FCC PART 15, SUBPART B and C
TEST REPORT

for

RADIOPOPPER

MODEL: NANO TX

Prepared for

LEAP DEVICES, LLC.
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VANCOUVER, WASHINGTON 98661

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DATE: JUNE 24, 2013

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1	Plot Map And Layout of Test Site – 3 Meters

GENERAL REPORT SUMMARY

This electromagnetic emission test 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 without the written permission of Compatible Electronics, unless done so in full.

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

Device Tested:	RadioPopper Model: Nano Tx S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Manufacturer:	Leap Devices, LLC. 229 East Reserve Street, # 102 Vancouver, Washington 98661
Test Dates:	January 29, 30, and 31, 2013
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247
Test Procedure:	ANSI C63.10: 2009
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not performed because the EUT operates on batteries only and cannot be plugged into the AC public mains.
2	Spurious Radiated RF Emissions, 10 kHz – 9300 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 9300	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 40 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (d)
5	6 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(a)(2)
6	Peak Power Output	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(b)(3)
7	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
8	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the RadioPopper, Model: Nano Tx. The EMI measurements were performed according to the measurement procedure described in ANSI C63.10: 2009. 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 Class B specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

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	Director

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
Michael Christensen	Lab Manager

2.4 Date Test Sample was Received

The test sample was received prior to the date of testing.

2.5 Disposition of the Test Sample

The test sample has not yet been returned as of the date of this report.

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
N/A	Not Applicable

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.10 2009	American National Standard for Testing Unlicensed Wireless Devices
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The RadioPopper, Model: Nano Tx (EUT) was connected to a camera and tested in three orthogonal axis. The EUT was continuously transmitting during the test.

The antenna is soldered to the circuit board.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

4.1.1 Cable Construction and Termination

There were no external cables connected to the EUT.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
RadioPopper (EUT)	LEAP DEVICES, LLC.	NANO TX	N/A	**V4TNTX**
CAMERA	NIKON	D80	3414850	**N/A**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2012	2 Year
Biconical Antenna	Com Power	AB-900	43028	May 24, 2012	1 Year
Log Periodic Antenna	Com Power	AL-100	16252	May 24, 2012	1 Year
Preamplifier	Com-Power	CPPA-102	1017	December 27, 2012	1 Year
Preamplifier	Com-Power	PA-118	181656	December 27, 2012	1 Year
Loop Antenna	Com-Power	AL-130	17089	January 29, 2013	2 Years
Horn Antenna	Com-Power	AH-118	071175	February 29, 2012	2 Years
Turntable	Com-Power	TT-100	N/A	N/A	N/A
Antenna-Mast	Com-Power	AM-100	N/A	N/A	N/A
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 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.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Number and Frequencies

Please see the theory of operation exhibit for the list of channels and their frequencies.

7.2 Antenna Gain

The antenna gain of the antenna is –7.76 dBi.

8. TEST PROCEDURES

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

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this 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: 2003. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

The EUT does not directly or indirectly connect to the AC mains, thus this test was not performed.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: CPPA-102 was used for frequencies from 30 MHz to 1 GHz and the Com Power Microwave Preamplifier Model: PA-118 was used for frequencies above 1 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the EMI Receiver to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.10: 2009. 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 by the Radiated Emission Manual Test software. 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 gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (con't)

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 10 meter test distance from 10 kHz to 30 MHz, and at a 3 meter test distance from 30 MHz to 9.3 GHz to obtain the final test data.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.247 (d) for radiated emissions. Please see Appendix E for the data sheets.

8.2 6 dB Bandwidth

The 6 dB bandwidth was measured using the EMI Receiver. The resolution bandwidth was 20 kHz and the video bandwidth was 100 kHz.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2).

8.3 Peak Output Power

The fundamental frequency of the low, middle, and high channels were tested using the radiated emissions test procedure located in section 7.1.2 of this test report.

Since antenna conducted tests could not be performed on the EUT due to a lack of an antenna connector on the EUT, the peak output power was calculated by the following equation:

P = [(E*D)^2] / (30 G)
P = Power in Watts for which you are solving
E = the measured maximum field strength in V/m utilizing the widest available RBW.
G = the numeric gain of the transmitting antenna over an isotropic radiator.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3).

8.4 RF Antenna Conducted Test

Since antenna conducted tests could not be performed on the EUT due to a lack of an antenna connector on the EUT, all harmonics were tested using the radiated emissions test procedure located in section 8.1.2 of this test report.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. Please see the radiated emission data sheets located in Appendix E.

8.5 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (902 MHz when the EUT was on the low channel and 928 MHz when the EUT was on the high channel) using the EMI Receiver. The RBW was set to 100 kHz and the VBW was set to 300 kHz. Plots of the fundamental were taken to ensure the amplitude at the band edges were at least 20 dB down from the peak of the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 902 MHz and 928 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Please see the data sheets located in Appendix E.

8.7 Spectral Density Test

The fundamental frequency of the low, middle, and high channels were tested using the radiated emissions test procedure located in section 7.1.2 of this test report

The settings on the EMI Receiver were as follows:

RBW = 3 kHz
VBW = 10 kHz
Span = 1.5 times the DTS channel bandwidth
Detector = Peak
Sweep Time = Auto couple
Trace Mode = Auto Hold

Since antenna conducted tests could not be performed on the EUT due to a lack of an antenna connector on the EUT, the spectral density was then calculated by the following equation:

SD = [(E*D)^2] / 30
SD = Spectral Density in watts
E = the measured maximum field strength in V/m utilizing the EMI receiver settings above.
D = the radiated test distance in meters.

The SD was then converted to dBm and the gain of the antenna in dBi was then subtracted from the SD in dBm to obtain the spectral density of the EUT.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (e).

8. CONCLUSIONS

The RadioPopper Model: Nano Tx meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

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

NVLAP listing links

Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfillment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

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).
APEC MRA list NIST MRA site

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

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

There were no modifications made to the EUT.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

RadioPopper
Model: Nano Tx
S/N: N/A

ALSO APPROVED UNDER THIS REPORT:

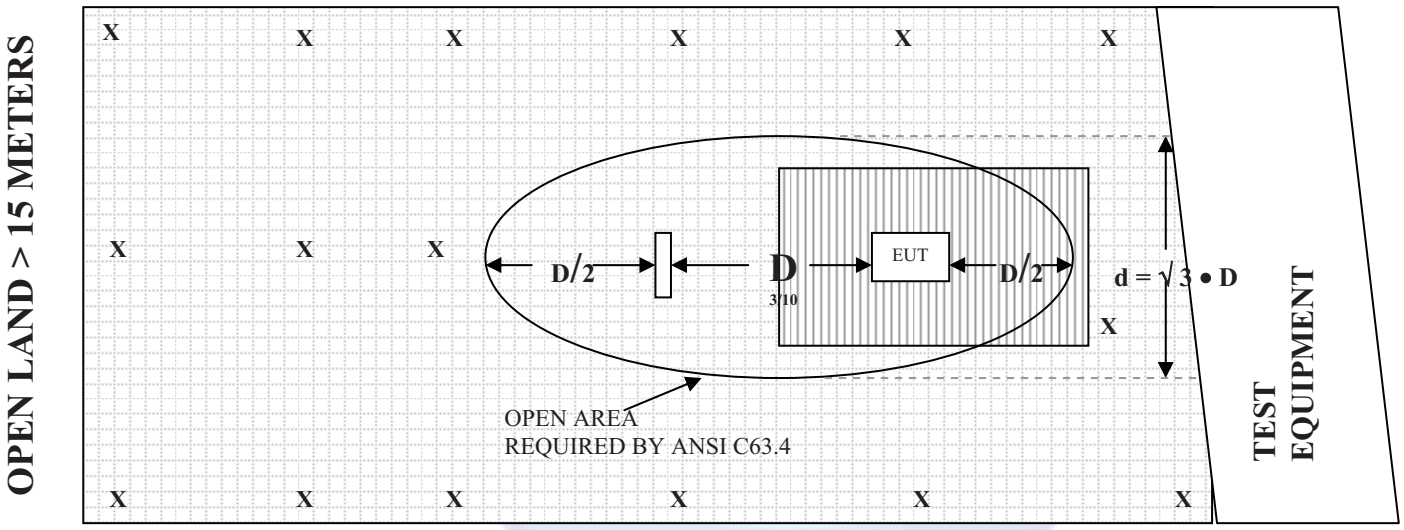
There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X = GROUND RODS	= GROUND SCREEN
D = TEST DISTANCE (meters)	= WOOD COVER

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 29, 2013

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.5	9
0.01	-42.3	9.2
0.02	-42.1	9.4
0.03	-41.4	10.1
0.04	-41.8	9.7
0.05	-42.4	9.1
0.06	-42.3	9.2
0.07	-42.5	9
0.08	-42.4	9.1
0.09	-42.5	9
0.1	-42.5	9
0.2	-42.7	8.8
0.3	-42.6	8.9
0.4	-42.5	9
0.5	-42.7	8.8
0.6	-42.7	8.8
0.7	-42.5	9
0.8	-42.3	9.2
0.9	-42.2	9.3
1	-42.2	9.3
2	-41.8	9.7
3	-41.7	9.8
4	-41.7	9.8
5	-41.5	10
6	-41.6	9.9
7	-41.4	10.1
8	-41	10.5
9	-40.8	10.7
10	-41.3	10.2
15	-41.4	10.1
20	-41.2	10.3
25	-42.6	8.9
30	-41.7	9.8

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 43028

CALIBRATION DATE: MAY 24, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.80	120	13.20
35	11.20	125	13.30
40	11.90	140	11.60
45	10.70	150	11.80
50	11.40	160	12.70
60	10.30	175	14.80
70	7.60	180	15.70
80	5.70	200	15.80
90	7.90	250	14.80
100	10.70	300	19.80

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: MAY 24, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.00	700	20.30
350	13.20	750	20.80
400	14.50	800	21.00
450	15.40	850	23.30
500	15.80	900	21.70
550	16.60	950	24.20
600	18.90	1000	24.30
650	19.10		

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 29, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.6	10.0	37.7
1.5	22.0	10.5	38.4
2.0	28.7	11.0	38.0
2.5	29.3	11.5	38.2
3.0	30.6	12.0	39.0
3.5	30.4	12.5	42.4
4.0	31.1	13.0	40.8
4.5	33.4	13.5	40.0
5.0	35.3	14.0	39.7
5.5	35.1	14.5	43.5
6.0	36.9	15.0	42.7
6.5	37.4	15.5	39.7
7.0	37.6	16.0	39.2
7.5	36.2	16.5	39.7
8.0	38.4	17.0	42.2
8.5	39.3	17.5	47.6
9.0	37.4	18.0	51.2
9.5	38.0		

COM-POWER CPPA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: DECEMEBER 27, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1	36.9	225	38.14
3	38.1	250	38.15
5	38.1	275	38.14
8	38.2	300	38.18
10	38.3	350	38.22
20	38.2	400	38.26
30	38.3	450	37.53
40	38.2	500	38.24
50	38.5	550	38.53
60	38.5	600	38.69
70	38.4	650	38.66
80	38.4	700	38.58
90	38.5	750	38.37
100	38.4	800	38.23
125	38.6	850	37.68
150	38.4	900	37.38
175	38.5	950	36.82
200	38.5	1000	36.14

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 27, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.68	6.0	25.75
1.1	25.08	6.5	25.28
1.2	25.70	7.0	24.83
1.3	25.98	7.5	24.49
1.4	26.11	8.0	24.38
1.5	26.23	8.5	25.06
1.6	26.34	9.0	25.55
1.7	26.39	9.5	25.32
1.8	26.44	10.0	25.25
1.9	26.45	11.0	24.99
2.0	26.48	12.0	25.08
2.5	26.59	13.0	24.44
3.0	26.67	14.0	25.02
3.5	26.66	15.0	26.12
4.0	26.82	16.0	25.67
4.5	26.46	17.0	24.33
5.0	26.22	18.0	26.75
5.5	25.98		

FRONT VIEW

LEAP DEVICES, LLC.
RADIOPOPPER
MODEL: NANO TX
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

LEAP DEVICES, LLC.
RADIOPOPPER
MODEL: NANO TX
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISISONS

DATA SHEETS

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Low Channel - X-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
902.68	91.08	V	--	--	Peak	1.25	155	Field Strength of Fundamental
1805.36	53.81	V	71.08	-17.27	Peak	1.25	155	Not in Restricted Band
2708.04	42.69	V	74	-31.31	Peak	1.25	165	
2708.04	30.71	V	54	-23.29	Avg	1.25	165	
3610.72	45.88	V	74	-28.12	Peak	1.25	165	
3610.72	33.98	V	54	-20.02	Avg	1.25	165	
4513.4	55.31	V	74	-18.69	Peak	1.25	175	
4513.4	41.73	V	54	-12.27	Avg	1.25	175	
5416.08	61.61	V	74	-12.39	Peak	1.35	185	
5416.08	46.38	V	54	-7.62	Avg	1.35	185	
6318.76	62.85	V	71.08	-8.23	Peak	1.25	155	Not in Restricted Band
7221.44	59.81	V	71.08	-11.27	Peak	1.35	155	Not in Restricted Band
8124.12	60.01	V	74	-13.99	Peak	1.25	155	
8124.12	46.15	V	54	-7.85	Avg	1.25	155	
9026.8	48.93	V	74	-25.07	Peak	1.35	165	
9026.8	36.87	V	54	-17.13	Avg	1.35	165	

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Low Channel - X-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
902.68	97.91	H	--	--	Peak	1.25	155	Field Strength of Fundamental
1805.36	56.06	H	77.91	-21.85	Peak	1.25	165	Not in Restricted Band
2708.04	45.11	H	74	-28.89	Peak	1.35	175	
2708.04	33.18	H	54	-20.82	Avg	1.35	175	
3610.72	57.81	H	74	-16.19	Peak	1.25	185	
3610.72	45.47	H	54	-8.53	Avg	1.25	185	
4513.4	57.19	H	74	-16.81	Peak	1.35	195	
4513.4	43.71	H	54	-10.29	Avg	1.35	195	
5416.08	62.91	H	74	-11.09	Peak	1.25	215	
5416.08	47.11	H	54	-6.89	Avg	1.25	215	
6318.76	65.97	H	77.91	-11.94	Peak	1.35	225	Not in Restricted Band
7221.44	64.46	H	77.91	-13.45	Peak	1.25	225	Not in Restricted Band
8124.12	60.59	H	74	-13.41	Peak	1.25	135	
8124.12	46.15	H	54	-7.85	Avg	1.25	135	
9026.8	49.76	H	74	-24.24	Peak	1.35	145	
9026.8	36.93	H	54	-17.07	Avg	1.35	145	

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Middle Channel - X-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
914.42	87.8	V	--	--	Peak	1.35	145	Field Strength of Fundamental
1828.84	58.11	V	67.8	-9.69	Peak	1.25	165	Not in Restricted Band
2743.26	42.05	V	74	-31.95	Peak	1.35	175	
2743.26	29.82	V	54	-24.18	Avg	1.35	175	
3657.68	48.58	V	74	-25.42	Peak	1.25	185	
3657.68	35.14	V	54	-18.86	Avg	1.25	185	
4572.1	57.32	V	74	-16.68	Peak	1.15	165	
4572.1	42.96	V	54	-11.04	Avg	1.15	165	
5486.52	64.37	V	67.8	-3.43	Peak	1.25	155	Not in Restricted Band
6400.94	63.02	V	67.8	-4.78	Peak	1.35	145	Not in Restricted Band
7315.36	57.43	V	74	-16.57	Peak	1.25	155	
7315.36	43.08	V	54	-10.92	Avg	1.25	155	
8229.78	57.01	V	74	-16.99	Peak	1.25	225	
8229.78	42.44	V	54	-11.56	Avg	1.25	225	
9144.2	49.61	V	74	-24.39	Peak	1.25	155	
9144.2	37.23	V	54	-16.77	Avg	1.25	155	

FCC 15.247
Leap Devices, LLC
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Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Middle Channel - X-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
914.42	97.1	H	--	--	Peak	1.25	145	Field Strength of Fundamental
1828.84	58.22	H	77.1	-18.88	Peak	1.25	225	Not in Restricted Band
2743.26	42.41	H	74	-31.59	Peak	1.15	135	
2743.26	30.91	H	54	-23.09	Avg	1.15	135	
3657.68	59.21	H	74	-14.79	Peak	1.25	155	
3657.68	46.64	H	54	-7.36	Avg	1.25	155	
4572.1	61.01	H	74	-12.99	Peak	1.35	175	
4572.1	45.23	H	54	-8.77	Avg	1.35	175	
5486.52	67.31	H	77.1	-9.79	Peak	1.25	45	Not in Restricted Band
6400.94	66.18	H	77.1	-10.92	Peak	1	45	Not in Restricted Band
7315.36	63.47	H	74	-10.53	Peak	1.25	155	
7315.36	41.79	H	54	-12.21	Avg	1.25	155	
8229.78	58.66	H	74	-15.34	Peak	1.15	135	
8229.78	44.95	H	54	-9.05	Avg	1.15	135	
9144.2	50.91	H	74	-23.09	Peak	1.25	145	
9144.2	37.11	H	54	-16.89	Avg	1.25	145	

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Leap Devices, LLC
RadioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

High Channel - X-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
926.2	89.7	V	--	--	Peak			Field Strength of Fundamental
1852.4	56.56	V	69.7	-13.14	Peak	1.25	0	Not in Restricted Band
2778.6	45.76	V	74	-28.24	Peak	1.25	0	
2778.6	34.51	V	54	-19.49	Avg	1.25	0	
3704.8	49.53	V	74	-24.47	Peak	1.35	125	
3704.8	35.16	V	54	-18.84	Avg	1.35	125	
4631	59.24	V	74	-14.76	Peak	1.25	155	
4631	44.93	V	54	-9.07	Avg	1.25	155	
5557.2	64.76	V	69.7	-4.94	Peak	1.35	145	Not in Restricted Band
6483.4	62.41	V	69.7	-7.29	Peak	1.25	155	Not in Restricted Band
7409.6	56.34	V	74	-17.66	Peak	1.35	155	
7409.6	42.51	V	54	-11.49	Avg	1.35	155	
8335.8	57.37	V	74	-16.63	Peak	1.25	165	
8335.8	43.21	V	54	-10.79	Avg	1.25	165	
9262	49.55	V	69.7	-20.15	Peak	1.15	175	Not in Restricted Band

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Tested By: Kyle Fujimoto

High Channel - X-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
926.2	96.1	H	--	--	Peak	1.25	90	Field Strength of Fundamental
1852.4	60.03	H	76.1	-16.07	Peak	2	225	Not in Restricted Band
2778.6	43.93	H	74	-30.07	Peak	1.25	270	
2778.6	32.46	H	54	-21.54	Avg	1.25	270	
3704.8	59.69	H	74	-14.31	Peak	1.25	45	
3704.8	47.28	H	54	-6.72	Avg	1.25	45	
4631	60.13	H	74	-13.87	Peak	1.25	45	
4631	46.42	H	54	-7.58	Avg	1.25	45	
5557.2	69.54	H	76.1	-6.56	Peak	1.25	55	Not in Restricted Band
6483.4	64.22	H	76.1	-11.88	Peak	1.35	315	Not in Restricted Band
7409.6	59.68	H	74	-14.32	Peak	1.25	155	
7409.6	45.56	H	54	-8.44	Avg	1.25	155	
8335.8	55.16	H	74	-18.84	Peak	1.25	90	
8335.8	42.82	H	54	-11.18	Avg	1.25	90	
9262	49.31	H	76.1	-26.79	Peak	1.35	145	Not in Restricted Band

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RadioPopper
Model: Nano Tx

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Labs: B and D
Tested By: Kyle Fujimoto

Low Channel - Y-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
902.68	94.58	V	--	--	Peak	1.25	55	Field Strength of Fundamental
1805.36	56.63	V	74.58	-17.95	Peak	1.25	155	Not in Restricted Band
2708.04	39.11	V	74	-34.89	Peak	1.35	145	
2708.04	27.32	V	54	-26.68	Avg	1.35	145	
3610.72	46.97	V	74	-27.03	Peak	1.25	225	
3610.72	34.04	V	54	-19.96	Avg	1.25	225	
4513.4	56.05	V	74	-17.95	Peak	1.35	225	
4513.4	41.56	V	54	-12.44	Avg	1.35	225	
5416.08	63.63	V	74	-10.37	Peak	1.25	145	
5416.08	48.51	V	54	-5.49	Avg	1.25	145	
6318.76	62.88	V	74.58	-11.7	Peak	1.35	90	Not in Restricted Band
7221.44	60.91	V	74.58	-13.67	Peak	1.25	125	Not in Restricted Band
8124.12	58.61	V	74	-15.39	Peak	1.35	135	
8124.12	45.74	V	54	-8.26	Avg	1.35	135	
9026.8	50.51	V	74	-23.49	Peak	1.25	145	
9026.8	37.13	V	54	-16.87	Avg	1.25	145	

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Leap Devices, LLC
RadioPopper
Model: Nano Tx

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Labs: B and D
Tested By: Kyle Fujimoto

Low Channel - Y-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
902.68	86.1	H	--	--	Peak	1.25	45	Field Strength of Fundamental
1805.36	53.61	H	66.1	-12.49	Peak	1.25	155	Not in Restricted Band
2708.04	42.79	H	74	-31.21	Peak	1.25	165	
2708.04	29.44	H	54	-24.56	Avg	1.25	165	
3610.72	58.91	H	74	-15.09	Peak	1.35	175	
3610.72	46.04	H	54	-7.96	Avg	1.35	175	
4513.4	58.38	H	74	-15.62	Peak	1.25	185	
4513.4	43.61	H	54	-10.39	Avg	1.25	185	
5416.08	65.71	H	74	-8.29	Peak	1.25	165	
5416.08	50.68	H	54	-3.32	Avg	1.25	165	
6318.76	64.99	H	66.1	-1.11	Peak	1.25	175	Not in Restricted Band
7221.44	62.66	H	66.1	-3.44	Peak	1.35	185	Not in Restricted Band
8124.12	60.01	H	74	-13.99	Peak	1.25	135	
8124.12	45.59	H	54	-8.41	Avg	1.25	135	
9026.8	49.21	H	74	-24.79	Peak	1.85	145	
9026.8	37.16	H	54	-16.84	Avg	1.85	145	

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Leap Devices, LLC
RadioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Middle Channel - Y-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
914.42	94.1	V	--	--	Peak	1	90	Field Strength of Fundamental
1828.84	62.12	V	74.1	-11.98	Peak	1.25	155	Not in Restricted Band
2743.26	57.44	V	74	-16.56	Peak	1.35	165	
2743.26	31.75	V	54	-22.25	Avg	1.35	165	
3657.68	55.94	V	74	-18.06	Peak	1.25	175	
3657.68	42.88	V	54	-11.12	Avg	1.25	175	
4572.1	59.68	V	74	-14.32	Peak	1.35	185	
4572.1	45.51	V	54	-8.49	Avg	1.35	185	
5486.52	67.35	V	74.1	-6.75	Peak	1.25	195	Not in Restricted Band
6400.94	62.89	V	74.1	-11.21	Peak	1.15	90	Not in Restricted Band
7315.36	60.83	V	74	-13.17	Peak	1.25	180	
7315.36	46.49	V	54	-7.51	Avg	1.25	180	
8229.78	59.26	V	74	-14.74	Peak	1.35	45	
8229.78	45.45	V	54	-8.55	Avg	1.35	45	
9144.2	48.67	V	74	-25.33	Peak	1.25	155	
9144.2	37.13	V	54	-16.87	Avg	1.25	155	

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Labs: B and D
Tested By: Kyle Fujimoto

Middle Channel - Y-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
914.42	88.1	H	--	--	Peak	1.25	135	Field Strength of Fundamental
1828.84	56.88	H	68.1	-11.22	Peak	1.25	155	Not in Restricted Band
2743.26	43.22	H	74	-30.78	Peak	1.35	165	
2743.26	31.42	H	54	-22.58	Avg	1.35	165	
3657.68	53.33	H	74	-20.67	Peak	1.25	175	
3657.68	41.11	H	54	-12.89	Avg	1.25	175	
4572.1	55.96	H	74	-18.04	Peak	1.25	185	
4572.1	41.66	H	54	-12.34	Avg	1.25	185	
5486.52	61.05	H	68.1	-7.05	Peak	1.25	195	Not in Restricted Band
6400.94	63.05	H	68.1	-5.05	Peak	1.35	155	Not in Restricted Band
7315.36	57.14	H	74	-16.86	Peak	1.25	165	
7315.36	43.71	H	54	-10.29	Avg	1.25	165	
8229.78	59.21	H	74	-14.79	Peak	1.25	175	
8229.78	45.32	H	54	-8.68	Avg	1.25	175	
9144.2	49.74	H	74	-24.26	Peak	1.35	185	
9144.2	37.09	H	54	-16.91	Avg	1.35	185	

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RadioPopper
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Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

High Channel - Y-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
926.2	93.1	V	--	--	Peak	1.25	145	Field Strength of Fundamental
1852.4	61.02	V	73.1	-12.08	Peak	1.25	225	Not in Restricted Band
2778.6	43.94	V	74	-30.06	Peak	1.35	235	
2778.6	31.42	V	54	-22.58	Avg	1.35	235	
3704.8	50.98	V	74	-23.02	Peak	1.25	125	
3704.8	37.91	V	54	-16.09	Avg	1.25	125	
4631	59.81	V	74	-14.19	Peak	1.35	155	
4631	46.08	V	54	-7.92	Avg	1.35	155	
5557.2	62.01	V	73.1	-11.09	Peak	1.25	225	Not in Restricted Band
6483.4	59.65	V	73.1	-13.45	Peak	1.35	125	Not in Restricted Band
7409.6	55.05	V	74	-18.95	Peak	1.25	145	
7409.6	42.36	V	54	-11.64	Avg	1.25	145	
8335.8	54.12	V	74	-19.88	Peak	1.15	135	
8335.8	42.29	V	54	-11.71	Avg	1.15	135	
9262	50.02	V	73.1	-23.08	Peak	1.25	145	Not in Restricted Band

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Leap Devices, LLC
RadioPopper
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Labs: B and D
Tested By: Kyle Fujimoto

High Channel - Y-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
926.2	83.8	H	--	--	Peak	1.25	135	Field Strength of Fundamental
1852.4	57.32	H	63.8	-6.48	Peak	1.25	225	Not in Restricted Band
2778.6	44.78	H	74	-29.22	Peak	1.35	215	
2778.6	33.01	H	54	-20.99	Avg	1.35	215	
3704.8	53.54	H	74	-20.46	Peak	1.25	155	
3704.8	39.93	H	54	-14.07	Avg	1.25	155	
4631	57.33	H	74	-16.67	Peak	1.25	255	
4631	44.17	H	54	-9.83	Avg	1.25	255	
5557.2	61.72	H	63.8	-2.08	Peak	1.15	135	Not in Restricted Band
6483.4	60.91	H	63.8	-2.89	Peak	1.25	90	Not in Restricted Band
7409.6	53.83	H	74	-20.17	Peak	1.25	90	
7409.6	42.19	H	54	-11.81	Avg	1.25	90	
8335.8	58.51	H	74	-15.49	Peak	1.35	125	
8335.8	45.91	H	54	-8.09	Avg	1.35	125	
9262	49.61	H	63.8	-14.19	Peak	1.25	165	Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Low Channel - Z-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
902.68	91.21	V	--	--	Peak	1	90	Field Strength of Fundamental
1805.36	59.96	V	71.21	-11.25	Peak	1.25	155	Not in Restricted Band
2708.04	40.45	V	74	-33.55	Peak	1.35	165	
2708.04	27.91	V	54	-26.09	Avg	1.35	165	
3610.72	56.14	V	74	-17.86	Peak	1.25	155	
3610.72	43.28	V	54	-10.72	Avg	1.25	155	
4513.4	52.53	V	74	-21.47	Peak	1.35	165	
4513.4	39.49	V	54	-14.51	Avg	1.35	165	
5416.08	59.71	V	74	-14.29	Peak	1.25	145	
5416.08	45.22	V	54	-8.78	Avg	1.25	145	
6318.76	63.52	V	71.21	-7.69	Peak	1.35	145	Not in Restricted Band
7221.44	63.91	V	71.21	-7.3	Peak	1.25	155	Not in Restricted Band
8124.12	59.57	V	74	-14.43	Peak	1.35	165	
8124.12	46.12	V	54	-7.88	Avg	1.35	165	
9026.8	49.19	V	74	-24.81	Peak	1.25	155	
9026.8	36.83	V	54	-17.17	Avg	1.25	155	

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Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Low Channel - Z-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
902.68	94.01	H	--	--	Peak	1	180	Field Strength of Fundamental
1805.36	59.96	H	74.01	-14.05	Peak	1.25	155	Not in Restricted Band
2708.04	43.54	H	74	-30.46	Peak	1.35	165	
2708.04	29.29	H	54	-24.71	Avg	1.35	165	
3610.72	53.73	H	74	-20.27	Peak	1.25	155	
3610.72	40.73	H	54	-13.27	Avg	1.25	155	
4513.4	55.32	H	74	-18.68	Peak	1.15	145	
4513.4	40.36	H	54	-13.64	Avg	1.15	145	
5416.08	64.51	H	74	-9.49	Peak	1.25	155	
5416.08	49.33	H	54	-4.67	Avg	1.25	155	
6318.76	63.91	H	74.01	-10.1	Peak	1.25	145	Not in Restricted Band
7221.44	59.52	H	74.01	-14.49	Peak	1.35	185	Not in Restricted Band
8124.12	59.39	H	74	-14.61	Peak	1.25	195	
8124.12	45.31	H	54	-8.69	Avg	1.25	195	
9026.8	51.62	H	74	-22.38	Peak	1.35	225	
9026.8	36.88	H	54	-17.12	Avg	1.35	225	

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Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Middle Channel - Z-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
914.42	88.2	V	--	--	Peak	1	135	Field Strength of Fundamental
1828.84	56.91	V	68.2	-11.29	Peak	1.25	135	Not in Restricted Band
2743.26	42.11	V	74	-31.89	Peak	1.35	145	
2743.26	30.43	V	54	-23.57	Avg	1.35	145	
3657.68	54.74	V	74	-19.26	Peak	1.25	165	
3657.68	40.66	V	54	-13.34	Avg	1.25	165	
4572.1	57.05	V	74	-16.95	Peak	1.35	155	
4572.1	43.16	V	54	-10.84	Avg	1.35	155	
5486.52	63.88	V	68.2	-4.32	Peak	1.25	155	Not in Restricted Band
6400.94	60.94	V	68.2	-7.26	Peak	1.35	165	Not in Restricted Band
7315.36	59.51	V	74	-14.49	Peak	1.25	175	
7315.36	45.01	V	54	-8.99	Avg	1.25	175	
8229.78	60.12	V	74	-13.88	Peak	1.35	185	
8229.78	45.51	V	54	-8.49	Avg	1.35	185	
9144.2	48.87	V	74	-25.13	Peak	1.25	165	
9144.2	37.11	V	54	-16.89	Avg	1.25	165	

FCC 15.247
Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

Middle Channel - Z-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
914.42	97.8	H	--	--	Peak	1	135	Field Strength of Fundamental
1828.84	61.36	H	77.8	-16.44	Peak	1.25	255	Not in Restricted Band
2743.26	47.44	H	74	-26.56	Peak	1.35	235	
2743.26	35.69	H	54	-18.31	Avg	1.35	235	
3657.68	54.79	H	74	-19.21	Peak	1.25	255	
3657.68	42.25	H	54	-11.75	Avg	1.25	255	
4572.1	58.47	H	74	-15.53	Peak	1.25	245	
4572.1	46.21	H	54	-7.79	Avg	1.25	245	
5486.52	66.33	H	77.8	-11.47	Peak	1.35	240	Not in Restricted Band
6400.94	62.97	H	77.8	-14.83	Peak	1.25	255	Not in Restricted Band
7315.36	61.53	H	74	-12.47	Peak	1.35	245	
7315.36	47.23	H	54	-6.77	Avg	1.35	245	
8229.78	59.76	H	74	-14.24	Peak	1.25	155	
8229.78	45.15	H	54	-8.85	Avg	1.25	155	
9144.2	48.91	H	74	-25.09	Peak	1.35	165	
9144.2	36.92	H	54	-17.08	Avg	1.35	165	

FCC 15.247
Leap Devices, LLC
RaidioPopper
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High Channel - Z-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
926.2	85.6	V	--	--	Peak	1	0	Field Strength of Fundamental
1852.4	57.74	V	65.6	-7.86	Peak	1.25	155	Not in Restricted Band
2778.6	42.94	V	74	-31.06	Peak	1.15	165	
2778.6	30.42	V	54	-23.58	Avg	1.15	165	
3704.8	57.43	V	74	-16.57	Peak	1.25	145	
3704.8	44.45	V	54	-9.55	Avg	1.25	145	
4631	58.11	V	74	-15.89	Peak	1.25	45	
4631	45.13	V	54	-8.87	Avg	1.25	45	
5557.2	63.92	V	65.6	-1.68	Peak	1.35	55	Not in Restricted Band
6483.4	62.54	V	65.6	-3.06	Peak	1.25	165	Not in Restricted Band
7409.6	56.57	V	74	-17.43	Peak	1.35	175	
7409.6	44.02	V	54	-9.98	Avg	1.35	175	
8335.8	57.85	V	74	-16.15	Peak	1.25	185	
8335.8	45.29	V	54	-8.71	Avg	1.25	185	
9262	51.63	V	65.6	-13.97	Peak	1.35	175	Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/29/2013
Labs: B and D
Tested By: Kyle Fujimoto

High Channel - Z-Axis
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
926.2	96.5	H	--	--	Peak	1	45	Field Strength of Fundamental
1852.4	64.7	H	76.5	-11.8	Peak	1.25	0	Not in Restricted Band
2778.6	46.54	H	74	-27.46	Peak	1.35	225	
2778.6	36.92	H	54	-17.08	Avg	1.35	225	
3704.8	54.44	H	74	-19.56	Peak	1.25	235	
3704.8	42.03	H	54	-11.97	Avg	1.25	235	
4631	59.46	H	74	-14.54	Peak	1.25	245	
4631	45.46	H	54	-8.54	Avg	1.25	245	
5557.2	66.26	H	76.5	-10.24	Peak	1.25	155	Not in Restricted Band
6483.4	64.76	H	76.5	-11.74	Peak	1.35	125	Not in Restricted Band
7409.6	56.91	H	74	-17.09	Peak	1.25	155	
7409.6	42.95	H	54	-11.05	Avg	1.25	155	
8335.8	58.89	H	74	-15.11	Peak	1.55	165	
8335.8	45.58	H	54	-8.42	Avg	1.55	165	
9262	50.73	H	76.5	-25.77	Peak	1.25	165	Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Nano Tx

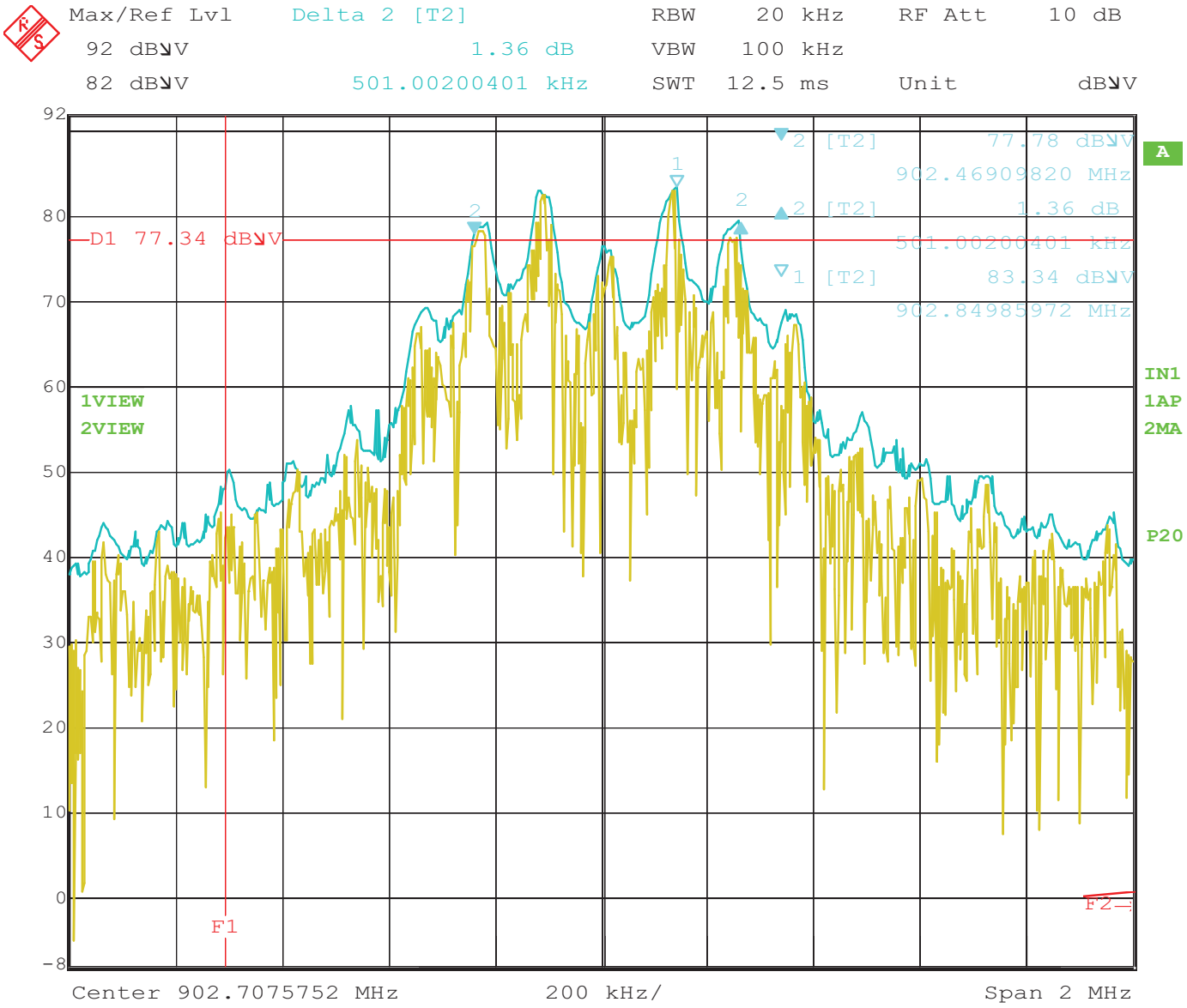
Date: 01/30/2013 and 01/31/2013
Labs: B and D
Tested By: Kyle Fujimoto and Alex Benitez

Non Harmonic Emissions from the Tx and Digital Portion -- 10 kHz to 9300 MHz

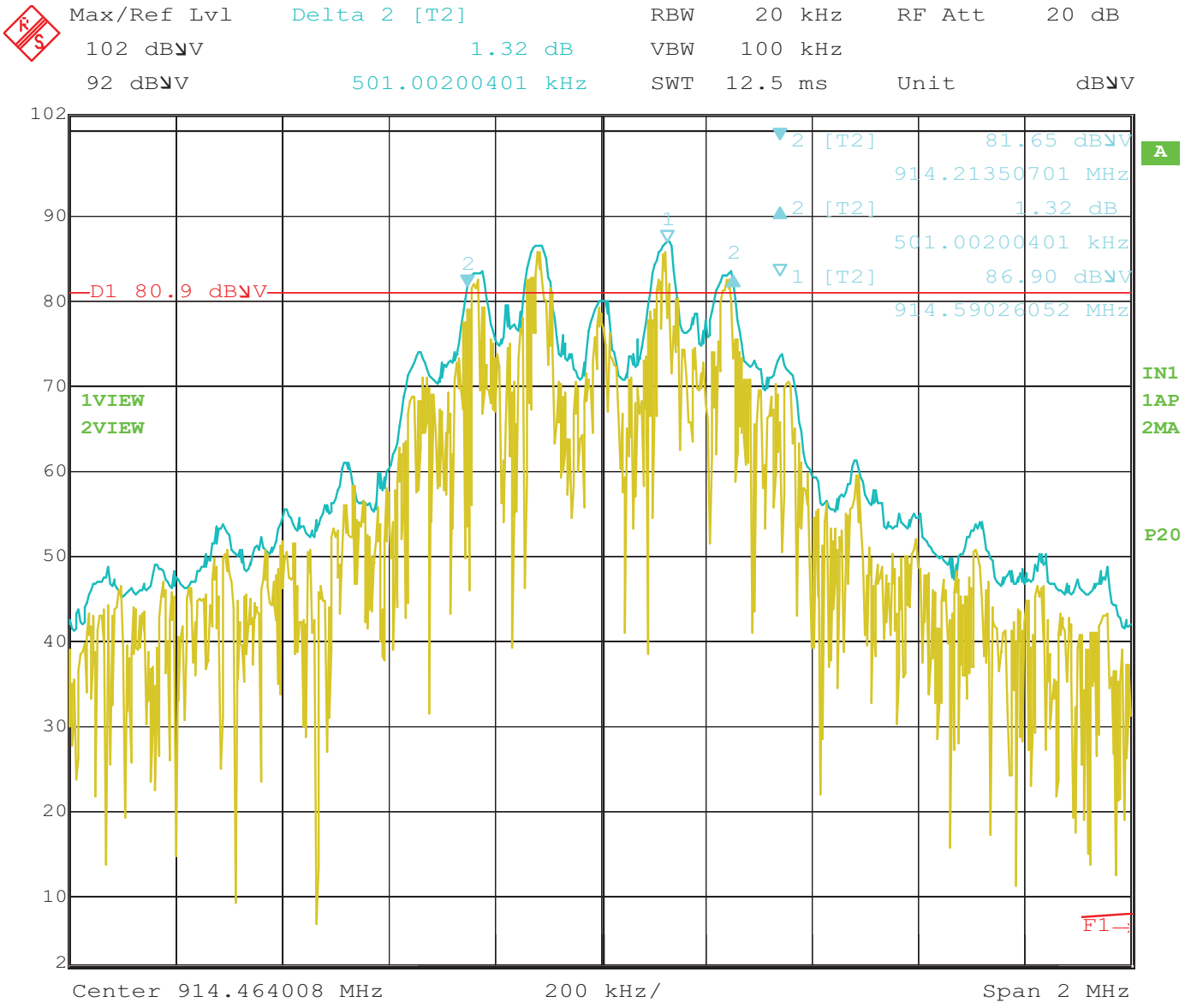
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found for the
								Digital Portion
								from 10 kHz to 9300 MHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic Emissions Found
								for the Tx Mode
								from 10 kHz to 9300 MHz
								for both Vertical and Horizontal
								Polarizations
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

-6 dB BANDWIDTH

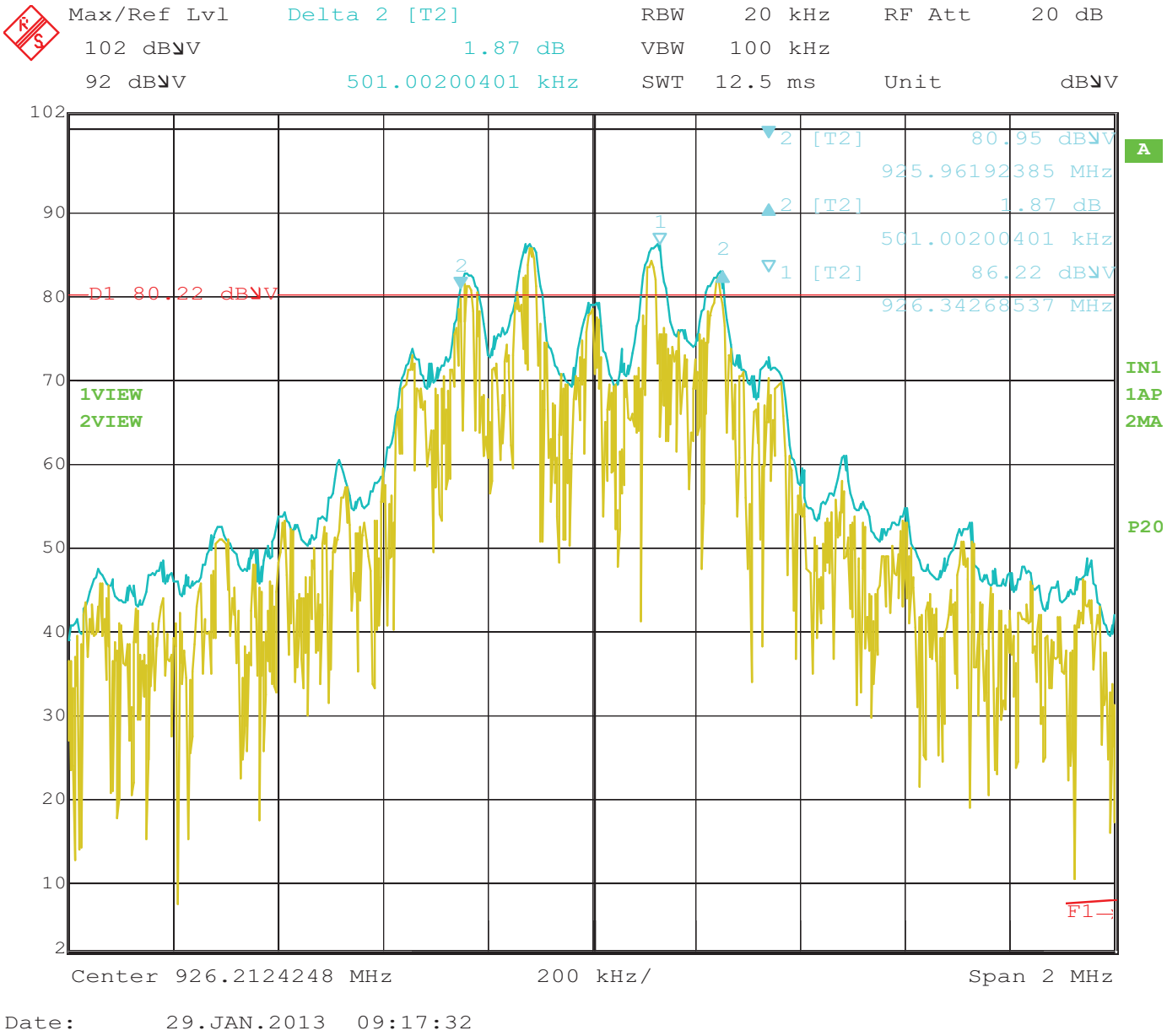
DATA SHEETS



-6 dB Bandwidth of Low Channel



-6 dB Bandwidth of Middle Channel



-6 dB Bandwidth of High Channel

PEAK POWER OUTPUT

DATA SHEETS

FCC 15.247
Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/31/2013
Labs: B and D
Tested By: Kyle Fujimoto

Peak Output Power
Worst Case Axis Used Based on Peak Level Obtained for Fundmental

Freq. (MHz)	Level (dBuV)	Level (V/m)	Antenna Gain (dBi)	EIRP (Watts)	EIRP (mW)	EIRP (dBm)	Tx Power (dBm)	Comments
902.68	97.91	0.078614	-7.76	0.00185	1.8540492	2.68121	10.441	Limit = 30 dBm
914.42	97.8	0.0776247	-7.76	0.00181	1.8076788	2.57121	10.331	Limit = 30 dBm
926.2	96.5	0.0668344	-7.76	0.00134	1.3400508	1.27121	9.0312	Limit = 30 dBm

The Power in Watts is obtained by the following Formula Below:

EIRP = [(E*D)^2]/30
D = Measurement Distance in Meters (m)
E = The Measured Maximum Field Strength in V/m

The equivalent maximum conducted output power is then determined by subtracting the EUT transmit antenna gain from the EIRP (assuming logarithmic representation).

The EIRP in Watts was converted to dBm to allow for logarithmic representation

See Clause 3.0 of KDB 558074 D01 DTS Meas Guidance v02 - 10/04/2012

SPECTRAL DENSITY OUTPUT

DATA SHEETS

FCC 15.247
Leap Devices, LLC
RaidioPopper
Model: Nano Tx

Date: 01/31/2013
Labs: B and D
Tested By: Kyle Fujimoto

Spectral Density Output
Worst Case Axis Used Based on Peak Level Obtained for Fundmental

Freq. (MHz)	Level (dBuV)	Level (V/m)	Antenna Gain (dBi)	SD (Watts)	SD (mW)	SD (dBm)	Tx Power (dBm)	Comments
902.68	94.06	0.0504661	-7.76	0.00076	0.7640491	-1.1688	6.5912	Limit = 8 dBm
914.42	94.76	0.0547016	-7.76	0.0009	0.8976794	-0.4688	7.29	Limit = 8 dBm
926.2	92.88	0.0440555	-7.76	0.00058	0.5822658	-2.3488	5.4112	Limit = 8 dBm

The Spectral Density in Watts is obtained by the following Formula Below:

SD = [(E*D)^2]/30
D = Measurement Distance in Meters (m)
E = The Measured Maximum Field Strength in V/m

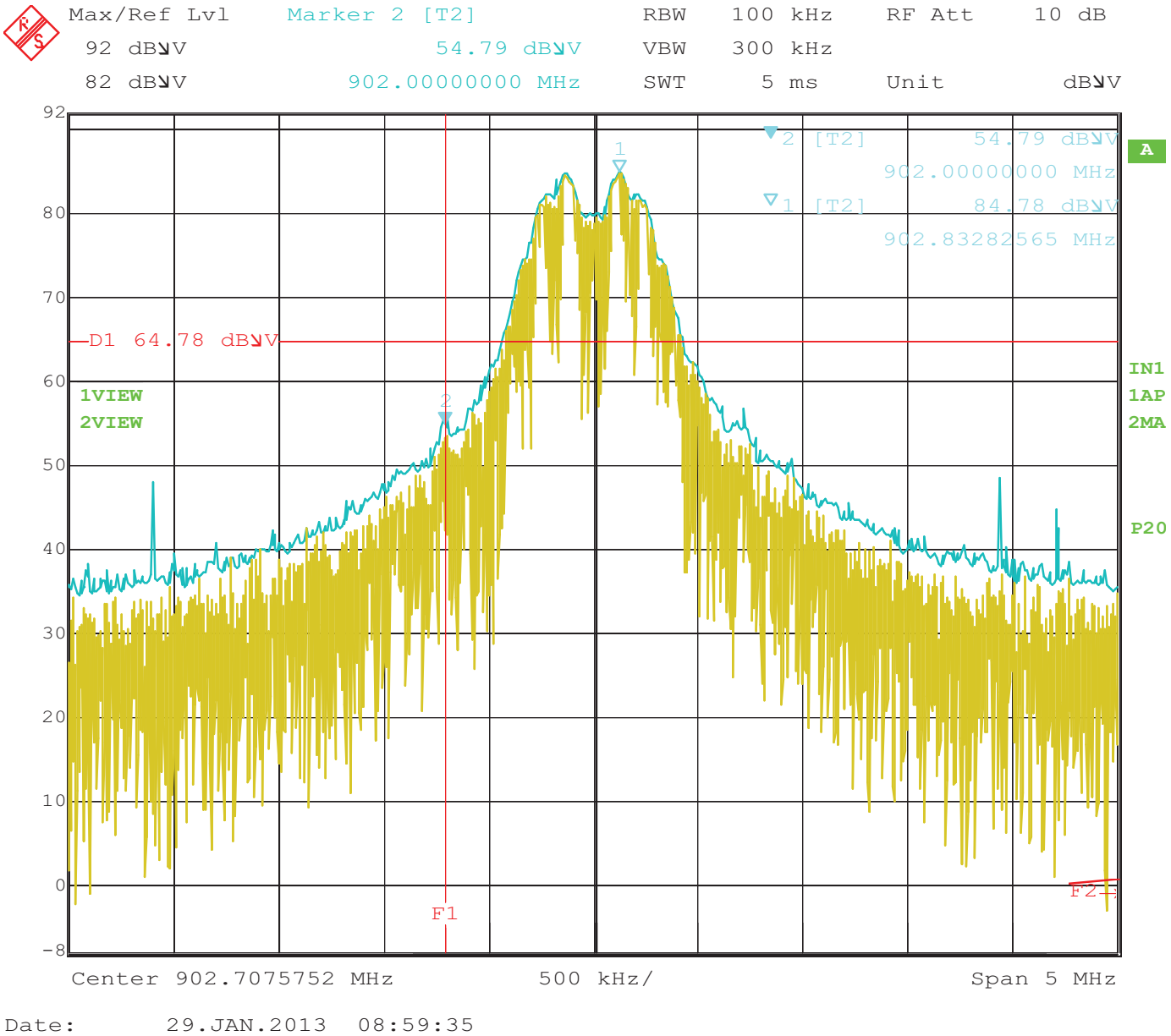
The equivalent maximum spectral density output is then determined by subtracting the EUT transmit antenna gain from the SD (assuming logarithmic representation).

The SD in Watts was converted to dBm to allow for logarithmic representation

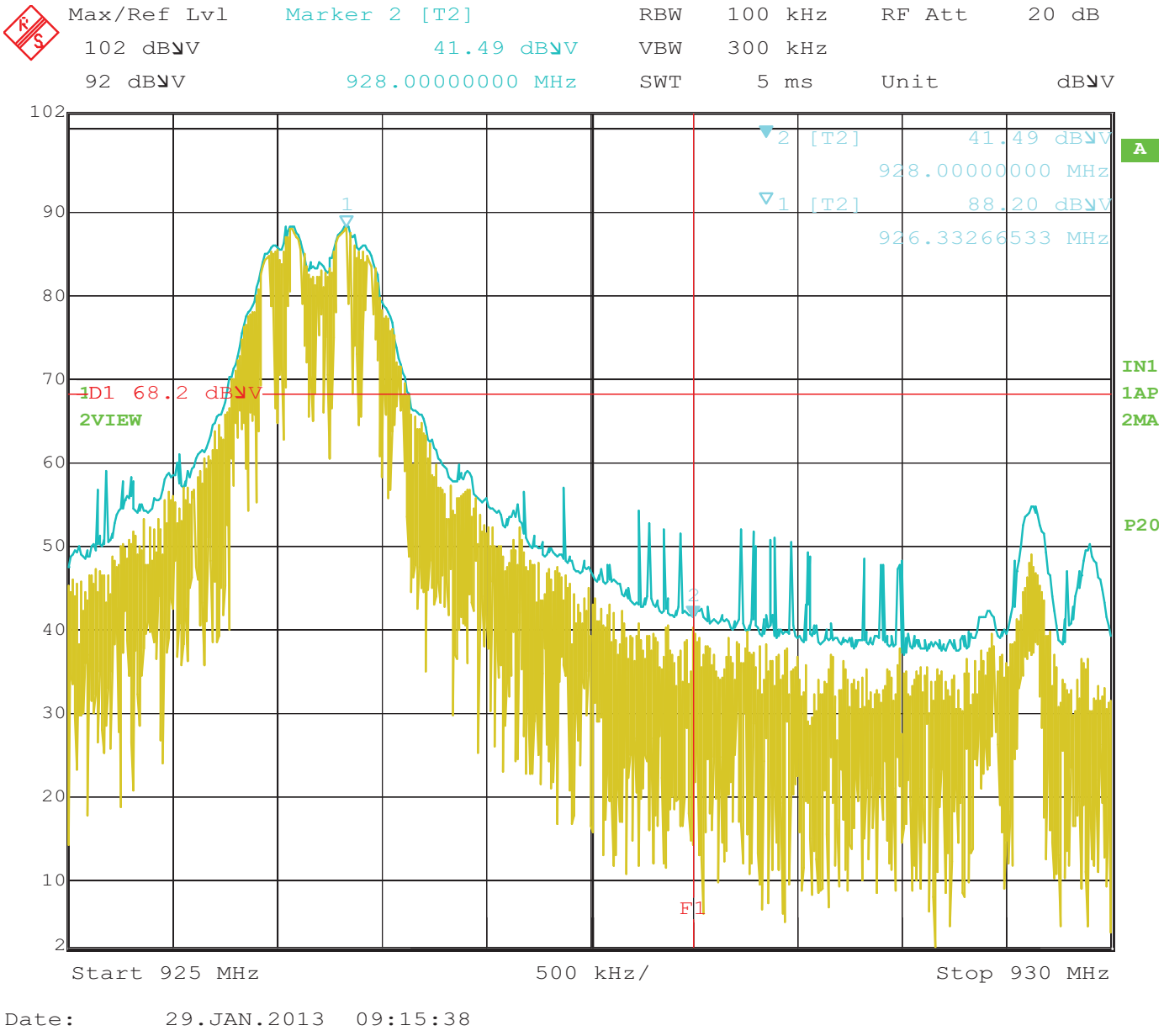
See Clause 9.1 of KDB 558074 D01 DTS Meas Guidance v02 - 10/04/2012
For the Settings on Measuring Spectral Density

BAND EDGES

DATA SHEETS



Band Edge – Low Channel



Band Edge – High Channel