FCC PART 15, SUBPART B and C
TEST REPORT

for

RADIOPOPPER

MODEL: JR2 TX

Prepared for

LEAP DEVICES, LLC
229 EAST RESERVE STREET, #102
VANCOUVER, WASHINGTON 98661-3803

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

JAMES ROSS

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: JANUARY 18, 2013

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
PAGES	23	2	2	2	11	49	**86**

This report shall not be reproduced except in full, without the written approval of Compatible Electronics.

TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	***4***
SUMMARY OF TEST RESULTS	***5***
1. PURPOSE	**6**
2. ADMINISTRATIVE DATA	**7**
2.1 Location of Testing	7
2.2 Traceability Statement	7
2.3 Cognizant Personnel	7
2.4 Date Test Sample was Received	7
2.5 Disposition of the Test Sample	7
2.6 Abbreviations and Acronyms	7
3. APPLICABLE DOCUMENTS	**8**
4. DESCIRPTION OF TEST CONFIGURATION	**9**
4.1 Description of Test Configuration - Emissions	9
4.1.1 Cable Construction and Termination	10
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	**11**
5.1 EUT and Accessory List	11
6. TEST SITE DESCRIPTION	**13**
6.1 Test Facility Description	13
6.2 EUT Mounting, Bonding and Grounding	13
7. CHARACTERISTICS OF THE TRANSMITTER	**14**
7.1 Transmitter Power	14
7.2 Channel Number and Frequencies	14
7.3 Antenna Gain	14
8. TEST PROCEDURES	**15**
8.1 RF Emissions	15
8.1.1 Conducted Emissions Test	15
8.1.2 Radiated Emissions (Spurious and Harmonics) Test	16
8.1.3 RF Emissions Test Results	18
8.2 Emissions Bandwidth (EBW)	19
8.3 Peak Output Power	20
8.4 RF Antenna Conducted Test	20
8.5 RF Band Edges	21
8.6 Spectral Density Test	22
9. CONCLUSIONS	**23**

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations and Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams and Charts • Test Setup Diagrams • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Test Site

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: Jr2 Tx S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Customer:	Leap Devices, LLC 229 East Reserve Street, #102 Vancouver, Washington 98661-3803
Test Dates:	December 23, 27, and 30, 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 C63.4 and ANSI C63.10
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 is a battery powered device and cannot be plugged into the AC public mains.
2	Spurious Radiated RF Emissions, 30 MHz – 1000 MHz	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, section 15.209
3	Spurious Radiated RF Emissions, 10 kHz – 30 MHz and 1000 MHz – 9.3 GHz	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)
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 9.3 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
5	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 9.3 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and section 15.247 (d)
6	DTS Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2)
7	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3)
8	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d)
9	Peak Power Spectral Density 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 emissions tests performed on the RadioPopper, Model: Jr2 Tx. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. 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	Senior Product Engineer

Compatible Electronics Inc.

James Ross	Test Engineer
Kyle Fujimoto	Test Engineer

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 been returned to Leap Device, LLC. as of the date of this test 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 C63.4 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
KDB 558074	Guidance for Performing Compliance Measurements on Digital Transmissions Systems (DTS) Operating Under 15.247
ANSI C63.10 2009	American National Standard for Testing Unlicensed Wireless Devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The RadioPopper, Model: Jt2 Tx (EUT) was connected to an accessory flash device via a 30-centimeter cable. The EUT was tested in three orthogonal axis.

The EUT had a special program that allowed the EUT to continuously transmit at the low, middle, and high channel.

The final radiated data for the EUT as was taken in modes described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a 30-centimeter unshielded cable connecting the EUT to an accessory flash device. The cable has a 1/8 inch stereo connector at each end.

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	JR2 TX	N/A	V4TJR2TX1
ACCESSORY FLASH DEVICE	N/A	N/A	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB B					
Computer	Compaq	CQ5210F	CNX9360CF9	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MD	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2012	2 Year
GENERAL TEST EQUIPMENT USED IN LAB A					
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	2637A03618	May 30, 2013	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A13404	May 30, 2013	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	May 30, 2013	1 Year
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	May 29, 2013	1 Year
Preamplifier	Com-Power	PA-103	1582	December 28, 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 Year
Horn Antenna	Com-Power	AH-118	071175	February 29, 2012	2 Year
Antenna Mast	Com Power	AM-100	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 Transmitter Power

Transmit power is herein defined as the power delivered to a 50 ohm load at the RF output of the EUT.

Power	Channel
11.23 dBm	LOW
10.87 dBm	MIDDLE
10.59 dBm	HIGH

7.2 Channel Number and Frequencies

There are a total of 16 channels for the EUT.

Low Channel – 903.75 MHz
Middle Channel – 914.00 MHz
High Chanel – 926.00 MHz

7.3 Antenna Gain

The maximum 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: 2009. 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:

This test was not performed because the EUT is a battery powered device and cannot be plugged into the AC public mains.

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: PA-103 was used for frequencies from 30 MHz to 1 GHz, the Com Power Microwave Preamplifier Model: PA-118 was used for frequencies above 1 GHz. The spectrum analyzer was 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 by using the RMS average detector function on the EMI Receiver.

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 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 40 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 C63.4: 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 3 meter test distance from 10 kHz 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.

8.1.3 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
RadioPopper, Model: JR2 TX

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
8132.67 (H) (Y-Axis)	51.34 (A)	54.00	-2.66
8132.67 (H) (Z-Axis)	50.66 (A)	54.00	-3.34
2710.89 (H) (Y-Axis)	50.62 (A)	54.00	-3.38
8132.67 (V) (X-Axis)	50.49 (A)	54.00	-3.51
8132.67 (H) (X-Axis)	50.08 (A)	54.00	-3.92
8225.28 (H) (Z-Axis)	49.86 (A)	54.00	-4.14

Notes:

*	The complete emissions data is given in Appendix E of this report.
QP	Quasi-Peak Reading
A	Average Reading
V	Vertical Polarization
H	Horizontal Polarization

8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The following steps were performed for measuring the DTS Bandwidth.

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep = Auto Couple
6. Allow the trace to stabilize
7. Measure the maximum width of the emissions that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(2). The 6 dB bandwidth is greater than 500 kHz. Please see the data sheets located in Appendix E.

8.3 Peak Output Power

The Peak Output Power was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The following steps were performed for measuring the Peak Output Power.

1. Set resolution bandwidth (RBW) >= DTS Bandwidth
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Set than Span to equal or greater than 3 times the RBW
4. Sweep time = auto couple
5. Detector = peak
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use peak marker function to determine the peak amplitude level.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3). Please see the data sheets located in Appendix E.

8.4 RF Antenna Conducted Test

The RF antenna conducted test was performed using the EMI Receiver. The RF antenna conducted test measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d). Please see the 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.

8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

1. Set the RBW to 3 kHz <= RBW <= 100 kHz
2. Set the VBW >= 3 X RBW.
3. Set the span to 1.5 times the DTS bandwidth
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use the peak marker function to determine the maximum amplitude level within the RBW.
9. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (e).

9. CONCLUSIONS

The RadioPopper, Model: JR2 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 fulfilment 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.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

RadioPopper
Model: JR2 Tx
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

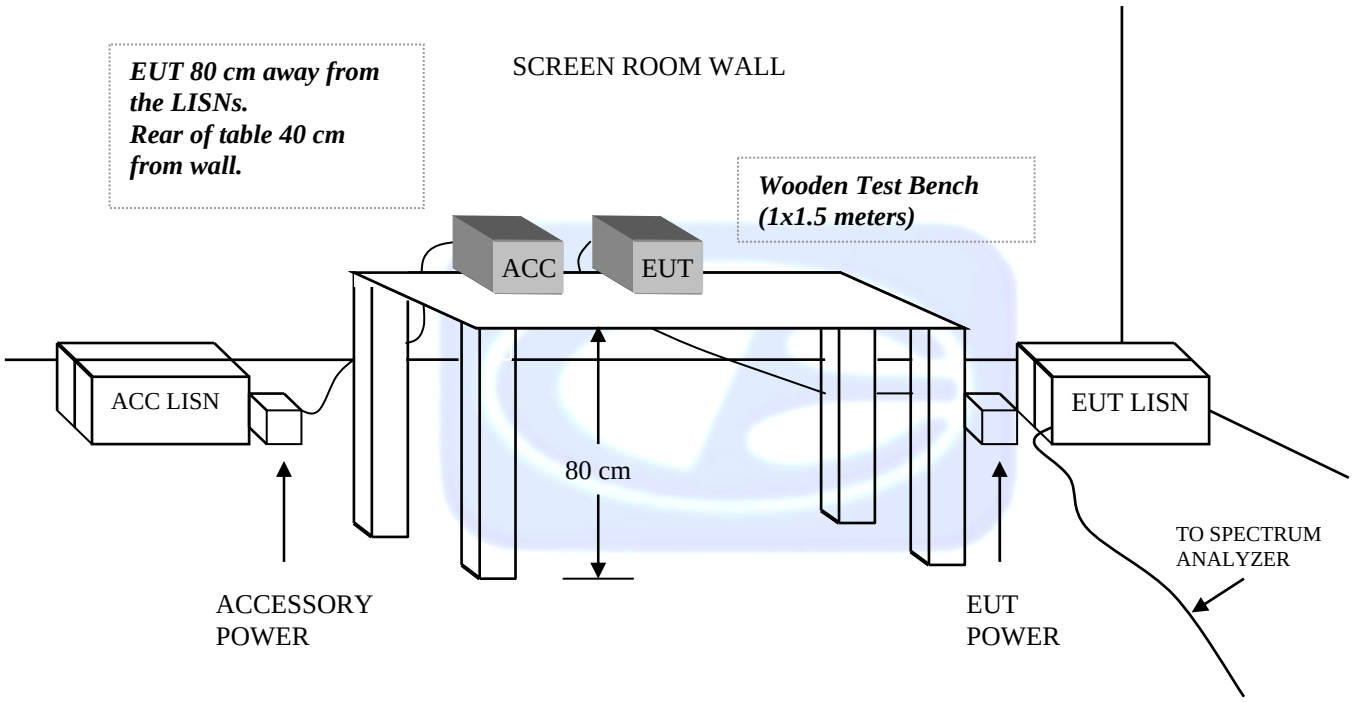
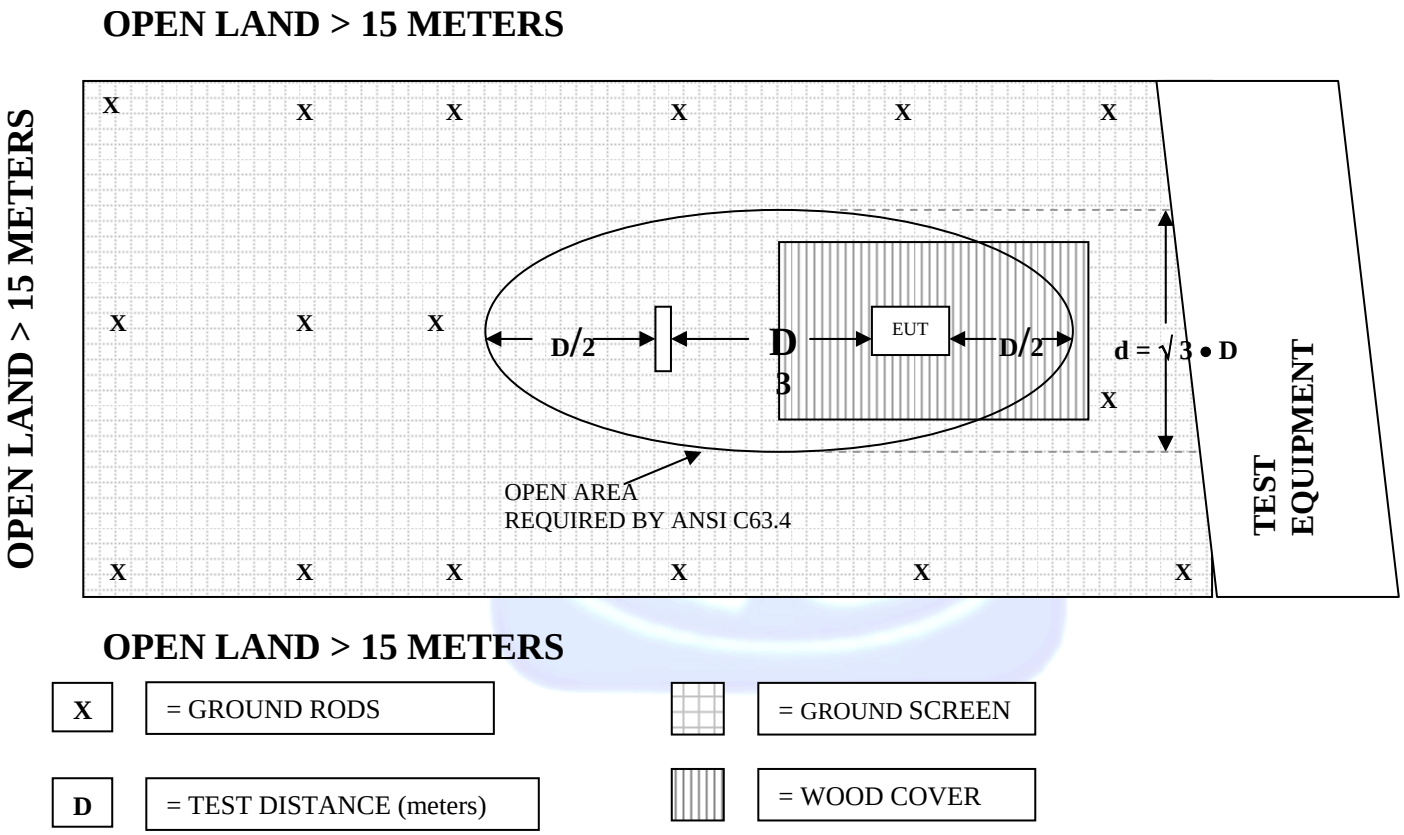


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



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 AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: MAY 29, 2013

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	19.40	200	9.10
35	19.10	250	11.40
40	19.70	300	11.90
45	18.00	350	14.20
50	16.80	400	15.20
60	12.50	450	16.50
70	7.30	500	17.10
80	4.40	550	16.20
90	8.00	600	17.70
100	8.80	650	19.10
120	10.50	700	20.00
125	10.60	750	21.50
140	8.60	800	21.50
150	11.20	850	21.70
160	8.90	900	22.70
175	9.60	950	22.10
180	8.50	1000	22.90

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 PA-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: DECEMBER 28, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.80	300	32.26
40	33.10	350	32.23
50	33.10	400	32.17
60	33.10	450	32.16
70	33.00	500	32.11
80	33.00	550	32.07
90	33.10	600	32.02
100	33.00	650	31.97
125	33.00	700	31.87
150	33.00	750	31.81
175	32.90	800	31.73
200	32.80	850	31.57
225	32.34	900	31.43
250	32.32	950	31.29
275	32.28	1000	31.14

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 27, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
0.50	25.29	6.00	25.75
0.60	25.26	6.50	25.28
0.70	25.23	7.00	24.83
0.80	25.13	7.50	24.49
0.90	24.91	8.00	24.38
1.00	24.68	8.50	25.06
1.25	25.85	9.00	25.55
1.50	26.23	9.50	25.32
1.75	26.42	10.0	25.25
2.00	26.48	10.5	25.31
2.25	26.55	11.0	24.99
2.50	26.59	11.5	24.84
2.75	26.64	12.0	25.08
3.00	26.67	12.5	24.64
3.25	26.67	13.0	24.44
3.50	26.66	13.5	24.85
3.75	26.58	14.0	25.02
4.00	26.82	14.5	25.41
4.25	26.60	15.0	26.12
4.50	26.46	15.5	26.74
4.75	26.36	16.0	25.67
5.00	26.22	16.5	24.48
5.25	26.11	17.0	24.33
5.50	25.98	17.5	25.19
5.75	25.90	18.0	26.75

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Low Channel
X Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.63								Done via Conducted
906.63								Done via Conducted
1807.26								Done via Conducted
1807.26								Not in Restricted Band
2710.89	37.63	V	74	-36.37	Peak	1.25	45	
2710.89	26.19	V	54	-27.81	Avg	1.25	45	
3614.52	42.72	V	74	-31.28	Peak	1.15	45	
3614.52	31.74	V	54	-22.26	Avg	1.15	45	
4518.15	56.17	V	74	-17.83	Peak	1.25	135	
4518.15	46.06	V	54	-7.94	Avg	1.25	135	
5421.7	56.85	V	74	-17.15	Peak	1.25	225	
5421.7	46.99	V	54	-7.01	Avg	1.25	225	
6325.4								Done via Conducted
6325.4								Not in Restricted Band
7229.04								Done via Conducted
7229.04								Not in Restricted Band
8132.67	60.99	V	74	-13.01	Peak	1	90	
8132.67	50.49	V	54	-3.51	Avg	1	90	
9036.29								No Emission
9036.29								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Low Channel
X Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.63								Done via Conducted
906.63								Done via Conducted
1807.26								Done via Conducted
1807.26								Not in Restricted Band
2710.89	43.41	H	74	-30.59	Peak	1.25	155	
2710.89	31.06	H	54	-22.94	Avg	1.25	155	
3614.52	43.75	H	74	-30.25	Peak	1.65	175	
3614.52	31.92	H	54	-22.08	Avg	1.65	175	
4518.15	53.84	H	74	-20.16	Peak	1.25	155	
4518.15	45.22	H	54	-8.78	Avg	1.25	155	
5421.7	57.82	H	74	-16.18	Peak	1.25	155	
5421.7	47.52	H	54	-6.48	Avg	1.25	155	
6325.4								Done via Conducted
6325.4								Not in Restricted Band
7229.04								Done via Conducted
7229.04								Not in Restricted Band
8132.67	60.43	H	74	-13.57	Peak	1.25	135	
8132.67	50.08	H	54	-3.92	Avg	1.25	135	
9036.29								No Emission
9036.29								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Y Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.63								Done via Conducted
906.63								Done via Conducted
1807.26								Done via Conducted
1807.26								Not in Restricted Band
2710.89	38.31	V	74	-35.69	Peak	1.25	115	
2710.89	26.71	V	54	-27.29	Avg	1.25	115	
3614.52	41.81	V	74	-32.19	Peak	1.35	125	
3614.52	28.19	V	54	-25.81	Avg	1.35	125	
4518.15	55.45	V	74	-18.55	Peak	1.25	135	
4518.15	46.73	V	54	-7.27	Avg	1.25	135	
5421.70	52.58	V	74	-21.42	Peak	1.25	155	
5421.70	43.41	V	54	-10.59	Avg	1.25	155	
6325.40								Done via Conducted
6325.40								Not in Restricted Band
7229.04								Done via Conducted
7229.04								Not in Restricted Band
8132.67	60.31	V	74	-13.69	Peak	1.25	155	
8132.67	49.55	V	54	-4.45	Avg	1.25	155	
9036.29								No Emission
9036.29								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Y Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.63								Done via Conducted
906.63								Done via Conducted
1807.26								Done via Conducted
1807.26								Not in Restricted Band
2710.89	60.95	H	74	-13.05	Peak	1.25	155	
2710.89	50.62	H	54	-3.38	Avg	1.25	155	
3614.52	43.37	H	74	-30.63	Peak	1.35	165	
3614.52	33.11	H	54	-20.89	Avg	1.35	165	
4518.15	52.56	H	74	-21.44	Peak	1.25	185	
4518.15	43.77	H	54	-10.23	Avg	1.25	185	
5421.70	52.64	H	74	-21.36	Peak	1.35	195	
5421.70	41.89	H	54	-12.11	Avg	1.35	195	
6325.40								Done via Conducted
6325.40								Not in Restricted Band
7229.04								Done via Conducted
7229.04								Not in Restricted Band
8132.67	61.49	H	74	-12.51	Peak	1.25	155	
8132.67	51.34	H	54	-2.66	Avg	1.25	155	
9036.29								No Emission
9036.29								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Z Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.63								Done via Conducted
906.63								Done via Conducted
1807.26								Done via Conducted
1807.26								Not in Restricted Band
2710.89	37.85	V	74	-36.15	Peak	1.25	165	
2710.89	26.43	V	54	-27.57	Avg	1.25	165	
3614.52	42.81	V	74	-31.19	Peak	1.25	155	
3614.52	32.35	V	54	-21.65	Avg	1.25	155	
4518.15	50.74	V	74	-23.26	Peak	1.25	155	
4518.15	41.84	V	54	-12.16	Avg	1.25	155	
5421.70	49.97	V	74	-24.03	Peak	1.25	155	
5421.70	39.21	V	54	-14.79	Avg	1.25	155	
6325.40								Done via Conducted
6325.40								Not in Restricted Band
7229.04								Done via Conducted
7229.04								Not in Restricted Band
8132.67	60.07	V	74	-13.93	Peak	1.25	225	
8132.67	48.96	V	54	-5.04	Avg	1.25	225	
9036.29								No Emission
9036.29								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Z Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.63								Done via Conducted
906.63								Done via Conducted
1807.26								Done via Conducted
1807.26								Not in Restricted Band
2710.89	38.54	H	74	-35.46	Peak	1.25	155	
2710.89	27.02	H	54	-26.98	Avg	1.25	155	
3614.52	43.91	H	74	-30.09	Peak	1.25	155	
3614.52	34.05	H	54	-19.95	Avg	1.25	155	
4518.15	53.25	H	74	-20.75	Peak	1.25	165	
4518.15	43.77	H	54	-10.23	Avg	1.25	165	
5421.70	52.71	H	74	-21.29	Peak	1.25	165	
5421.70	40.98	H	54	-13.02	Avg	1.25	165	
6325.40								Done via Conducted
6325.40								Not in Restricted Band
7229.04								Done via Conducted
7229.04								Not in Restricted Band
8132.67	60.87	H	74	-13.13	Peak	1.25	155	
8132.67	50.66	H	54	-3.34	Avg	1.25	155	
9036.29								No Emission
9036.29								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
X Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
913.92								Done via Conducted
913.92								Done via Conducted
1827.84								Done via Conducted
1827.84								Not in Restricted Band
2741.76	38.97	V	74	-35.03	Peak	1.25	155	
2741.76	29.65	V	54	-24.35	Avg	1.25	155	
3655.68	43.81	V	74	-30.19	Peak	1.35	165	
3655.68	34.69	V	54	-19.31	Avg	1.35	165	
4569.6	56.63	V	74	-17.37	Peak	1.25	90	
4569.6	48.49	V	54	-5.51	Avg	1.25	90	
5483.52								Done via Conducted
5483.52								Not in Restricted Band
6397.44								Done via Conducted
6397.44								Not in Restricted Band
7311.36	49.16	V	74	-24.84	Peak	1.25	155	
7311.36	36.83	V	54	-17.17	Avg	1.25	155	
8225.28	60.35	V	74	-13.65	Peak	1.25	165	
8225.28	49.79	V	54	-4.21	Avg	1.25	165	
9139.2								No Emission
9139.2								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
X Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
913.92								Done via Conducted
913.92								Done via Conducted
1827.84								Done via Conducted
1827.84								Not in Restricted Band
2741.76	42.49	H	74	-31.51	Peak	1.25	155	
2741.76	29.87	H	54	-24.13	Avg	1.25	155	
3655.68	44.81	H	74	-29.19	Peak	1.25	155	
3655.68	35.44	H	54	-18.56	Avg	1.25	155	
4569.6	54.03	H	74	-19.97	Peak	1.25	155	
4569.6	45.07	H	54	-8.93	Avg	1.25	155	
5483.52								Done via Conducted
5483.52								Not in Restricted Band
6397.44								Done via Conducted
6397.44								Not in Restricted Band
7311.36	47.97	H	74	-26.03	Peak	1.25	155	
7311.36	37.32	H	54	-16.68	Avg	1.25	155	
8225.28	60.01	H	74	-13.99	Peak	1.25	155	
8225.28	49.11	H	54	-4.89	Avg	1.25	155	
9139.2								No Emission
9139.2								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Y Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
913.92								Done via Conducted
913.92								Done via Conducted
1827.84								Done via Conducted
1827.84								Not in Restricted Band
2741.76	41.24	V	74	-32.76	Peak	1.25	165	
2741.76	28.43	V	54	-25.57	Avg	1.25	165	
3655.68	43.91	V	74	-30.09	Peak	1.25	155	
3655.68	31.54	V	54	-22.46	Avg	1.25	155	
4569.6	54.67	V	74	-19.33	Peak	1.25	155	
4569.6	45.64	V	54	-8.36	Avg	1.25	155	
5483.52								Done via Conducted
5483.52								Not in Restricted Band
6397.44								Done via Conducted
6397.44								Not in Restricted Band
7311.36	48.92	V	74	-25.08	Peak	1.25	155	
7311.36	36.58	V	54	-17.42	Avg	1.25	155	
8225.28	59.02	V	74	-14.98	Peak	1.25	155	
8225.28	47.85	V	54	-6.15	Avg	1.25	155	
9139.2								No Emission
9139.2								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Y Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
913.92								Done via Conducted
913.92								Done via Conducted
1827.84								Done via Conducted
1827.84								Not in Restricted Band
2741.76	37.93	H	74	-36.07	Peak	1.35	125	
2741.76	30.93	H	54	-23.07	Avg	1.35	125	
3655.68	44.11	H	74	-29.89	Peak	1.25	270	
3655.68	32.25	H	54	-21.75	Avg	1.25	270	
4569.6	54.15	H	74	-19.85	Peak	1.25	155	
4569.6	45.15	H	54	-8.85	Avg	1.25	155	
5483.52								Done via Conducted
5483.52								Not in Restricted Band
6397.44								Done via Conducted
6397.44								Not in Restricted Band
7311.36	49.75	H	74	-24.25	Peak	1.25	155	
7311.36	38.24	H	54	-15.76	Avg	1.25	155	
8225.28	59.61	H	74	-14.39	Peak	1.25	90	
8225.28	49.45	H	54	-4.55	Avg	1.25	90	
9139.2								No Emission
9139.2								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Z Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
913.92								Done via Conducted
913.92								Done via Conducted
1827.84								Done via Conducted
1827.84								Not in Restricted Band
2741.76	40.69	V	74	-33.31	Peak	1.25	155	
2741.76	27.02	V	54	-26.98	Avg	1.25	155	
3655.68	43.87	V	74	-30.13	Peak	1.25	165	
3655.68	33.33	V	54	-20.67	Avg	1.25	165	
4569.6	51.98	V	74	-22.02	Peak	1.25	155	
4569.6	42.15	V	54	-11.85	Avg	1.25	155	
5483.52								Done via Conducted
5483.52								Not in Restricted Band
6397.44								Done via Conducted
6397.44								Not in Restricted Band
7311.36	47.81	V	74	-26.19	Peak	1.25	155	
7311.36	37.12	V	54	-16.88	Avg	1.25	155	
8225.28	59.02	V	74	-14.98	Peak	1.25	155	
8225.28	48.82	V	54	-5.18	Avg	1.25	155	
9139.2								No Emission
9139.2								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Z Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
913.92								Done via Conducted
913.92								Done via Conducted
1827.84								Done via Conducted
1827.84								Not in Restricted Band
2741.76	38.95	H	74	-35.05	Peak	1.25	155	
2741.76	26.81	H	54	-27.19	Avg	1.25	155	
3655.68	45.27	H	74	-28.73	Peak	1.25	155	
3655.68	35.51	H	54	-18.49	Avg	1.25	155	
4569.6	53.76	H	74	-20.24	Peak	1.25	155	
4569.6	44.13	H	54	-9.87	Avg	1.25	155	
5483.52								Done via Conducted
5483.52								Not in Restricted Band
6397.44								Done via Conducted
6397.44								Not in Restricted Band
7311.36	50.61	H	74	-23.39	Peak	1.25	165	
7311.36	38.01	H	54	-15.99	Avg	1.25	165	
8225.28	60.14	H	74	-13.86	Peak	1.25	155	
8225.28	49.86	H	54	-4.14	Avg	1.25	155	
9139.2								No Emission
9139.2								Detected

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

High Channel
X Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
925.90								Done via Conducted
925.90								Done via Conducted
1851.8								Done via Conducted
1851.8								Not in Restricted Band
2777.7	38.51	V	74	-35.49	Peak	1.25	155	
2777.7	25.37	V	54	-28.63	Avg	1.25	155	
3703.6	44.05	V	74	-29.95	Peak	1.25	155	
3703.6	34.31	V	54	-19.69	Avg	1.25	155	
4629.5	53.14	V	74	-20.86	Peak	1.25	155	
4629.5	43.01	V	54	-10.99	Avg	1.25	155	
5555.4								Done via Conducted
5555.4								Not in Restricted Band
6481.3								Done via Conducted
6481.3								Not in Restricted Band
7407.2	51.61	V	74	-22.39	Peak	1.25	155	
7407.2	41.72	V	54	-12.28	Avg	1.25	155	
8333.1	58.89	V	74	-15.11	Peak	1.25	165	
8333.1	47.56	V	54	-6.44	Avg	1.25	165	
9259								Done via Conducted
9259								Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

High Channel
X Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
925.90								Done via Conducted
925.90								Done via Conducted
1851.8								Done via Conducted
1851.8								Not in Restricted Band
2777.7	36.75	H	74	-37.25	Peak	1.25	155	
2777.7	25.09	H	54	-28.91	Avg	1.25	155	
3703.6	41.25	H	74	-32.75	Peak	1.35	165	
3703.6	29.17	H	54	-24.83	Avg	1.35	165	
4629.5	54.52	H	74	-19.48	Peak	1.25	155	
4629.5	46.59	H	54	-7.41	Avg	1.25	155	
5555.4								Done via Conducted
5555.4								Not in Restricted Band
6481.3								Done via Conducted
6481.3								Not in Restricted Band
7407.2	53.47	H	74	-20.53	Peak	1.25	155	
7407.2	41.68	H	54	-12.32	Avg	1.25	155	
8333.1	55.95	H	74	-18.05	Peak	1.25	155	
8333.1	42.82	H	54	-11.18	Avg	1.25	155	
9259								Done via Conducted
9259								Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

High Channel
Y Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
925.90								Done via Conducted
925.90								Done via Conducted
1851.8								Done via Conducted
1851.8								Not in Restricted Band
2777.7	41.23	V	74	-32.77	Peak	1.25	155	
2777.7	29.25	V	54	-24.75	Avg	1.25	155	
3703.6	45.81	V	74	-28.19	Peak	1.35	165	
3703.6	36.17	V	54	-17.83	Avg	1.35	165	
4629.5	52.27	V	74	-21.73	Peak	1.25	155	
4629.5	41.95	V	54	-12.05	Avg	1.25	155	
5555.4								Done via Conducted
5555.4								Not in Restricted Band
6481.3								Done via Conducted
6481.3								Not in Restricted Band
7407.2	52.83	V	74	-21.17	Peak	1.25	155	
7407.2	42.11	V	54	-11.89	Avg	1.25	155	
8333.1	56.36	V	74	-17.64	Peak	1.25	155	
8333.1	46.08	V	54	-7.92	Avg	1.25	155	
9259								Done via Conducted
9259								Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

High Channel
Y Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
925.90								Done via Conducted
925.90								Done via Conducted
1851.8								Done via Conducted
1851.8								Not in Restricted Band
2777.7	36.45	H	74	-37.55	Peak	1.25	165	
2777.7	25.31	H	54	-28.69	Avg	1.25	165	
3703.6	38.76	H	74	-35.24	Peak	1.25	175	
3703.6	26.66	H	54	-27.34	Avg	1.25	175	
4629.5	54.91	H	74	-19.09	Peak	1.25	155	
4629.5	44.16	H	54	-9.84	Avg	1.25	155	
5555.4								Done via Conducted
5555.4								Not in Restricted Band
6481.3								Done via Conducted
6481.3								Not in Restricted Band
7407.2	52.86	H	74	-21.14	Peak	1.25	155	
7407.2	40.51	H	54	-13.49	Avg	1.25	155	
8333.1	56.72	H	74	-17.28	Peak	1.25	165	
8333.1	44.88	H	54	-9.12	Avg	1.25	165	
9259								Done via Conducted
9259								Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

High Channel
Z Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
925.90								Done via Conducted
925.90								Done via Conducted
1851.8								Done via Conducted
1851.8								Not in Restricted Band
2777.7	40.08	V	74	-33.92	Peak	1.25	155	
2777.7	27.86	V	54	-26.14	Avg	1.25	155	
3703.6	42.59	V	74	-31.41	Peak	1.25	155	
3703.6	31.73	V	54	-22.27	Avg	1.25	155	
4629.5	52.42	V	74	-21.58	Peak	1.25	155	
4629.5	43.51	V	54	-10.49	Avg	1.25	155	
5555.4								Done via Conducted
5555.4								Not in Restricted Band
6481.3								Done via Conducted
6481.3								Not in Restricted Band
7407.2	48.42	V	74	-25.58	Peak	1.35	155	
7407.2	37.06	V	54	-16.94	Avg	1.35	155	
8333.1	57.72	V	74	-16.28	Peak	1.25	155	
8333.1	46.44	V	54	-7.56	Avg	1.25	155	
9259								Done via Conducted
9259								Not in Restricted Band

FCC 15.247
Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

Date: 12/27/2013
Lab: B
Tested By: Kyle Fujimoto

High Channel
Z Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
925.90								Done via Conducted
925.90								Done via Conducted
1851.8								Done via Conducted
1851.8								Not in Restricted Band
2777.7	35.51	H	74	-38.49	Peak	1.25	155	
2777.7	24.48	H	54	-29.52	Avg	12.5	155	
3703.6	42.74	H	74	-31.26	Peak	1.25	155	
3703.6	33.14	H	54	-20.86	Avg	1.25	155	
4629.5	55.94	H	74	-18.06	Peak	1.25	155	
4629.5	45.01	H	54	-8.99	Avg	1.25	155	
5555.4								Done via Conducted
5555.4								Not in Restricted Band
6481.3								Done via Conducted
6481.3								Not in Restricted Band
7407.2	52.67	H	74	-21.33	Peak	1.25	155	
7407.2	41.17	H	54	-12.83	Avg	1.25	155	
8333.1	58.91	H	74	-15.09	Peak	1.25	155	
8333.1	47.99	H	54	-6.01	Avg	1.25	155	
9259								Done via Conducted
9259								Not in Restricted Band

FCC 15.247 and FCC Class B

Leap Devices, LLC
RadioPopper
Model: Jr2 Tx

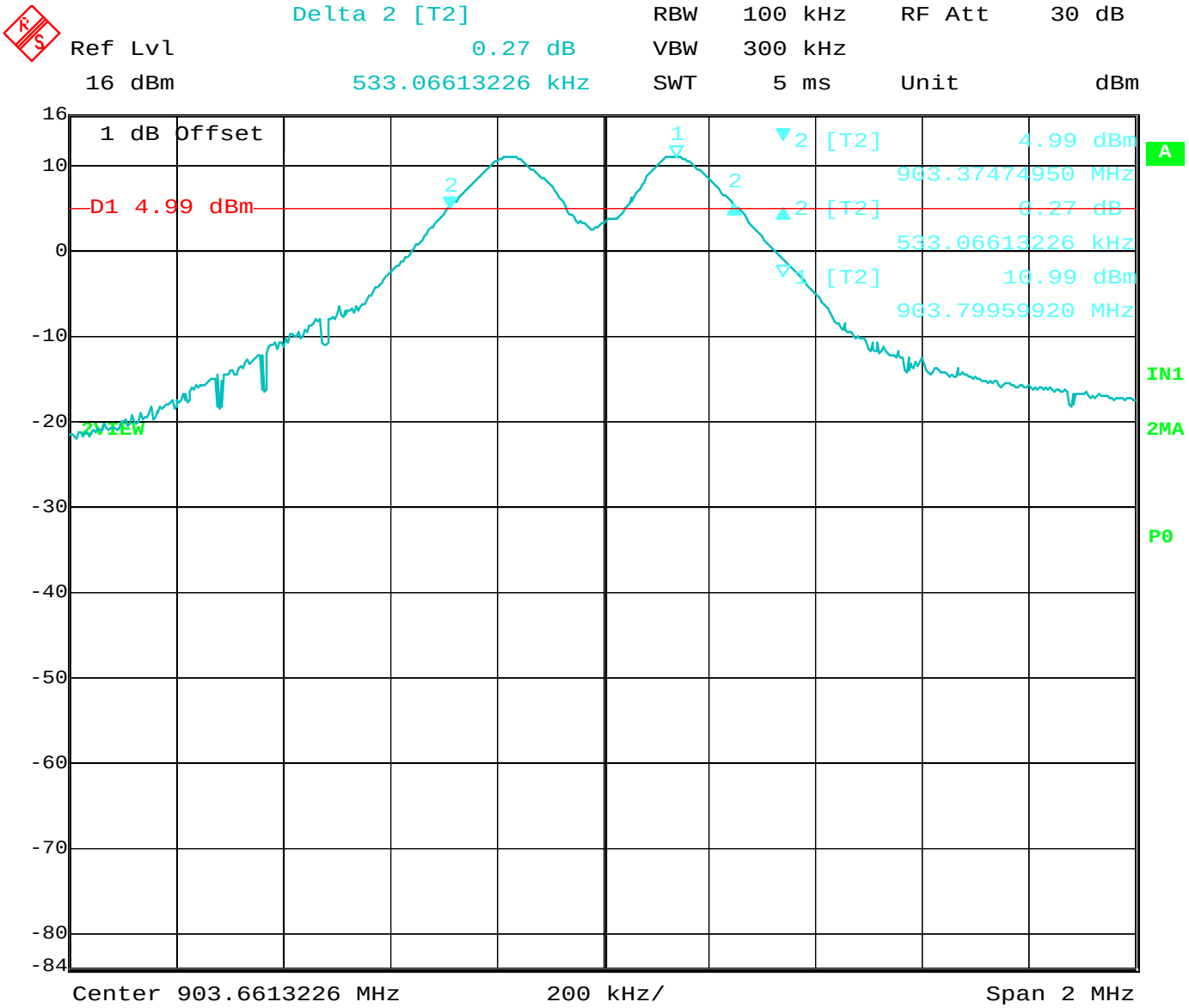
Date: 12/27/2013 and 12/30/2013
Labs: A and B
Tested By: Kyle Fujimoto and Andrew Tiffany

Digital Portion and Non-Harmonic Emissions of the Transmitter
10 kHz to 9.3 GHz

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 of the EUT
								from 10 kHz to 9.3 GHz
								for both Vertical and
								Horizontal Polarizations
								No Emissons Found for the
								Non-Harmonic Emissions
								of the Tx from
								10 kHz to 9.3 GHz
								for both Vertical and
								Horizontal Polarizations
								Tested in the X-Axis, Y-Axis,
								and Z-Axis

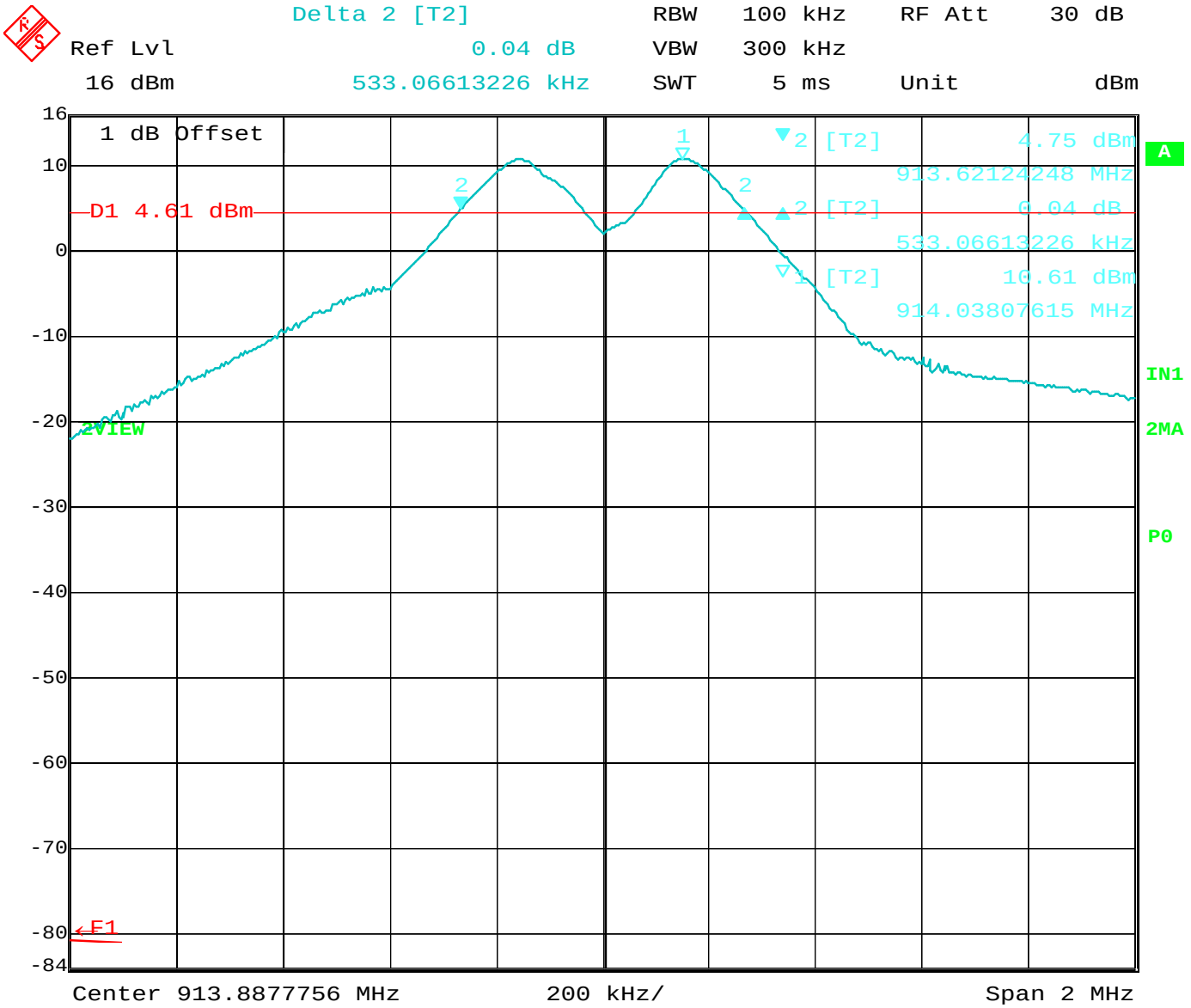
-6 dB BANDWIDTH

DATA SHEETS



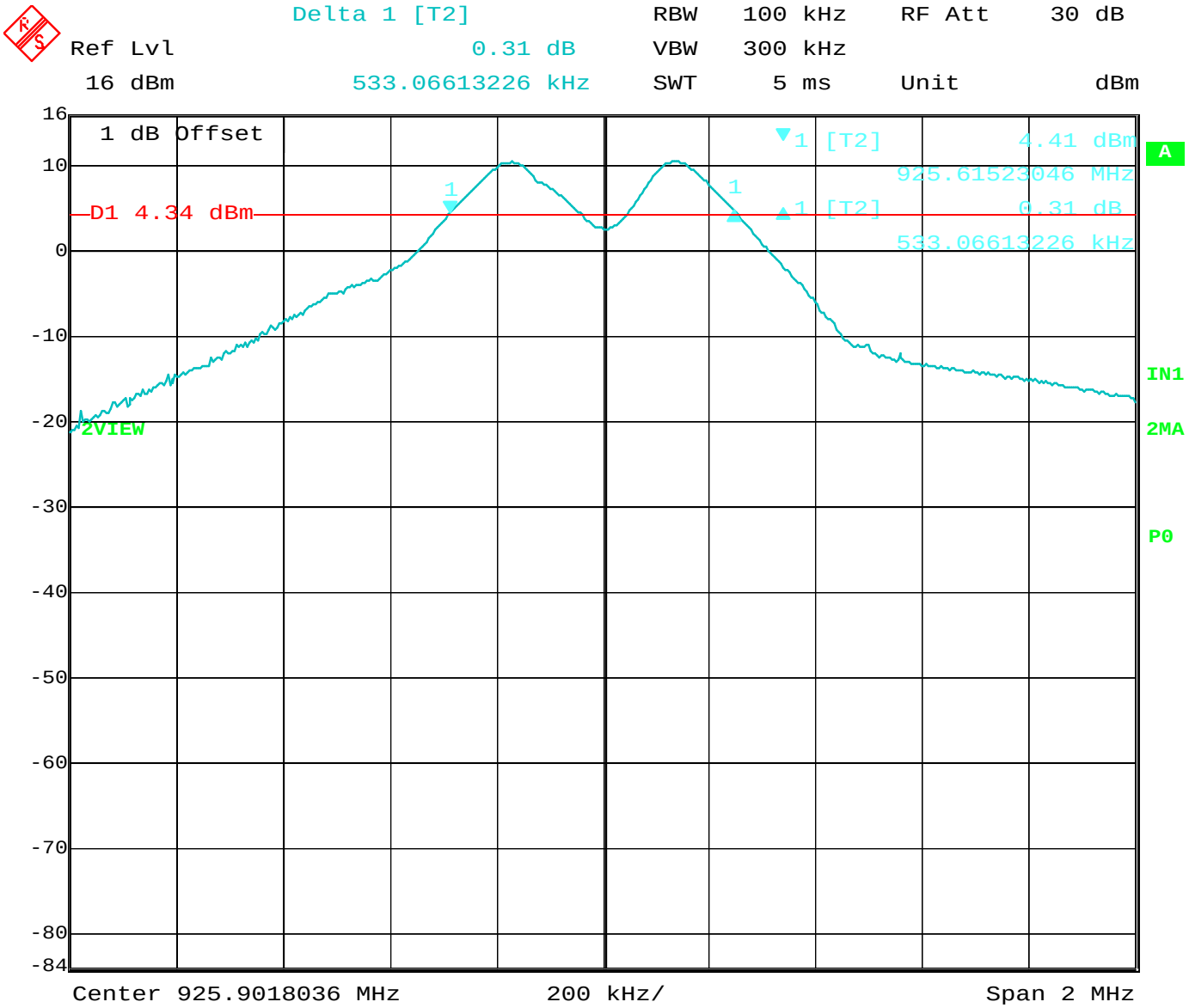
Date: 23.DEC.2013 08:23:01

Bandwidth 6 dB – Low Channel



Date: 23.DEC.2013 09:20:15

Bandwidth 6 dB – Middle Channel

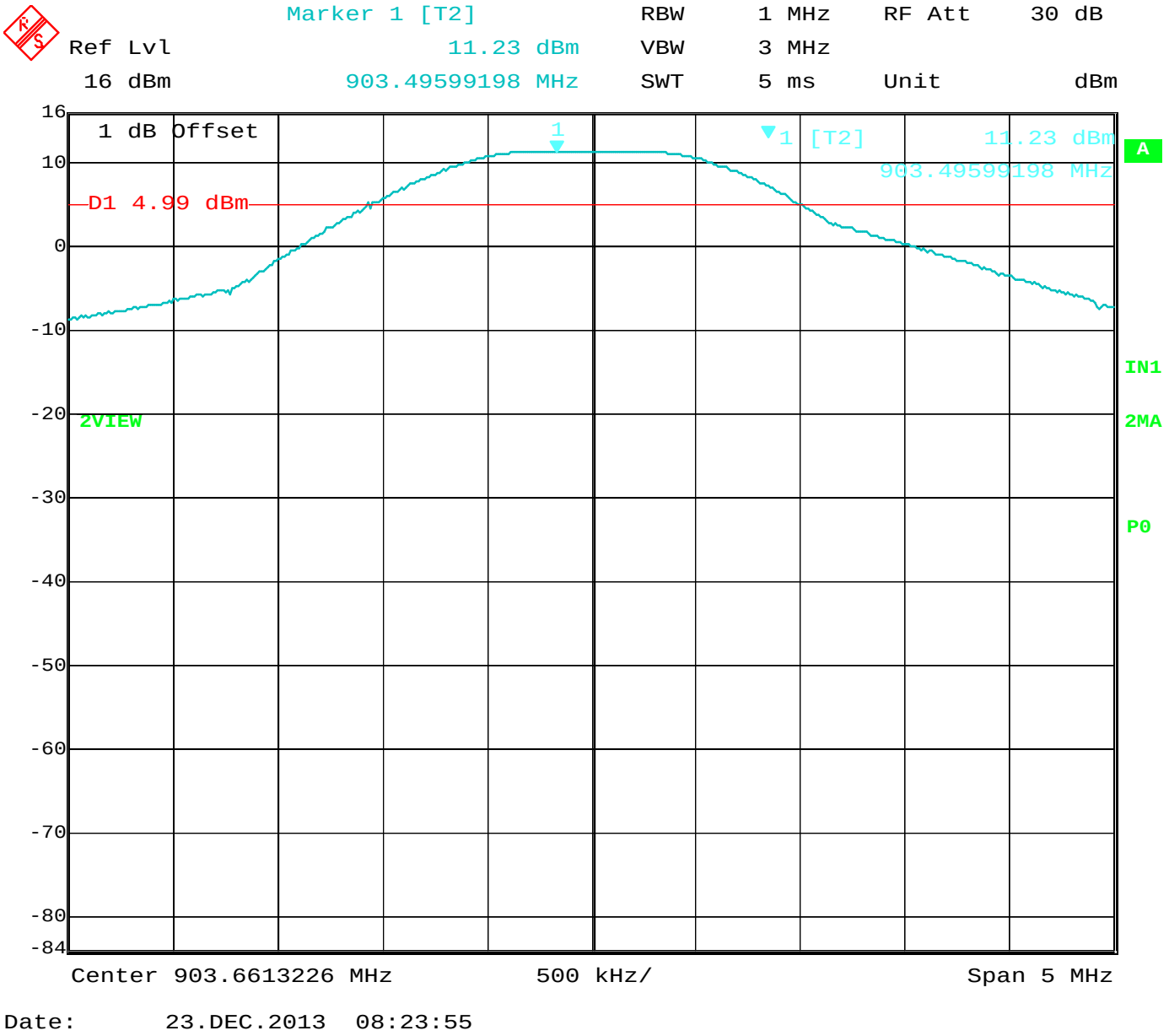


Date: 23.DEC.2013 09:47:18

Bandwidth 6 dB – High Channel

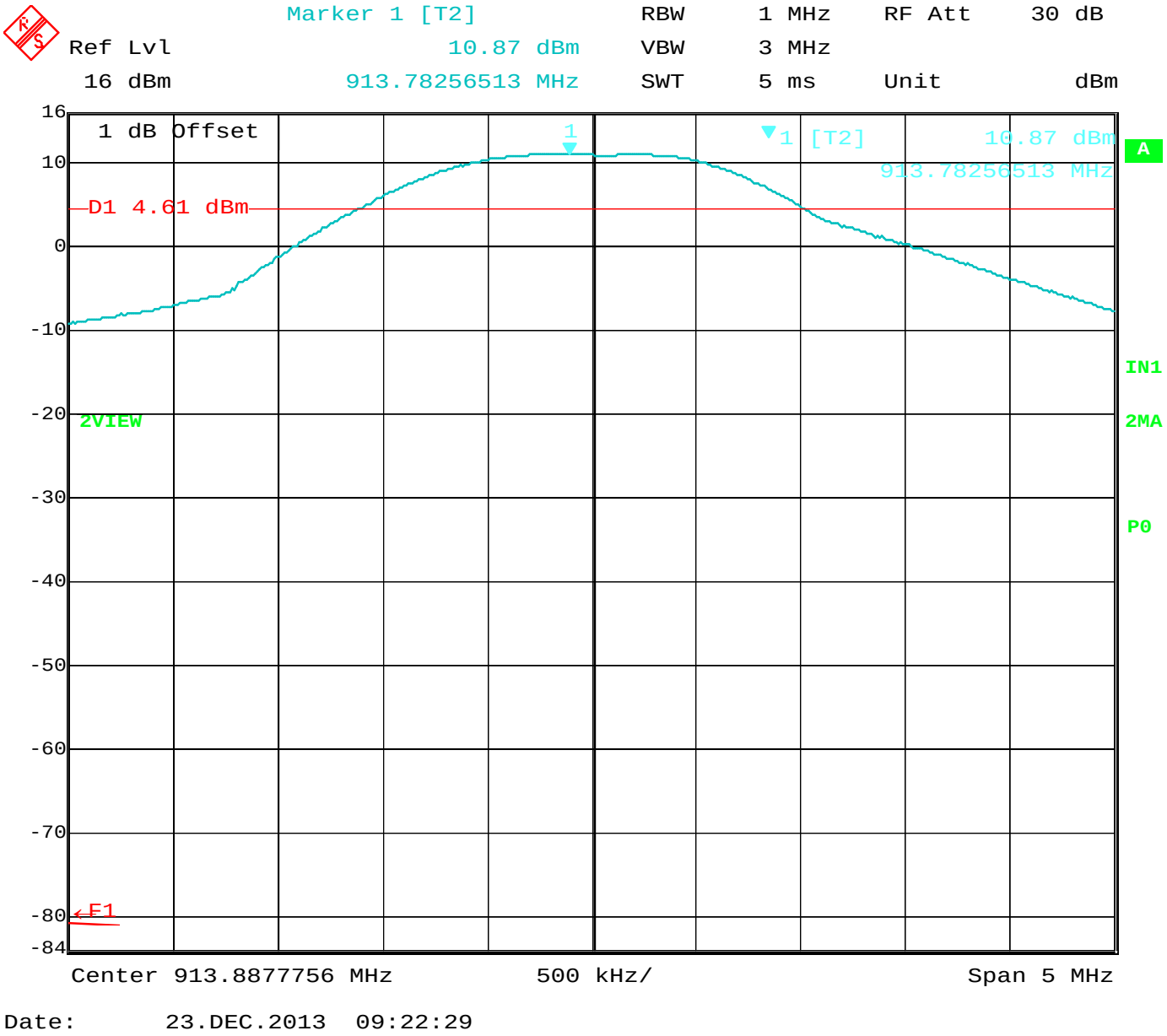
PEAK POWER OUTPUT

DATA SHEETS



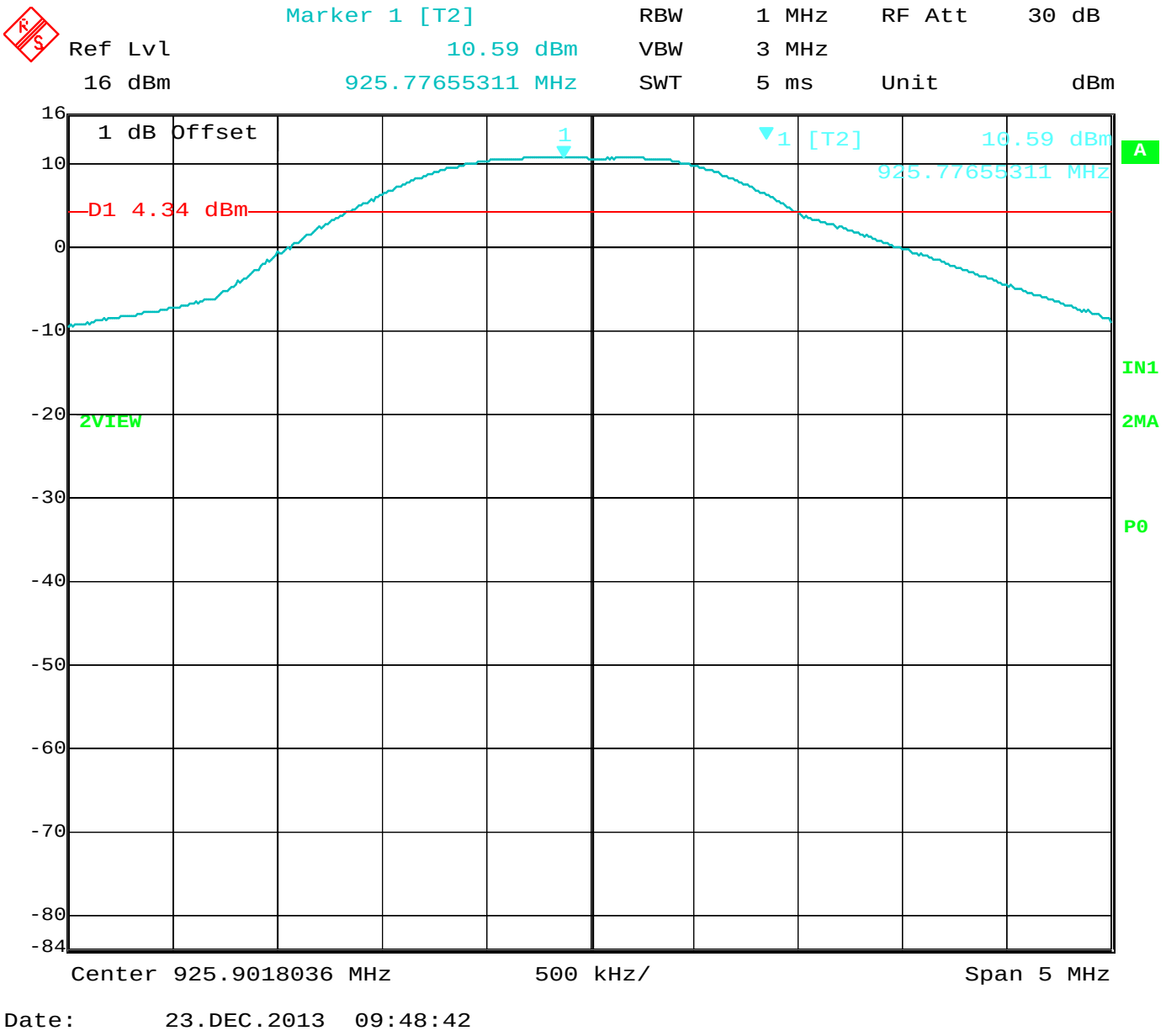
Date: 23.DEC.2013 08:23:55

Peak Power – Low Channel



Date: 23.DEC.2013 09:22:29

Peak Power – Middle Channel

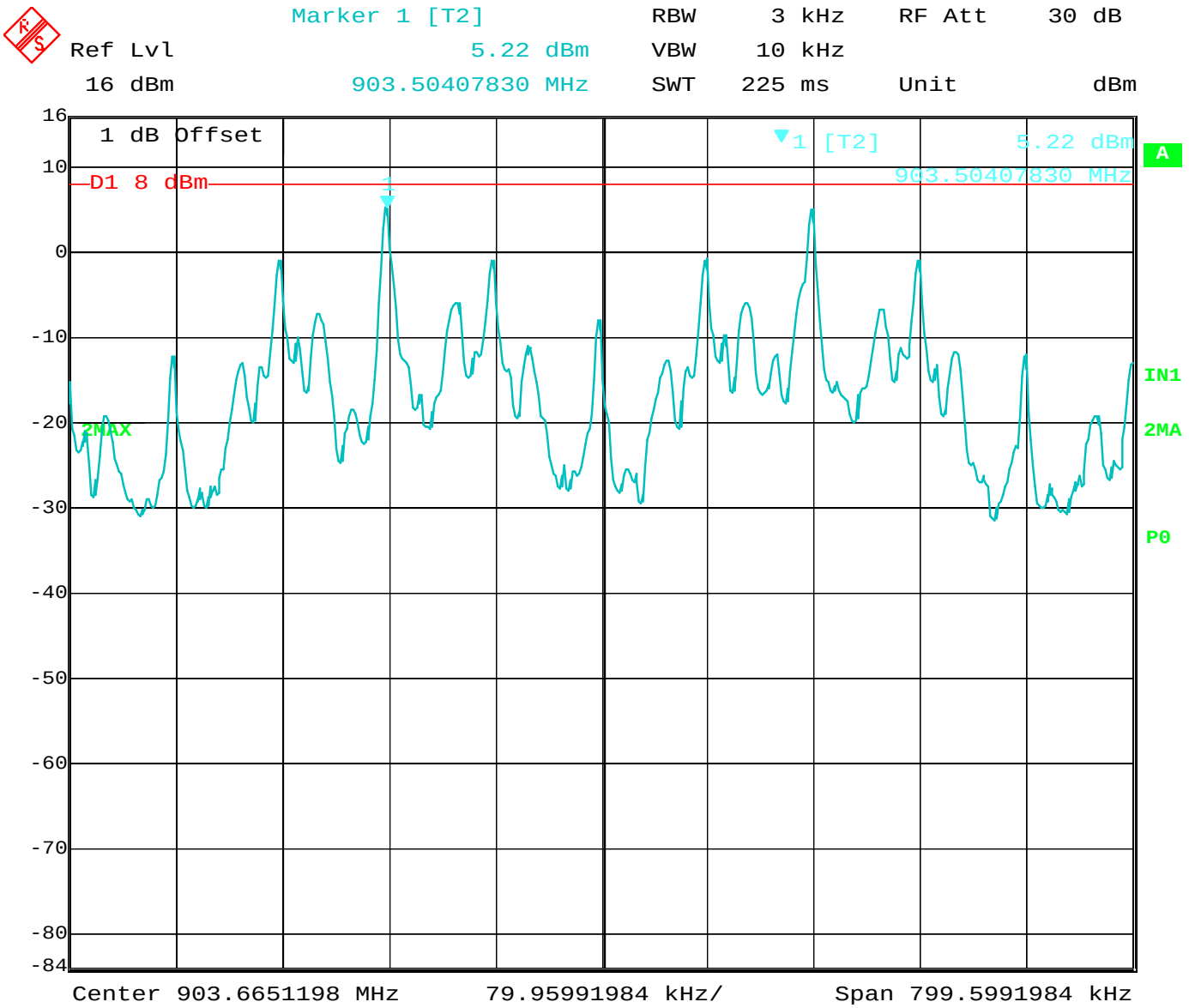


Date: 23.DEC.2013 09:48:42

Peak Power – High Channel

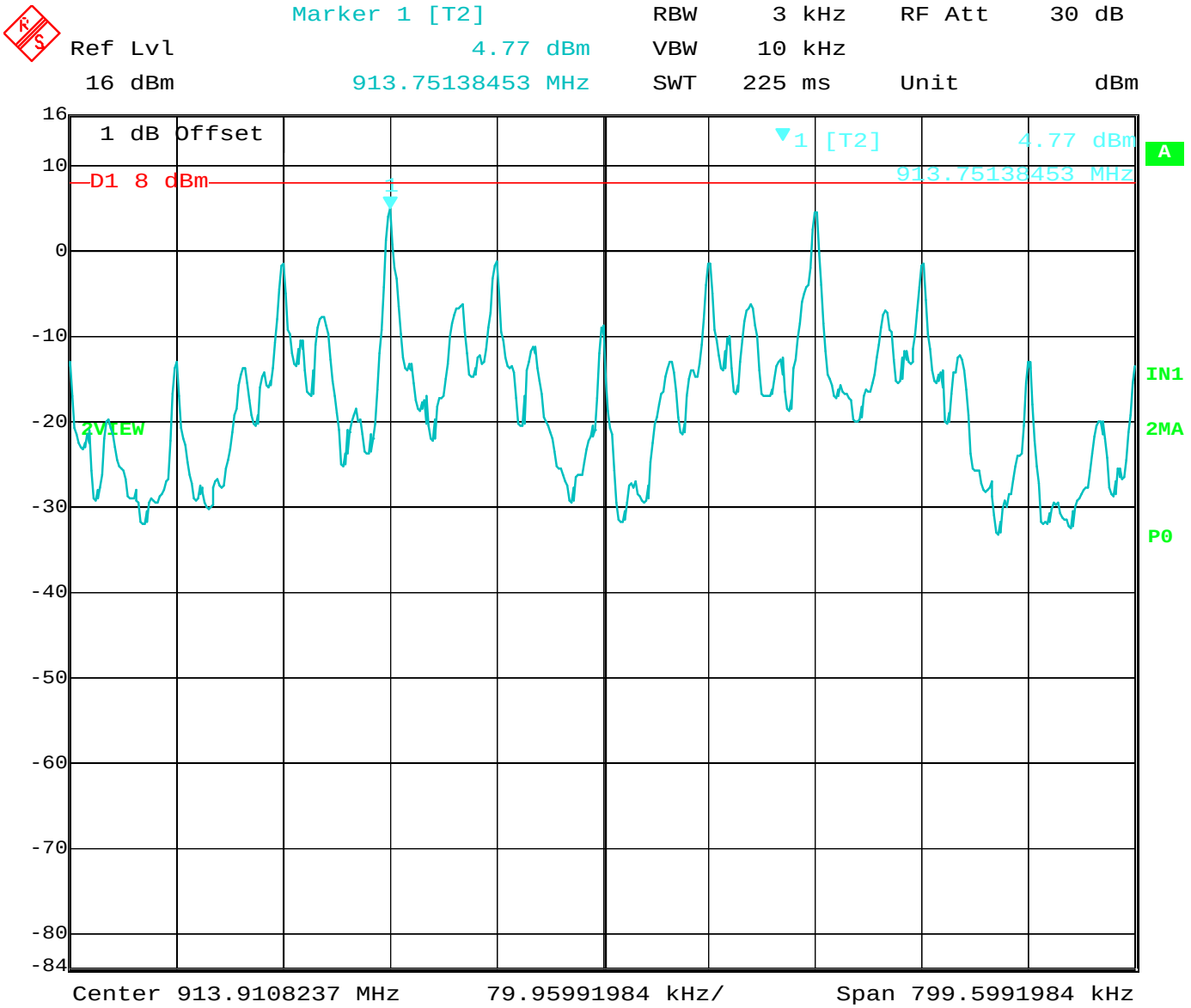
SPECTRAL DENSITY OUTPUT

DATA SHEETS



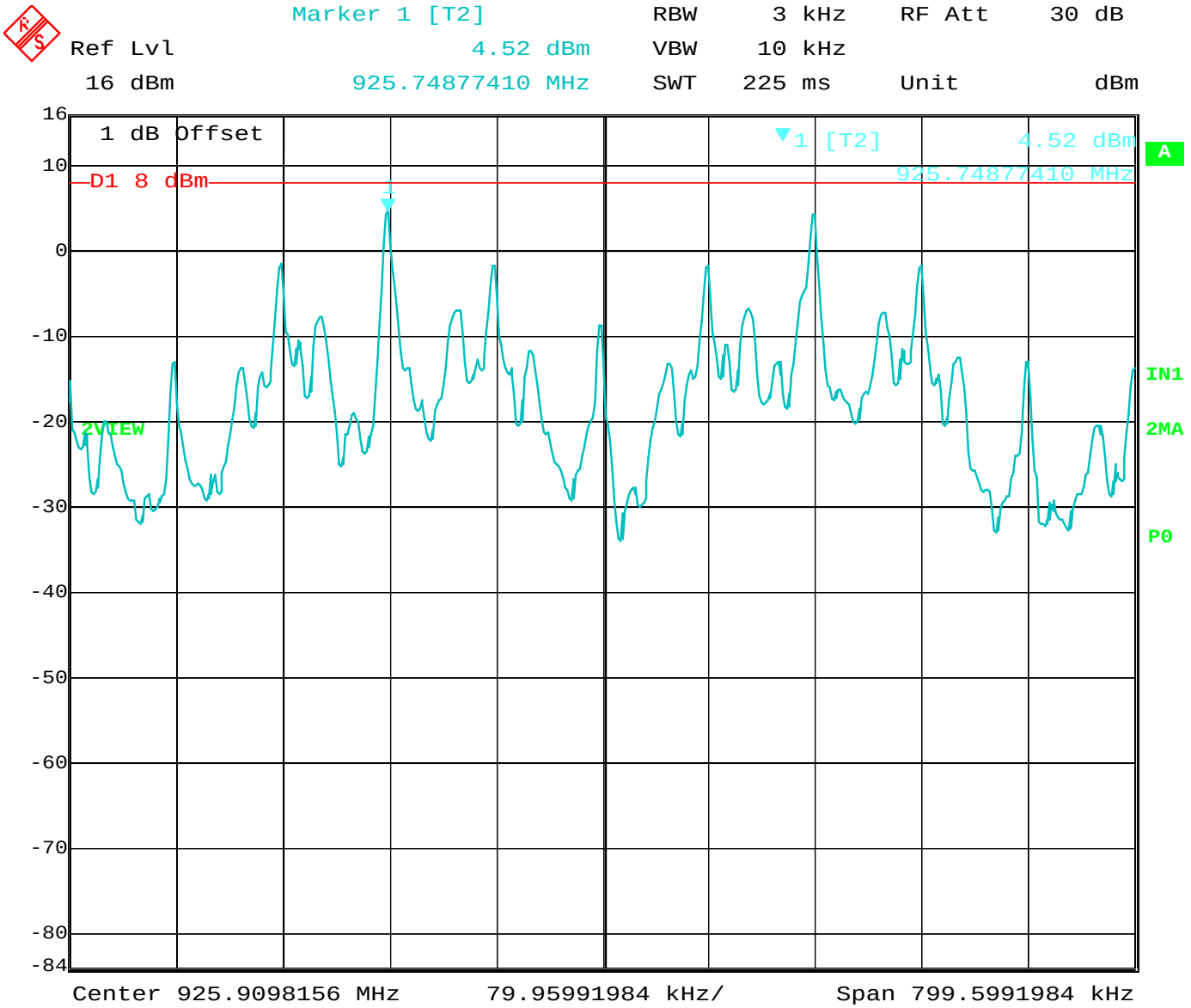
Date: 23.DEC.2013 08:31:49

Spectral Density Output – Low Channel



Date: 23.DEC.2013 09:30:38

Spectral Density Output – Middle Channel

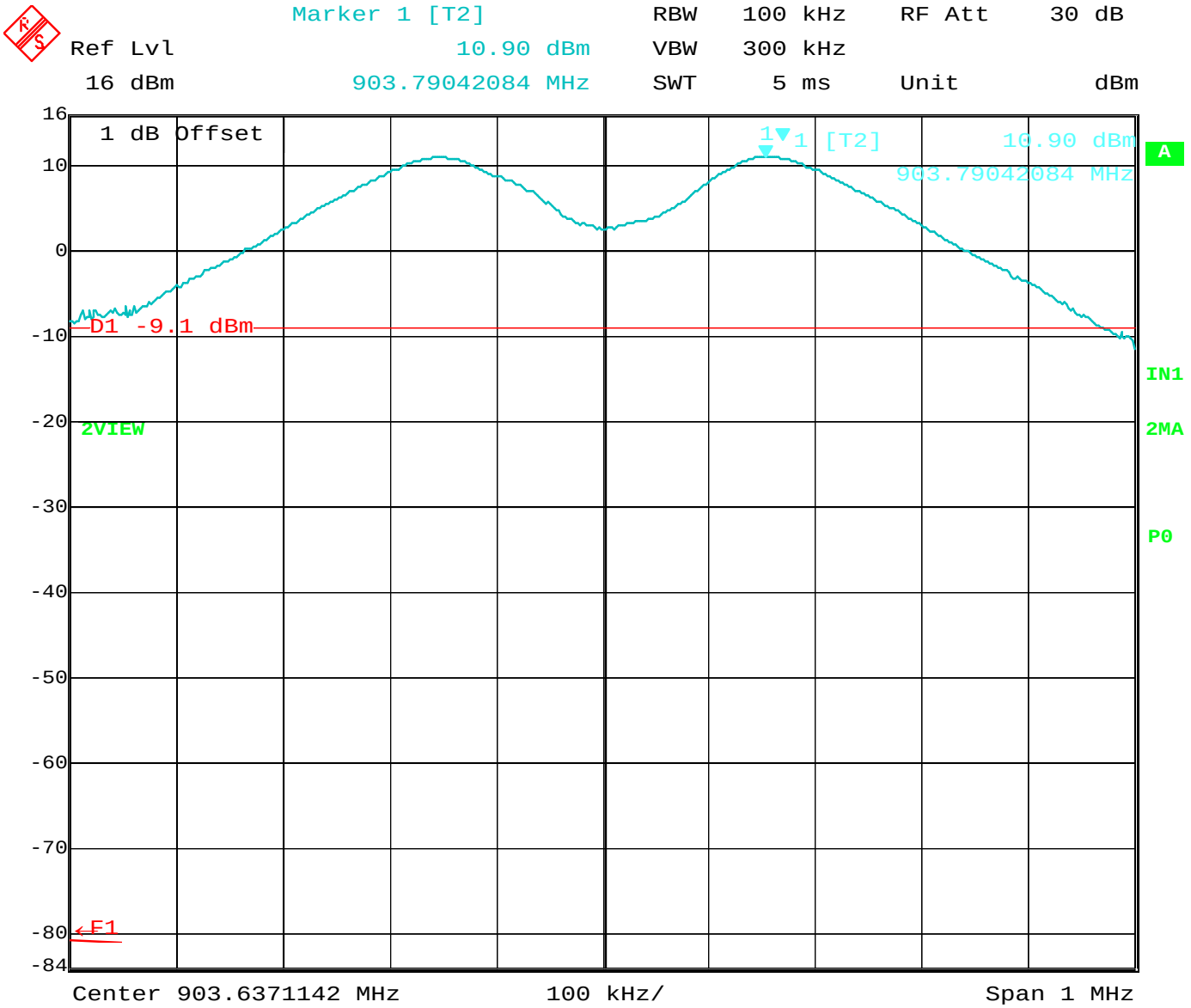


Date: 23.DEC.2013 09:57:29

Spectral Density Output – High Channel

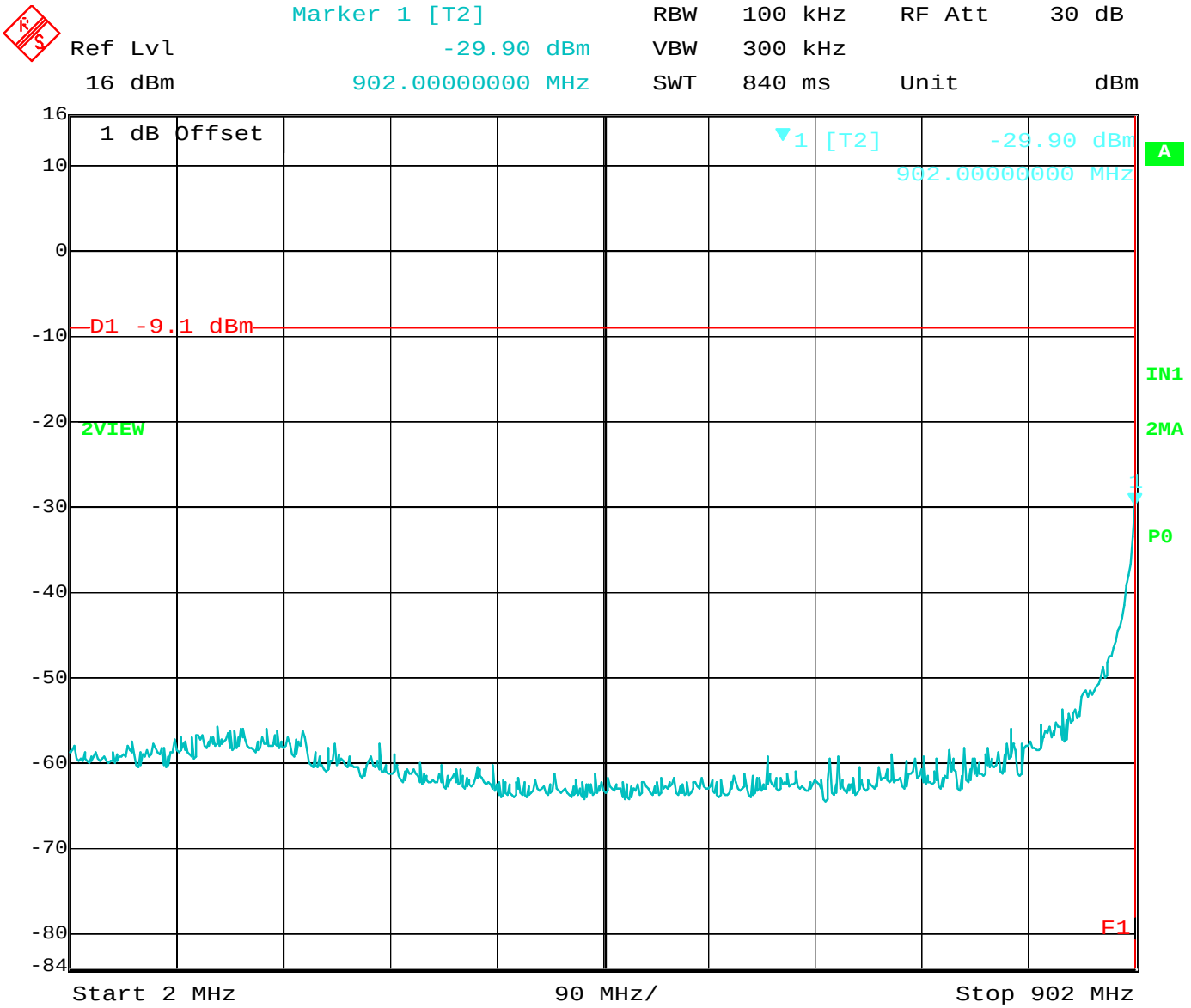
RF ANTENNA CONDUCTED

DATA SHEETS



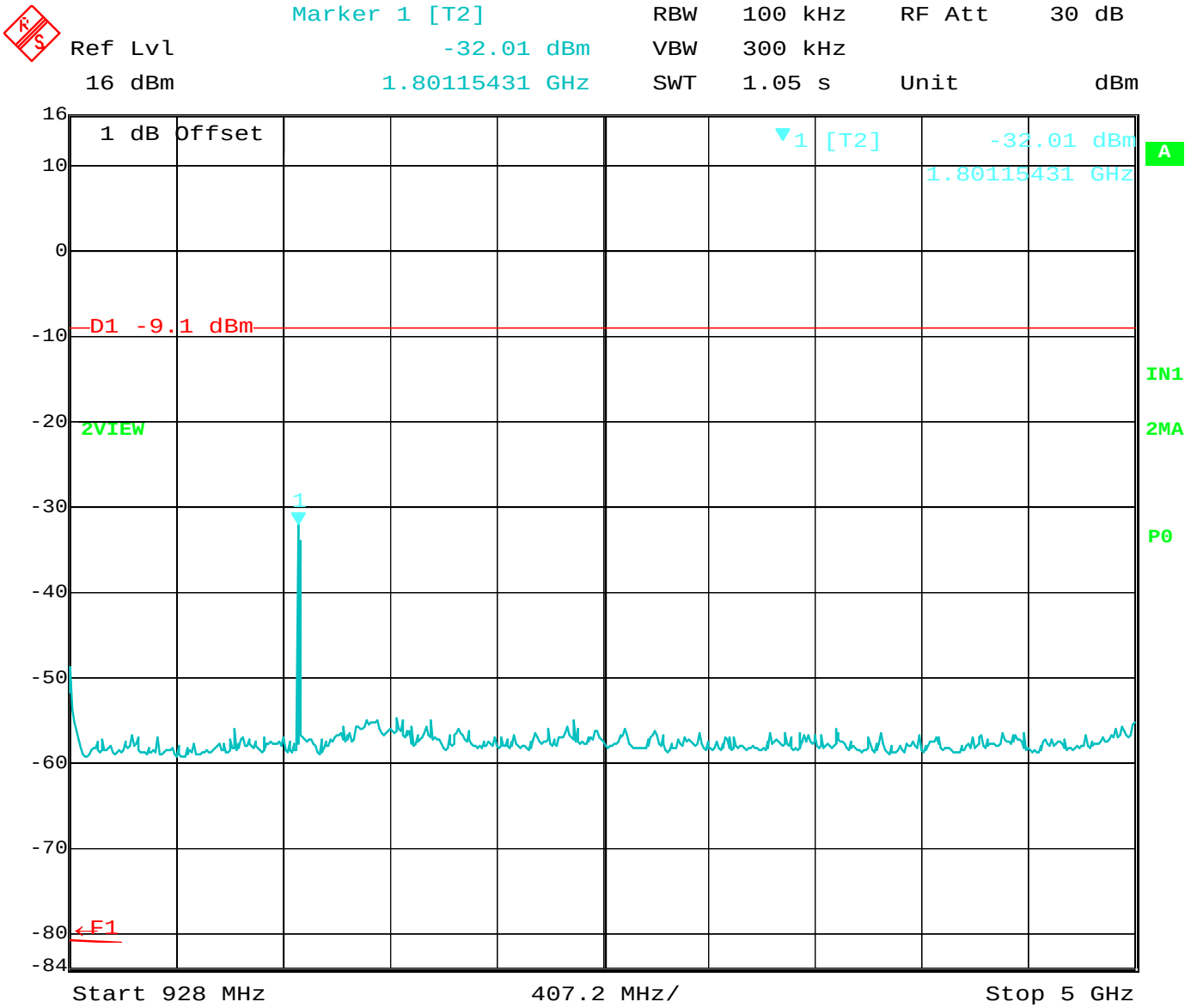
Date: 23.DEC.2013 09:09:34

RF Antenna Conducted – Low Channel – Reference Level



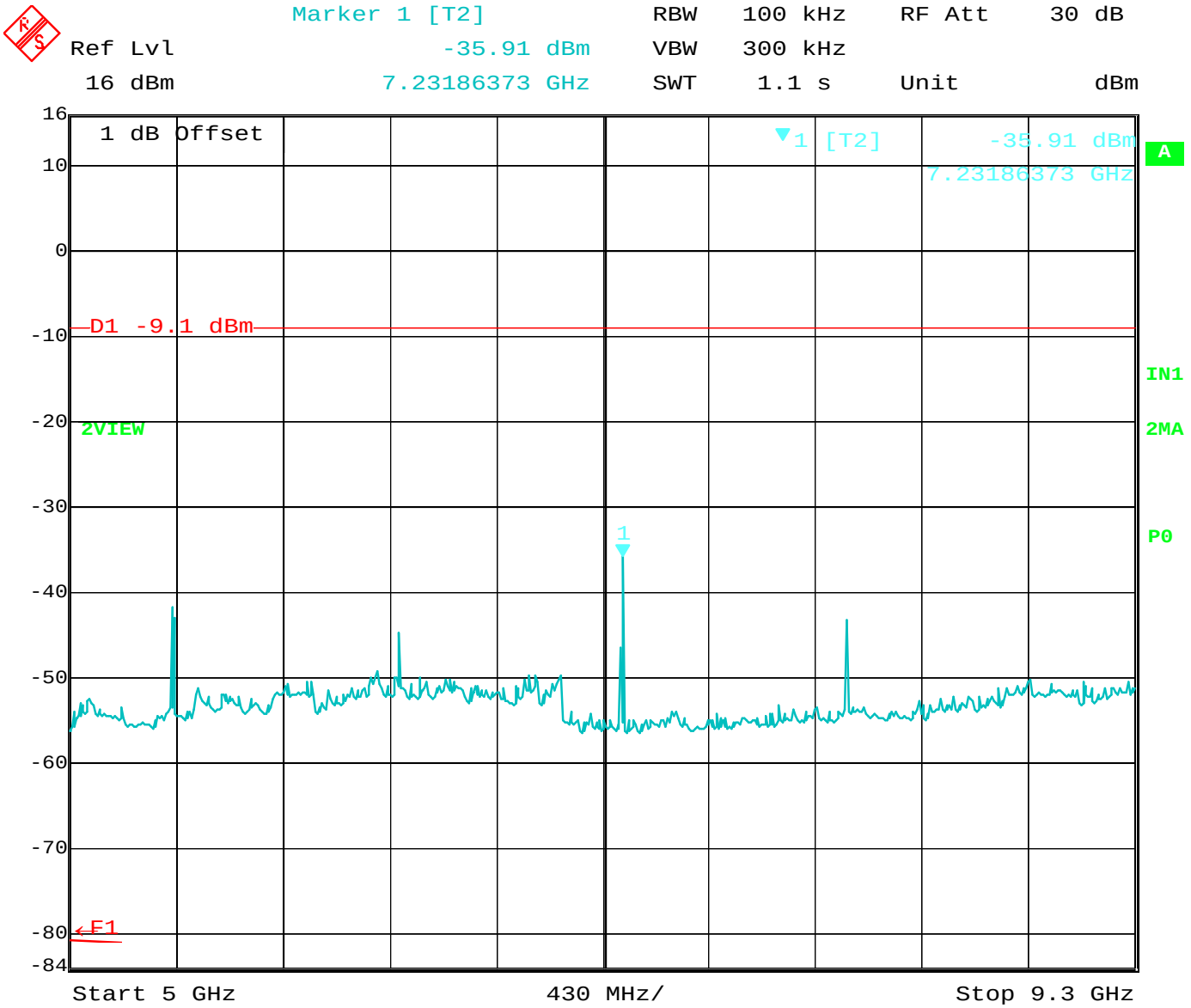
Date: 23.DEC.2013 09:10:44

RF Antenna Conducted – Low Channel – 2 MHz to 902 MHz



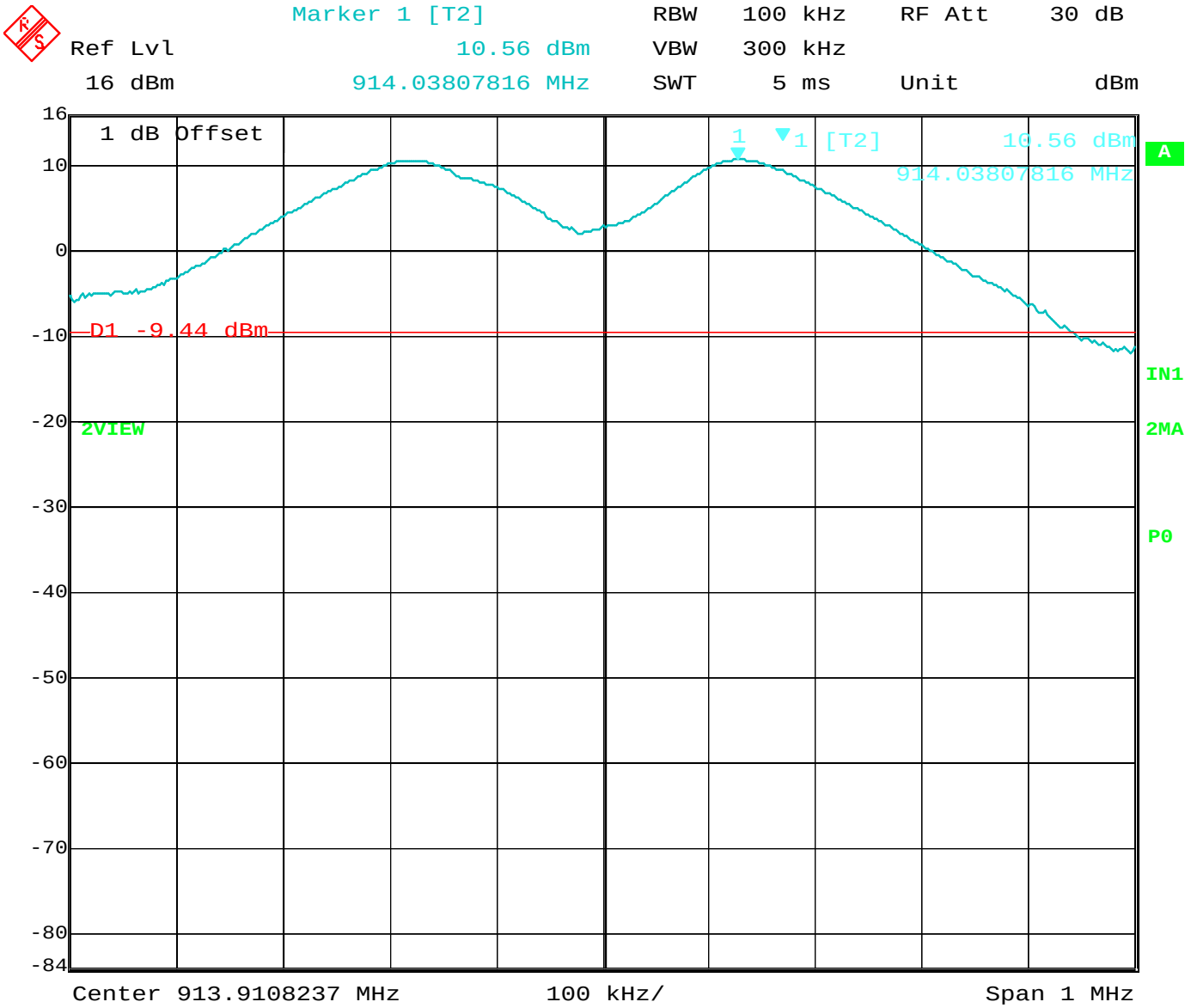
Date: 23.DEC.2013 09:12:43

RF Antenna Conducted – Low Channel – 928 MHz to 5 GHz



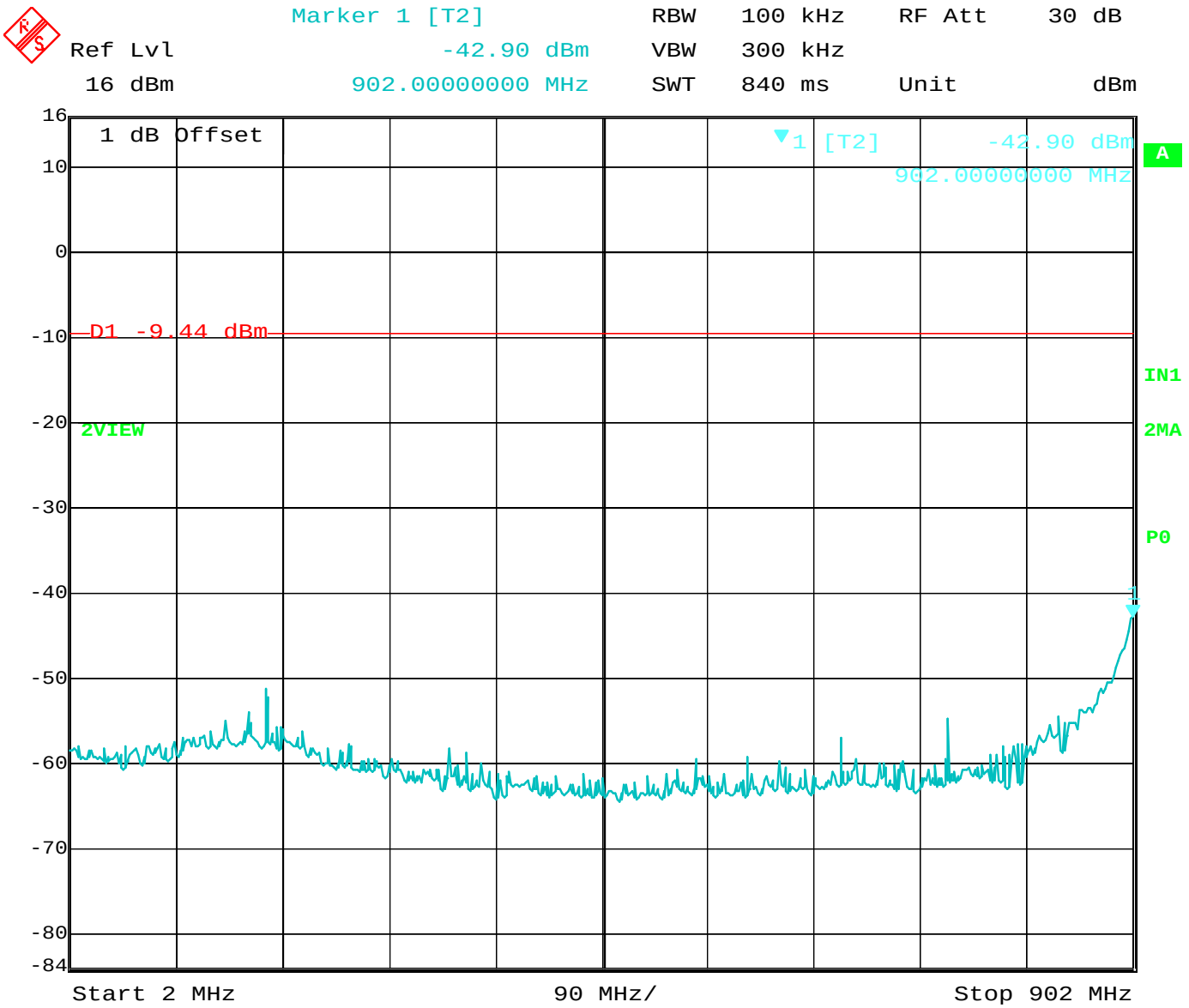
Date: 23.DEC.2013 09:13:37

RF Antenna Conducted – Low Channel – 5 GHz to 9.3 GHz



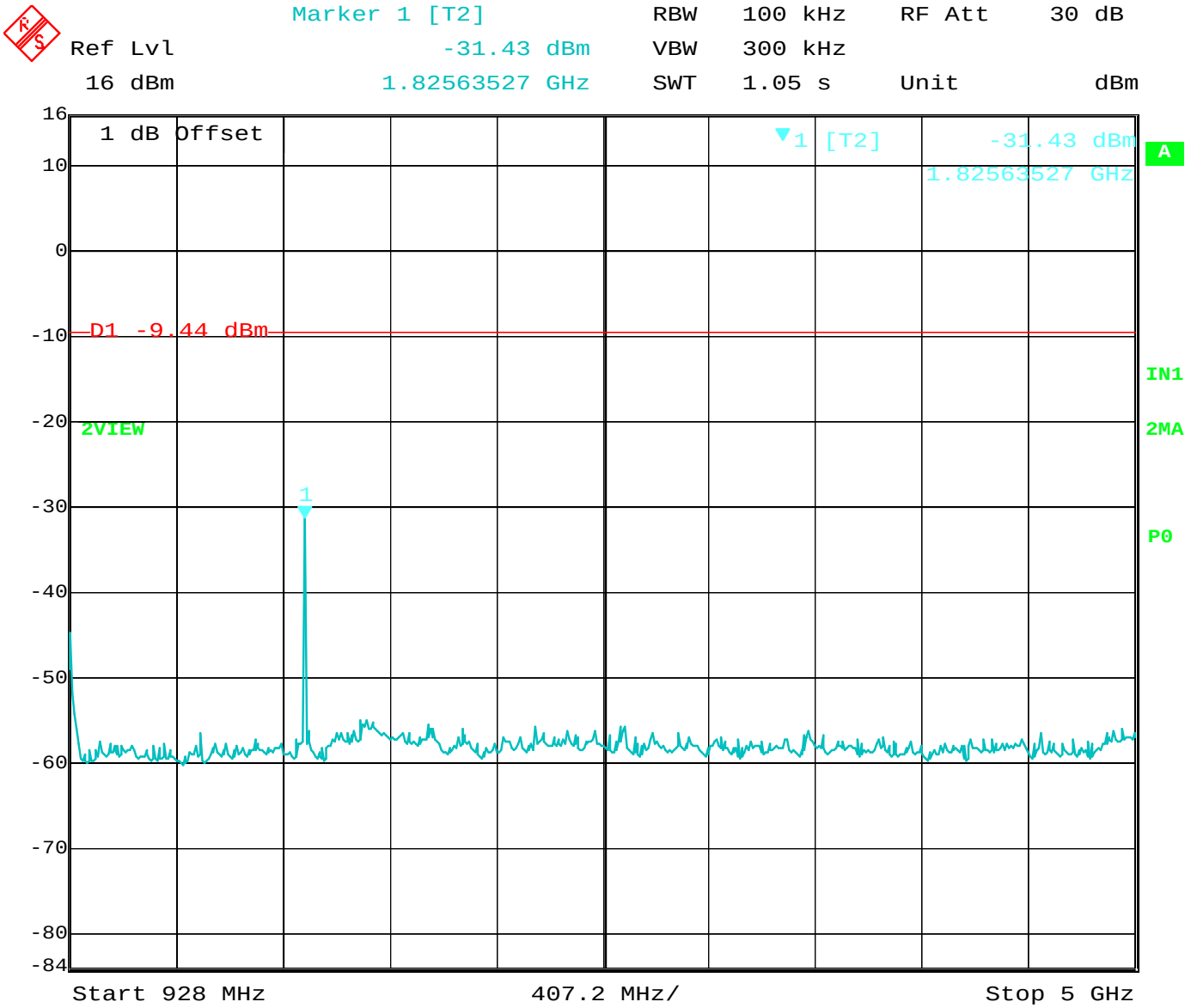
Date: 23.DEC.2013 09:32:28

RF Antenna Conducted – Middle Channel – Reference Level



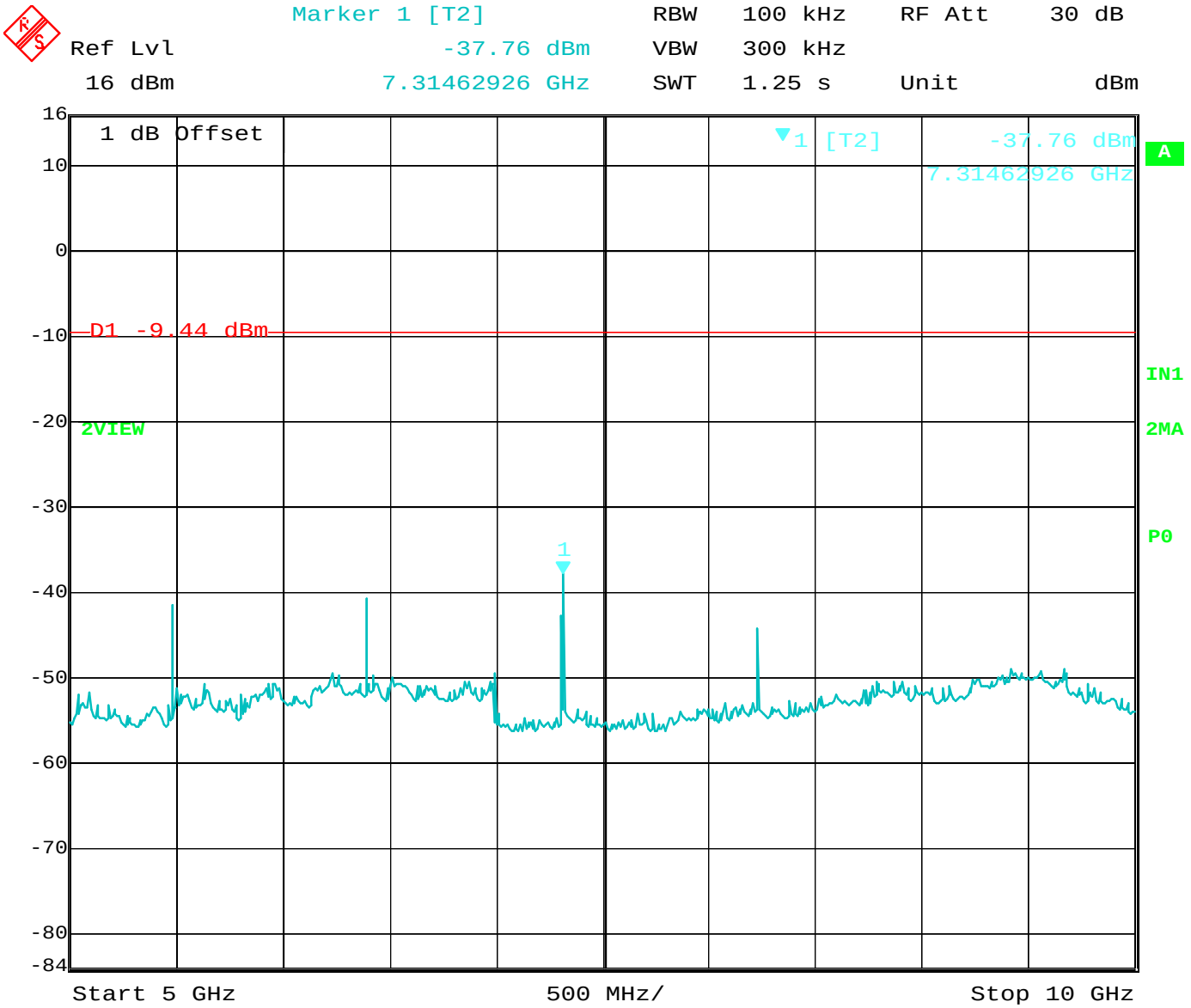
Date: 23.DEC.2013 09:33:19

RF Antenna Conducted – Middle Channel – 2 MHz to 902 MHz



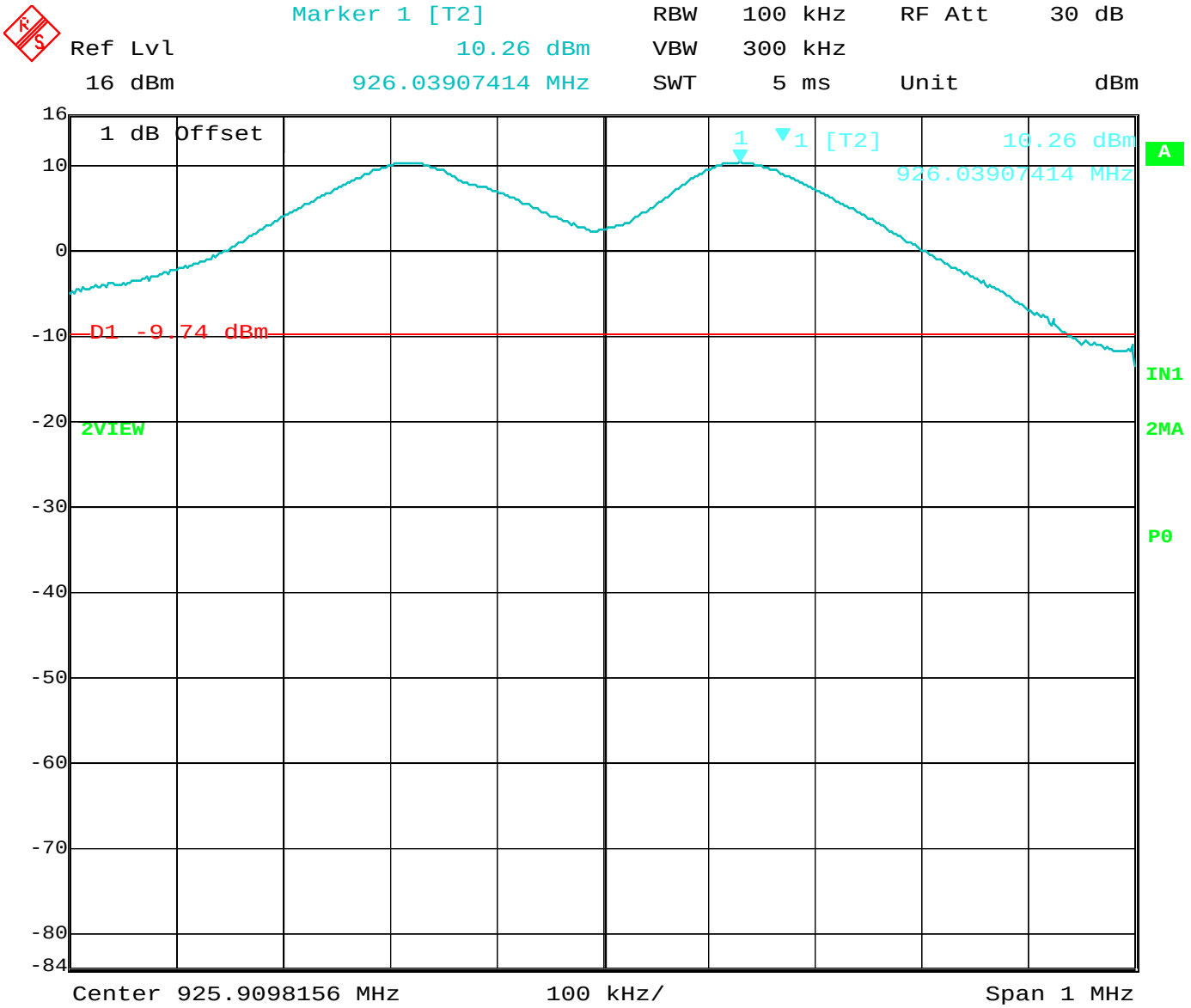
Date: 23.DEC.2013 09:33:53

RF Antenna Conducted – Middle Channel – 928 MHz to 5 GHz



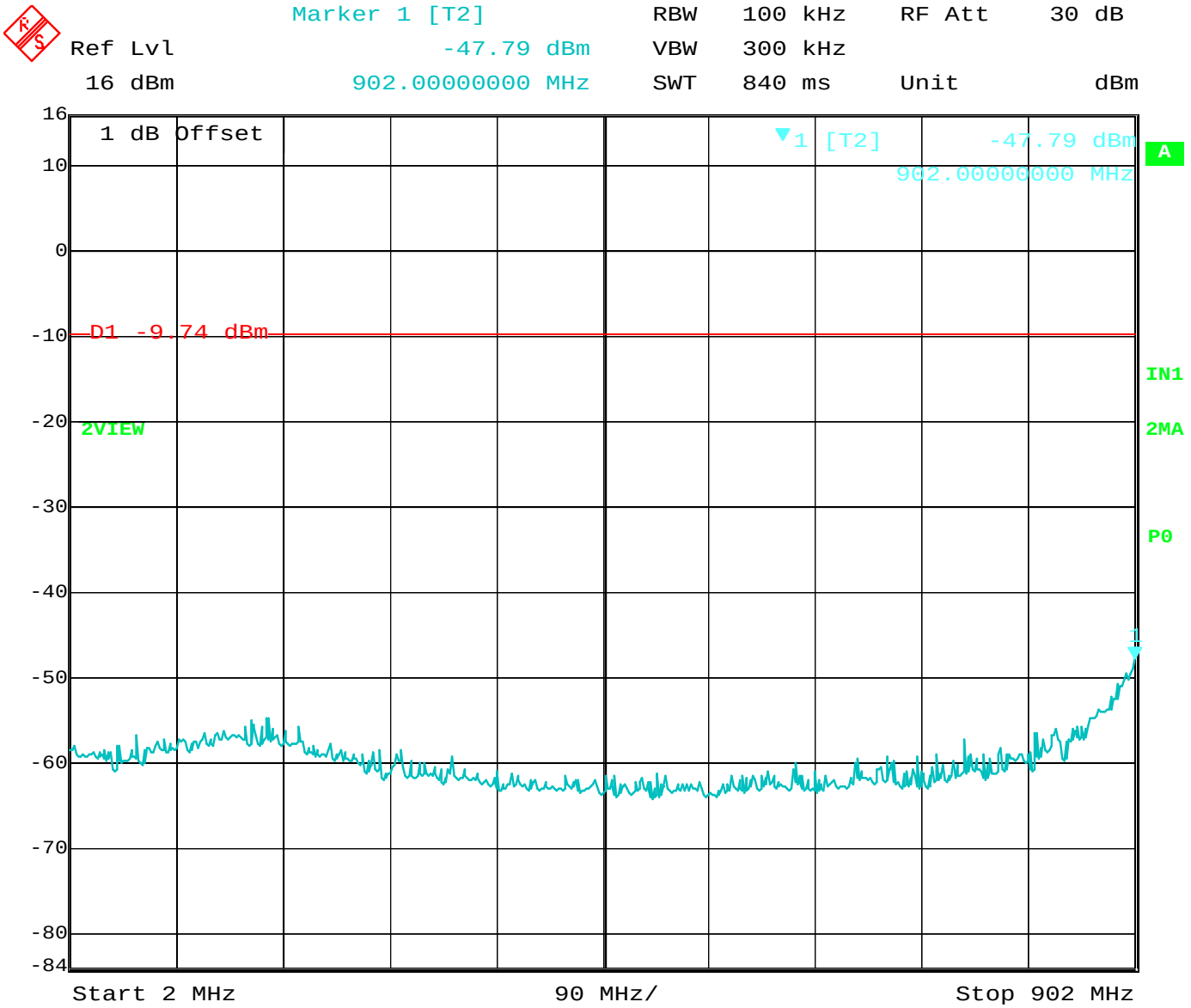
Date: 23.DEC.2013 09:34:27

RF Antenna Conducted – Middle Channel – 5 GHz to 10 GHz



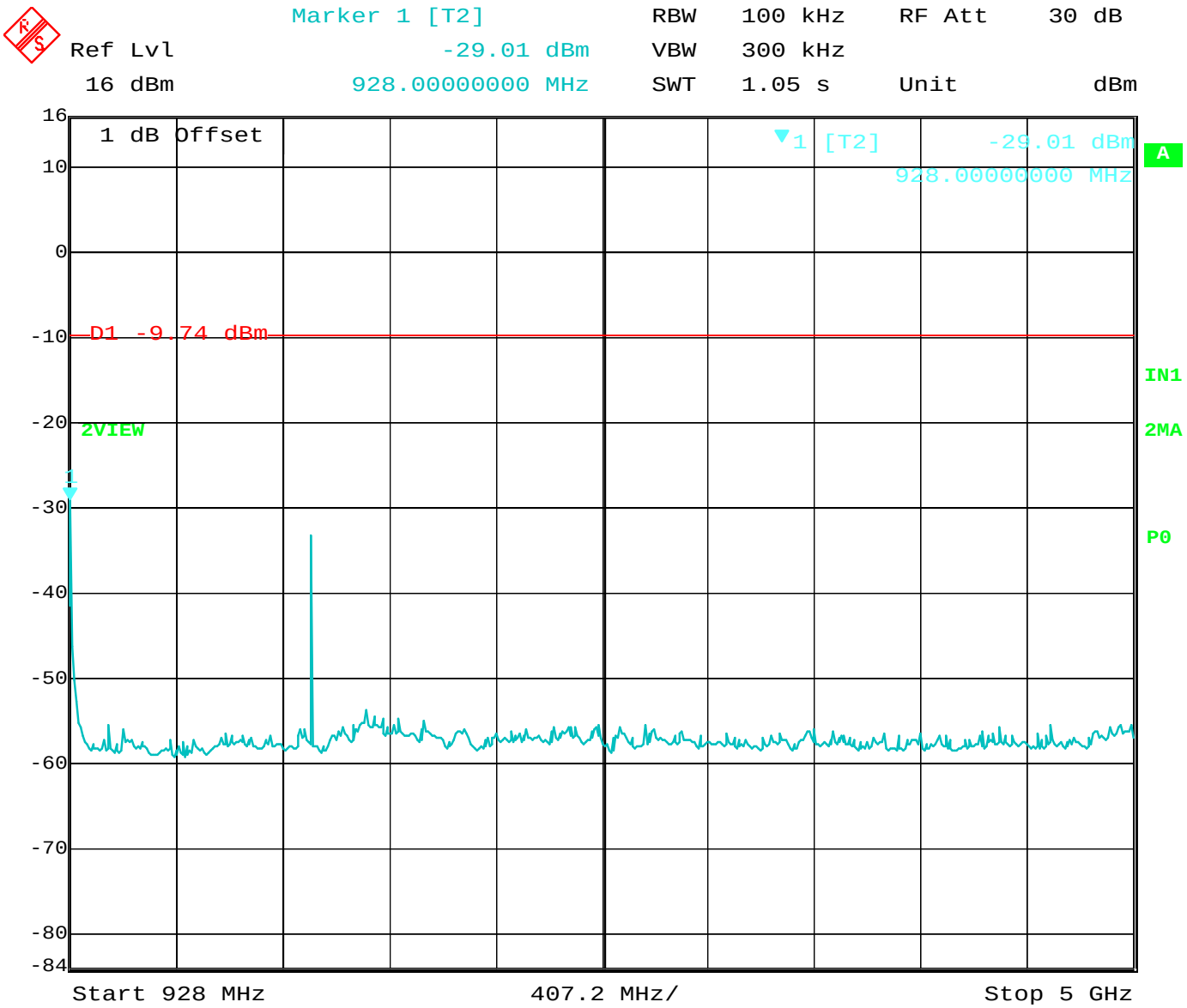
Date: 23.DEC.2013 09:59:15

RF Antenna Conducted – High Channel – Reference Level



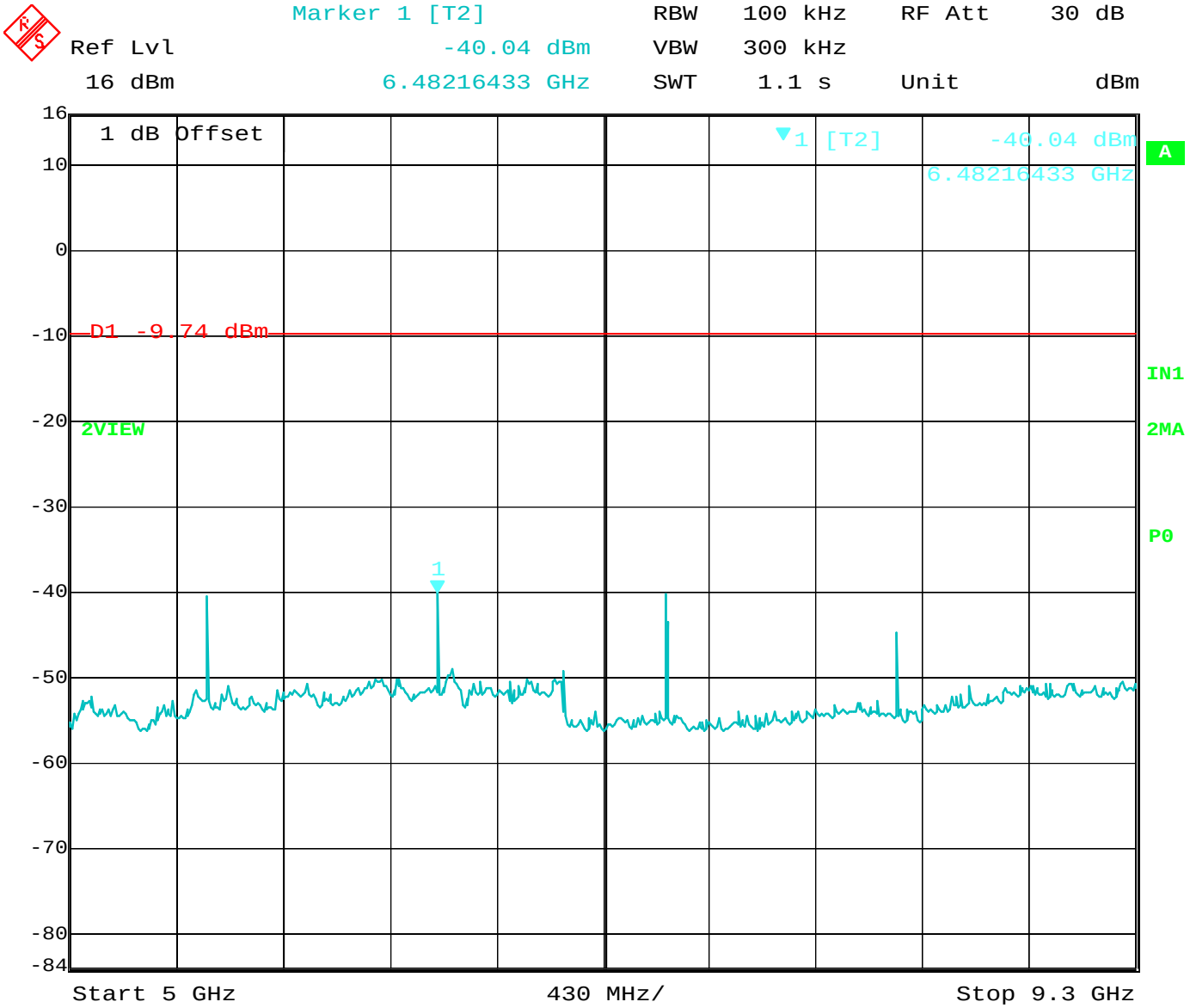
Date: 23.DEC.2013 10:00:20

RF Antenna Conducted – High Channel – 2 MHz to 902 MHz



Date: 23.DEC.2013 10:01:20

RF Antenna Conducted – High Channel – 928 MHz to 5 GHz

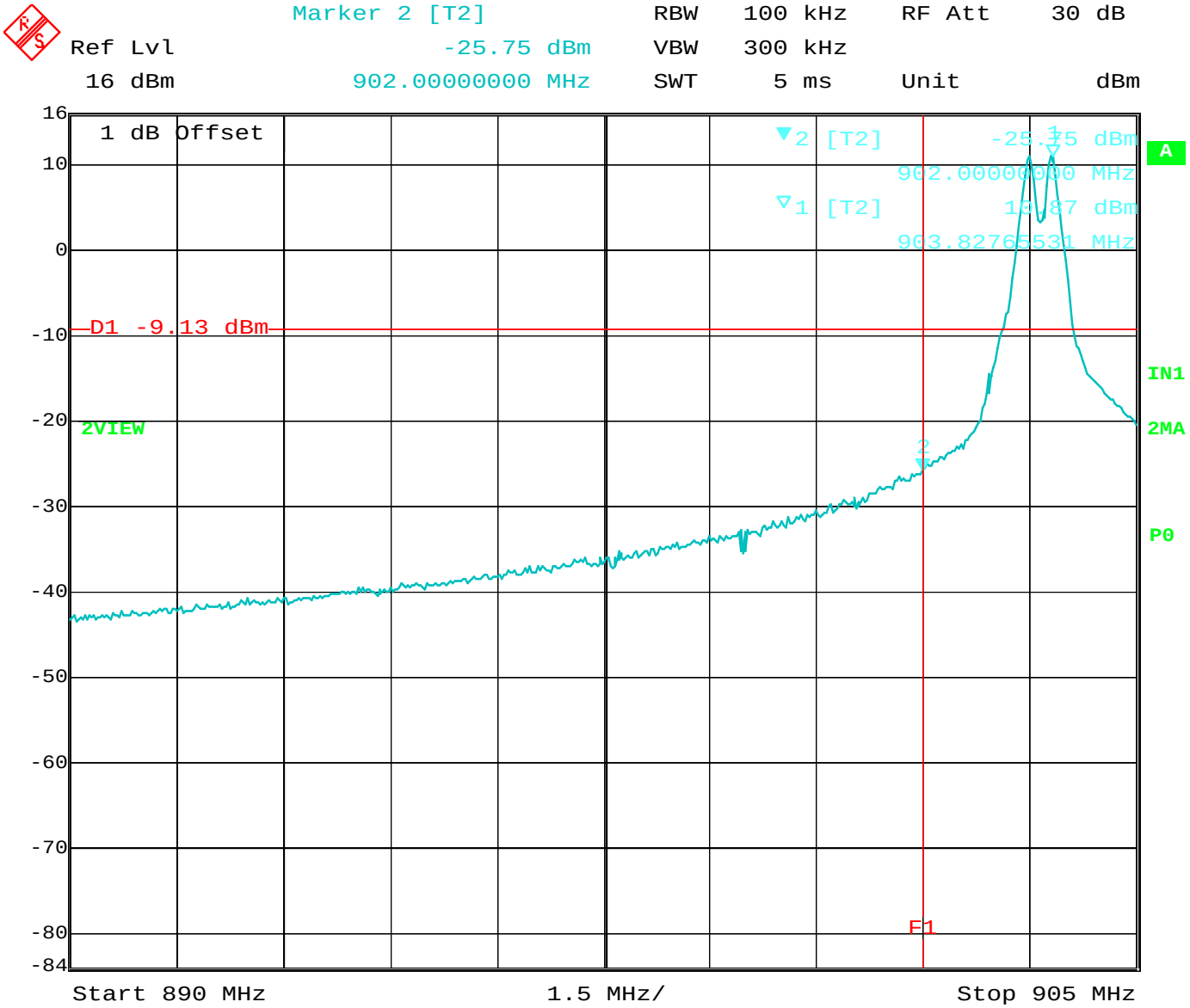


Date: 23.DEC.2013 10:02:19

RF Antenna Conducted – High Channel – 5 GHz to 9.3 GHz

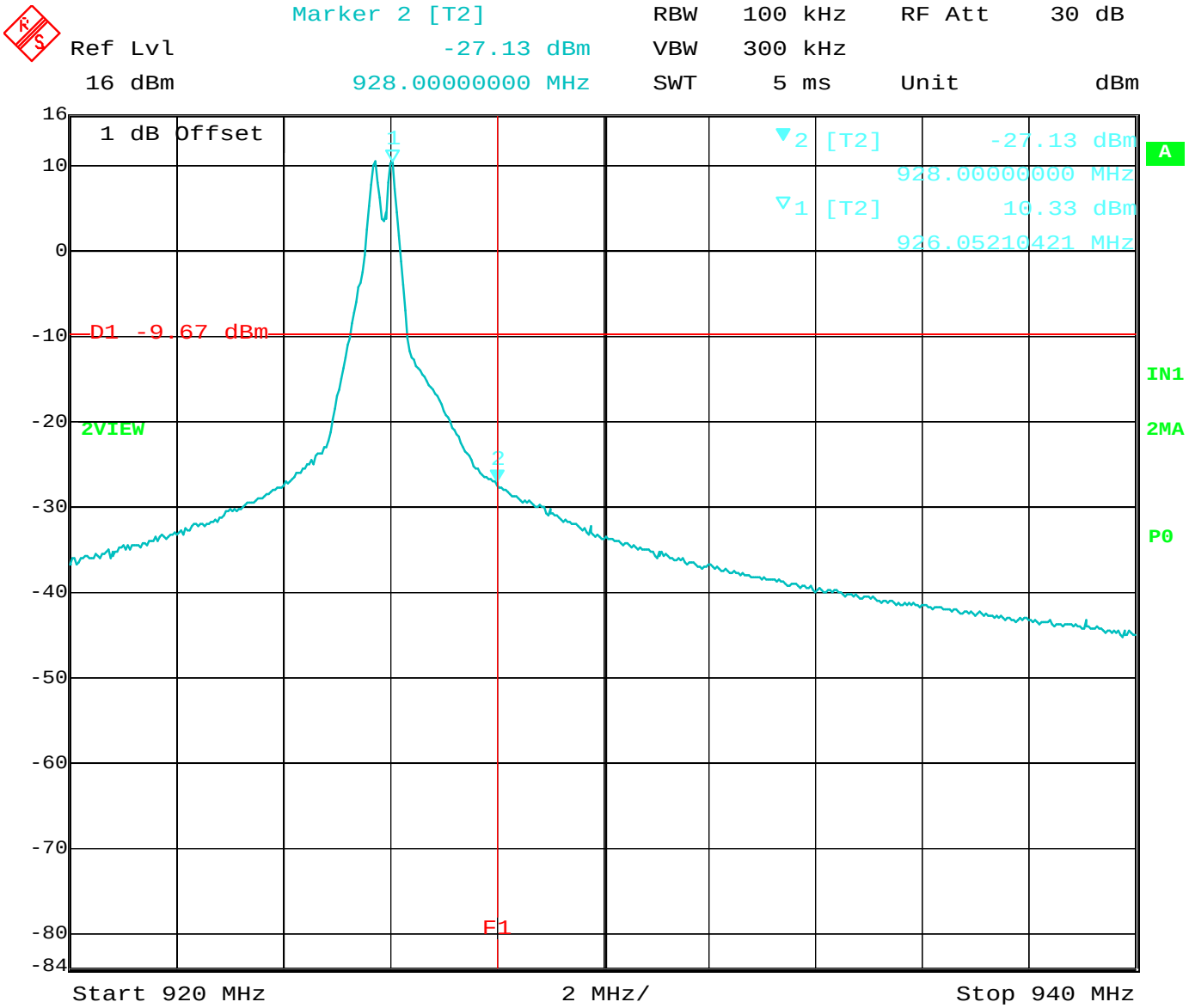
BAND EDGES

DATA SHEETS



Date: 23.DEC.2013 08:58:53

Band Edge – Low Channel



Date: 23.DEC.2013 10:09:25

Band Edge – High Channel