

FCC PART 15, SUBPART C

RSS-210 ISSUE 7 DATED JUNE 2007 TEST REPORT

for

PHOTOGRAPHIC FLASH CONTROLLER M/N: PX FCC ID: V4TRPPXTX506 IC: 7/822A-RPPXTX506

Prepared for

LEAP DEVICES, LLC 20987 N. JOHN WAYNE PKWY. MARICOPA, AZ 805239

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DATE: DECEMBER 19, 2008

	REPORT	APPENDICES			TOTAL		
	BODY	\boldsymbol{A}	В	C	D	E	
PAGES	17	2	2	2	10	14	47

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GENERAL REPORT SUMMARY

This electromagnetic emission report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form except in full, without the written permission of Compatible Electronics.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: Photographic Flash Controller

Model Number: PX

SN: None

Product Description: This is a Photographic Flash Controller.

Modifications: The EUT was not modified during the testing.

Manufacturer: Leap Devices, LLC

20987 N. John Wayne Pkwy.

Maricopa, AZ 85239

Test Date: December 15, 2008

Test Specifications: EMI requirements

FCC CFR Title 47, Part 15 Subpart B and C

Section 15.205, 15.209 & 15.249 RSS-210 Issue 7 dated June 2007 Test Procedure: ANSI C63.4: 2003.

Industry Canada Lab Code 2154B-1

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz.	This is a DC powered device that does not plug into AC Mains therefore this test was deemed unnecessary.
2	Radiated RF Emissions, 9 kHz – 9165 MHz.	Complies with the limits of FCC CFR Title 47, Part 15 Subpart B & C, 15.205, 15.209 & 15.249 and RSS-210 Issue 7 dated June 2007



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1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Photographic Flash Controller Model Number: PX. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined in FCC CFR Title 47, Part 15 Subpart B & C, 15.205, 15.209 & 15.249 and RSS-210 Issue 7 dated June 2007.

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2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 2337 Troutdale Drive, Agoura, California 91301.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Leap Devices, LLC

Kevin King Owner/Engineer

Compatible Electronics Inc.

Reynald O. Ramirez Sr. Test Engineer Ruby A. Hall Lab Manager

2.4 Date Test Sample was Received

The test sample was received on December 10, 2008.

2.5 Disposition of the Test Sample

The test sample remains at Compatible Electronics Inc.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF Radio Frequency

EMI Electromagnetic Interference EUT Equipment Under Test

P/N Part Number S/N Serial Number HP Hewlett Packard

ITE Information Technology Equipment

CML Corrected Meter Limit

LISN Line Impedance Stabilization Network

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3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2003	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.
RSS-210 Issue 7 dated June 2007	General Requirements and Information for the Certification of Radiocommunication Equipment



4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The EUT was set-up in a tabletop configuration. The EUT was in transmitting mode throughout the test.

The highest emissions were found when the EUT was running in the above configuration. The final radiated data was taken in this mode of operation. All initial investigations were performed with the Receiver in manual mode scanning the frequency range continuously. The cables were routed as shown in the photographs in Appendix D.

4.1.1 Photograph of Test Configuration - EMI





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4.1.2 Cable Construction and Termination

There were no cables on the EUT.



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- 5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT
- **5.1 EUT and Accessory List**

#	EQUIPMENT TYPE	MANUFACTURER	MODEL	SERIAL NUMBER	FCC ID
1	PHOTOGRAPHIC FLASH CONTROLLER (EUT)	LEAP DEVICES, LLC	PX	S/N: NONE	V4TRPPXTX506



5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU- FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
EMI Receiver	Rohde & Schwarz	ESIB-40	100218	Feb. 28, 2008	Feb. 28, 2009
Preamplifier	Com Power	PA-103	1619	Oct. 22, 2008	Oct. 22, 2009
Biconical Antenna	Com Power	AB-900	15283	Oct. 21, 2008	Oct. 21, 2009
Log Periodic Antenna	Com Power	AL-100	16200	Oct. 21, 2008	Oct. 21, 2009
Loop Antenna	Com-Power	AL-130	17067	Sep. 29, 2008	Sep. 29, 2009
Horn Antenna	A.R.A.	DRG-118A	1015	Jul. 31, 2008	Jul. 31, 2010
Microwave Amplifier	Com-Power	PA-122	181915	Apr. 14, 2008	Apr. 14, 2009
Antenna Mast	Com Power	AM-400	N/A	N/A	N/A
Turntable	Com Power	TTW-595	N/A	N/A	N/A
Computer	Hewlett Packard	Pavilion 4530	US91912022	N/A	N/A
Printer	Hewlett Packard	C6427B	MY066160TW	N/A	N/A
EMI Application Software	Rohde & Schwarz	ESIB-K1	1.20	N/A	N/A



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6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

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7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The EUT is DC powered and does not connect to AC Mains therefore this test was deemed unnecessary.

The EMI receiver was used as a measuring meter. The data was collected with the EMI receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A 10 dB attenuation pad was used for the protection of the Receiver input stage, and the Receiver offset was adjusted accordingly to read the actual data measured. The LISN output was read by the Receiver. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for the conducted emissions test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The initial test data was taken in manual mode while scanning the frequency ranges of 150 kHz to 1.6 MHz, 1.6 MHz to 5 MHz and 5 MHz to 30 MHz. The conducted emissions from the EUT were maximized for operating mode as well as cable placement. Once a predominant frequency (within 12 dB of the limit) was found, it was more closely examined with the Receiver span adjusted to 1 MHz.



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7.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. A preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was used in the Analyzer mode feature activated. In this mode, the Receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured (120 kHz for 30 MHz to 1 GHz and above 1 GHz a 1 MHz bandwidth was used).

Broadband loop, biconical, log periodic and horn antennas were used as transducers during the measurement. The biconical antenna was used from 30 MHz to 300 MHz and the log periodic antenna was used from 300 MHz to 1000 MHz. The horn antenna was used for frequencies above 1 GHz and the loop antenna was used below 30 MHz. The final data was taken with a frequency span of 1 MHz. Furthermore, the frequency span was reduced during the preliminary investigations as deemed necessary.

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength).

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3-meter test distance from 30 MHz to 9165 MHz to obtain final test data. The final test data is located in Appendix E.



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7.1.3 RF Emissions Test Results

The fundamental and up to the 10th harmonic emissions are within the specifications.

LEAP DEVICES, LLC. Photographic Flash Controller

RADIATED EMISSIONS – SPURIOUS

The Frequency Band from 9 kHz to 9165 MHz was specifically scanned. Please see data in Appendix E.

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7.1.4 Sample Calculations

A correction factor for the antenna, cable and a distance factor (if any) must be applied to the meter reading before a true field strength reading can be obtained. This Corrected Meter Reading is then compared to the specification limit in order to determine compliance with the limits.

The equation can be derived in the following manner:

Specification limit ($\mu V/m$) log x 20 = Specification Limit in dBuV

(Specification distance / test distance) $\log x = 40 = \text{distance factor}$

Note: When using an Active Antenna, the Antenna factor shall be subtracted due to the combination of the internal amplification and antenna loss. At lower frequencies the cable loss is negligible.

OR

Corrected Meter Reading = meter reading + F - A + C

where: F = antenna factor

A= amplifier gain C = cable loss

The correction factors for the antenna and the amplifier gain are attached in Appendix D of this report. The data sheets are attached in Appendix E.

The distance factor D is 0 when the test is performed at the required specification distance.

Average Measurements

The frequencies that were averaged were done manually by narrowing the video filter down to 10 Hz and setting the sweep time to AUTO on the Receiver to keep the amplitude reading calibrated.



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8. TEST PROCEDURE DEVIATIONS

There were no deviations from the test procedures.

9. CONCLUSIONS

The Photographic Flash Controller Model Number: PX, meets the Class B specification limits defined in CFR Title 47, Part 15, Subpart B, and Subpart C, sections 15.205, 15.209, and 15.249 and RSS-210 Issue 7 dated June 2007.

APPENDIX A

LABORATORY ACCREDITATIONS

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LABORATORY ACCREDITATIONS AND RECOGNITIONS



For US, Canada, Australia/New Zealand, Taiwan and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025 an ISO 9002 equivalent. Please follow the link to the NIST site for each of our facilities NVLAP certificate and scope of accreditation.

Silverado/Lake Forest Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005270.htm

Brea Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005280.htm
Agoura Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2000630.htm



Compatible Electronics has been accredited by ANSI and appointed by the FCC to serve as a Telecommunications Certification Body (TCB). Compatible Electronics ANSI TCB listing can be found at: http://www.ansi.org/public/ca/ansi_cp.html



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/EU CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/emc-cabs-mar02.pdf



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/APEC CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/apec/bsmi-cabs-may02.pdf



Compatible Electronics has been validated by NEMKO against ISO/IEC 17025 under the NEMKO EMC Laboratory Authorization (ELA) program to all EN standards required by the European Union (EU) EMC Directive 2004/108/EC. Please follow the link to the Compatible Electronics' web site for each of our facilities NEMKO ELA certificate and scope of accreditation. http://www.celectronics.com/certs.htm

We are also certified/listed for IT products by the following country/agency:



Compatible Electronics VCCI listing can be found at: http://www.vcci.or.jp/vcci_e/member/tekigo/setsubi_index_id.html

Just type "Compatible Electronics" into the Keyword search box.



Compatible Electronics FCC listing can be found at: https://gullfoss2.fcc.gov/prod/oet/index ie.html

Just type "Compatible Electronics" into the Test Firms search box.

Industry Industrie Canada Canada

Compatible Electronics IC listing can be found at: http://spectrum.ic.gc.ca/~cert/labs/oats_lab_c_e.html

APPENDIX B

MODIFICATIONS TO THE EUT



MODIFICATIONS TO THE EUT

There were no modifications made to the EUT during the test.



APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT



ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST PHOTOGRAPHIC FLASH CONTROLLER

M/N: PX S/N: NONE

There were no additional models covered under this report.

APPENDIX D

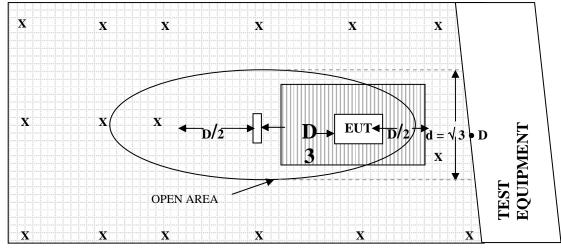
DIAGRAMS, CHARTS AND PHOTOS



OPEN LAND > 15 METERS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

TEST DISTANCE (meters)

B GROUND SCREEN

= GROUND SCREEN

= WOOD COVER

COM-POWER AL-130

ACTIVE LOOP ANTENNA

S/N: 17067

CALIBRATION DATE: SEPTEMBER 29, 2008

FREQUENCY (MHz)	FACTOR	FREQUENCY (MHz)	FACTOR
	(dB)		(dB)
0.009	10.53	1	10.47
0.01	9.94	2	10.80
0.02	9.57	3	10.50
0.03	11.14	4	10.40
0.04	10.84	5	11.00
0.05	9.40	6	11.10
0.06	10.00	7	11.80
0.07	9.80	8	10.60
0.08	9.50	9	10.80
0.09	9.67	10	10.70
0.1	9.67	15	9.73
0.2	7.30	20	10.40
0.3	9.77	25	9.30
0.4	9.70	30	8.60
0.5	9.80		
0.6	10.17		
0.7	9.97		
0.8	10.07		
0.9	10.14		

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15283

CALIBRATION DATE: OCT. 21, 2008

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
30	10.90	120	11.90
35	9.40	125	11.58
40	8.80	140	10.60
45	9.30	150	10.80
50	8.20	160	11.00
55	7.90	175	14.30
60	7.60	180	15.40
65	7.10	200	15.70
70	6.60	225	15.25
80	5.30	250	14.80
90	5.70	275	18.80
100	9.30	300	18.50

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16200

CALIBRATION DATE: OCT. 21, 2008

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
300	17.50	650	20.20
330	17.80	700	20.30
340	17.90	725	20.60
350	18.00	750	20.90
360	18.10	800	21.50
370	18.20	850	21.80
400	18.50	900	22.10
425	18.95	925	22.50
450	19.40	950	22.90
500	20.30	975	23.30
550	20.20	1000	23.70
600	20.10		

COM-POWER PA-103

PREAMPLIFIER

S/N: 1619

CALIBRATION DATE: OCT. 22, 2008

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
30	31.5	300	31.3
40	31.5	350	31.1
50	31.5	400	31.4
60	31.4	450	30.9
70	31.5	500	31.2
80	31.5	550	30.9
90	31.5	600	30.7
100	31.4	650	31.1
125	31.5	700	30.5
150	31.6	750	30.5
175	31.3	800	30.7
200	31.6	850	30.0
225	31.5	900	30.4
250	31.5	950	30.1
275	31.2	1000	29.9

COM-POWER PA-122

PREAMPLIFIER

S/N: 181915

CALIBRATION DATE: APRIL 14, 2008

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
1000	32.2	7000	29.1
1100	32.4	7500	28.9
1200	32.1	8000	33.2
1300	31.7	8500	29.5
1400	31.6	9000	29.5
1500	32.0	9500	26.4
1600	31.5	10000	28.9
1700	31.9	11000	33.9
1800	30.9	12000	33.5
1900	31.4	13000	30.0
2000	30.9	14000	32.4
2500	31.2	15000	34.0
3000	31.5	16000	33.9
3500	31.8	17000	33.3
4000	31.4	18000	33.4
4500	32.7	19000	26.0
5000	32.7	20000	24.4
5500	28.9	21000	26.1
6000	26.6	22000	23.8
6500	29.1		

DRG-118/A

DOUBLE RIDGE HORN ANTENNA

S/N: 1015

CALIBRATION DATE: JULY 31, 2008

FREQUENCY	FACTOR	FREQUENCY	FACTOR		
(MHz)	(dB)	(MHz)	(dB)		
1000	24.2	10000	39.1		
1500	25.1	10500	40.0		
2000	27.8	11000	39.5		
2500	28.3	11500	39.9		
3000	30.3	12000	40.1		
3500	30.4	12500	40.9		
4000	30.7	13000	39.7		
4500	31.2	13500	40.5		
5000	33.1	14000	41.2		
5500	33.3	14500	42.8		
6000	33.9	15000	41.8		
6500	34.7	15500	38.8		
7000	36.8	16000	39.1		
7500	38.0	16500	39.1		
8000	40.6	17000	41.0		
8500	37.8	17500	43.5		
9000	37.8	18000	45.0		
9500	38.7				





FRONT VIEW

LEAP DEVICE, LLC.
PHOTOGRAPHIC FLASH CONTROLLER
MODEL: PX
FCC PART 15 SUBPART C - RADIATED EMISSIONS – 12-10-08

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS





REAR VIEW

LEAP DEVICES, LLC
PHOTOGRAPHIC FLASH CONTROLLER
MODEL: PX
FCC PART 15 SUBPART C - RADIATED EMISSIONS – 12-10-08

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

FCC Class B

Leap Devices, LLC Date: 12/10/2008

Photographic Flash Controller Lab:

PX Tested By: R. Ramirez
Test Distance 3 meters

Configuration: 9KHz-30MHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
						No Readings Found

FCC Class B

Leap Devices, LLC Date: 12/10/2008

Photographic Flash Controller Lab:

PX Tested By: R. Ramirez
Test Distance 3 meters

Configuration: 916.5MHz Spurious Emissions

Power Level: 5 CJ Mode

Freq.	Level	D = 1 (1.4/le)	Limit	Margin	Peak / QP /	Comments
(MHz)	(dBuV/m)	` ,	(dBuV/m)	` ,	Avg	Comments
48.01	25.88	V	40.00	-14.12	Peak	
128.01	19.61		43.52	-23.91	Peak	
130.00	19.94	V	43.52	-23.58	Peak	
240.00	18.86		46.02	-27.16	Peak	
256.00	18.91	V	46.02	-27.11	Peak	
272.00	20.65	V	46.02	-25.37	Peak	
286.01	21.83	V	46.02	-24.19	Peak	
10.00	10.10					
48.00	18.42	Н	40.00	-21.58	Peak	
128.00	19.12	Н	43.52	-24.40	Peak	
130.01	18.23	Н	43.52	-25.29	Peak	
240.00	20.32	Н	46.02	-25.70	Peak	
256.00	17.56	Н	46.02	-28.46	Peak	
272.00	21.08	Н	46.02	-24.94	Peak	
286.00	22.34	Н	46.02	-23.68	Peak	
336.00	19.91	V	46.02	-26.11	Peak	
400.00	23.67	V	46.02	-22.35	Peak	
432.00	24.61	V	46.02	-21.41	Peak	
528.00	30.94	V	46.02	-15.08	Peak	
336.00	26.45	Н	46.02	-19.57	Peak	
400.00	23.79	Н	46.02	-22.23	Peak	
432.00	24.44	Н	46.02	-21.58	Peak	
528.00	26.37	Н	46.02	-19.65	Peak	

FCC Class B

Leap Devices, LLC Date: 12/10/2008

Photographic Flash Controller Lab:

PX Tested By: R. Ramirez
Test Distance 3 meters

Configuration: Receiver Spurious Emissions

CJ Mode

Freq. (MHz)	Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
50.01	22.49	V	40.00	-17.51	Peak	
68.00	17.83	V	40.00	-22.17	Peak	
109.15	15.84	V	43.52	-27.68	Peak	
125.10	14.70	V	43.52	-28.82	Peak	
180.56	18.01	V	43.52	-25.51	Peak	
222.75	18.38	V	46.02	-27.64	Peak	
272.01	19.46	V	46.02	-26.56	Peak	
50.01	14.04	Н	40.00	-25.96	Peak	
68.00	17.30	Н	40.00	-22.70	Peak	
109.16	21.47	Н	43.52	-22.05	Peak	
125.07	19.84	Н	43.52	-23.68	Peak	
180.58	19.01	Н	43.52	-24.51	Peak	
222.75	16.74	Н	46.02	-29.28	Peak	
272.03	21.67	Н	46.02	-24.35	Peak	
307.00	19.56	V	46.02	-26.46	Peak	
466.70	23.39	V	46.02	-22.63	Peak	
542.33	21.98	V	46.02	-24.04	Peak	
702.00	25.93	V	46.02	-20.09	Peak	
307.01	20.55	Н	46.02	-25.47	Peak	
466.70	22.69	Н	46.02	-23.33	Peak	
542.34	21.28	Н	46.02	-24.74	Peak	
702.00	24.89	Н	46.02	-21.13	Peak	
						tested to 5GHz

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Averag	e (A)	Antenna	Antenna	EUT	EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)	or Qu	asi-	Polar.	Height	Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
916.5000	60.3	(QP	Н	3.0	90	X	LOW	22.4	6.9	0.0	0.0	0.0	89.6	-4.4		CJ mode
916.5000	64.0	63.0	QP	Н	3.0	90	Y	LOW	22.4	6.9	0.0	0.0	0.0	92.2	-1.8	94.0	power level 5
916.5000	62.9	62.7	QP	Н	3.0	90	Z	LOW	22.4	6.9	0.0	0.0	0.0	92.0	-2.0	94.0	
916.5000	64.7	64.5	QP	V	1.0	90	X	LOW	22.4	6.9	0.0	0.0	0.0	93.8	-0.2	94.0	
916.5000	59.6		QP	V	1.0	180	Y	LOW	22.4	6.9	0.0	0.0	0.0	88.9	-5.1	94.0	
916.5000	58.9		QP	V	1.0	270	Z	LOW	22.4	6.9	0.0	0.0	0.0	88.2	-5.8	94.0	
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^{*} CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Averag	e (A)		Antenna		EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)	or Qu Peak (Height (meters)	Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
1833.0000	56.7	39.4	A	Н	2.0	90	X	LOW	26.9	7.0	31.1	0.0	0.0	42.2	-11.8	54.0	
1833.0000	57.1	42.5	A	Н	1.0	0	Y	LOW	26.9	7.0	31.1	0.0	0.0	45.3	-8.7	54.0	
1833.0000	57.3	42.6	A	Н	1.0	90	Z	LOW	26.9	7.0	31.1	0.0	0.0	45.5	-8.5	54.0	
1833.0000	61.4	45.6	A	V	1.0	0	X	LOW	26.9	7.0	31.1	0.0	0.0	48.4	-5.6	54.0	
1833.0000	59.0	44.3	A	V	1.0	0	Y	LOW	26.9	7.0	31.1	0.0	0.0	47.1	-6.9	54.0	
1833.0000	59.0	45.1	A	V	1.0	270	Z	LOW	26.9	7.0	31.1	0.0	0.0	47.9	-6.1	54.0	
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^{*} CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Average (A)	Antenna			EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected	Delta	Spec	
MHz	Reading (dBuV)	or Quasi- Peak (QP)	Polar. (V or H)		Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
2749.5000	(===,)	A	H	(======================================	(1.0g. 000)	X	LOW	29.3	8.5	31.3	0.0	(==)	(======================================	(42)		No Frequencies Found
2749.5000		A	Н			Y	LOW	29.3	8.5	31.3	0.0				54.0	
2749.5000		A	Н			Z	LOW	29.3	8.5	31.3	0.0				54.0	
2749.5000		A	V			X	LOW	29.3	8.5	31.3	0.0				54.0	
2749.5000		A	V			Y	LOW	29.3	8.5	31.3	0.0				54.0	
2749.5000		A	V			Z	LOW	29.3	8.5	31.3	0.0				54.0	
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^{*} CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Average (A)	Antenna			EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)	or Quasi- Peak (QP)			Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
3666.0000	(A	Н	(222 22	(***8	X	LOW	30.5	11.9	31.7	0.0	(")	(,	()	,	No Frequencies Found
3666.0000		A	Н			Y	LOW	30.5	11.9	31.7	0.0				54.0	
3666.0000		A	Н			Z	LOW	30.5	11.9	31.7	0.0				54.0	
3666.0000		A	V			X	LOW	30.5	11.9	31.7	0.0				54.0	
3666.0000		A	V			Y	LOW	30.5	11.9	31.7	0.0				54.0	
3666.0000		A	V			Z	LOW	30.5	11.9	31.7	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	riveruge (ri)	Antenna		EUT Axis	EUT Tx	Antenna Factor	Cable	Amplifier Gain		Mixer	*Corrected	Delta **	Spec Limit	
MHz	Reading (dBuV)	or Quasi- Peak (QP)		Azimuth (degrees)			(dB)	Loss (dB)	(dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	(dB)	(dBuV/m)	Comments
4582.5000		A	Н		X	LOW	31.5	12.4	32.7	0.0				54.0	No Frequencies Found
4582.5000		A	Н		Y	LOW	31.5	12.4	32.7	0.0				54.0	
4582.5000		A	Н		Z	LOW	31.5	12.4	32.7	0.0				54.0	
4582.5000		A	V		X	LOW	31.5	12.4	32.7	0.0				54.0	
4582.5000		A	V		Y	LOW	31.5	12.4	32.7	0.0				54.0	
4582.5000		A	V		Z	LOW	31.5	12.4	32.7	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Average (A)		Antenna		EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)				Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
5499.0000	,	A	Н		8	X	LOW	33.3	12.5	28.9	0.0	,		,	,	No Frequencies Found
5499.0000		A	Н			Y	LOW	33.3	12.5	28.9	0.0				54.0	
5499.0000		A	Н			Z	LOW	33.3	12.5	28.9	0.0				54.0	
5499.0000		A	V			X	LOW	33.3	12.5	28.9	0.0				54.0	
5499.0000		A	V			Y	LOW	33.3	12.5	28.9	0.0				54.0	
5499.0000		A	V			Z	LOW	33.3	12.5	28.9	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak Reading	raverage (ra)	Antenna		EUT Axis	EUT Tx	Antenna Factor	Cable Loss	Amplifier Gain	Distance Factor	Mixer Factor	*Corrected	Delta **	Spec Limit	
MHz	(dBuV)	or Quasi- Peak (QP)		Azimuth (degrees)			(dB)	(dB)	(dB)	(dB)	(dB)	Reading (dBuV/m)	(dB)	(dBuV/m)	Comments
6415.5000		A	Н		X	LOW	30.0	14.0	28.7	0.0				54.0	No Frequencies Found
6415.5000		A	Н		Y	LOW	30.0	14.0	28.7	0.0				54.0	
6415.5000		A	Н		Z	LOW	30.0	14.0	28.7	0.0				54.0	
6415.5000		A	V		X	LOW	30.0	14.0	28.7	0.0				54.0	
6415.5000		A	V		Y	LOW	30.0	14.0	28.7	0.0				54.0	
6415.5000		A	V		Z	LOW	30.0	14.0	28.7	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Average (A)	Antenna		EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)	or Quasi- Peak (QP)	Polar. (V or H)	 Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
7332.0000		A	Н	8 /	X	LOW	30.0	17.8	29.0	0.0				54.0	No Frequencies Found
7332.0000		A	Н		Y	LOW	30.0	17.8	29.0	0.0				54.0	
7332.0000		A	Н		Z	LOW	30.0	17.8	29.0	0.0				54.0	
7332.0000		A	V		X	LOW	30.0	17.8	29.0	0.0				54.0	
7332.0000		A	V		Y	LOW	30.0	17.8	29.0	0.0				54.0	
7332.0000		A	V		Z	LOW	30.0	17.8	29.0	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Average (A)		Antenna		EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)				Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
8248.5000	()	A	Н	((****)	X	LOW	33.5	17.4	31.4	0.0	(")		(, ,		No Frequencies Found
8248.5000		A	Н			Y	LOW	33.5	17.4	31.4	0.0				54.0	
8248.5000		A	Н			Z	LOW	33.5	17.4	31.4	0.0				54.0	
8248.5000		A	V			X	LOW	33.5	17.4	31.4	0.0				54.0	
8248.5000		A	V			Y	LOW	33.5	17.4	31.4	0.0				54.0	
8248.5000		A	V			Z	LOW	33.5	17.4	31.4	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING

COMPANY	Leap Devices, LLC	DATE	12/10/2008	
EUT	Transmitter	DUTY CYCLE	N/A	%
MODEL	PX	PEAK TO AVG	N/A	dB
S/N	N/A	TEST DIST.	3	Meters
TEST ENGINEER	Rey Ramirez	LAB	F	

Frequency	Peak	Average (A)		Antenna		EUT	EUT	Antenna	Cable	Amplifier		Mixer	*Corrected		Spec	
MHz	Reading (dBuV)				Azimuth (degrees)		Tx Channel	Factor (dB)	Loss (dB)	Gain (dB)	Factor (dB)	Factor (dB)	Reading (dBuV/m)	** (dB)	Limit (dBuV/m)	Comments
9165.0000		A	Н		8	X	LOW	33.6	17.9	28.5	0.0	,		,	,	No Frequencies Found
9165.0000		A	Н			Y	LOW	33.6	17.9	28.5	0.0				54.0	
9165.0000		A	Н			Z	LOW	33.6	17.9	28.5	0.0				54.0	
9165.0000		A	V			X	LOW	33.6	17.9	28.5	0.0				54.0	
9165.0000		A	V			Y	LOW	33.6	17.9	28.5	0.0				54.0	
9165.0000		A	V			Z	LOW	33.6	17.9	28.5	0.0				54.0	
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^{**} DELTA = SPEC LIMIT - CORRECTED READING