned flush with the rear of the test stand. The test stand was situated such that the test sample was located 0.4m from all other grounded surfaces. The power cord of the test sample was connected to an artificial mains network (LISN). The spectrum analyzer was connected to the RF port of the LISN and peak/quasipeak and average measurements were taken in the frequency range of 150kHz to 30MHz on each the hot and neutral leads.

Test Results: The AC line conducted emissions met the limit specified in 15.207 (a).

EQUIPMENT LIST

Fundamental & Spurious Radiated Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	8/27/2007	8/27/2008
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0 A	1630	1/23/2007	1/23/2008
3427B	Biconical Antenna	Electro-Mechanics	20MHz - 200MHz	3104	8/31/2007	8/31/2008
7034	Log Periodic Antenna	EMCO	200MHz - 1GHz	3146	6/7/2007	6/7/2008
4029B	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	6/20/2007	6/20/2008
4895	Spectrum Analyzer	Hewlett Packard	9kHz - 22GHz	8593EM	7/27/2007	7/27/2008
4984A	High Gain Horn	Microlab/FXR	1.0 - 1.7 GHz	L638A	1/24/2007	1/24/2008
4984B	High Gain Horn	Microlab/FXR	1.7 - 2.6 GHz	R638A	1/24/2007	1/24/2008
4984C	High Gain Horn	Microlab/FXR	2.6 - 3.95 GHz	S638A	1/24/2007	1/24/2008

Conducted Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
4027	LISN	Solar Electronics	10 KHz - 30 MHz	9252-50-R-24BNC	11/30/2006	11/30/2007
5030C	10 DB Atten. (50 ohm)	Narda	DC - 12.4 GHz	757C-10	5/9/2007	5/9/2008
5070	EMI Test Receiver	Rohde & Schwarz	20Hz - 40GHz	ESIB40	11/22/2006	11/29/2007

Occupied Bandwidth and Duty Cycle

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
5070	EMI Test Receiver	Rohde & Schwarz	20Hz - 40GHz	ESIB40	11/22/2006	11/29/2007

99% Bandwidth

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due
763	Spectrum Analyzer	Agilent	30 Hz - 13.2 GHz	E4405B	8/14/2007	8/14/2008

Radiated Emissions Setup Photograph



R-4901N-1
FCC ID: KDS-PW2-101
IC: 2170A-PW101

Radiated Emissions Setup Photograph



R-4901N-1
FCC ID: KDS-PW2-101
IC: 2170A-PW101

Radiated Emissions Setup Photograph



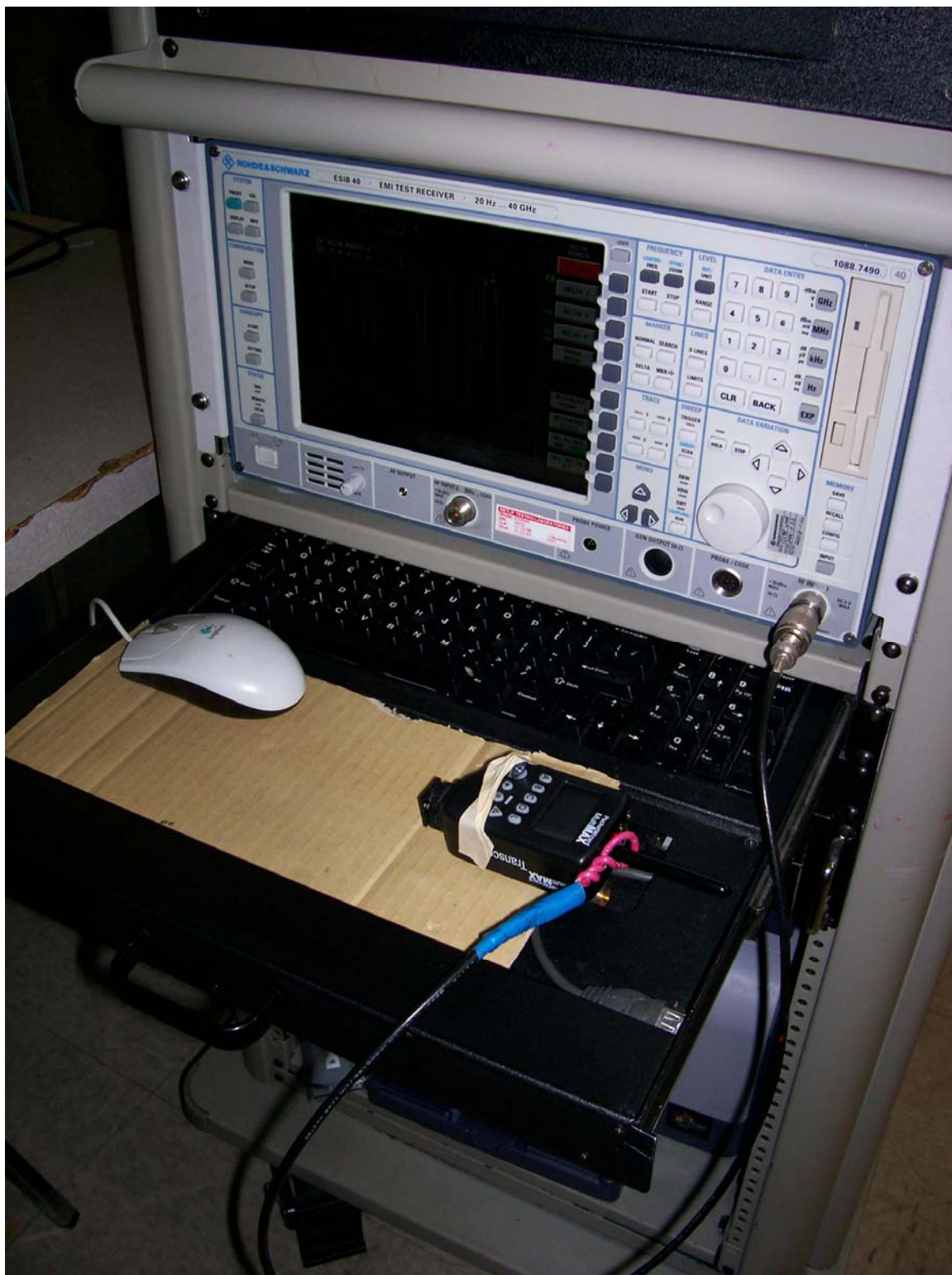
R-4901N-1
FCC ID: KDS-PW2-101
IC: 2170A-PW101

Radiated Emissions Setup Photograph



R-4901N-1
FCC ID: KDS-PW2-101
IC: 2170A-PW101

Occupied Bandwidth/Duty Cycle Setup Photograph



R-4901N-1
FCC ID: KDS-PW2-101
IC: 2170A-PW101

Conducted Emissions Setup Photograph



R-4901N-1
FCC ID: KDS-PW2-101
IC: 2170A-PW101

RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

Test Method:	Fundamental Field Strength		
Customer:	LPA Design, Inc.	Job No:	R-4901N-1
Test Sample:	PocketWizard MultiMAX Transceiver		
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)		
Operating Mode:	Continuously Transmitting		
Technician:	M.Seamans	Date:	October 2, 2007
Notes:	Corrected peak readings meet peak limit (20dB above average limit) per 15.35		

[illegible]

RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

Test Method:	Spurious Emissions 30MHz to 3.6GHz		
Customer:	LPA Design, Inc.	Job No:	R-4901N-1
Test Sample:	PocketWizard MultiMAX Transceiver		
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)		
Operating Mode:	Continuously Transmitting		
Technician:	M.Seamans	Date:	10/3/2007
Notes:	Fundamental Frequency: 344.04 MHz		

[illegible]

RETLIF TESTING LABORATORIES

TABULAR DATA SHEET

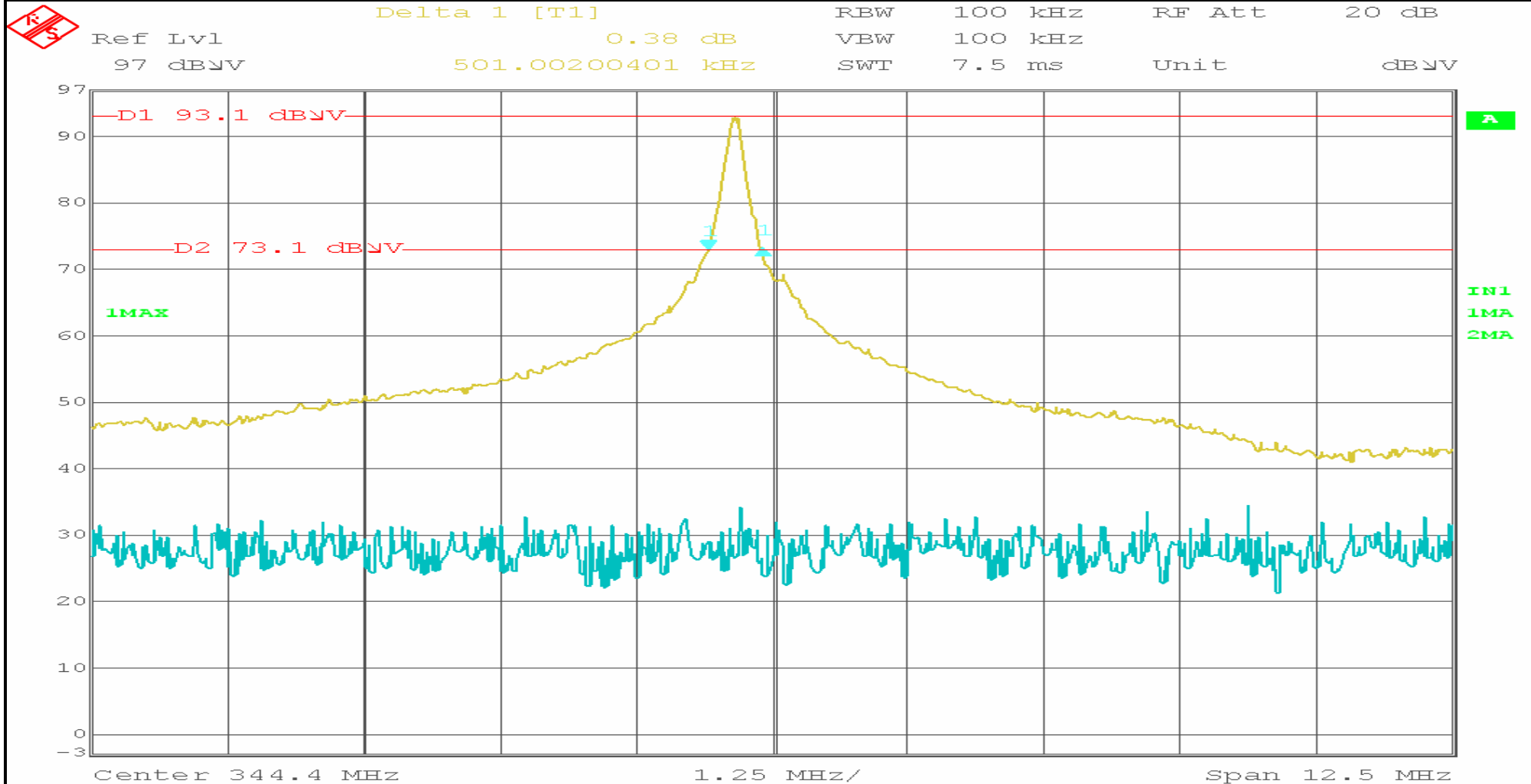
Test Method:	Spurious Emissions 30MHz to 3.6GHz		
Customer:	LPA Design, Inc.	Job No:	R-4901N-1
Test Sample:	PocketWizard MultiMAX Transceiver		
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)		
Operating Mode:	Continuously Transmitting		
Technician:	M.Seamans	Date:	October 2, 2007
Notes:	Fundamental Frequency: 354 MHz		

[illegible]

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	N/A
Test Specification:	FCC Part 15, Subpart C	15.231(c)	Date: 10/3/2007
Operating Mode:	Continuously Transmitting		
Notes:	Transmit Frequency 344.04 MHz		

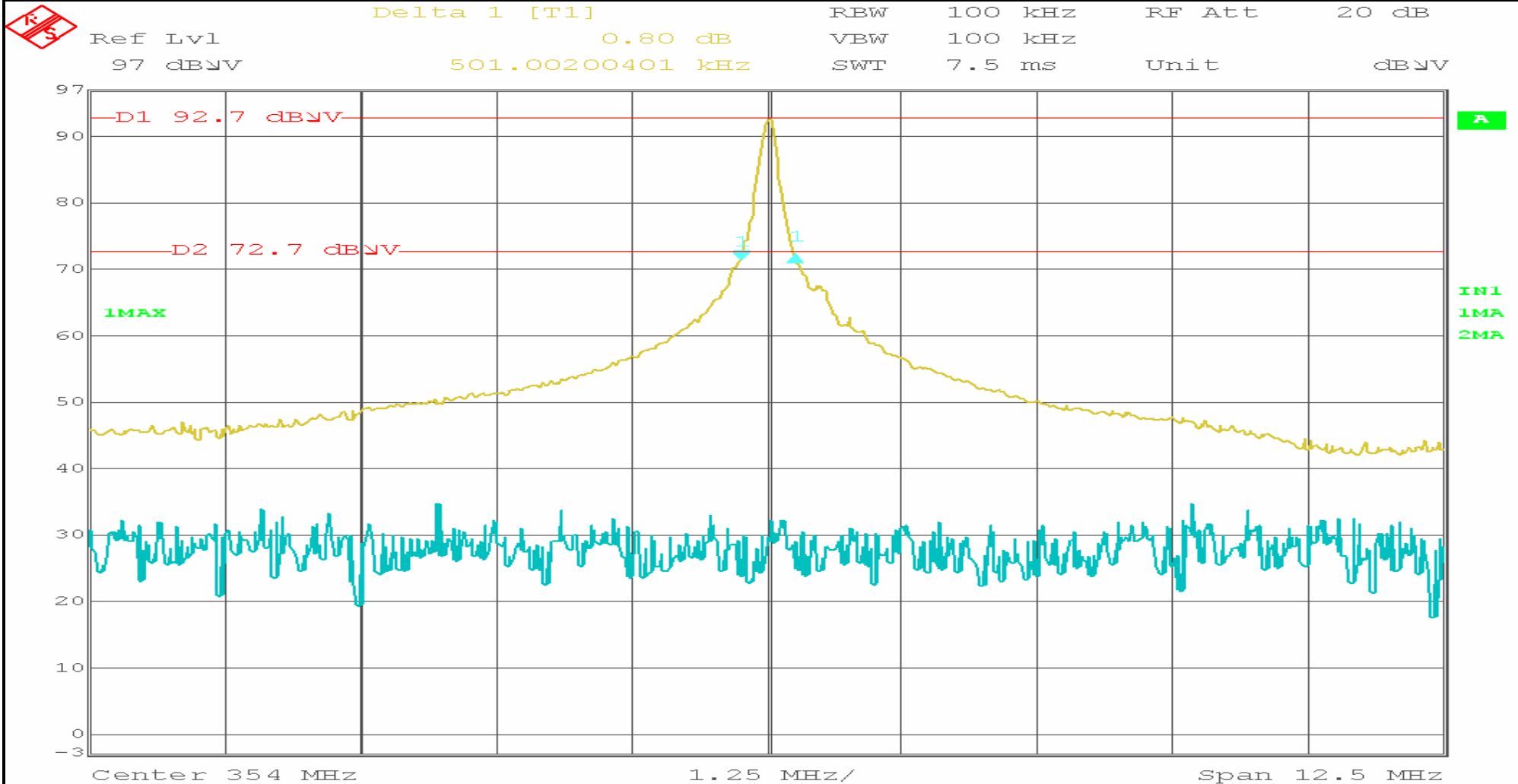


Date: 3.OCT.2007 09:28:32

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	N/A
Test Specification:	FCC Part 15, Subpart C	15.231(c)	Job No: R-4901N-1
Operating Mode:	Continuously Transmitting		Technician: M. Seamans
Notes:	Transmit Frequency 354 MHz		Date: 10/3/2007

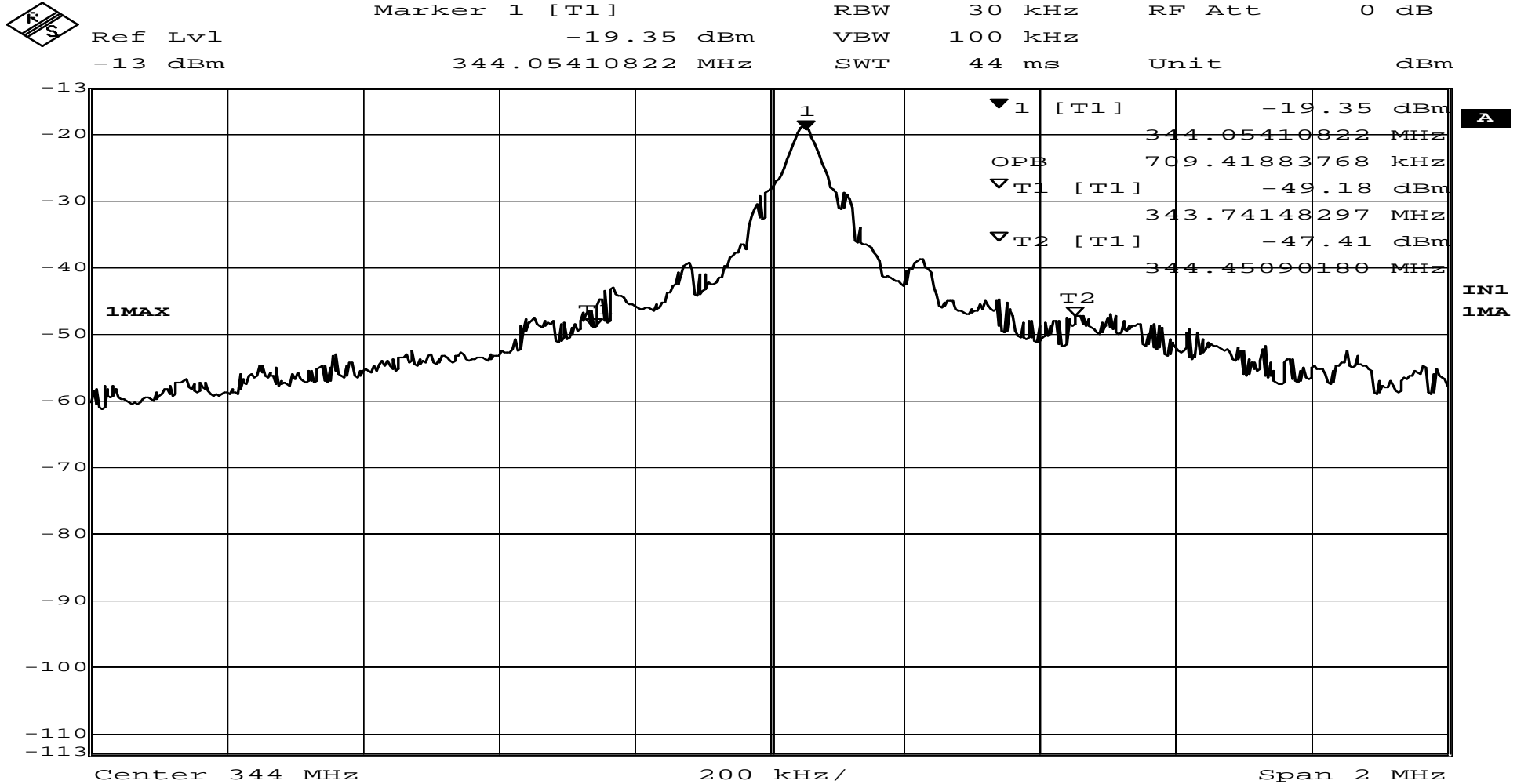


Date: 3.OCT.2007 09:42:24

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

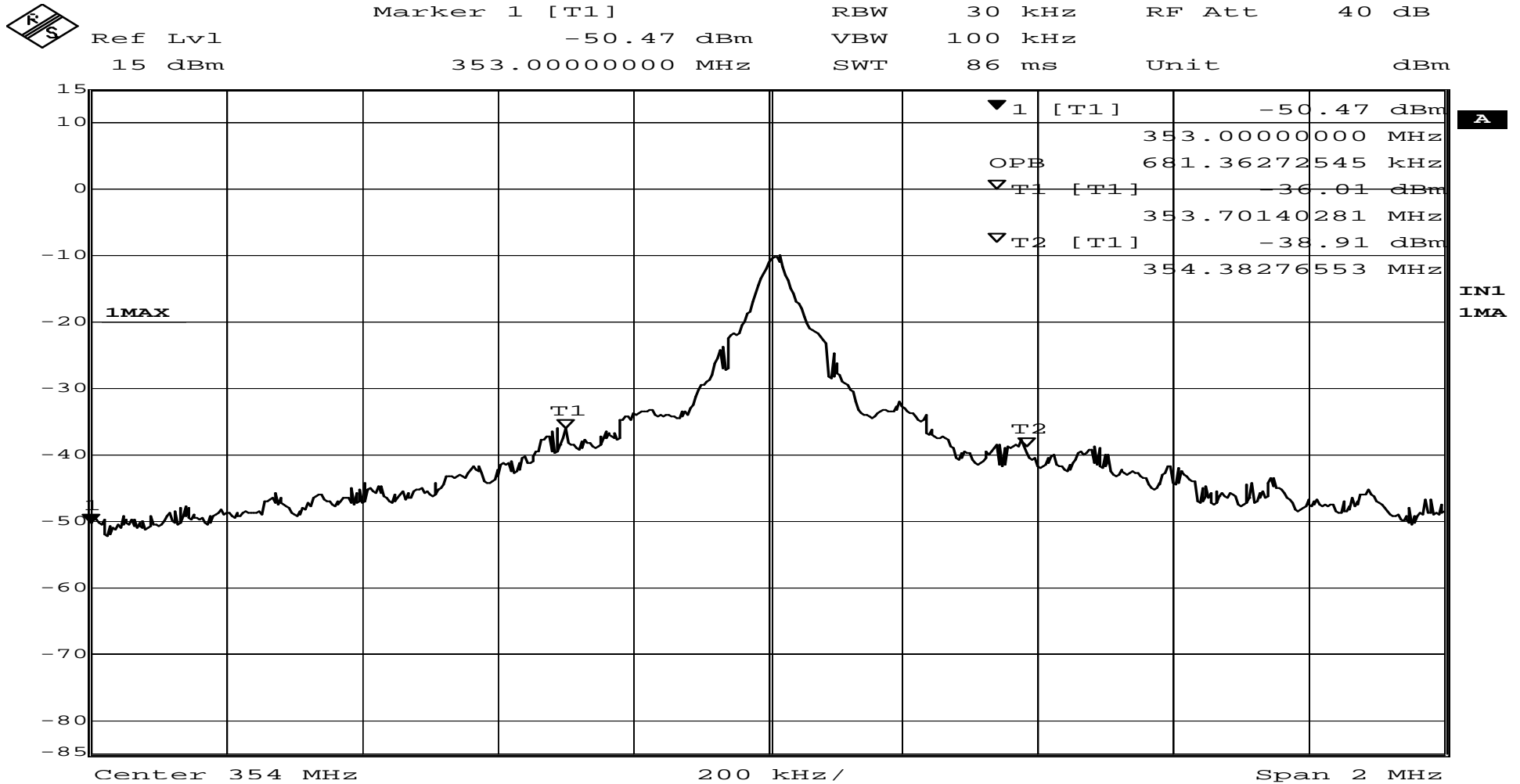
Test Method:	99% Bandwidth		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	N/A
Test Specification:	RSS-210		Job No:
Operating Mode:	Continuously Transmitting		Technician:
Notes:	Transmit Frequency 344.04 MHz, 99% OBW : 709.4188 KHz		Date:



RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	99% Bandwidth		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	N/A
Test Specification:	RSS-210	0	Date: 10/29/2007
Operating Mode:	Continuously Transmitting		
Notes:	Transmit Frequency 354 MHz, 99% OBW : 681.3622 KHz		

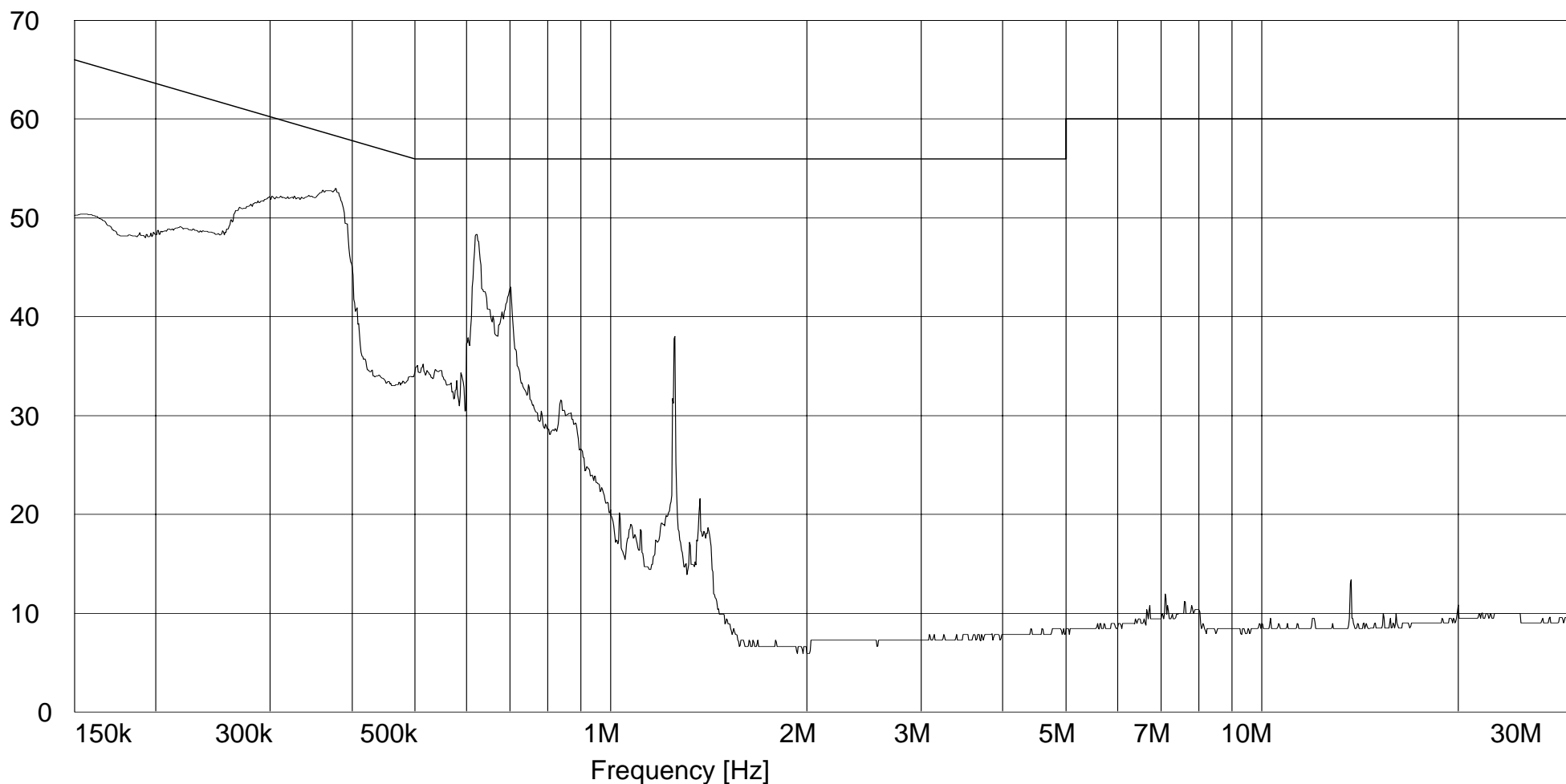


RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Conducted Emissions 150 kHz to 30 MHz				
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver	Job No:	R-4901N-1
Model No:	PocketWizard MultiMAX	Serial No:	5561324	Technician:	M. Seamans
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.207 (a)			Date:	October 9, 2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz				
Notes:	Lead Tested: 120 VAC 60 Hz Hot Quasi-Peak Readings to Quasi-Peak Limits.				

Level [dBμV]

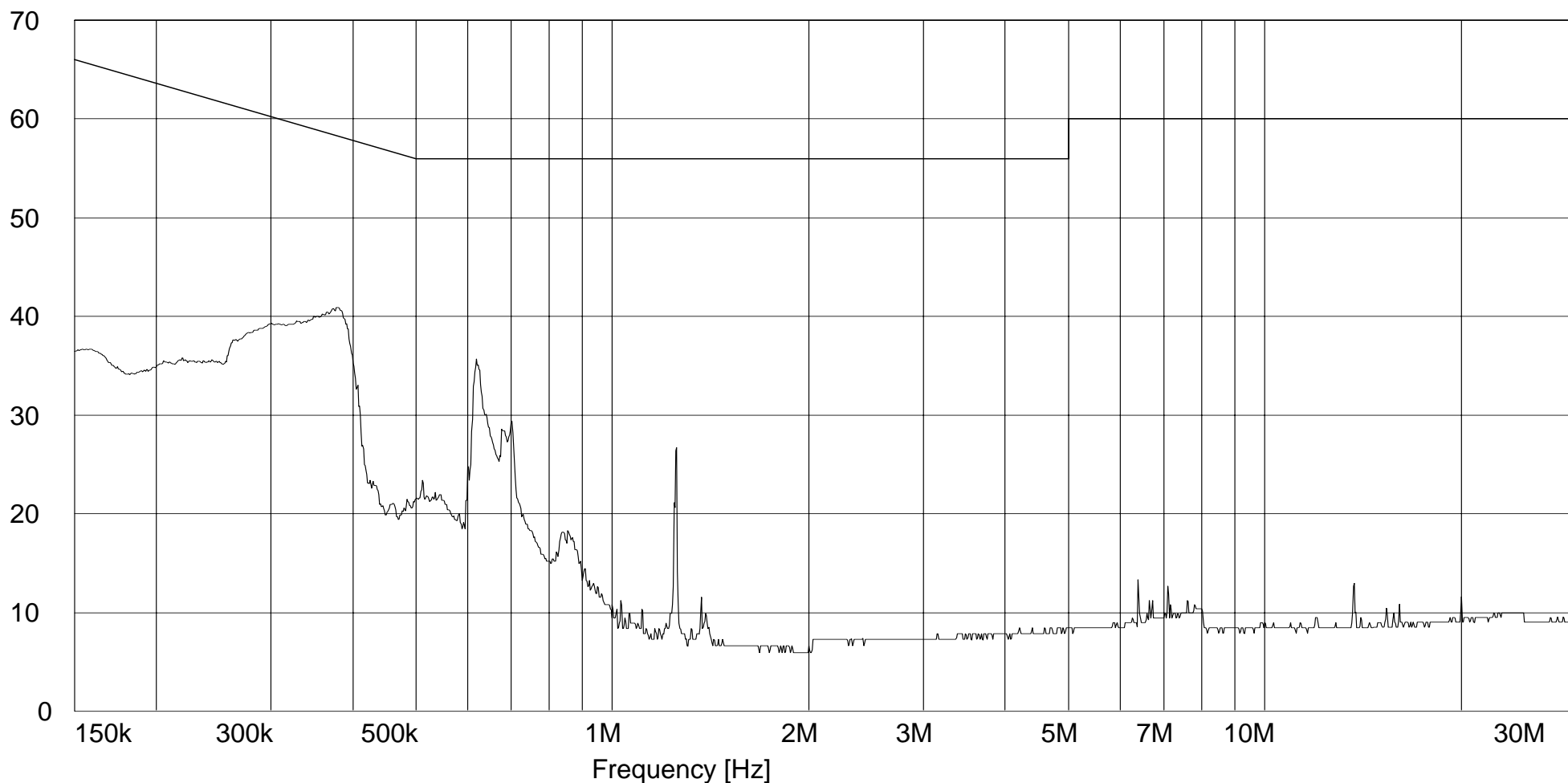


RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Conducted Emissions 150 kHz to 30 MHz			
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver	
Model No:	PocketWizard MultiMAX	Serial No:	5561324	
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.207 (a)		Job No:	R-4901N-1
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		Technician:	M. Seamans
Notes:	Lead Tested: 120 VAC 60 Hz Neutral Quasi-Peak Readings to Quasi-Peak Limits.			

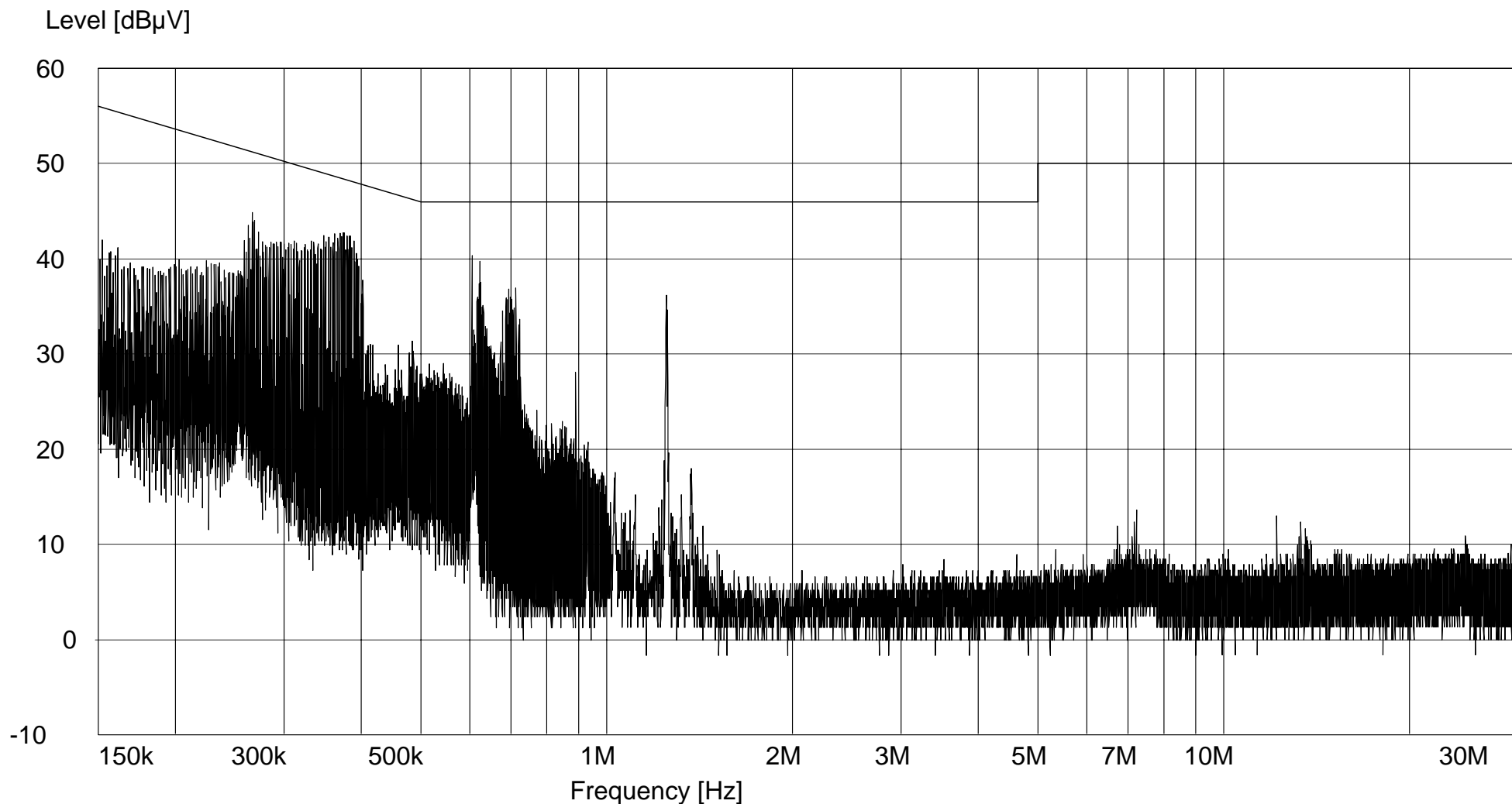
Level [dBμV]



RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

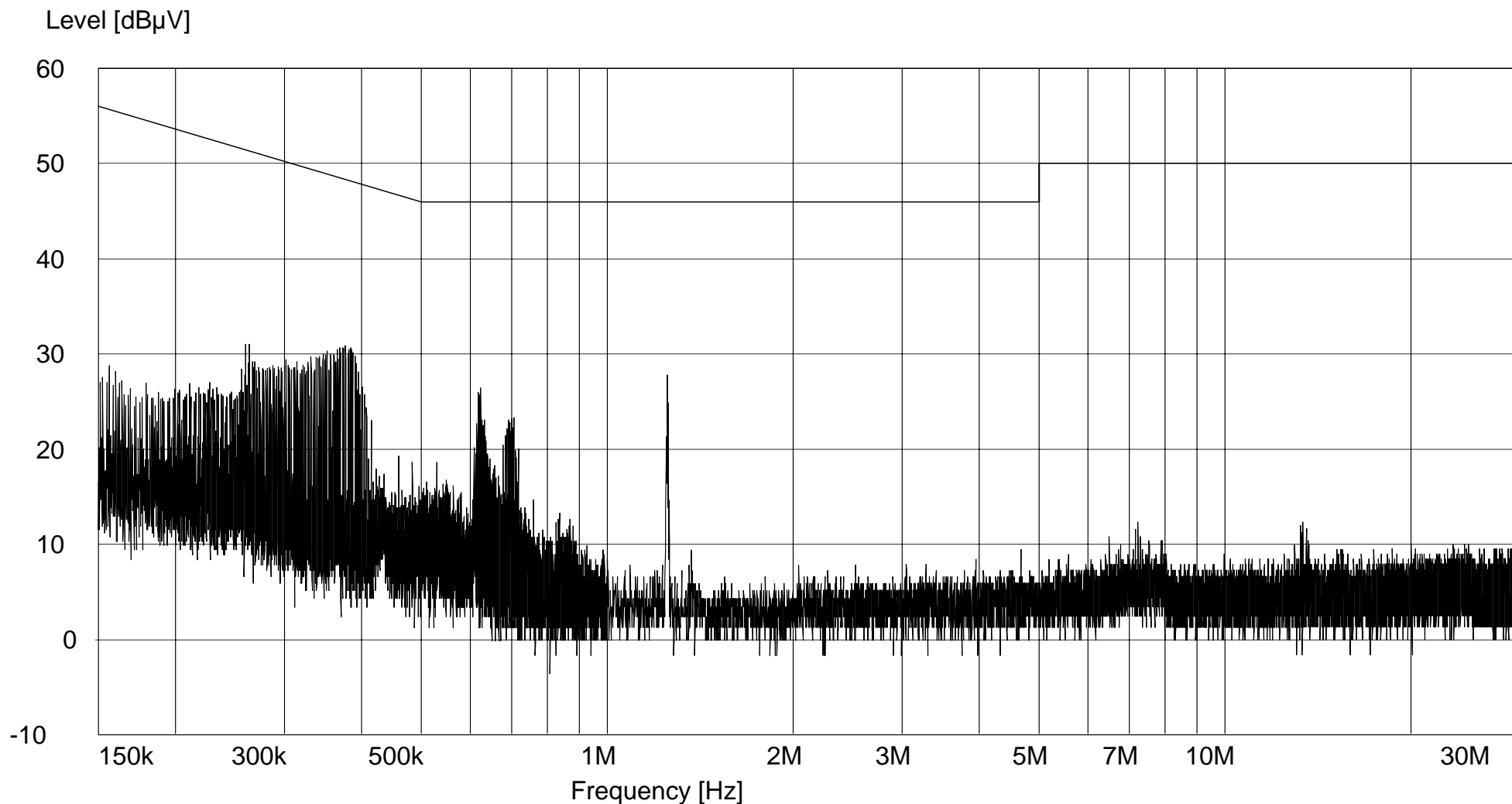
Test Method:	Conducted Emissions 150 kHz to 30 MHz				
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver	Job No:	R-4901N-1
Model No:	PocketWizard MultiMAX	Serial No:	5561324	Technician:	M. Seamans
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.207 (a)			Date:	October 9, 2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz				
Notes:	Lead Tested: 120 VAC 60 Hz Hot Average Readings to Average Limits.				



RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

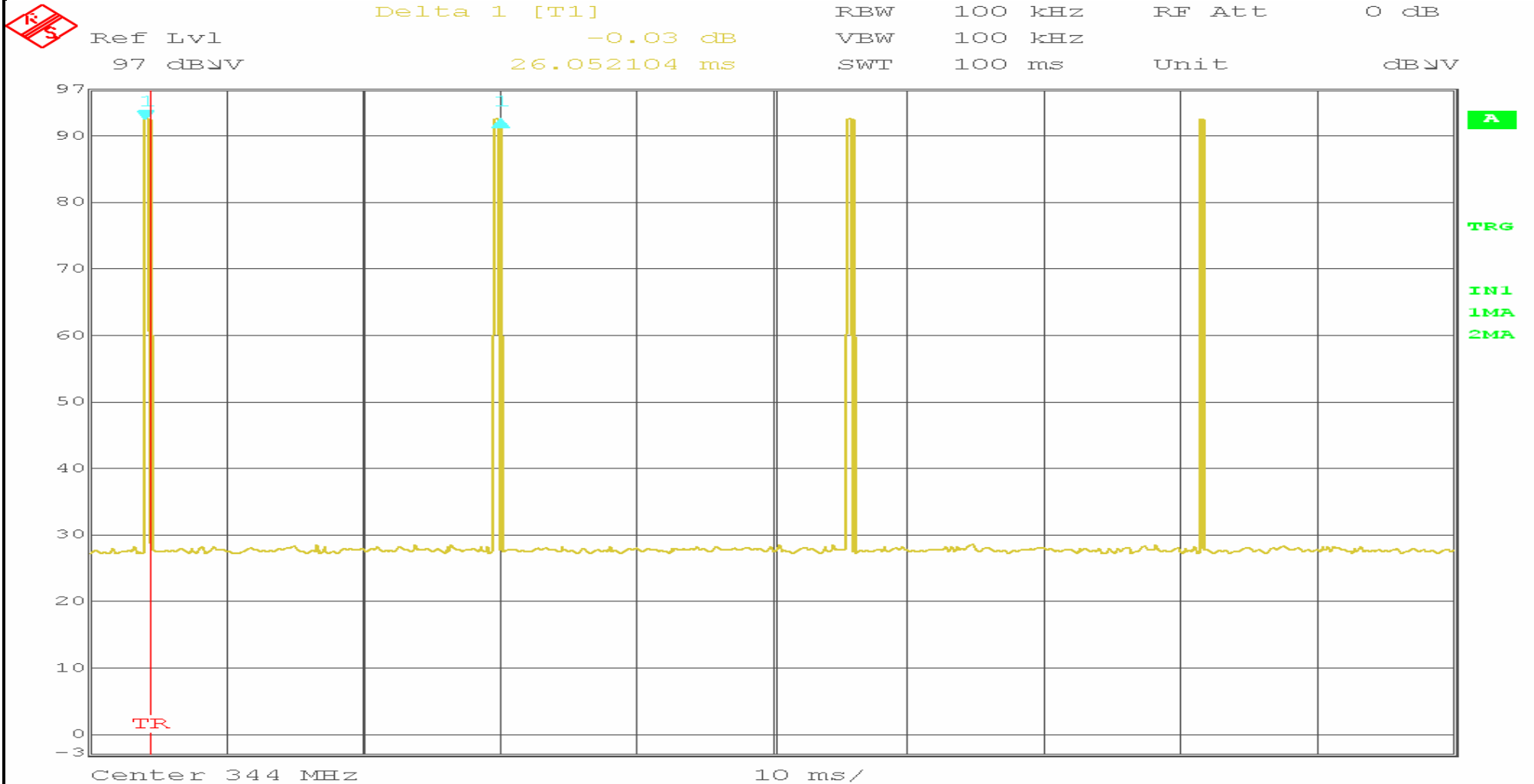
Test Method:	Conducted Emissions 150 kHz to 30 MHz		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	Paragraph: 15.207 (a)	Date:
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Lead Tested: 120 VAC 60 Hz Neutral Average Readings to Average Limits.		



RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date:
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Date: 3.OCT.2007 10:11:43

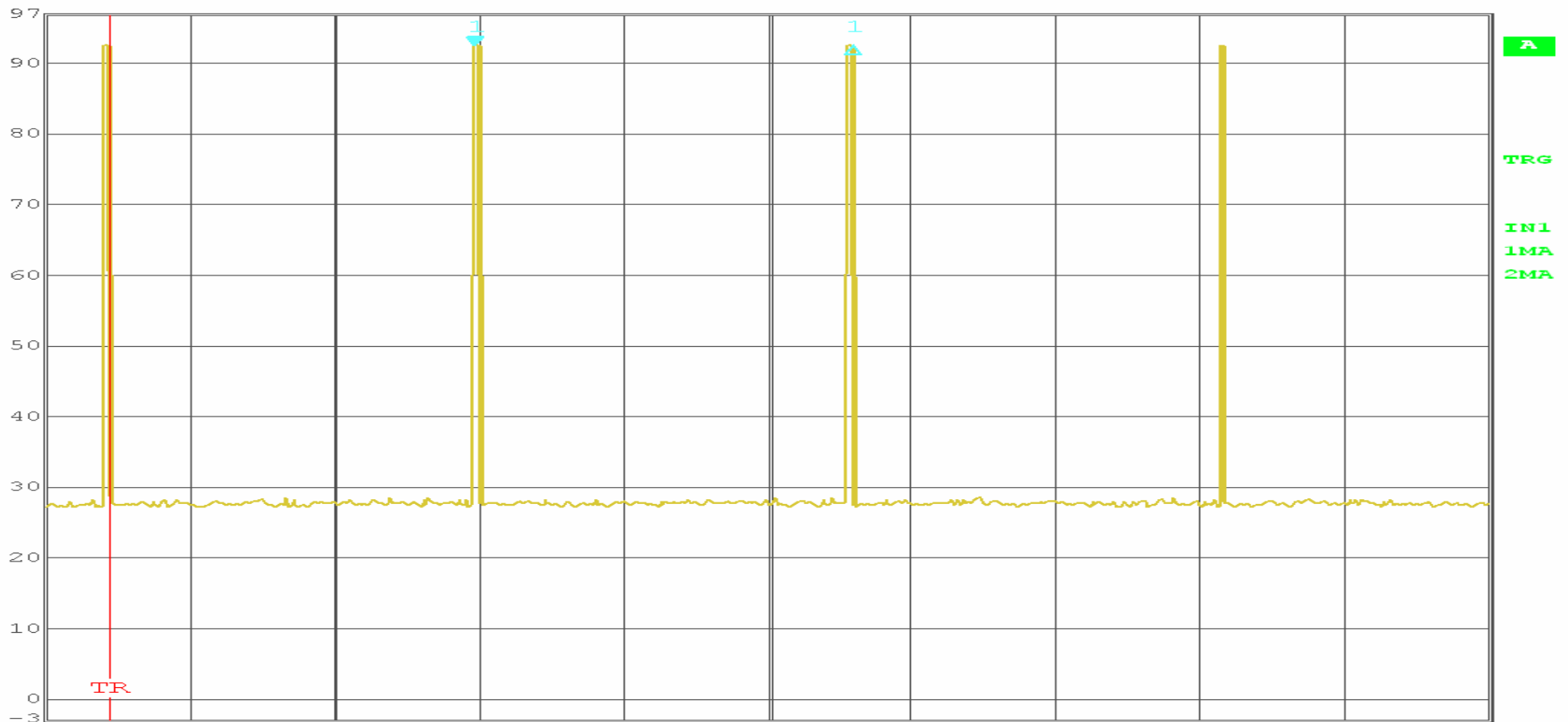
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Ref Lvl 97 dBμV
 Marker 1 [T1] 92.36 dBμV
 25.189319 ms
 RBW 100 kHz
 VBW 100 kHz
 SWT 100 ms
 RF Att 0 dB
 Unit dBμV



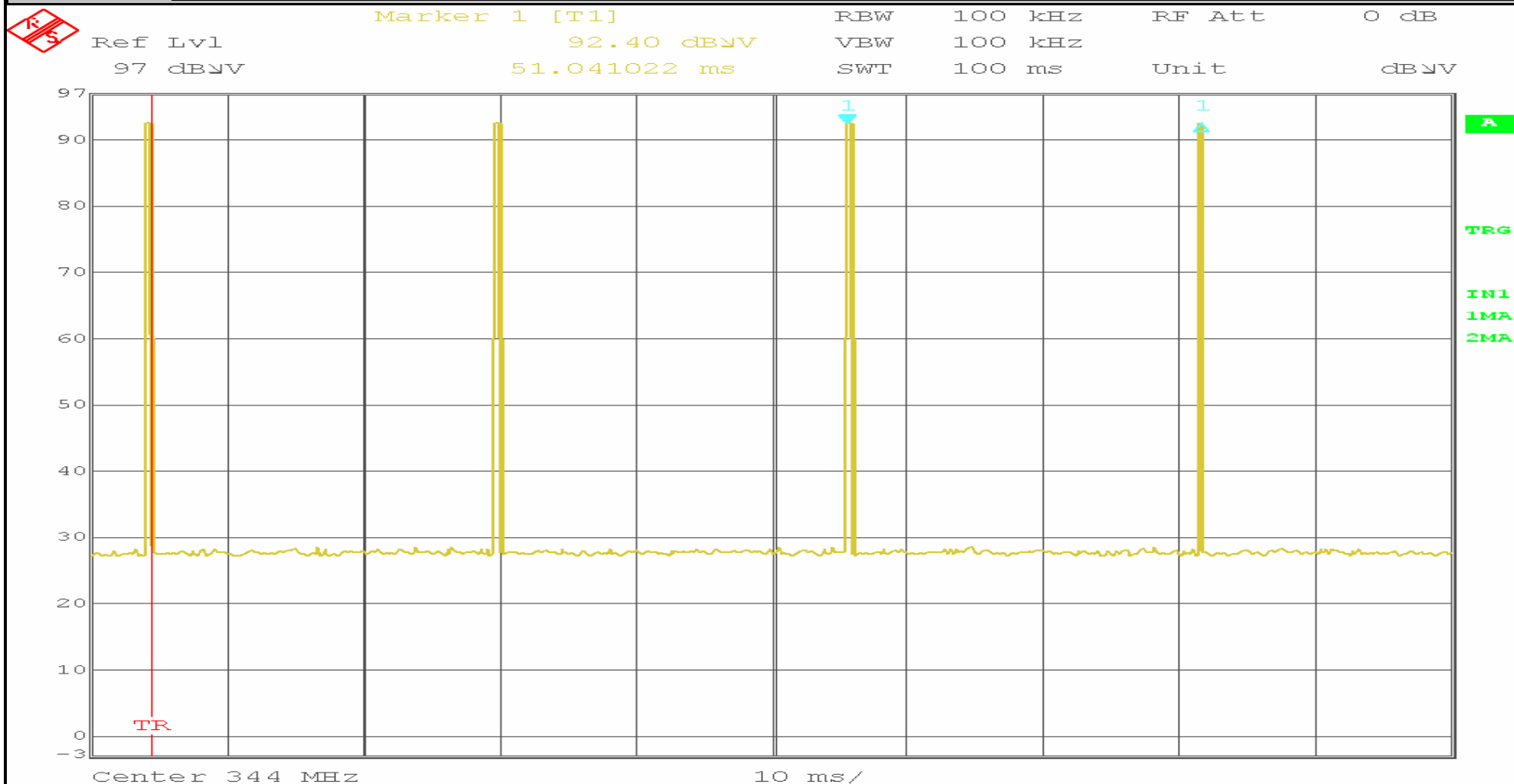
Center 344 MHz

10 ms/

Date: 3.OCT.2007 10:13:07

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots				
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver	Job No:	R-4901N-1
Model No:	PocketWizard MultiMAX	Serial No:	5561324	Technician:	M. Seamans
Test Specification:	FCC Part 15, Subpart C 15.231(b)			Date:	10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz				
Notes:	Fundamental Frequency: 344.04 MHz				



Date: 3.OCT.2007 10:13:54

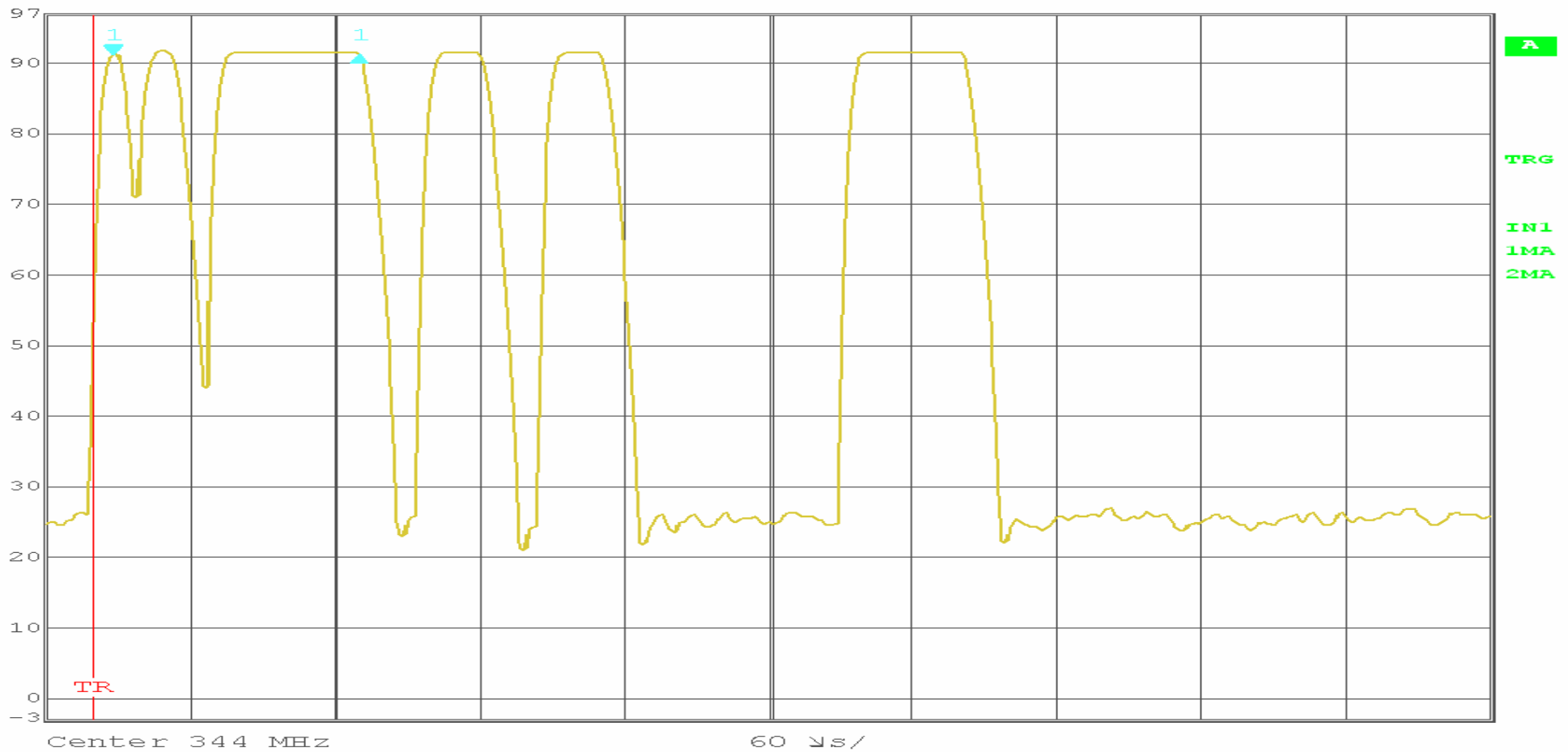
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz 0.5 & 1.0		
Notes:	Fundamental Frequency: 344.04 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 97 dBμV 0.11 dB VBW 100 kHz
 102.204409 μs SWT 600 μs Unit dBμV



Date: 3.OCT.2007 10:19:40

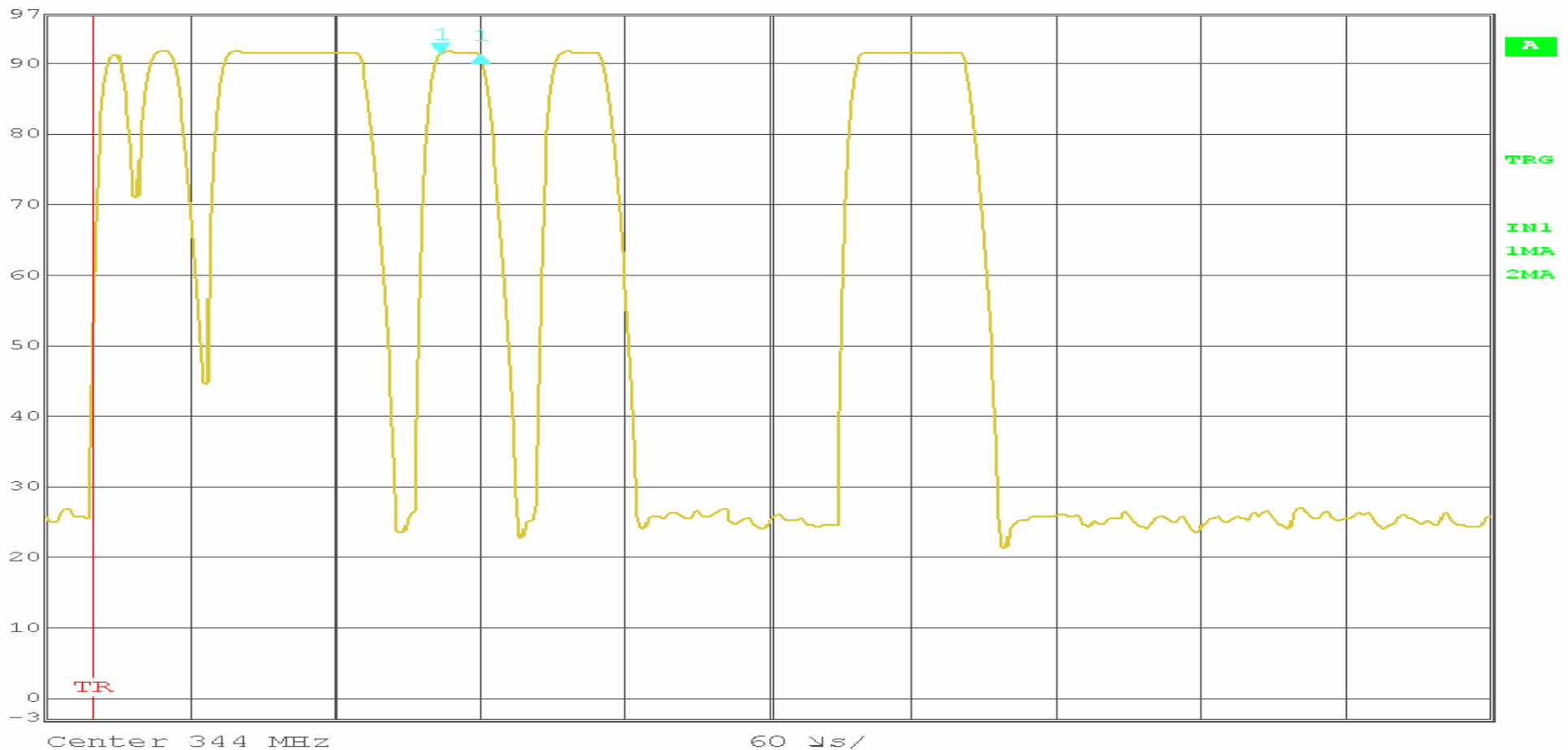
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl -0.11 dB VBW 100 kHz
 97 dBμV 16.833667 μs SWT 600 μs Unit dBμV

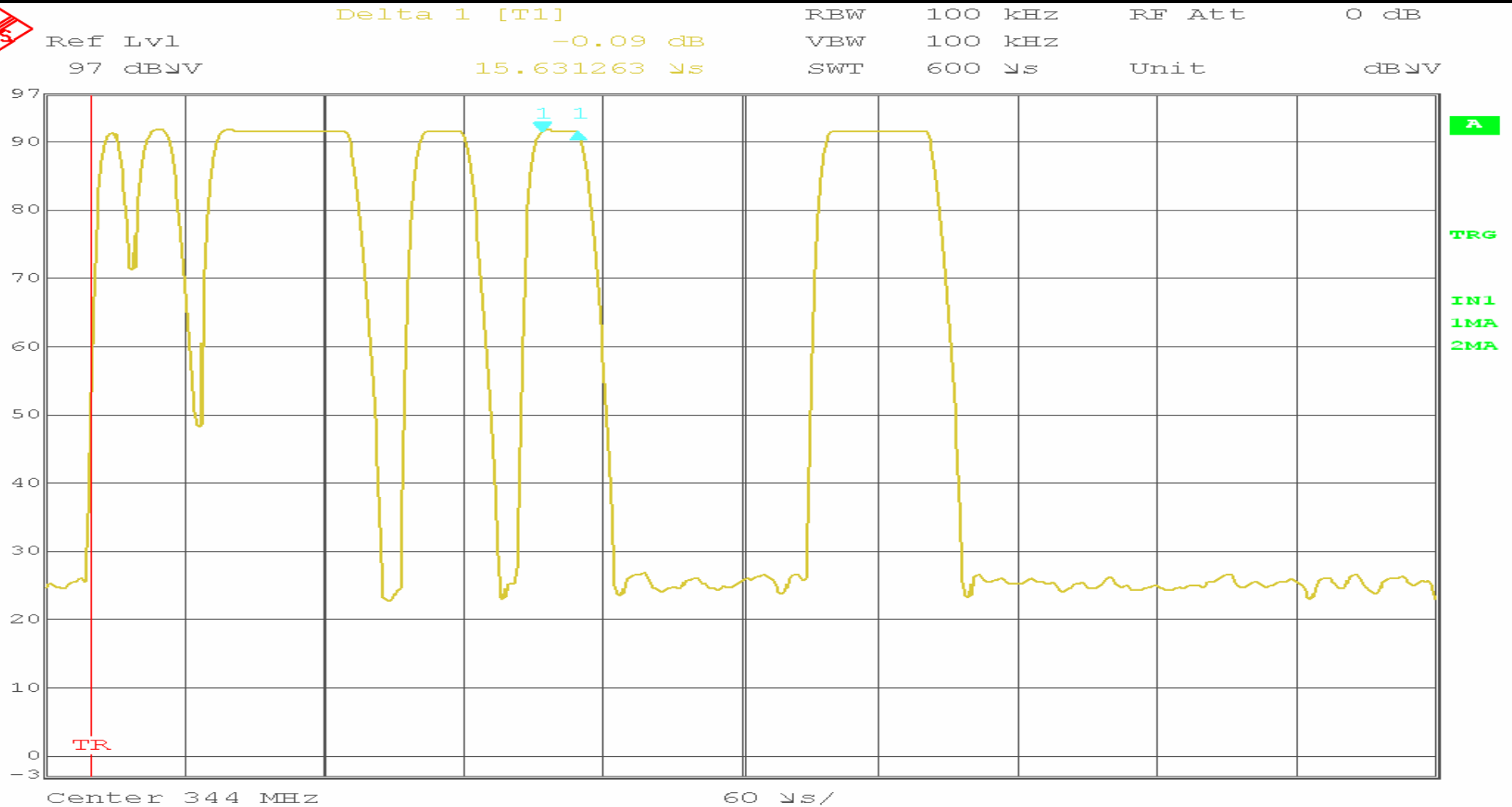


Date: 3.OCT.2007 10:20:19

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

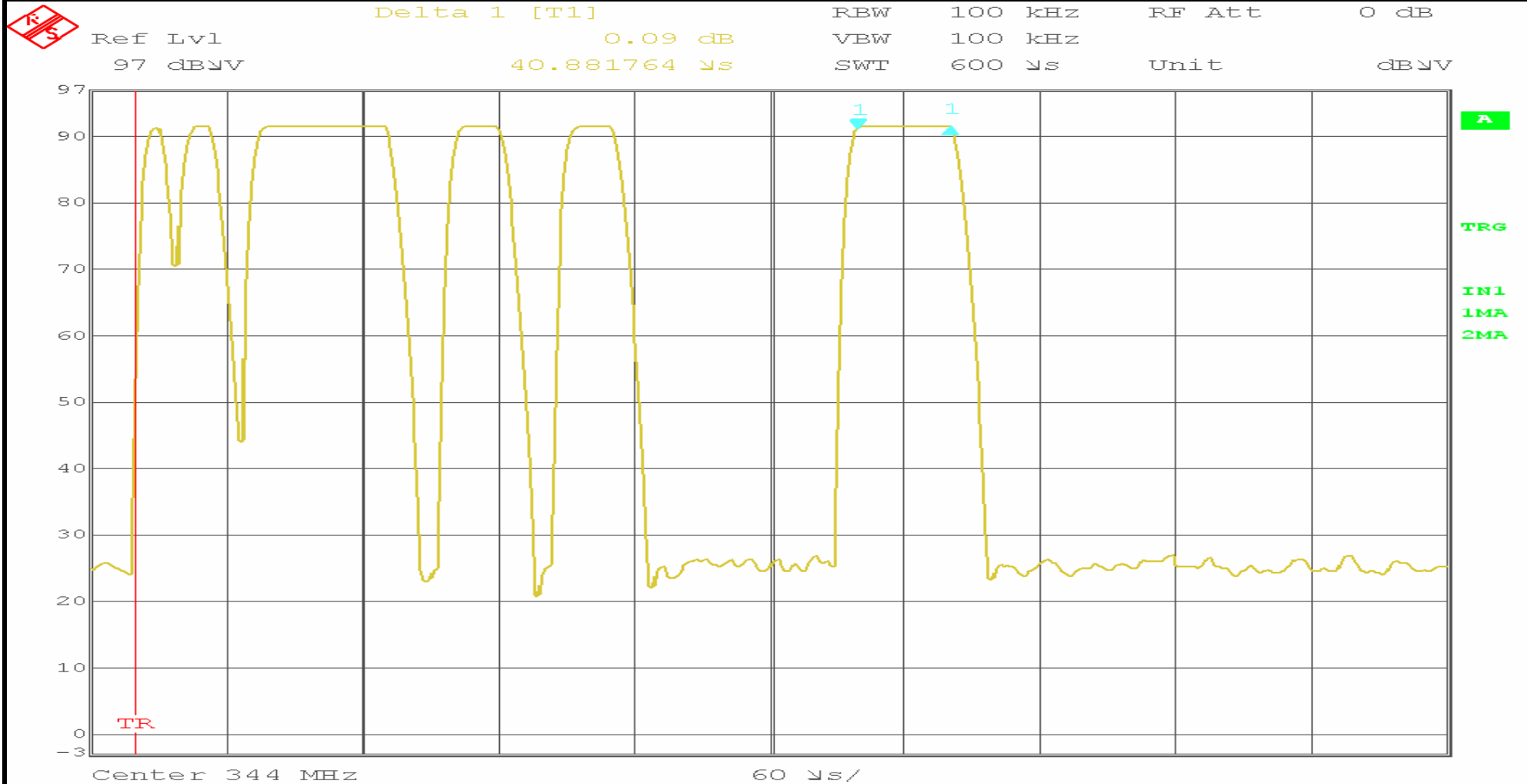


Date: 3.OCT.2007 10:21:18

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Date: 3.OCT.2007 10:21:58

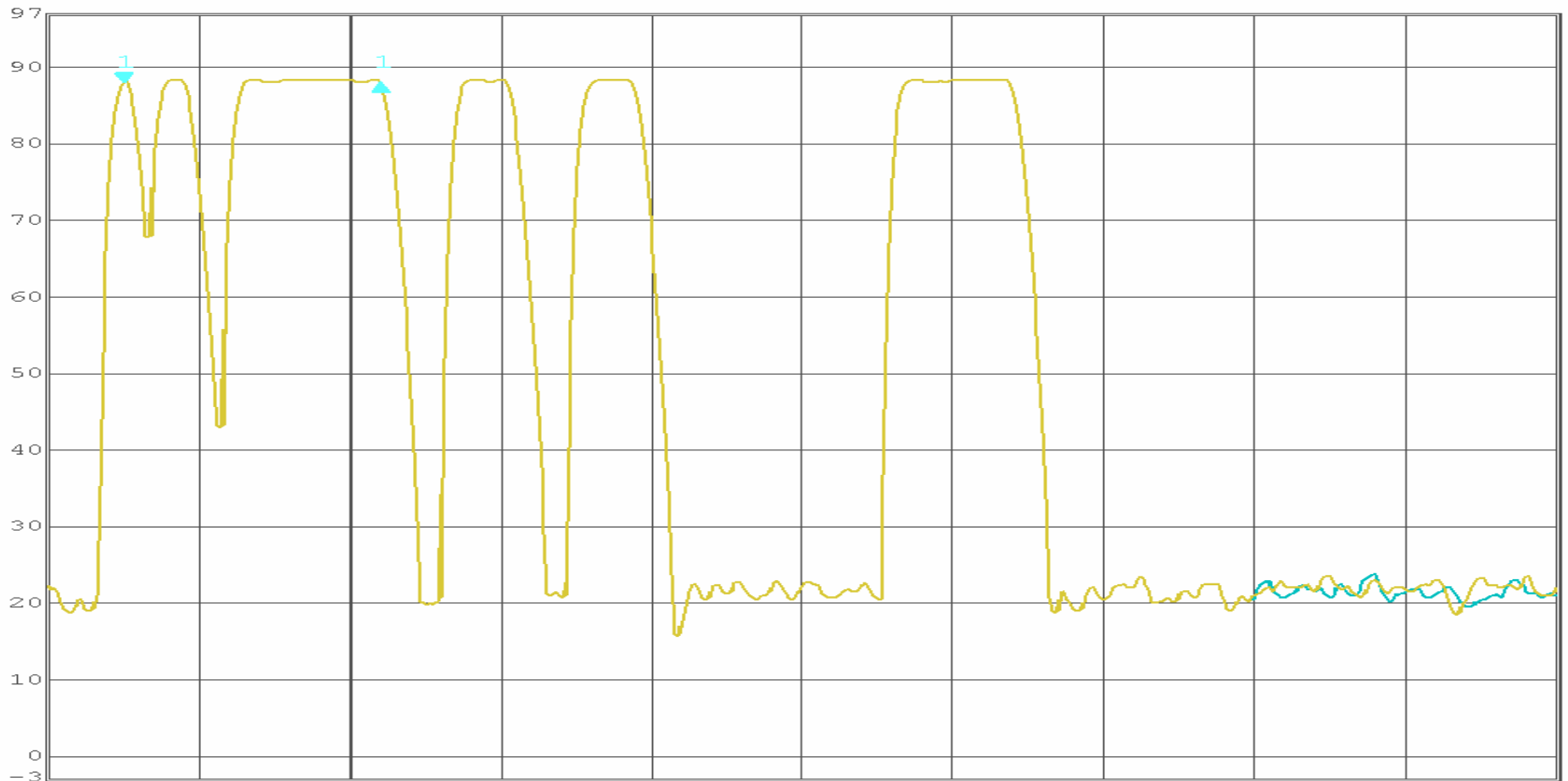
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 97 dBμV 0.15 dB VBW 100 kHz
 102.204409 μs SWT 600 μs Unit dBμV



Center 344 MHz

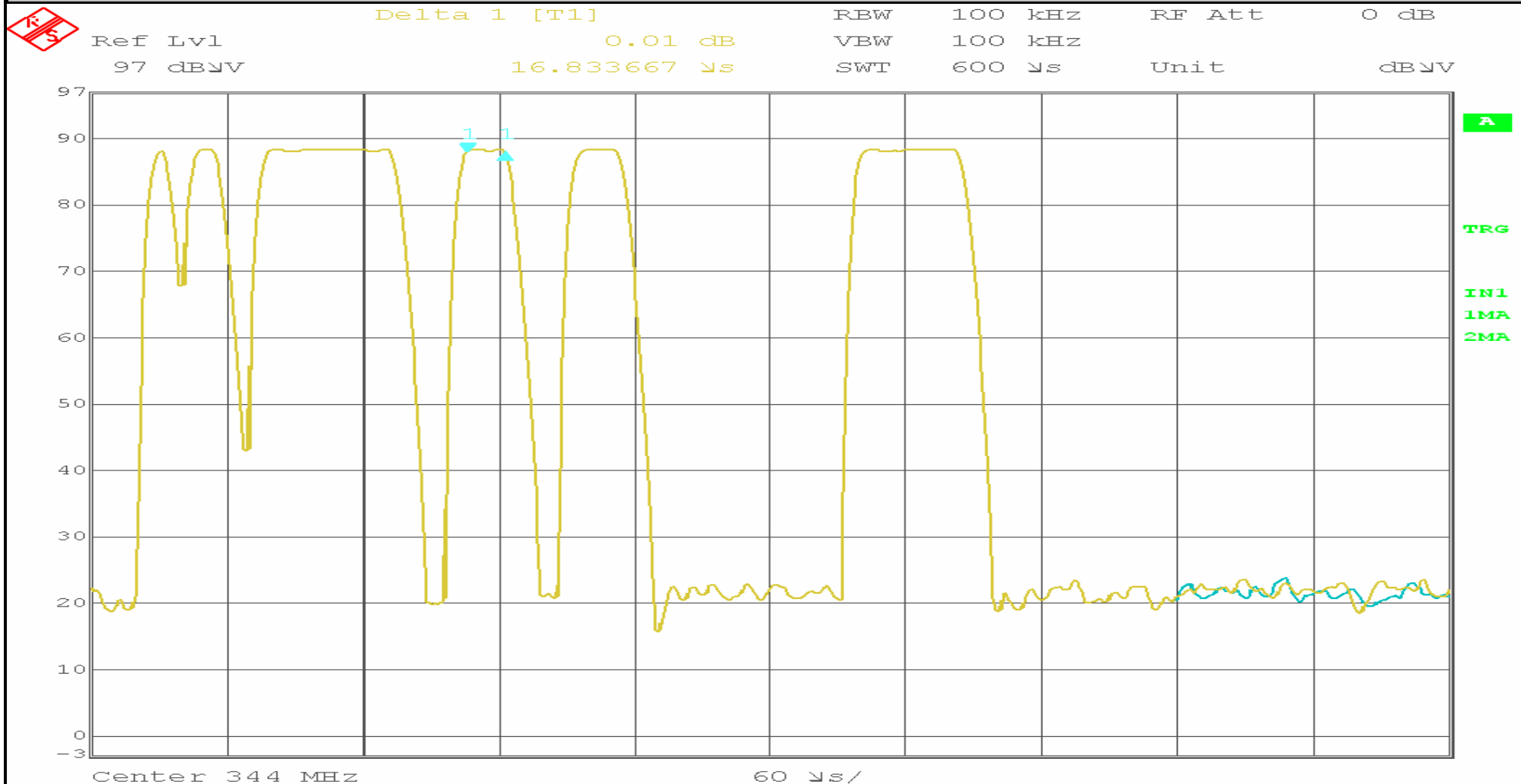
60 μs/

Date: 3.OCT.2007 10:29:52

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Job No: R-4901N-1
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		Technician: M. Seamans
Notes:	Fundamental Frequency: 344.04 MHz		Date: 10/3/2007

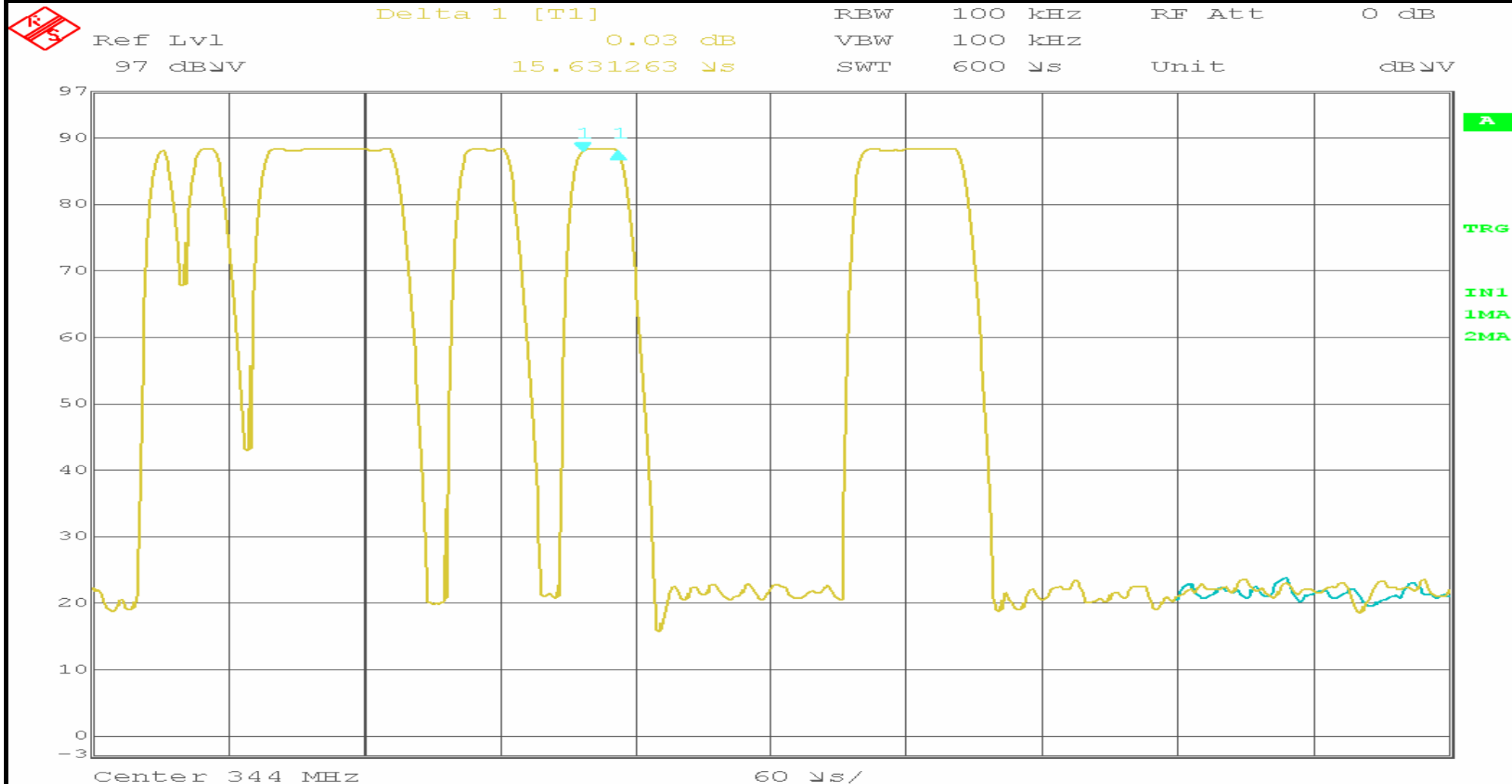


Date: 3.OCT.2007 10:30:28

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

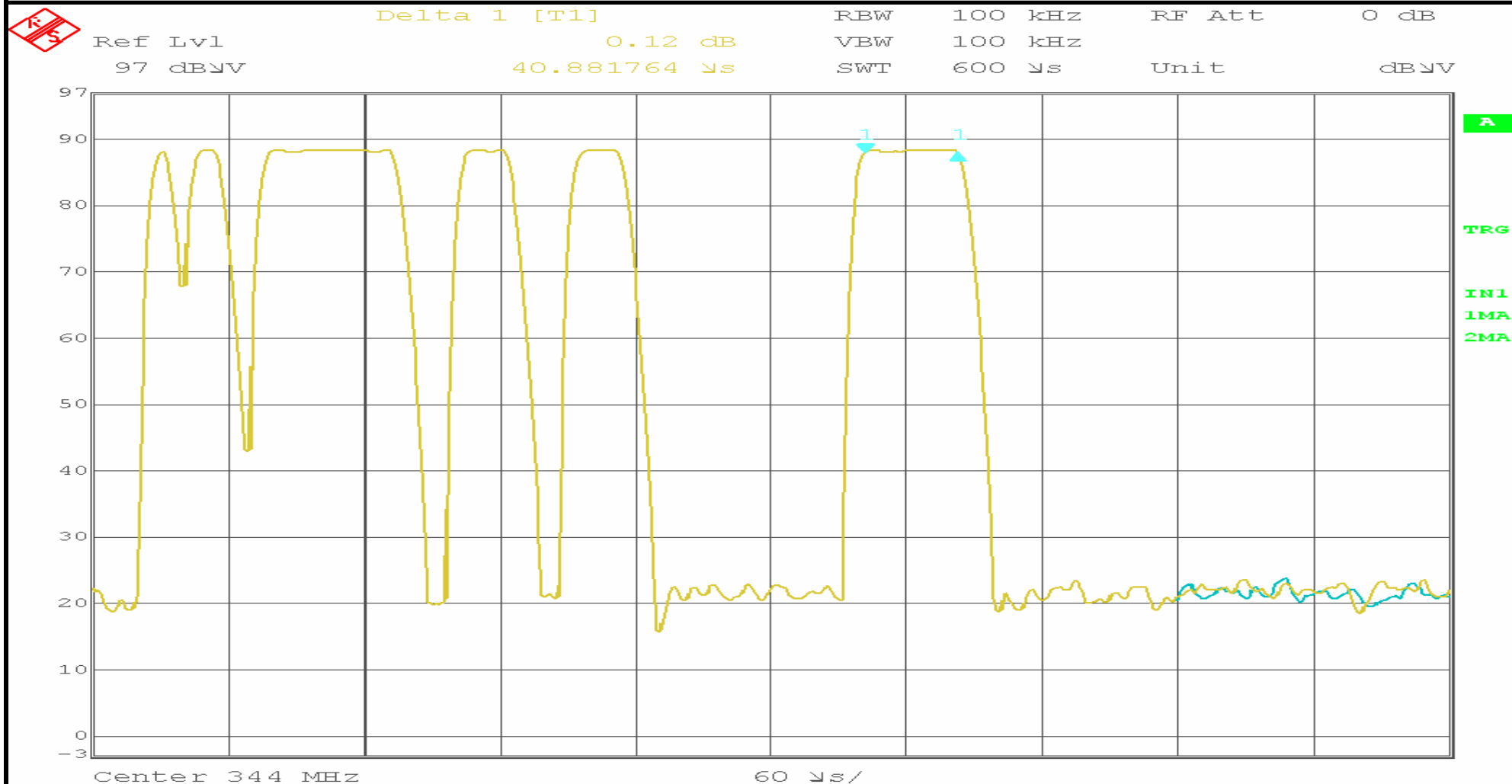


Date: 3.OCT.2007 10:31:01

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Date: 3.OCT.2007 10:31:39

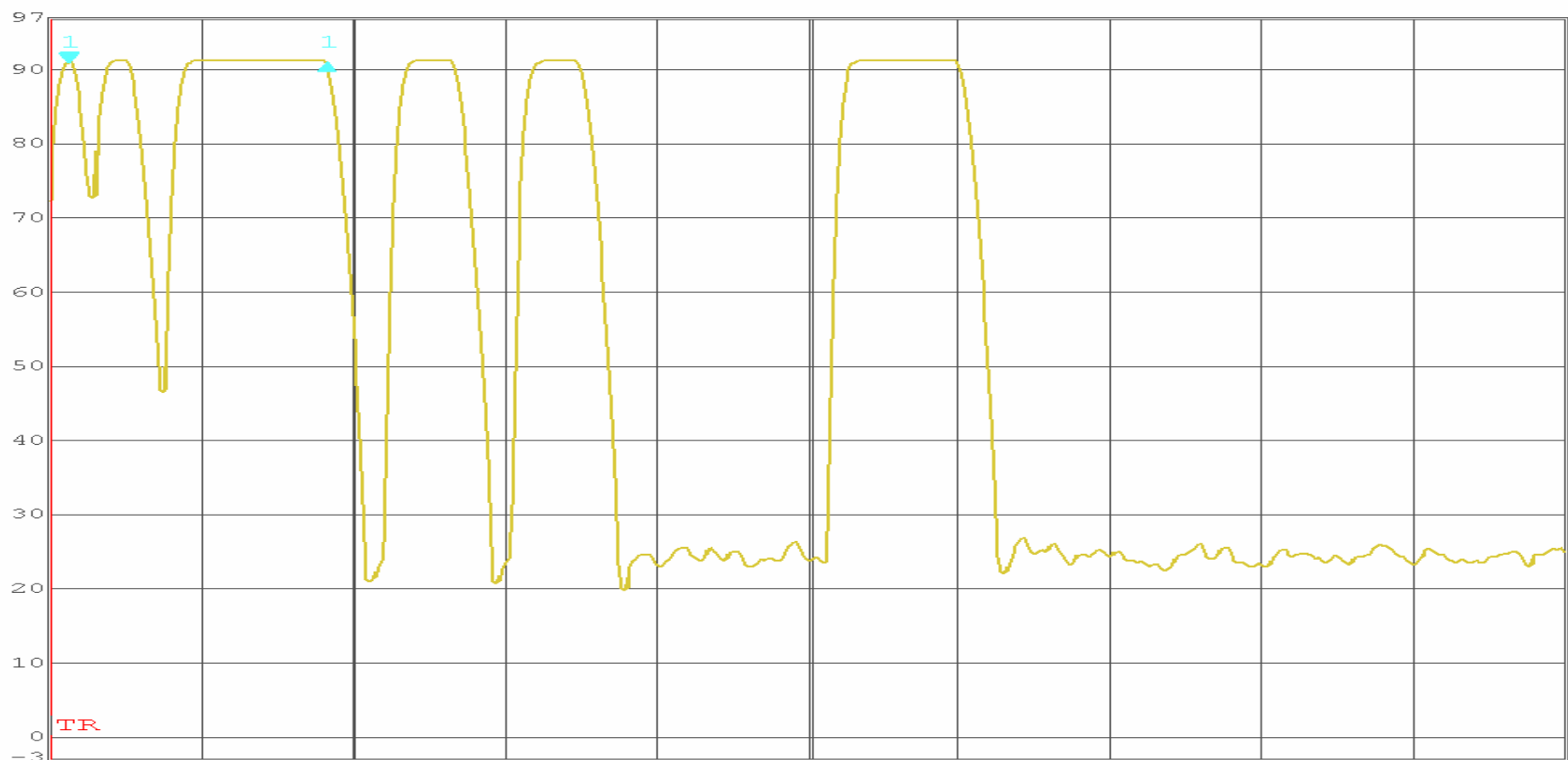
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 97 dBV 0.05 dB VBW 100 kHz
 102.204409 μ s SWT 600 μ s Unit dBV



Center 344 MHz

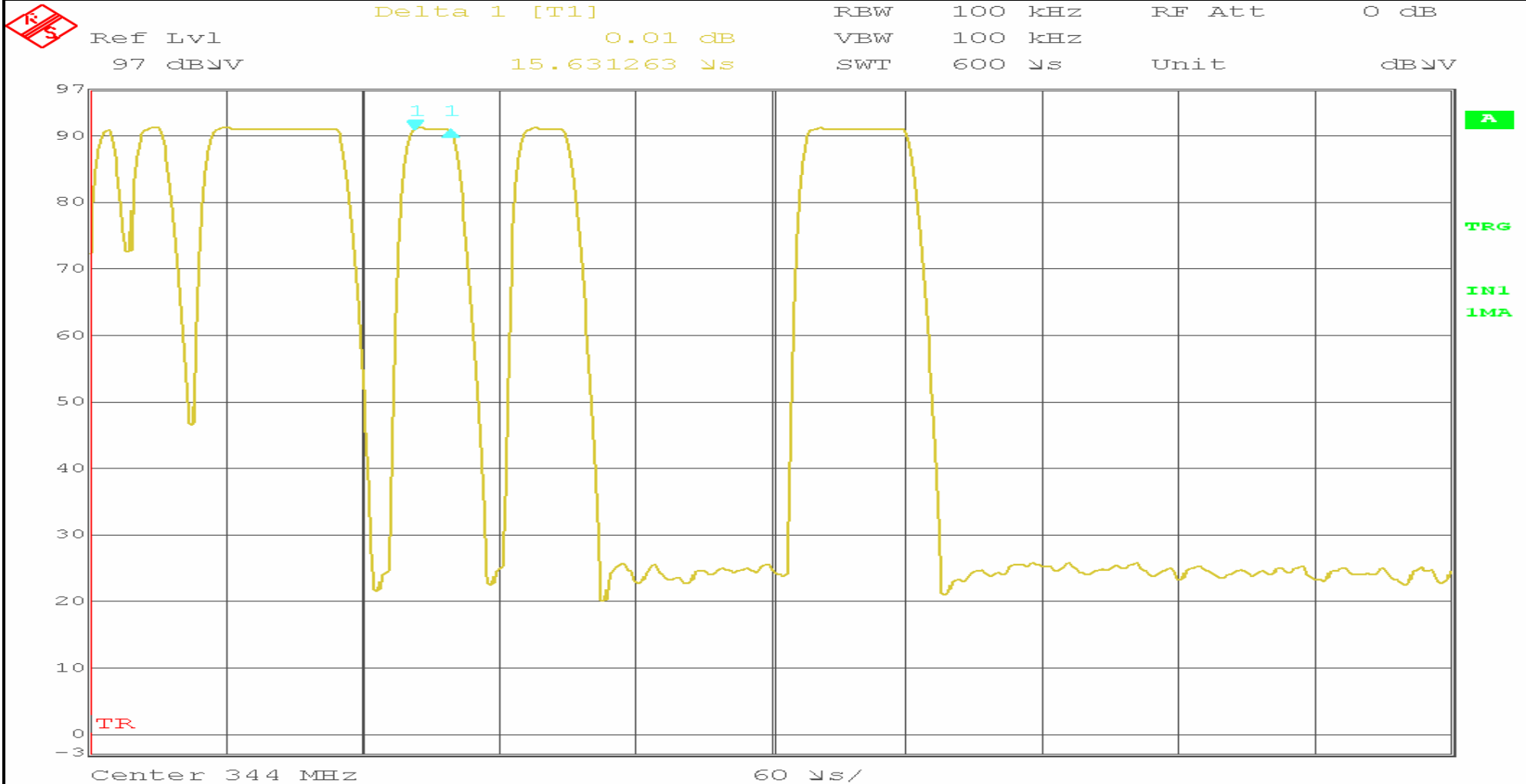
60 μ s/

Date: 3.OCT.2007 10:52:47

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

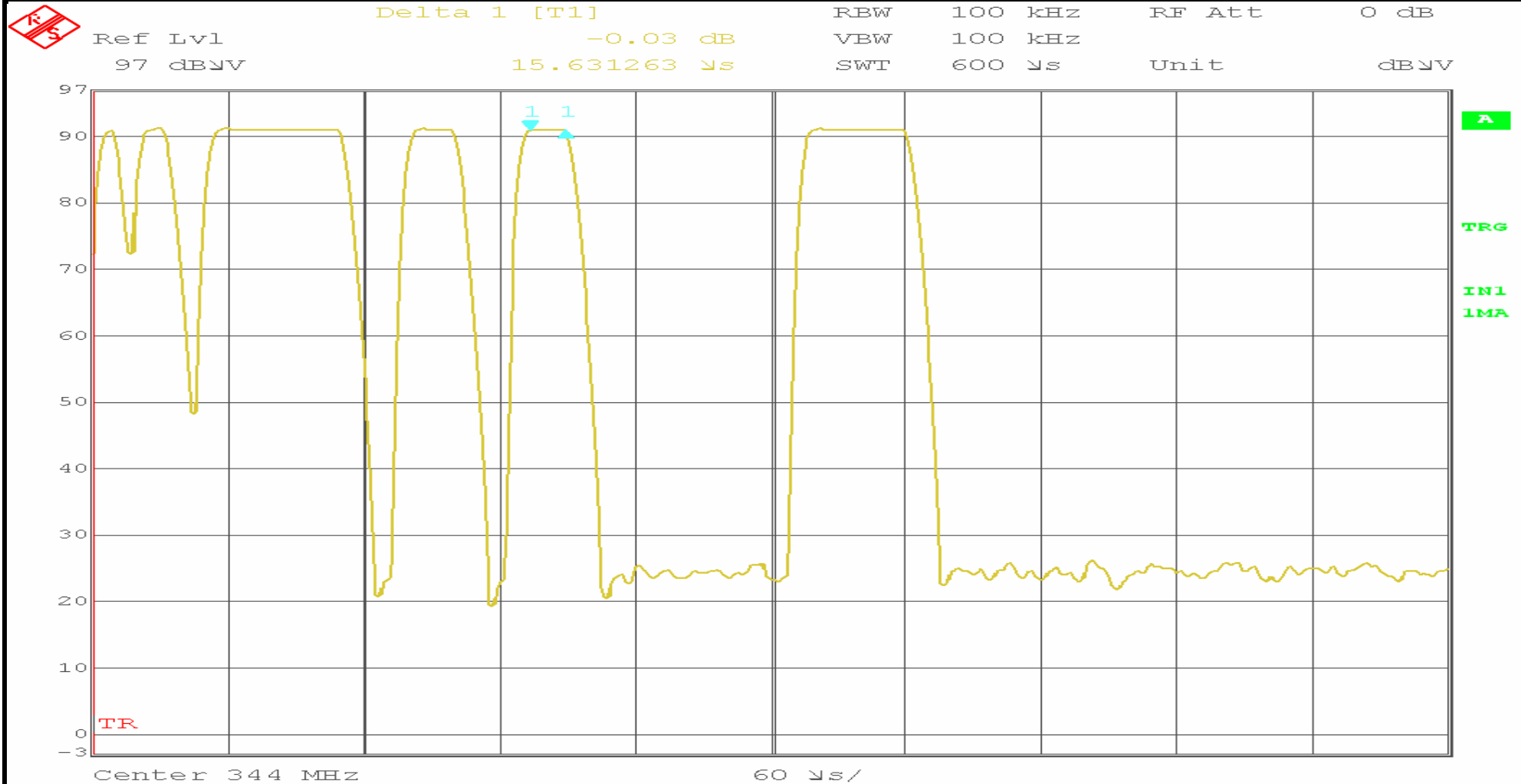


Date: 3.OCT.2007 10:53:31

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

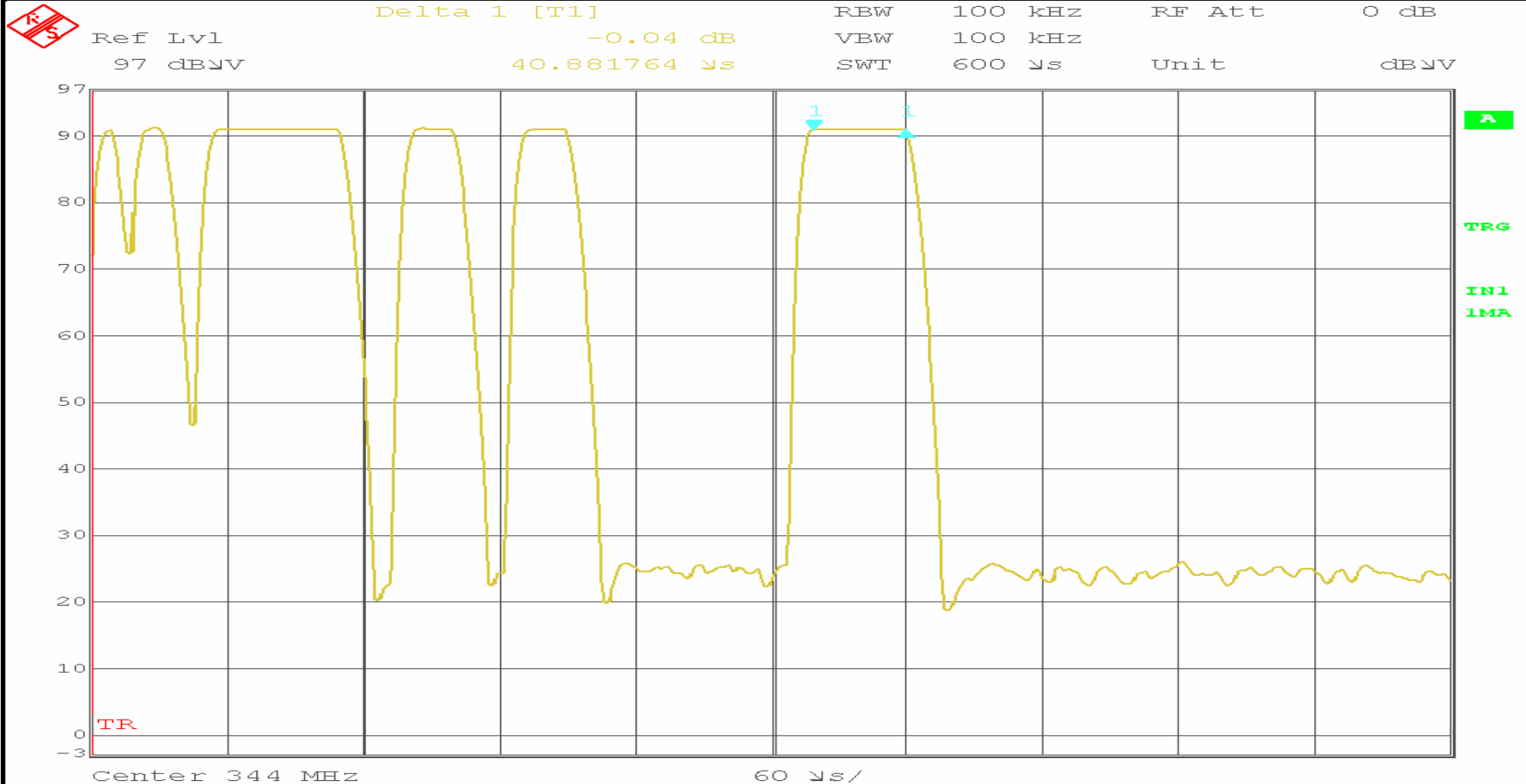


Date: 3.OCT.2007 10:53:55

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

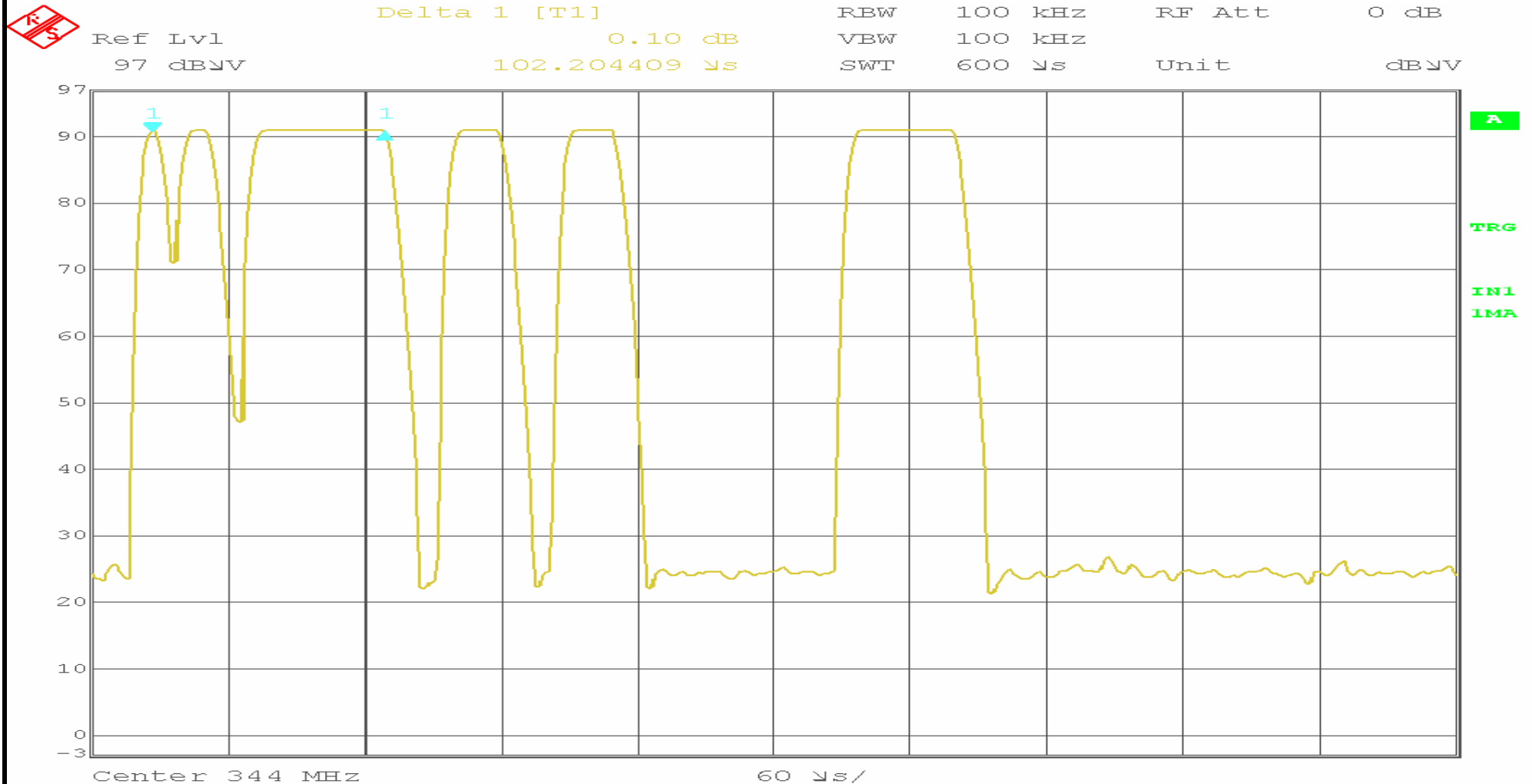


Date: 3.OCT.2007 10:54:26

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

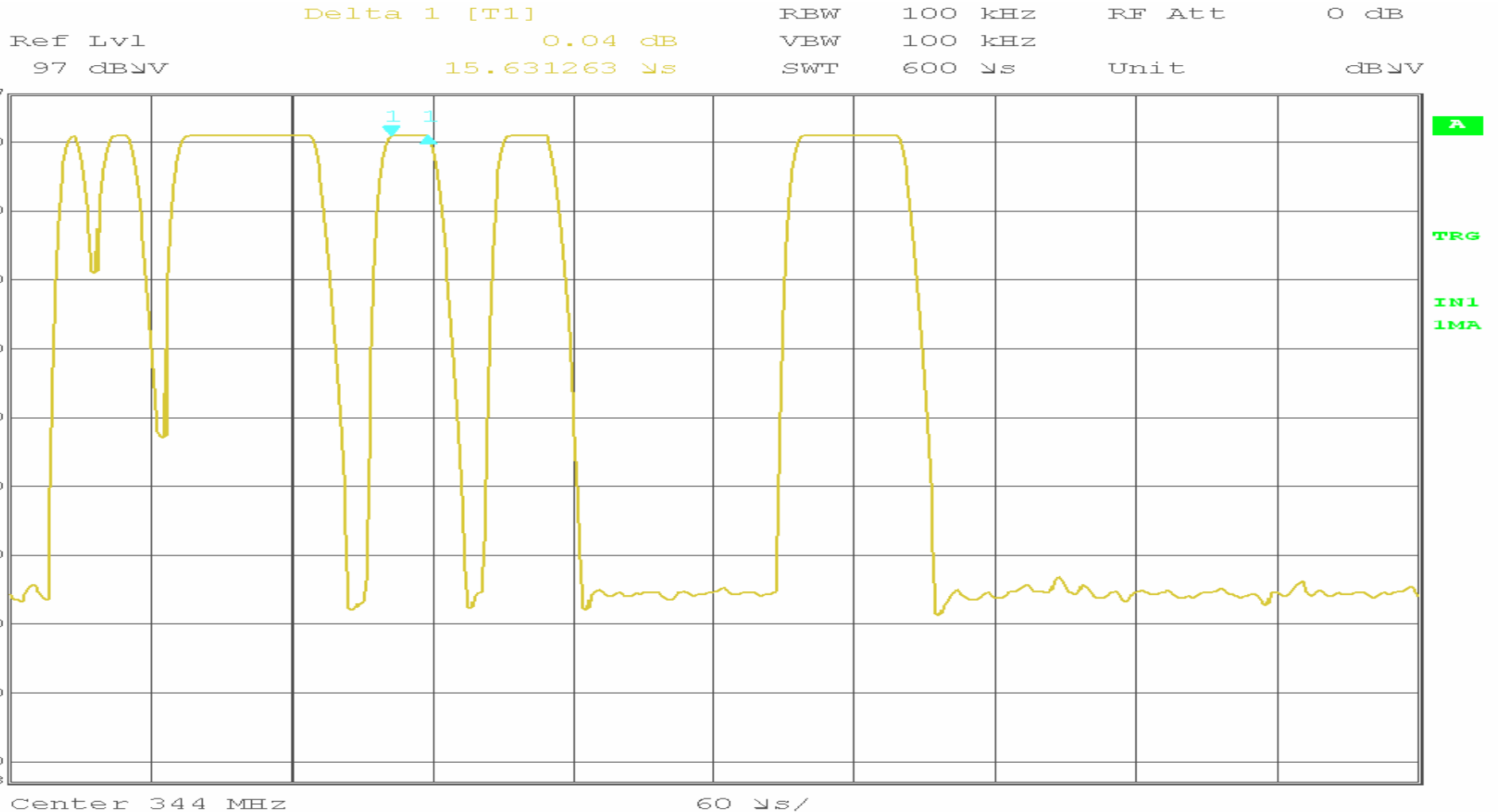


Date: 3.OCT.2007 11:00:40

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date:
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		

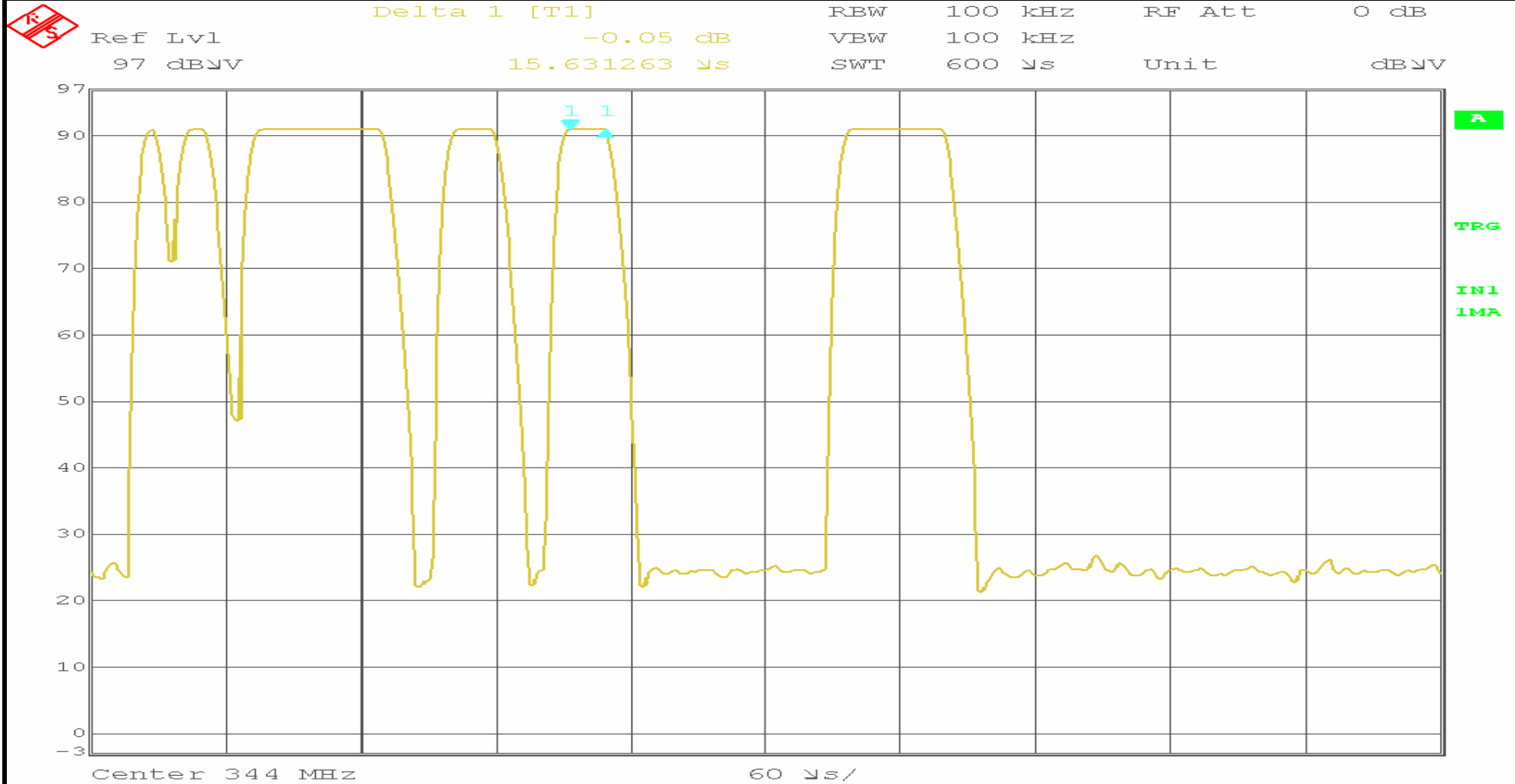


Date: 3.OCT.2007 11:01:24

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Date: 3.OCT.2007 11:01:51

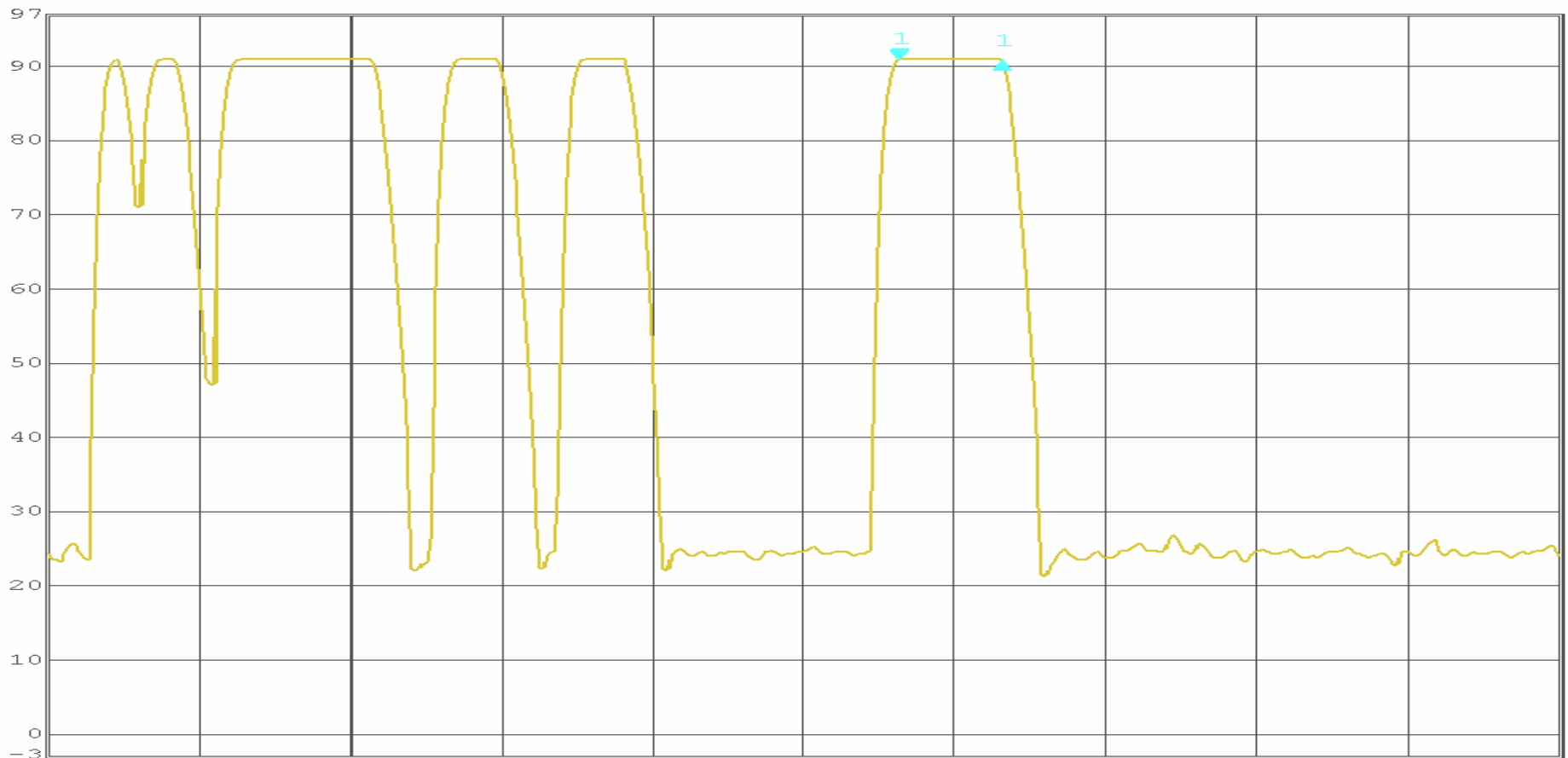
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 344.04 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl -0.14 dB VBW 100 kHz
 97 dBV 40.881764 μ s SWT 600 μ s Unit dBV



Center 344 MHz

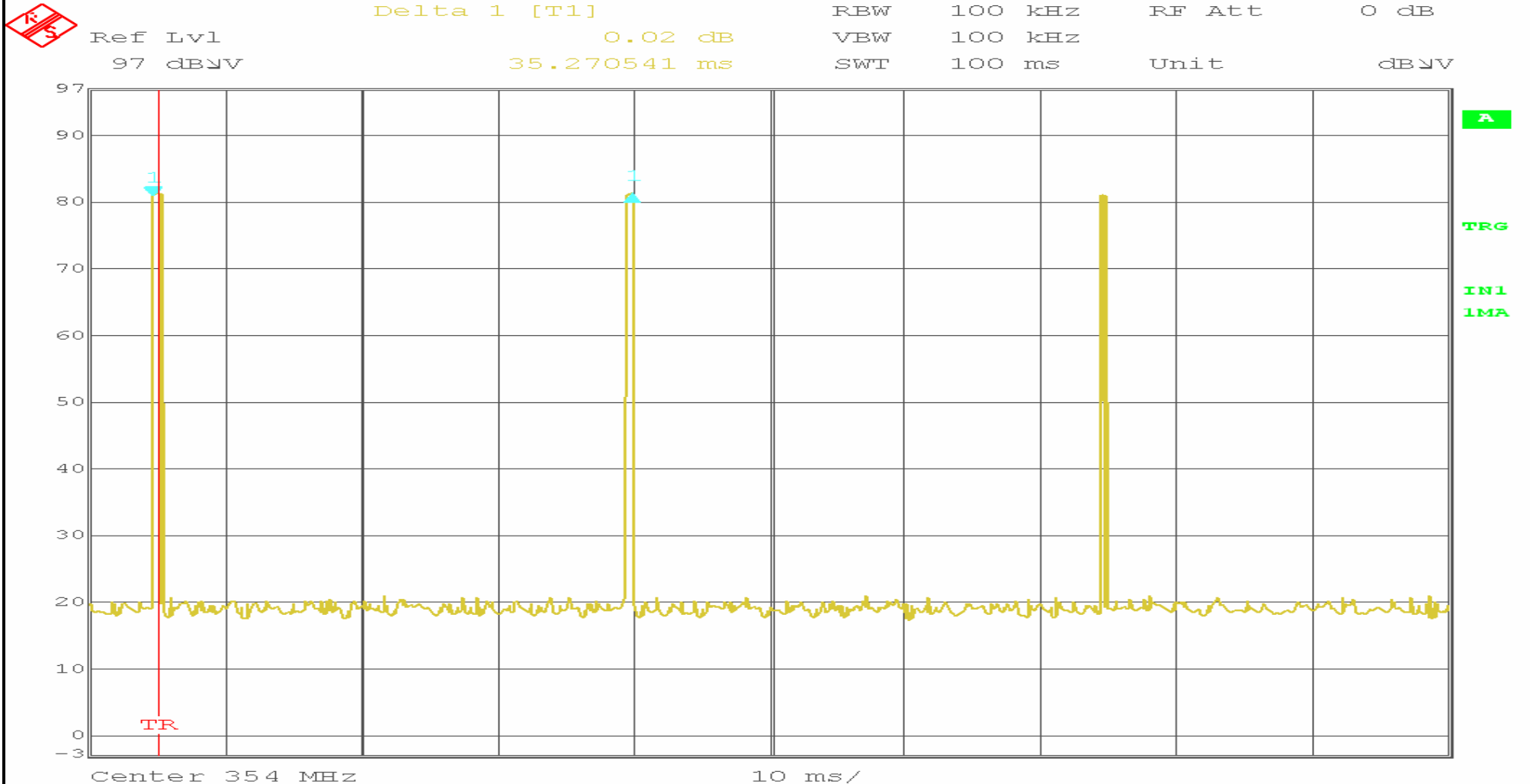
60 μ s/

Date: 3.OCT.2007 11:02:20

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		

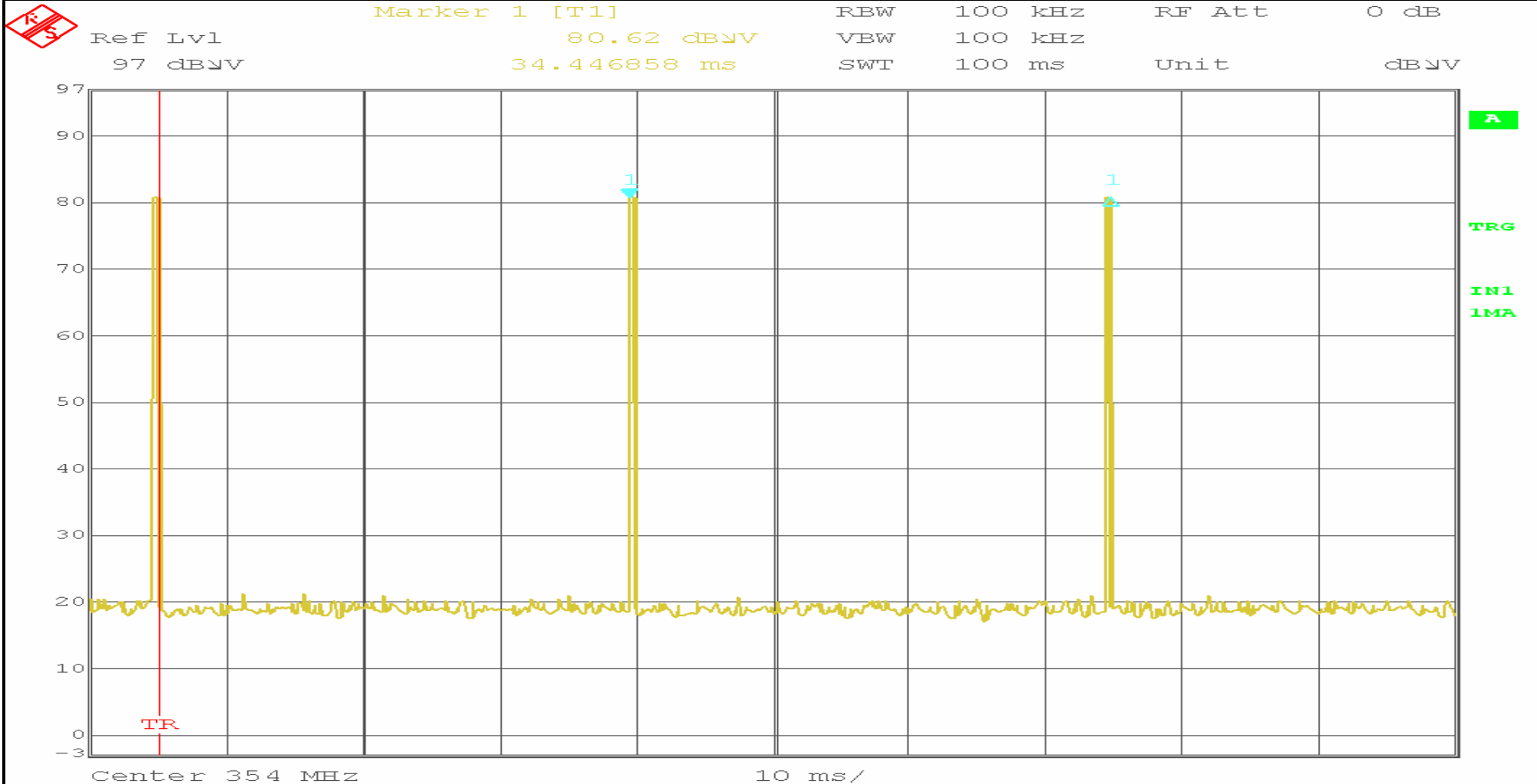


Date: 3.OCT.2007 11:28:35

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		

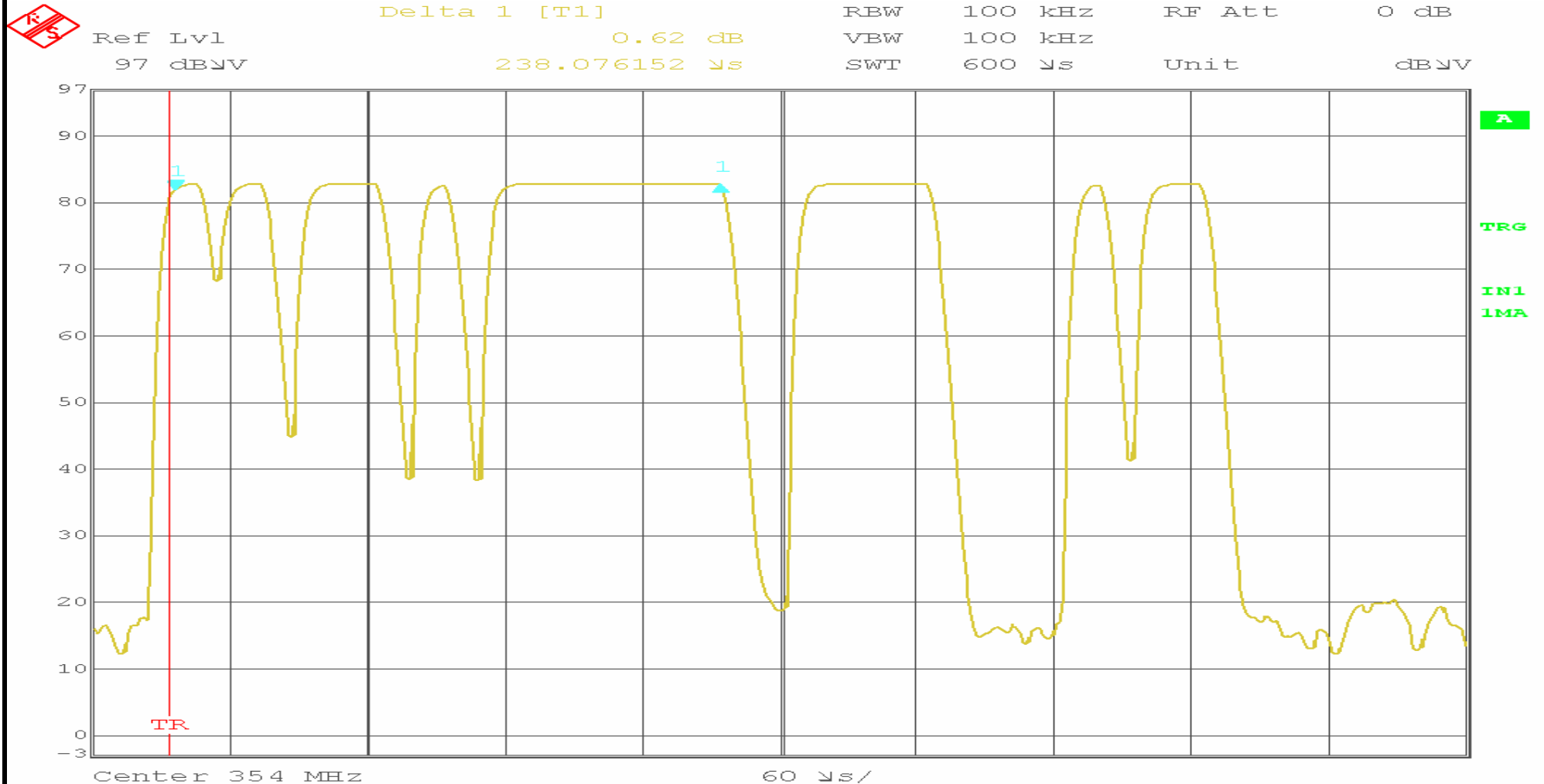


Date: 3.OCT.2007 11:29:07

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		

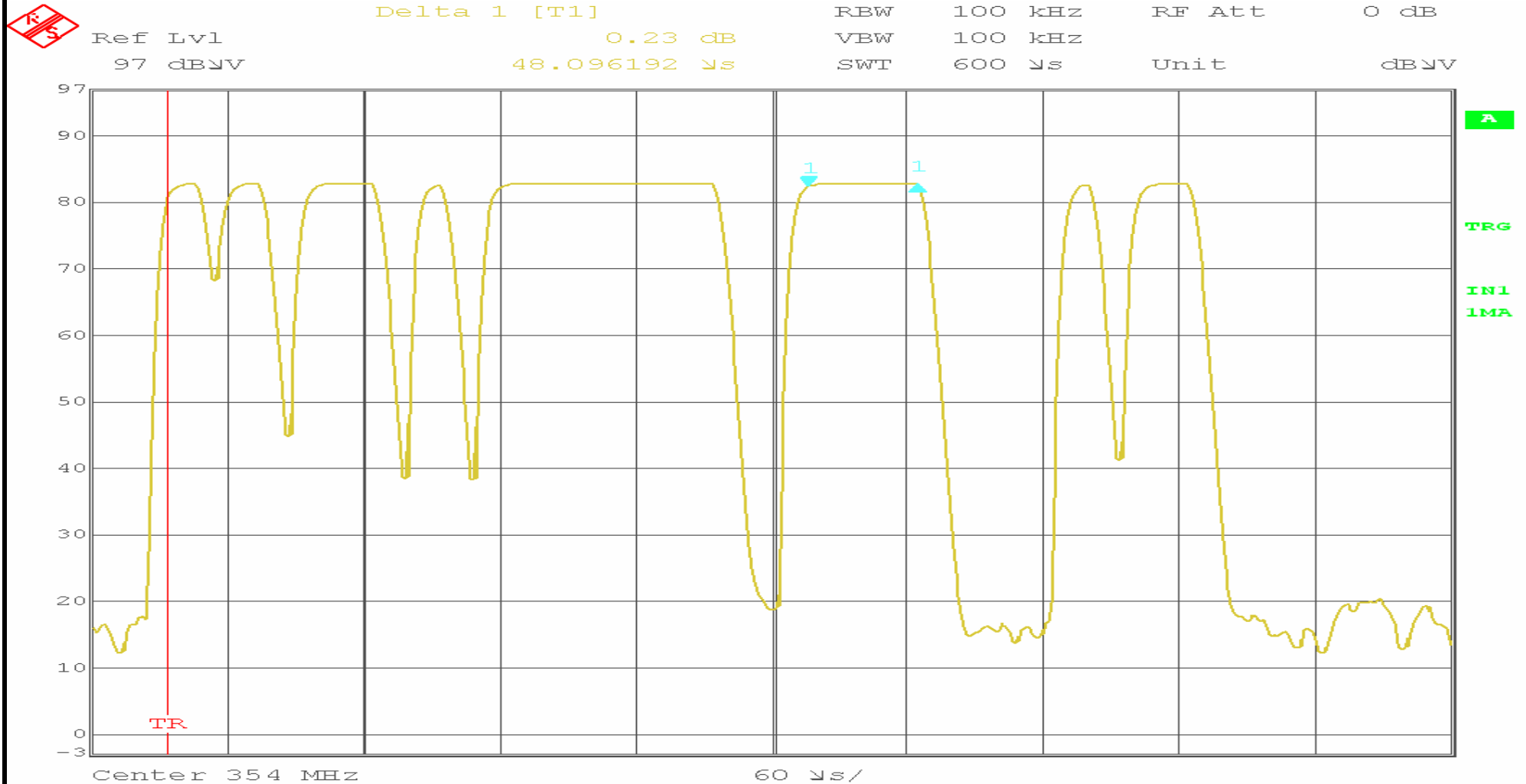


Date: 3.OCT.2007 11:41:12

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Job No: R-4901N-1
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		Technician: M. Seamans
Notes:	Fundamental Frequency: 354 MHz		Date: 10/3/2007

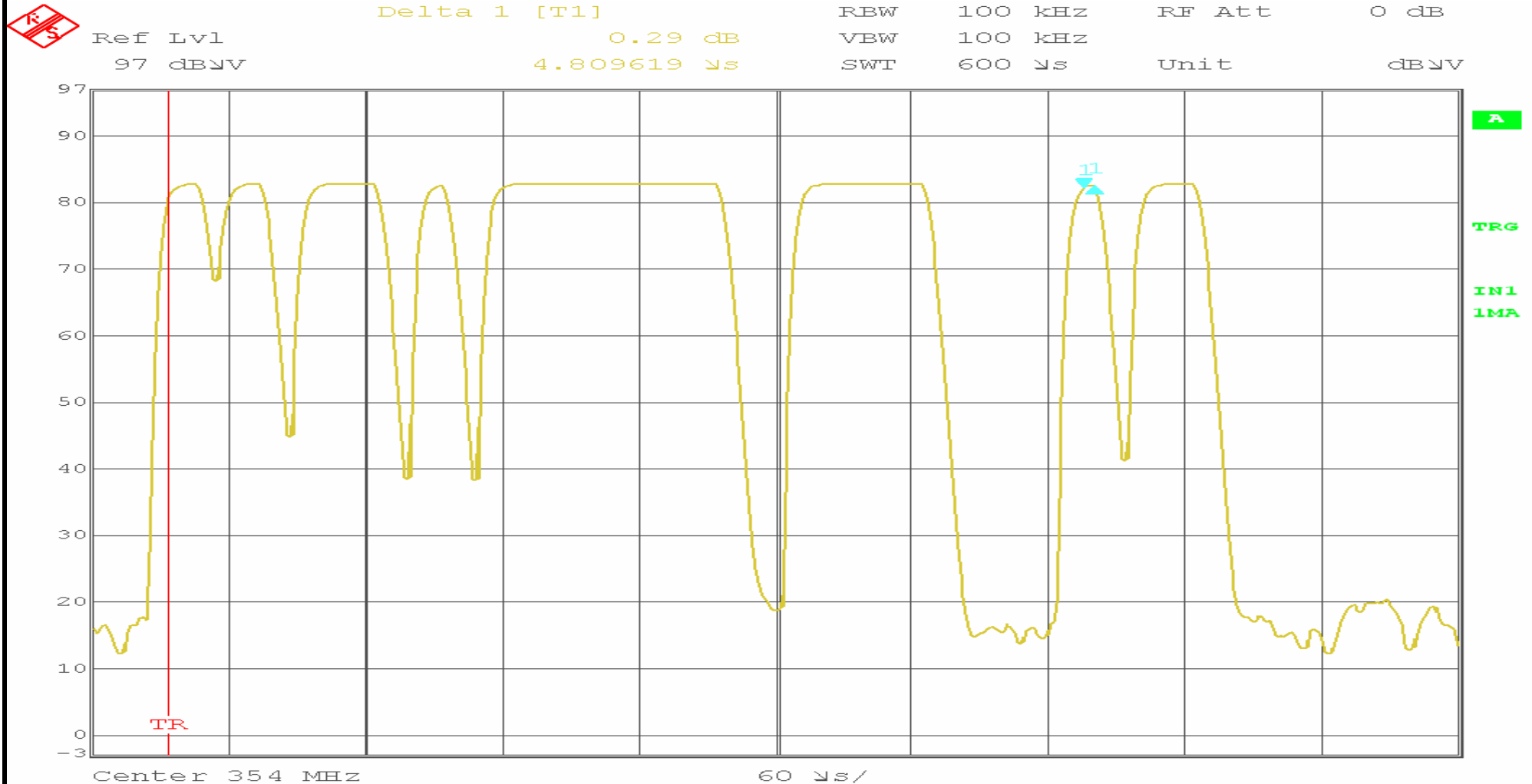


Date: 3.OCT.2007 11:41:42

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Job No: R-4901N-1
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		Technician: M. Seamans
Notes:	Fundamental Frequency: 354 MHz		Date: 10/3/2007



Date: 3.OCT.2007 11:42:13

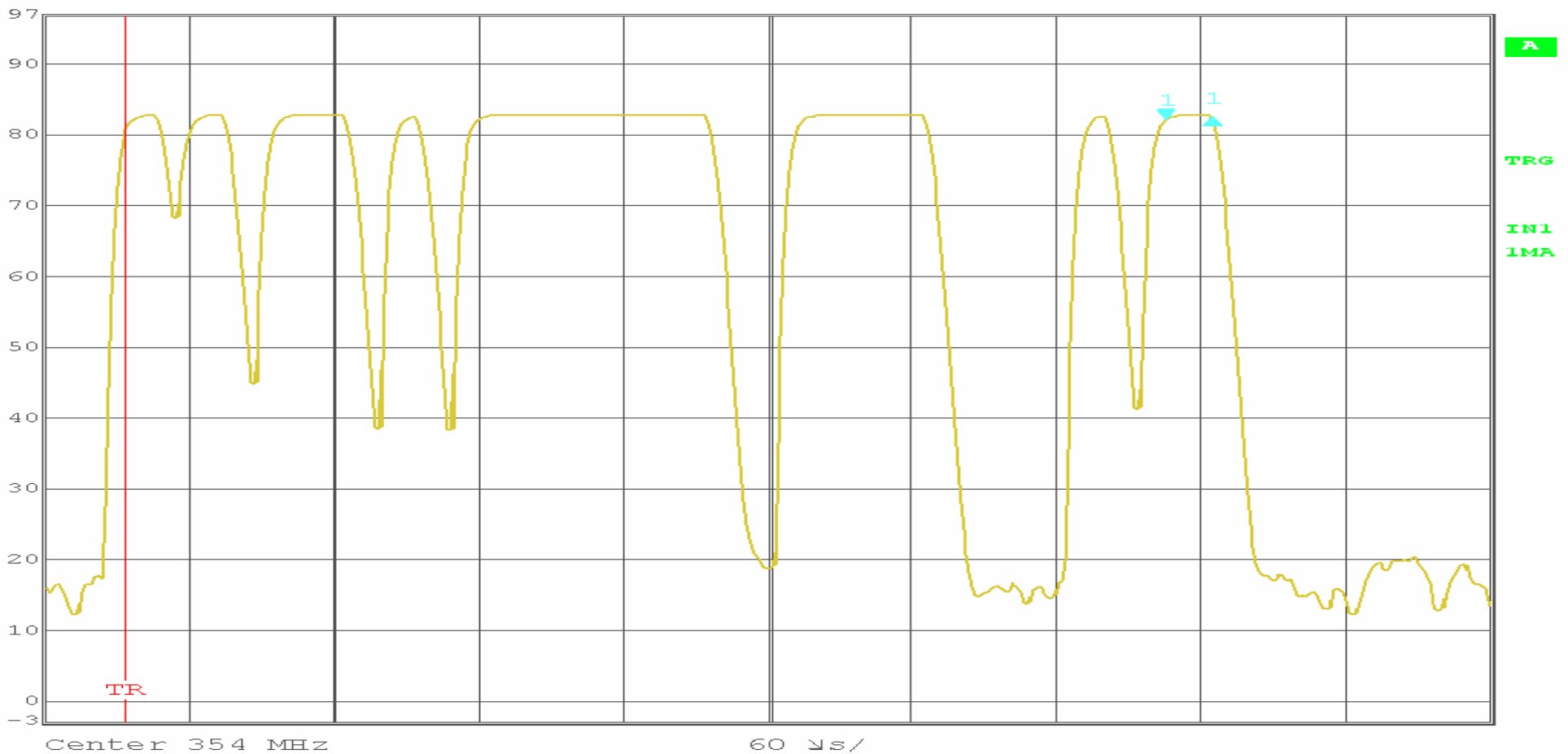
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 0.25 dB VBW 100 kHz
 97 dBμV 19.238477 μs SWT 600 μs Unit dBμV



Date: 3.OCT.2007 11:42:37

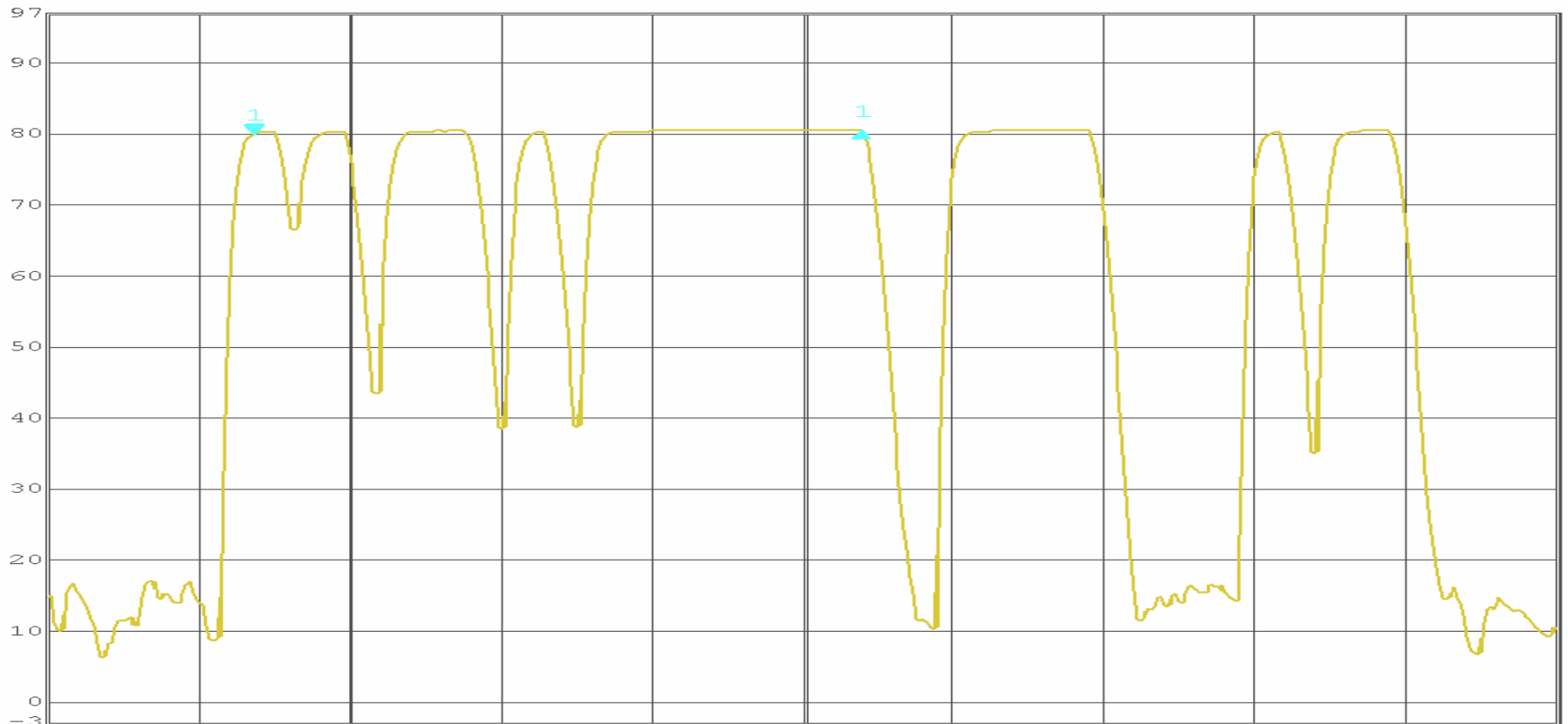
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 97 dBV 0.31 dB VBW 100 kHz
 241.683367 μ s SWT 600 μ s Unit dBV



A

TRG

IN1

IMA

Date: 3.OCT.2007 11:47:55

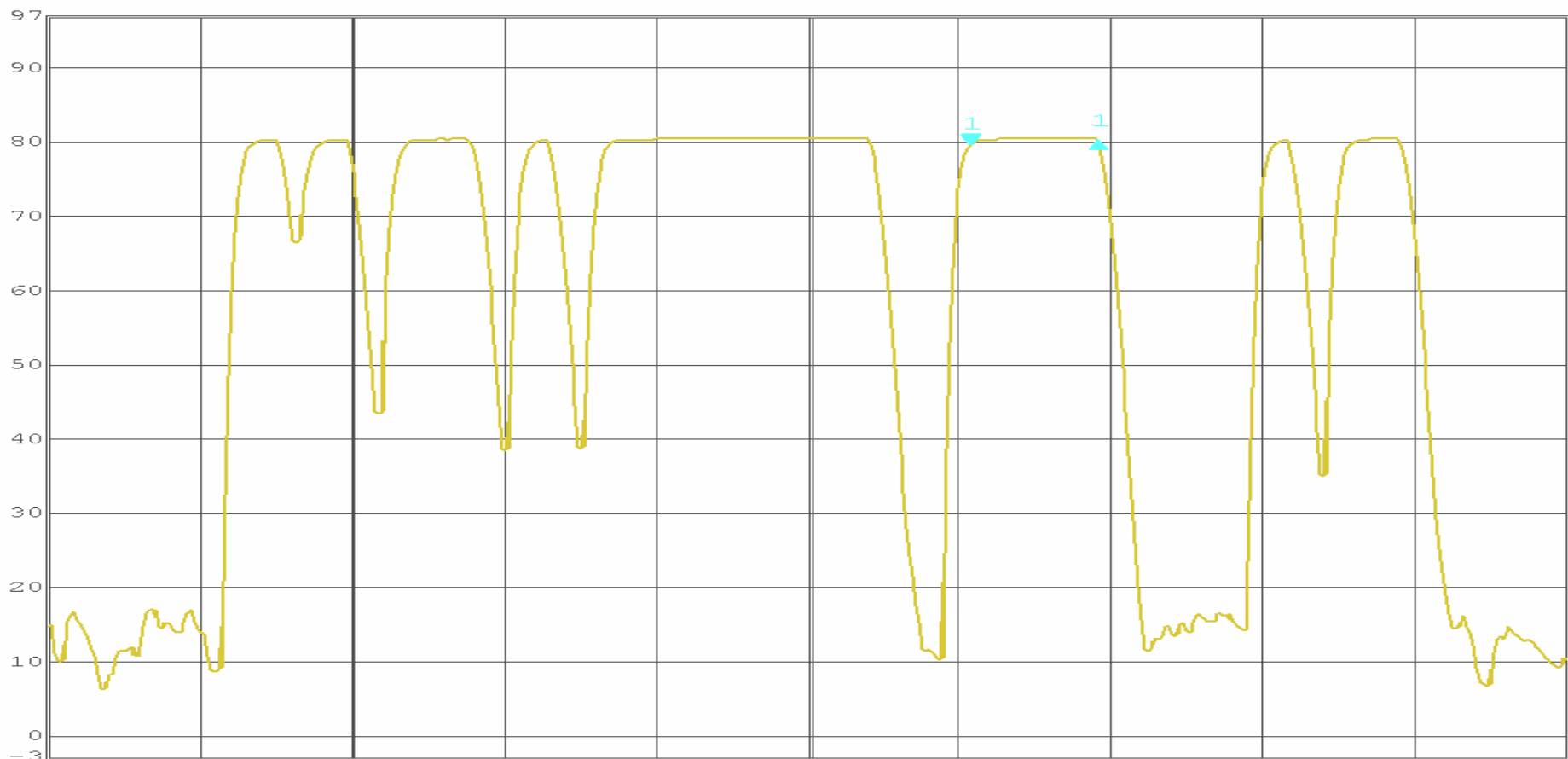
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 0.54 dB VBW 100 kHz
 97 dBμV 50.501002 μs SWT 600 μs Unit dBμV



A

TRG

IN1

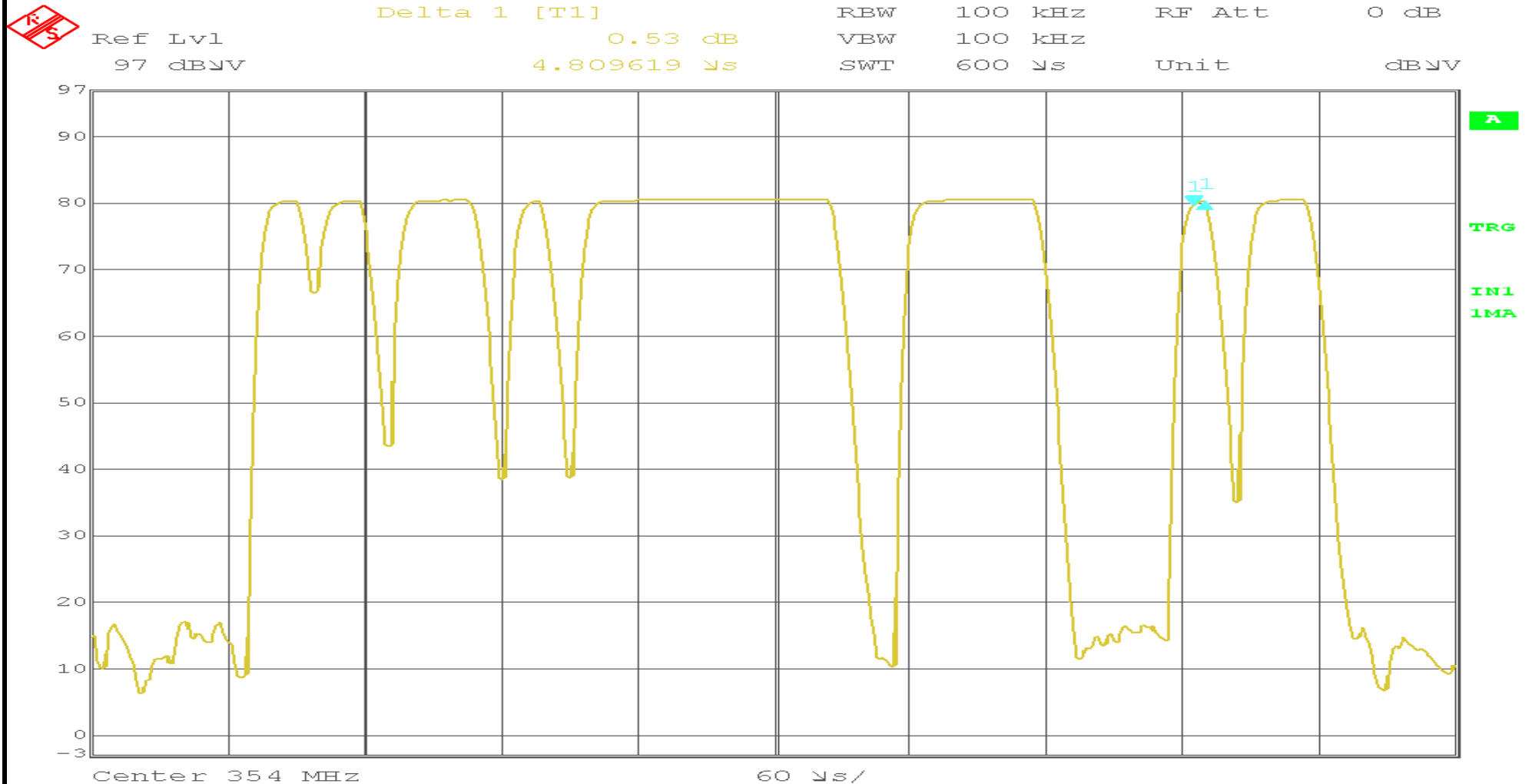
1MA

Date: 3.OCT.2007 11:48:22

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Date: 3.OCT.2007 11:48:46

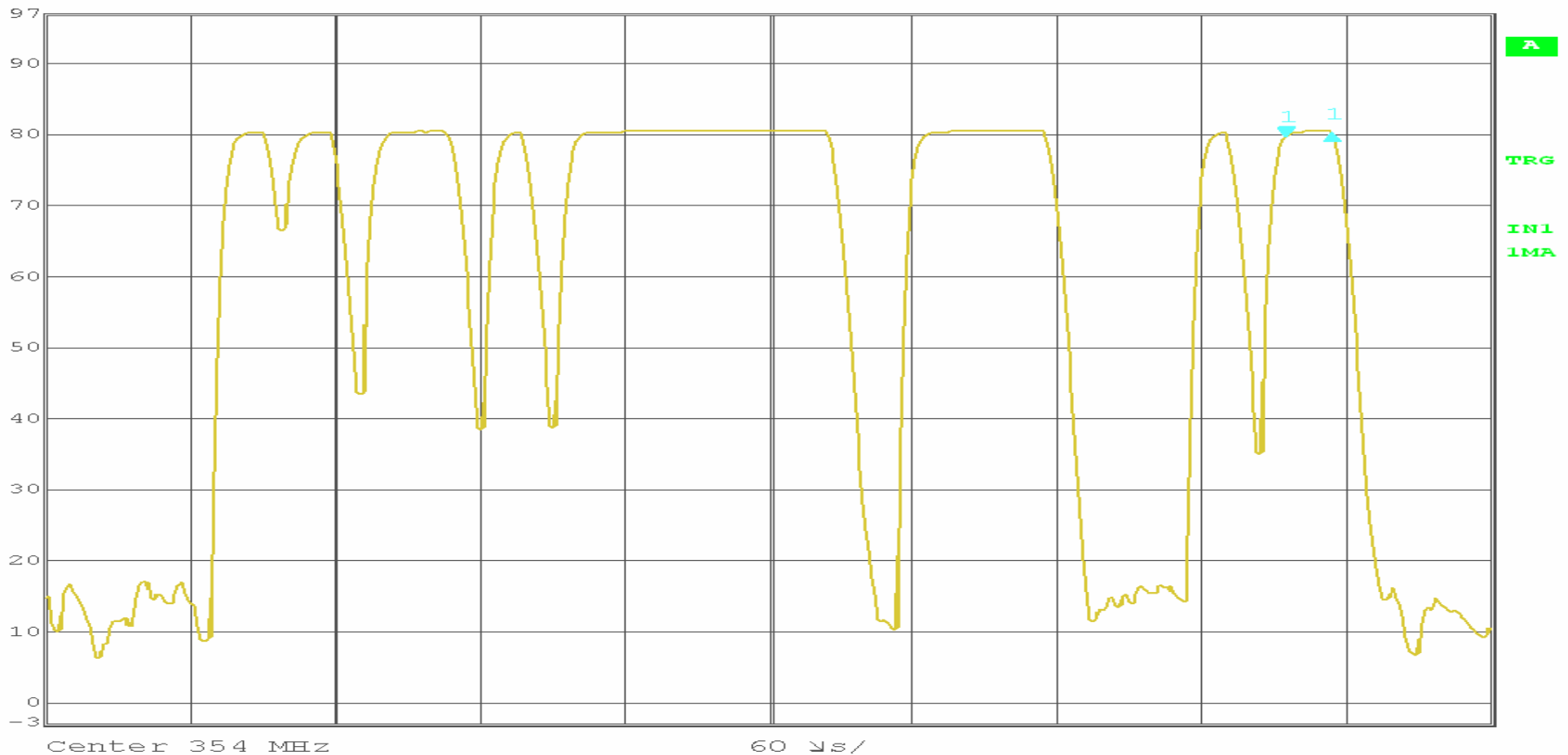
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 0.66 dB VBW 100 kHz
 97 dBμV 19.238477 μs SWT 600 μs Unit dBμV

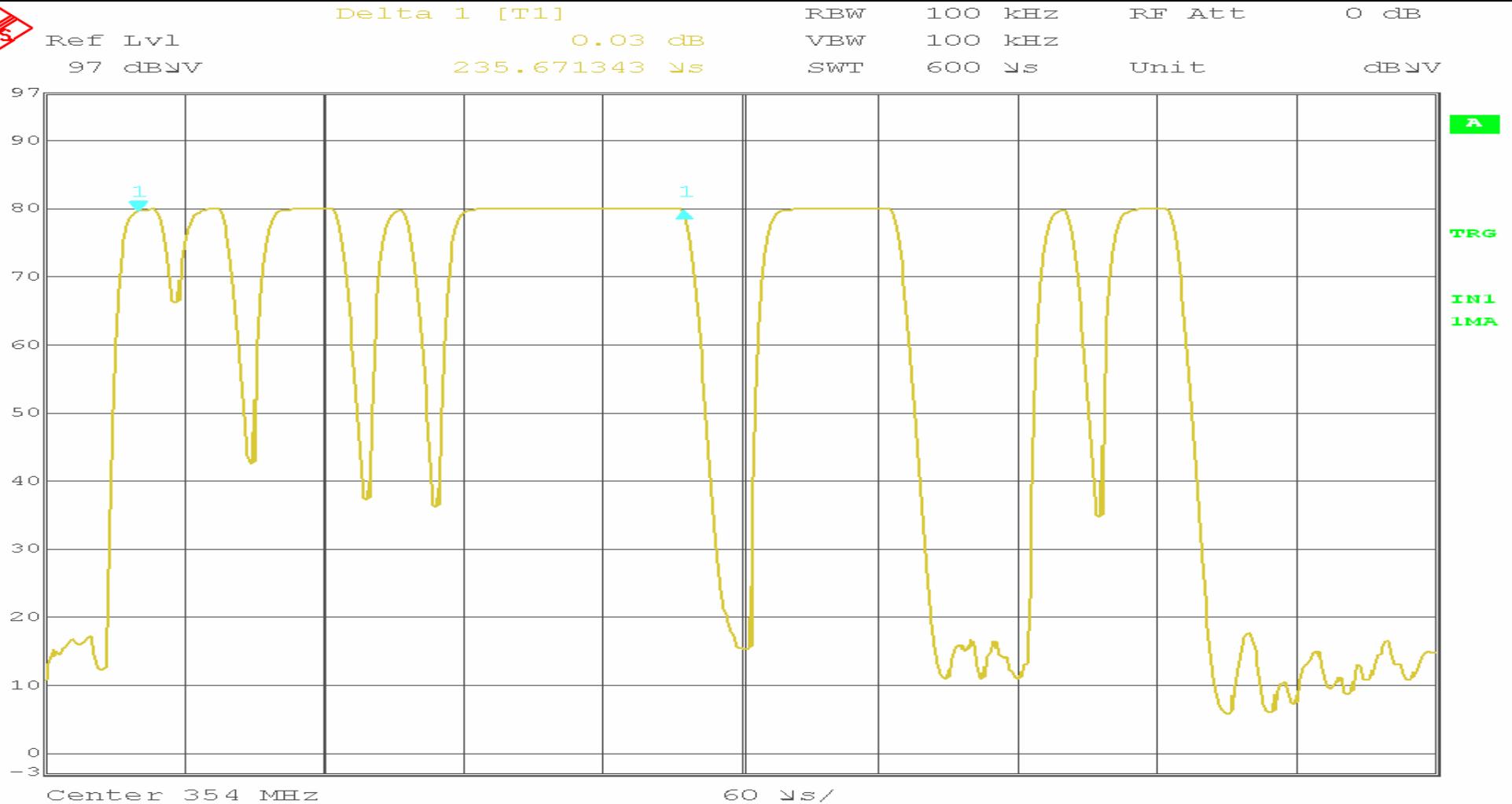


Date: 3.OCT.2007 11:49:12

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Date: 3.OCT.2007 11:54:23

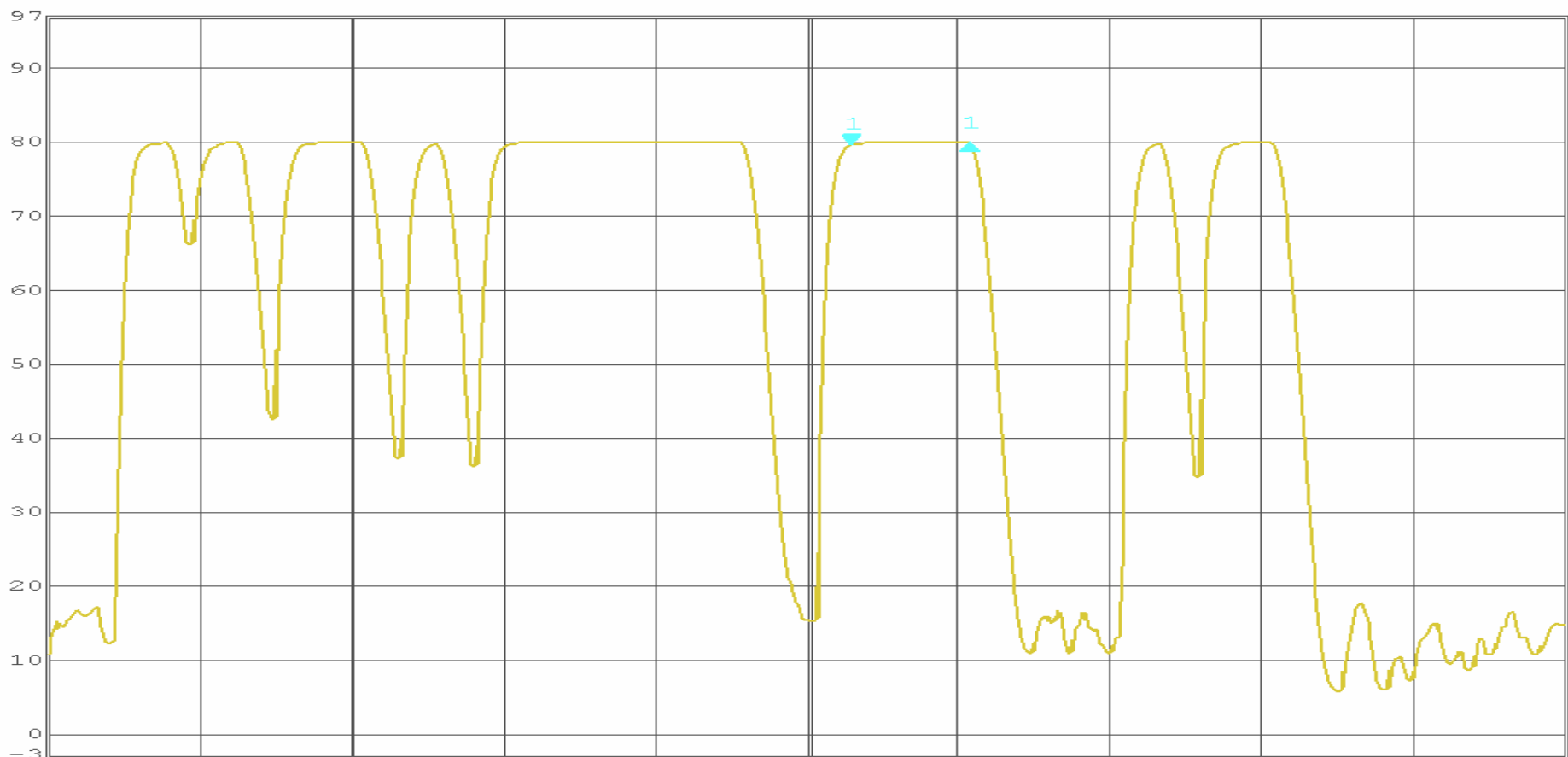
RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date:
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Delta 1 [T1] RBW 100 kHz RF Att 0 dB
 Ref Lvl 97 dBV 0.24 dB VBW 100 kHz
 46.893788 us SWT 600 us Unit dBV



Center 354 MHz

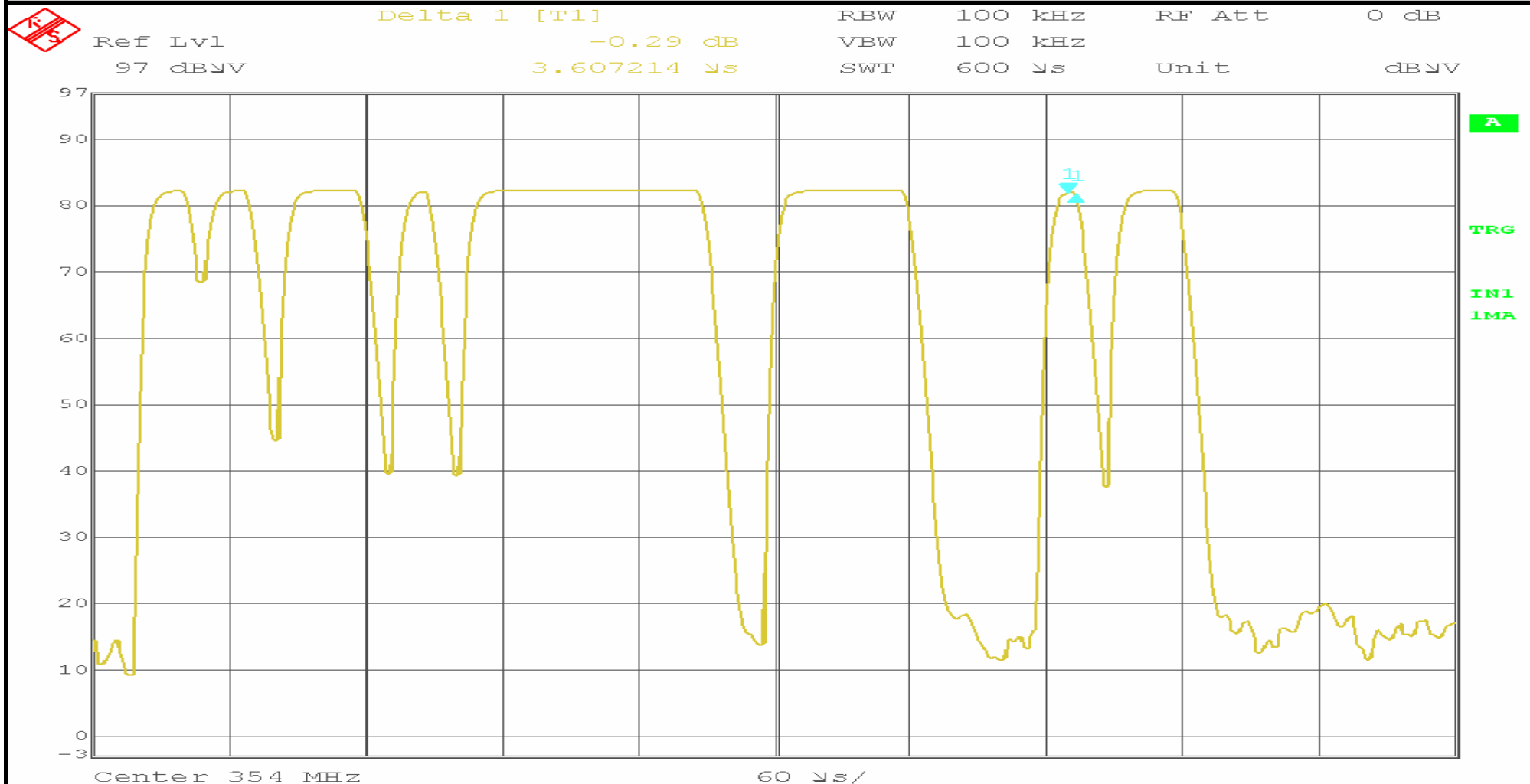
60 us/

Date: 3.OCT.2007 11:54:52

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		

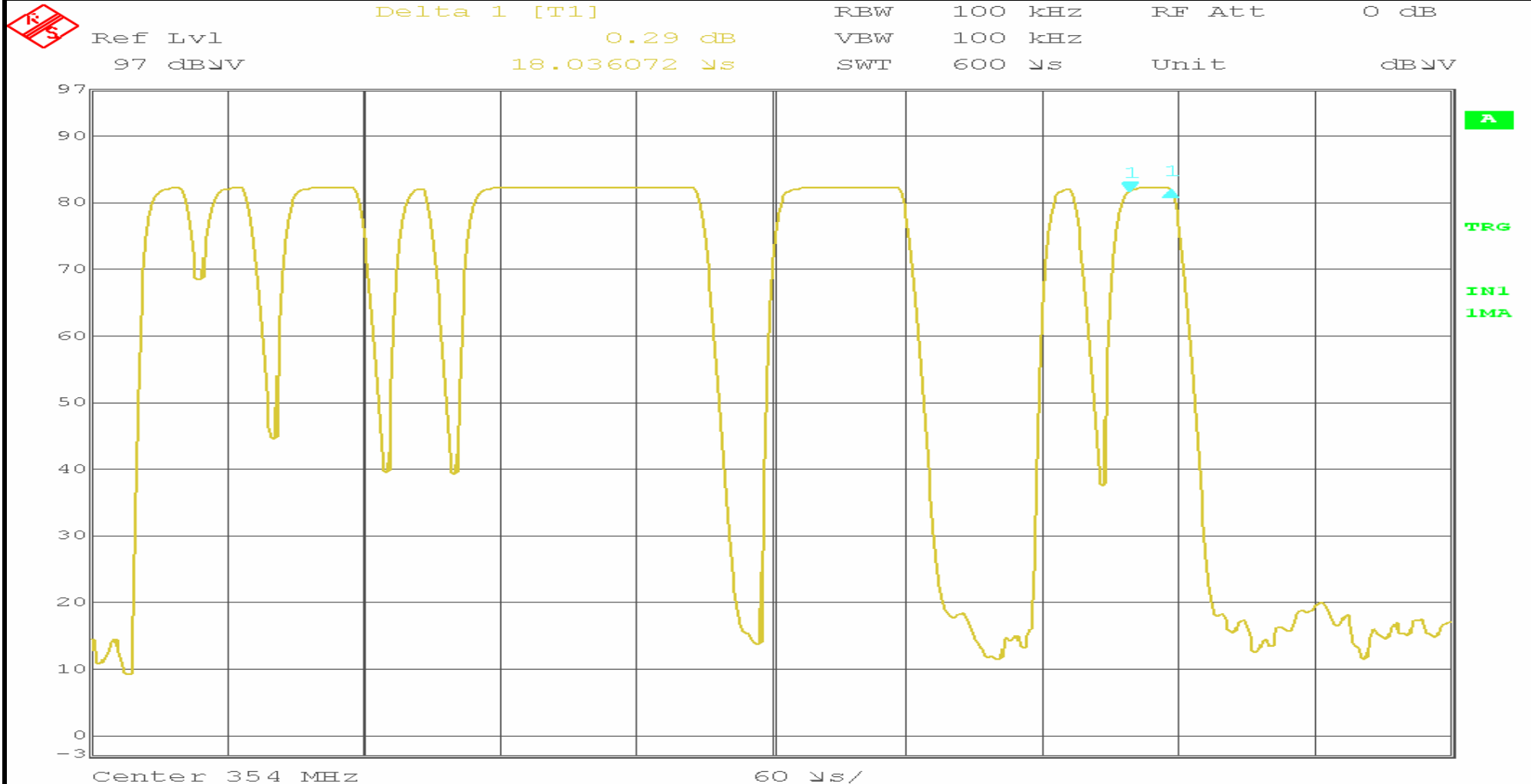


Date: 3.OCT.2007 11:55:44

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Duty Cycle Plots		
Customer:	LPA Design, Inc.	Test Sample:	PocketWizard MultiMAX Transceiver
Model No:	PocketWizard MultiMAX	Serial No:	5561324
Test Specification:	FCC Part 15, Subpart C	15.231(b)	Date: 10/3/2007
Operating Mode:	Transmitting signal @ 344MHz to 354 MHz		
Notes:	Fundamental Frequency: 354 MHz		



Date: 3.OCT.2007 11:56:08