FCC PART 15 SUBPART B & C
TEST REPORT

for

WIRELESS TRANSMITTER

Model: RED LINK

Prepared for

RED.com, Inc.
34 PARKER
IRVINE, CA 92618 USA

Prepared by:_____

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DATE: JANUARY 27, 2012

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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 in any form unless done so in full with the written permission of Compatible Electronics.

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

Device Tested:	Wireless Transmitter Model: RED LINK S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified during testing.
Manufacturer:	RED.com, Inc. 34 Parker Irvine, California 92618
Test Dates:	October 20th, 21st, 26th, 28th, 31st, 2011 and January 27th 2012.
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

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 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 15.207
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 – 25000 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)
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 25 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 – 25 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	6 dB Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247
7	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247
8	RF Conducted Antenna Test	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247
9	Band Edges	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247
10	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

SIX HIGHEST RADIATED EMISSIONS READINGS

	Reading Type (PK / QP / AV)	Polarization (Vert / Horz)	Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Delta (dB)	Test Distance	TX / RX
1	QP	V	48.00	34.44	40.00	-5.56	3-meter	TX
2	QP	V	48.00	33.71	40.00	-6.29	3-meter	RX
3	QP	V	144.00	35.96	43.52	-7.56	3-meter	RX
4	QP	V	144.00	33.49	43.52	-10.03	3-meter	TX
5	QP	H	336.00	35.27	46.00	-10.73	3-meter	RX
6	QP	V	51.90	29.21	40.00	-10.79	3-meter	RX

SIX HIGHEST CONDUCTED EMISSIONS READINGS 120 VAC Input, 60 Hz

Freq (MHz)	(AVG) Margin AVL(dB)	(QP) Margin QPL(dB)	(AVG) EMI (dBµV)	(QP) EMI (dBµV)	(PEAK) EMI (dBµV)	(AVG) Limit (dBµV)	(QP) Limit (dBµV)	Line / Neutral	TX RX
0.15	-31.43	-23.18	24.03	42.28	48.18	55.46	65.46	L	RX
0.17	-33.49	-23.96	21.17	40.70	46.4	54.66	64.66	L	TX
0.15	-33.55	-24.05	21.91	41.40	49.46	55.46	65.46	L	TX
0.17	-34.03	-24.92	20.63	39.74	53.94	54.66	64.66	L	RX
0.18	-32.73	-25.36	21.38	38.76	45.19	54.11	64.11	L	RX
0.19	-35.99	-27.56	17.45	35.87	43.34	53.44	63.44	L	RX

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on Wireless Transmitter Model: RED Link. The EMI measurements were performed according to the measurement procedure described in ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT (equipment under test) hereafter, are within the **Class B** specification limits defined by the Code of Federal Regulations 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, 20621 Pascal Way Lake Forest, California 92630.

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

RED.com, Inc.

Candy Campbell	Regulatory Compliance

Compatible Electronics Inc.

Josh Hansen	Lab Manager
Matt Harrison	Test Technician
Joey Madlangbayan	Test Engineer
Jeff Klinger	Director of Engineering

2.4 Date Test Sample was Received

The test sample was received on October 26, 2011.

2.5 Disposition of the Test Sample

The test sample was returned to RED.com, Inc.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
PCB	Printed Circuit Board
TX	Transmit
RX	Receive

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 B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.10: 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The Wireless Transmitter Model: RED LINK (EUT) was setup in a tabletop configuration. The Antenna assembly was connected to the EUT via U.FL connector. The EUT was connected to the adapter board via two ribbon cable clamps. The adapter board was connected to the Laptop Via USB cable which controlled the EUT. The EUT was continuously transmitting a data stream or continuously receiving. The low, mid, and high channels were explored to determine the worst case emissions.

The host AC mains voltage was varied from a nominal 102 volts to 138 volts AC resulting with no variation of amplitude or frequency.

The low, middle, and high channels were investigated in each mode of operation and the X, Y, and Z axis were investigated and the worst case orientation is represented.

It was determined that the emissions were at their highest level when the EUT was transmitting in the X axis; high channel for Radiated Emissions and the mid channel for Conducted Emissions. The cables were moved to maximize the emissions. The final conducted as well as radiated data was taken in the above configuration. The cables were routed as shown in the photographs in Appendix D. Please see Appendix E for the test data.

4.1.1 Photograph Test Configuration - EMI

4.1.2 Cable Construction and Termination

Cable 1

This is a 7 meter braid/foil shielded USB cable connecting the EUT to the Laptop. It has a USB Type A connector at the Laptop end and USB Mini connector at the EUT end. The cable was not bundled. The shield of the cable was grounded via the connectors.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

#	EQUIPMENT TYPE	MANU-FACTURER	MODEL	SERIAL NUMBER	FCC ID
EUT	WIRELESS TRANSMITTER	RED.COM, INC.	RED LINK	N/A	YGA003
1	LAPTOP	DELL	LATITUDE E6500	38613769993	N/A
2	PSU-LAPTOP	DELL	LA90PE1-01	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Computer	Compatible Electronics	NONE	NONE	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100219	9/29/2011	9/29/2012
Antenna, Loop	Com Power	AL-130	17085	1/26/2011	1/26/2012
Antenna, CombiLog	Com Power	AC-220	25857	6/7/2011	6/7/2012
Antenna, Horn 1-18GHz	Com Power	AH-118	071250	10/01/2011	10/01/2012
Antenna, Horn 18-26GHz	Com Power	AH-826	81033	N.C.R.	N.C.R.
Pre-Amp, 1-18GHz	Com Power	PA-122	01321	2/01/2011	2/01/2012
Pre-Amp, 1-18GHz	Com Power	PA-122	25196	6/8/2011	6/8/2012
Pre-Amp, 18-40GHz	Com Power	PA-840	181289	6/7/2011	6/7/2012
LISN	Com Power	LI-215	25386	7/26/2011	7/26/2012
LISN	Com Power	LI-215	12076	6/20/2011	6/20/2012
Mast, Antenna Positioner	Sunol Science Corporation	TWR 95-4	020808-3	N/A	N/A
Antenna Mast	Sunol Science Corporation	TWR 95-4	020808-3	N/A	N/A
Turntable	Sunol Science Corporation	FM 2001	N/A	N/A	N/A
Mast and Turntable Controller	Sunol Science Corporation	SC104V	020808-1	N/A	N/A
Power Measuring Analyzer	Boonton Electronics	4500A-01	1282	5/5/2011	5/5/2013
Peak Power Sensor	Boonton Electronics	57318	3724	5/5/2011	5/5/2013
Peak Power Sensor	Boonton Electronics	57318	3723	5/5/2011	5/5/2013

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 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 by 0.8 meter high non-conductive table, which was placed on the ground plane.

The EUT was grounded via the AC power cord on the remote laptop computer.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

6.4 Measurement Uncertainty

"Compatible Electronics' U_{lab} value is less than U_{cispr}, thus based on this − compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.

$$u_c(y) = \sqrt{\sum_i c_i^2 \; u^2(x_i)}$$

Measurement		U_{cispr}	$U_{lab} = 2\,uc\,(y)$
Conducted disturbance (mains port)	(150 kHz – 30 MHz)	4,0 dB 3,6 dB	2.88
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(30 MHz – 1 000 MHz)	5,2 dB	4.04

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.

PEAK Power	Channel
19.08 dBm	LOW
18.48 dBm	MIDDLE
18.02 dBm	HIGH

7.2 Channel Number and Frequencies

There are a total of 16 channels. The low channel is at 2405.0 MHz and the high channel is at 2480.0 MHz. There is a 5 MHz separation between each channel.

1 == 2405 MHz
2 == 2410 MHz
3 == 2415 MHz
4 == 2420 MHz
5 == 2425 MHz
6 == 2430 MHz
7 == 2435 MHz
8 == 2440 MHz
9 == 2445 MHz
10 == 2450 MHz
11 == 2455 MHz
12 == 2460 MHz
13 == 2465 MHz
14 == 2470 MHz
15 == 2475 MHz
16 == 2480 MHz

7.3 Antenna

The antenna is a custom made antenna assembly and has a gain of 3.89 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 EMI receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. The LISN output was measured using the EMI receiver. 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 received its power through the LISN, which was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63.4. 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 computer software. The final qualification data is located in Appendix E.

Test Results:

The EUT complies with the Class B limits of CFR Title 47, Part 15 Subpart B Section 15.107 and Subpart C Section 15.207.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The receiver was used as a measuring meter. The receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the receiver records the highest measured reading over all the sweeps. Amplifiers were used to increase the sensitivity of the instrument. Two Microwave Preamplifiers were used for frequencies above 1 GHz, and one Microwave Preamplifier was used for frequencies above 18 GHz.

The quasi-peak detector was used for frequencies below 1GHz and the average detector was used for frequencies above 1 GHz.

The harmonics were averaged using an average detector.

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 1000 MHz	120 kHz	CombiLog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The TDK FAC-3 shielded test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.10, EN 50147-2, and CISPR 22. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters in both vertical and horizontal polarizations (for E field radiated field strength).

Test Results:

The EUT complies with the limits of CFR 22 Title 47 Part 15 Subpart B (Class B devices) and Subpart C sections 15.205, 15.209 and 15.247.

8.1.3 6 dB Bandwidth

The 6 dB Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

Test Results:

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

8.1.4 Peak Output Power

The Peak Output Power was measured using the Power Measuring Analyzer. The peak output power was measured using a direct connection from the RF output of the EUT.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247. The maximum peak output power is less than 1 w. Please see the data sheets located in Appendix E.

8.1.5 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 1 MHz. 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 FCC Title 47, Part 15, Subpart C section 15.247. 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.

8.1.6 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (2400 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel) using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The radiated emissions test procedure as describe in section 8.1 of this test report was used to maximize the emission.

Test Results:

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

8.1.7 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 resolution bandwidth 3 kHz, and the video bandwidth was 10 kHz. The highest 1.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

Test Results:

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

9. TEST PROCEDURE DEVIATIONS

The test procedures were not deviated from throughout all tests.

10. CONCLUSIONS

The Wireless Transmitter Model: RED Link meets all of the Class B specification limits defined in the Code of Federal Regulations Title 47, Part 15 Subpart B and Subpart C sections 15.107, 15.109, 15.205, 15.207, 15.209 and 15.247.

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

NVLAP listing links

Agoura Division - http://ts.nist.gov/Standards/scopes/2000630.htm
Brea Division - http://ts.nist.gov/Standards/scopes/2005280.htm
Silverado/Lake Forest Division - http://ts.nist.gov/Standards/scopes/2005270.htm

ANSI listing
CETCB
https://www.ansica.org/wwwversion2/outside/ALLdirectoryDetails.asp?menuID=1&prgID=3&orgID=123&status=4

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

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).

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

VCCI Listing, from VCCI site
Enter "Compatible" in search form http://www.vcci.or.jp/vcci_e/activity/registration/setsubi.html

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

Industry Canada Industrie Canada

Compatible Electronics (Site # 2154C-1 & 2154C-5) 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

No modifications were made to the EUT.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	WIRELESS TRANSMITTER Model: RED LINK S/N: N/A

No additional models were tested.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

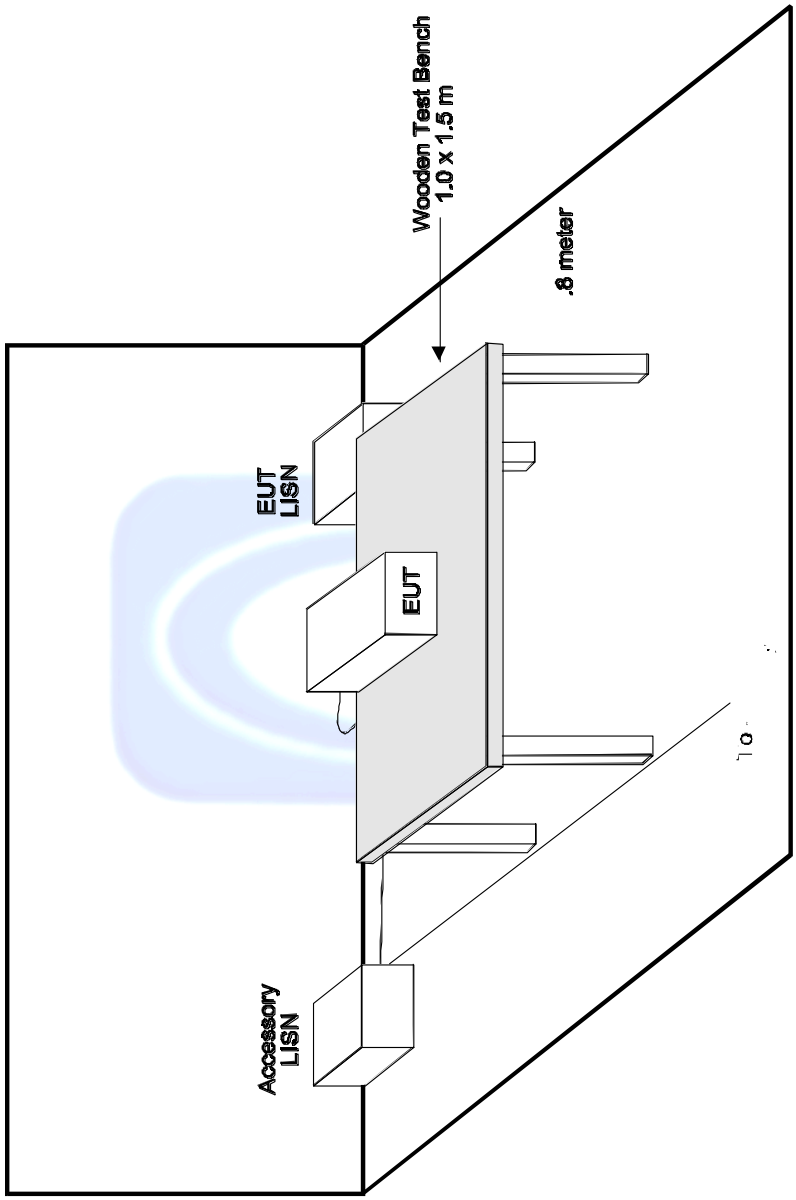


*FIGURE 2: RADIATED EMISSIONS 3-METER SEMI-*ANECHOIC *TEST CHAMBER BELOW 1GHz*

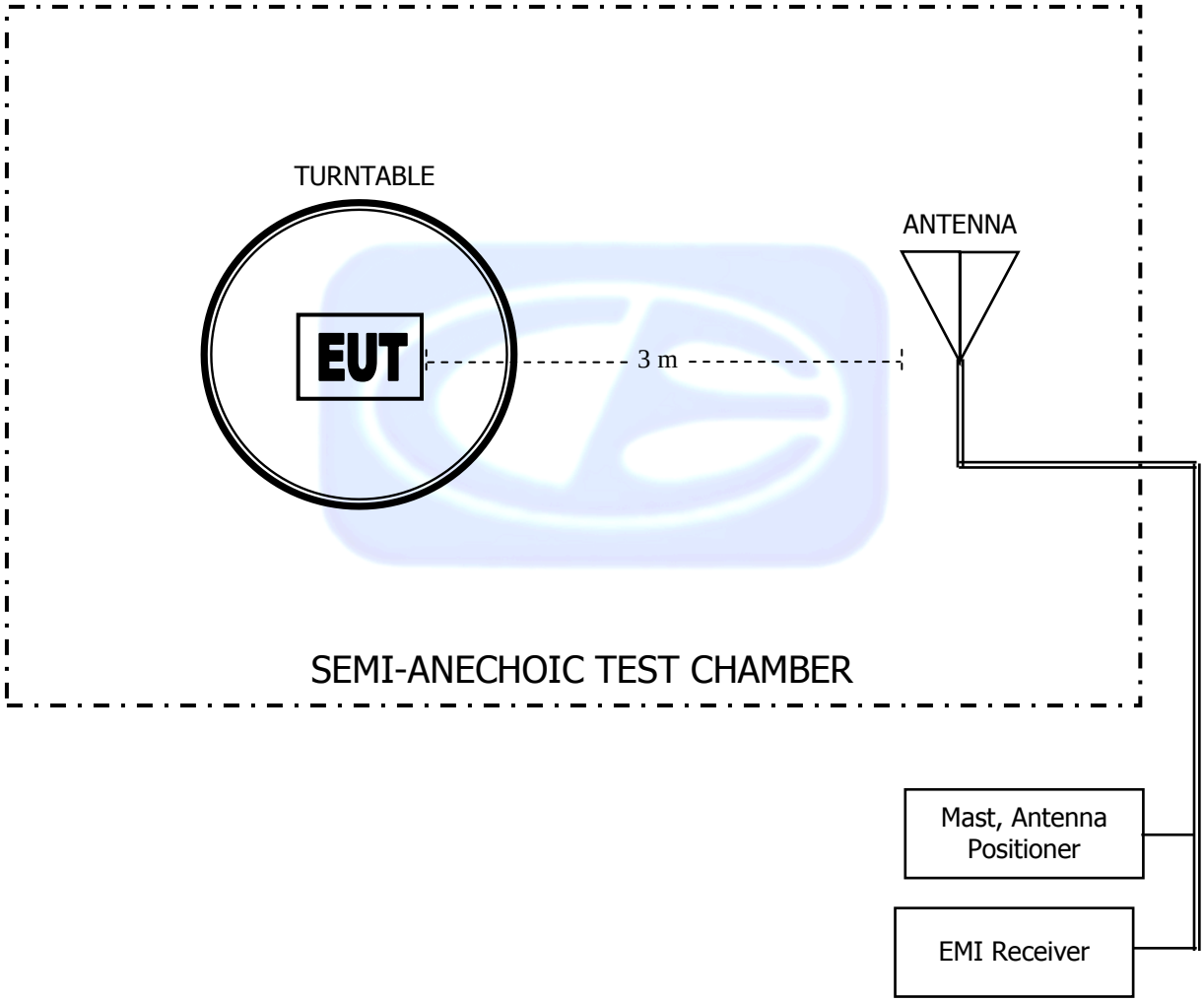
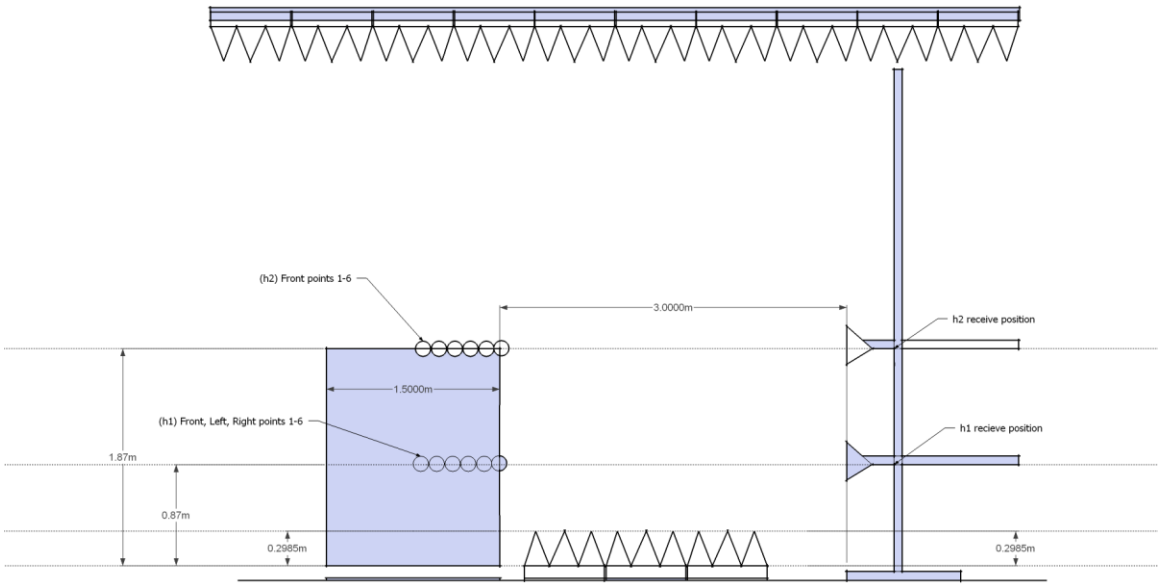


*FIGURE 3: RADIATED EMISSIONS 3-METER SEMI-*ANECHOIC *TEST CHAMBER ABOVE 1 GHz*



COM-POWER AC-220

LAB R - COMBILOG ANTENNA

S/N: 25857

CALIBRATION DUE: JUNE 07, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	17.2	**180**	8.5
35	17.6	**200**	9.0
40	18.3	**250**	11.7
45	17.1	**300**	14.2
50	16.1	**300**	13.4
60	13.1	**400**	15.0
70	8.6	**500**	16.0
80	5.5	**600**	17.9
90	7.2	**700**	20.2
100	8.2	**800**	21.1
120	9.4	**900**	20.5
140	8.6	**1000**	22.6
160	8.4		

COM-POWER AH-118

LAB R - HORN ANTENNA

S/N: 071250

CALIBRATION DUE: OCTOBER 01, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	24.0	**9500**	35.9
1500	23.9	**10000**	40.4
2000	27.9	**10500**	41.7
2500	29.6	**11000**	38.9
3000	30.7	**11500**	40.3
3500	30.3	**12000**	38.1
4000	28.6	**12500**	42.8
4500	30.7	**13000**	38.8
5000	33.0	**13500**	36.9
5500	32.9	**14000**	43.7
6000	34.1	**14500**	42.0
6500	37.2	**15000**	42.0
7000	37.9	**15500**	37.9
7500	38.3	**16000**	38.5
8000	38.5	**16500**	38.2
8500	36.9	**17000**	39.2
9000	40.2	**17500**	42.8
		18000	43.2

COM-POWER PA-122

1-18GHz - PREAMPLIFIER

S/N: 1321

CALIBRATION DUE: FEBRUARY 1, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	31.53	**9500**	28.5
1500	31.24	**10000**	29.13
2000	30.99	**10500**	29.92
2500	30.66	**11000**	29.96
3000	30.44	**11500**	29.55
3500	29.9	**12000**	30.03
4000	29.27	**12500**	30.43
4500	28.63	**13000**	30.02
5000	28.2	**13500**	30.13
5500	28.13	**14000**	30.58
6000	28.4	**14500**	30.58
6500	28.29	**15000**	29.12
7000	28.19	**15500**	28.92
7500	28.72	**16000**	29.7
8000	29.22	**16500**	29.65
8500	29.05	**17000**	28.64
9000	28.71	**17500**	28.26
		18000	27.76

COM-POWER PA-122

1-18GHz - PREAMPLIFIER

S/N: 25196

CALIBRATION DUE: JUNE 8, 2012

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000.00	32.22	9500.00	27.08
1500.00	31.53	10000.00	25.88
2000.00	30.77	10500.00	25.99
2500.00	30.21	11000.00	26.37
3000.00	29.85	11500.00	27.05
3500.00	29.39	12000.00	28.14
4000.00	28.62	12500.00	28.65
4500.00	28.13	13000.00	28.16
5000.00	28.48	13500.00	26.89
5500.00	31.68	14000.00	27.37
6000.00	28.17	14500.00	28.08
6500.00	28.05	15000.00	27.29
7000.00	28.00	15500.00	27.81
7500.00	27.74	16000.00	27.51
8000.00	27.15	16500.00	25.60
8500.00	27.15	17000.00	25.04
9000.00	27.59	17500.00	24.74
		18000.00	23.24

COM-POWER AH-826

18 – 26 GHz HORN ANTENNA

S/N: 81033

CALIBRATION DUE: N.C.R.

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
18000	32.8	**22500**	32.7
18500	32.2	**23000**	32.7
19000	31.9	**23500**	32.0
19500	31.5	**24000**	32.9
20000	33.3	**24500**	33.7
20500	33.2	**25000**	34.1
21000	32.6	**25500**	33.6
21500	33.2	**26000**	35.1
22000	33.0	**26500**	33.6

COM-POWER PA-840

18 – 40 GHz PREAMPLIFIER

S/N: 181289

CALIBRATION DUE: JUNE 07, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
18000	30.8	**31500**	29.8
19000	27.8	**32000**	29.2
20000	28.4	**32500**	30.1
21000	26.7	**33000**	31.2
22000	28.1	**33500**	29.2
23000	26.8	**34000**	28.3
24000	28.7	**34500**	27.8
25000	30.7	**35000**	29.9
26000	32.3	**35500**	28.6
26500	31.2	**36000**	27.7
27000	31.8	**36500**	28.0
27500	32.1	**37000**	30.8
28000	32.3	**37500**	25.9
28500	29.5	**38000**	28.1
29000	30.3	**38500**	30.1
29500	29.3	**39000**	31.1
30000	30.7	**39500**	25.7
30500	29.9	**40000**	31.7

FRONT VIEW

RED.COM, INC.
WIRELESS TRANSMITTER
Model: RED LINK
FCC SUBPART B & C - RADIATED EMISSIONS BELOW 1GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

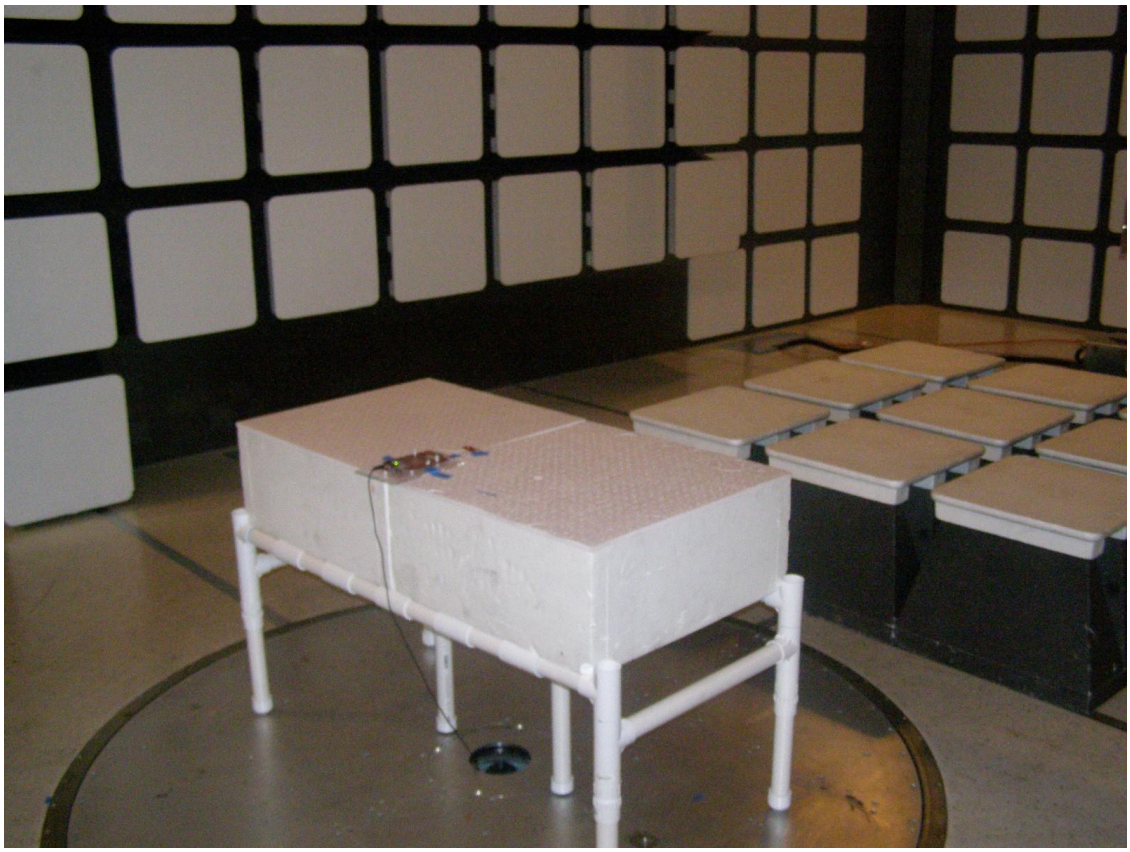
RED.COM, INC.
WIRELESS TRANSMITTER
Model: RED LINK
FCC SUBPART B & C - RADIATED EMISSIONS BELOW 1GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

RED.COM, INC.
WIRELESS TRANSMITTER
Model: RED LINK
FCC SUBPART B & C - RADIATED EMISSIONS ABOVE 1GHz

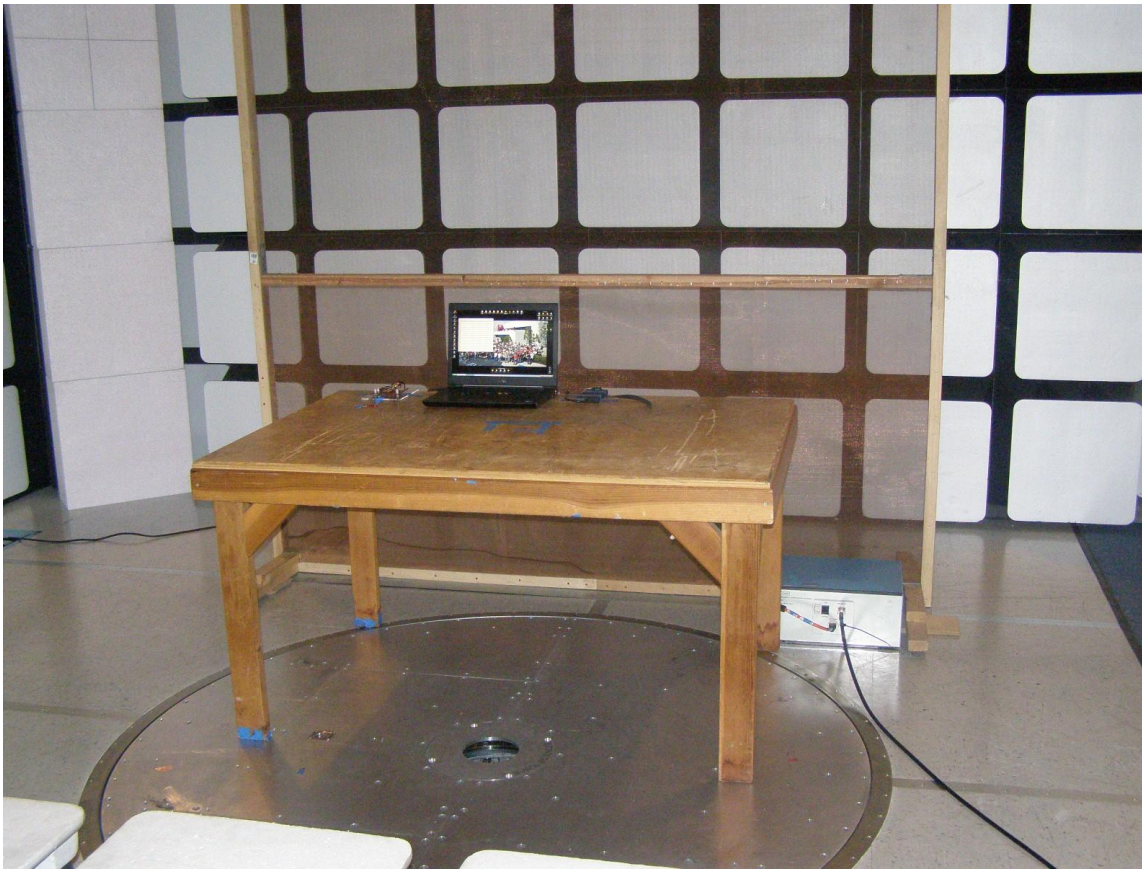
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

RED.COM, INC.
WIRELESS TRANSMITTER
Model: RED LINK
FCC SUBPART B & C - RADIATED EMISSIONS ABOVE 1GHz

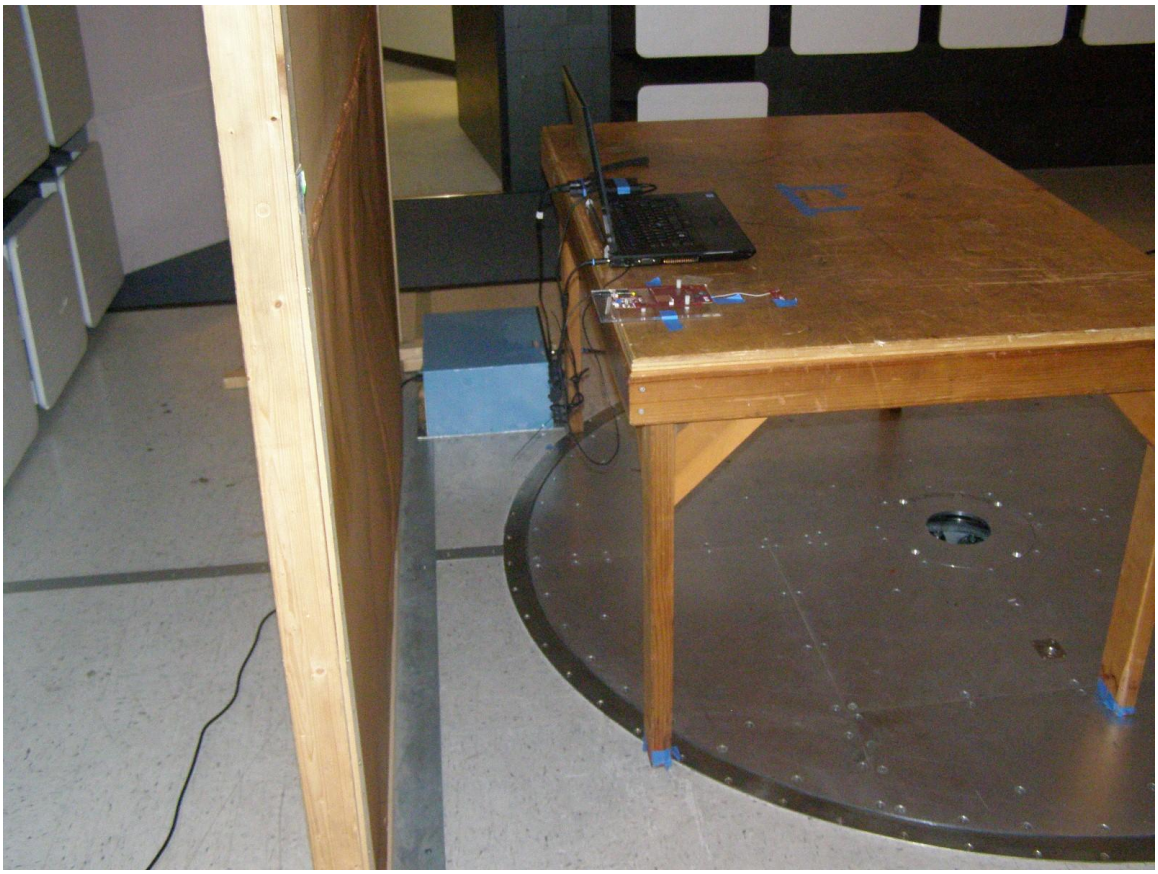
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

RED.COM, INC.
WIRELESS TRANSMITTER
Model: RED LINK
FCC SUBPART B & C - CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

RED.COM, INC.
WIRELESS TRANSMITTER
Model: RED LINK
FCC SUBPART B & C - CONDUCTED EMISSIONS

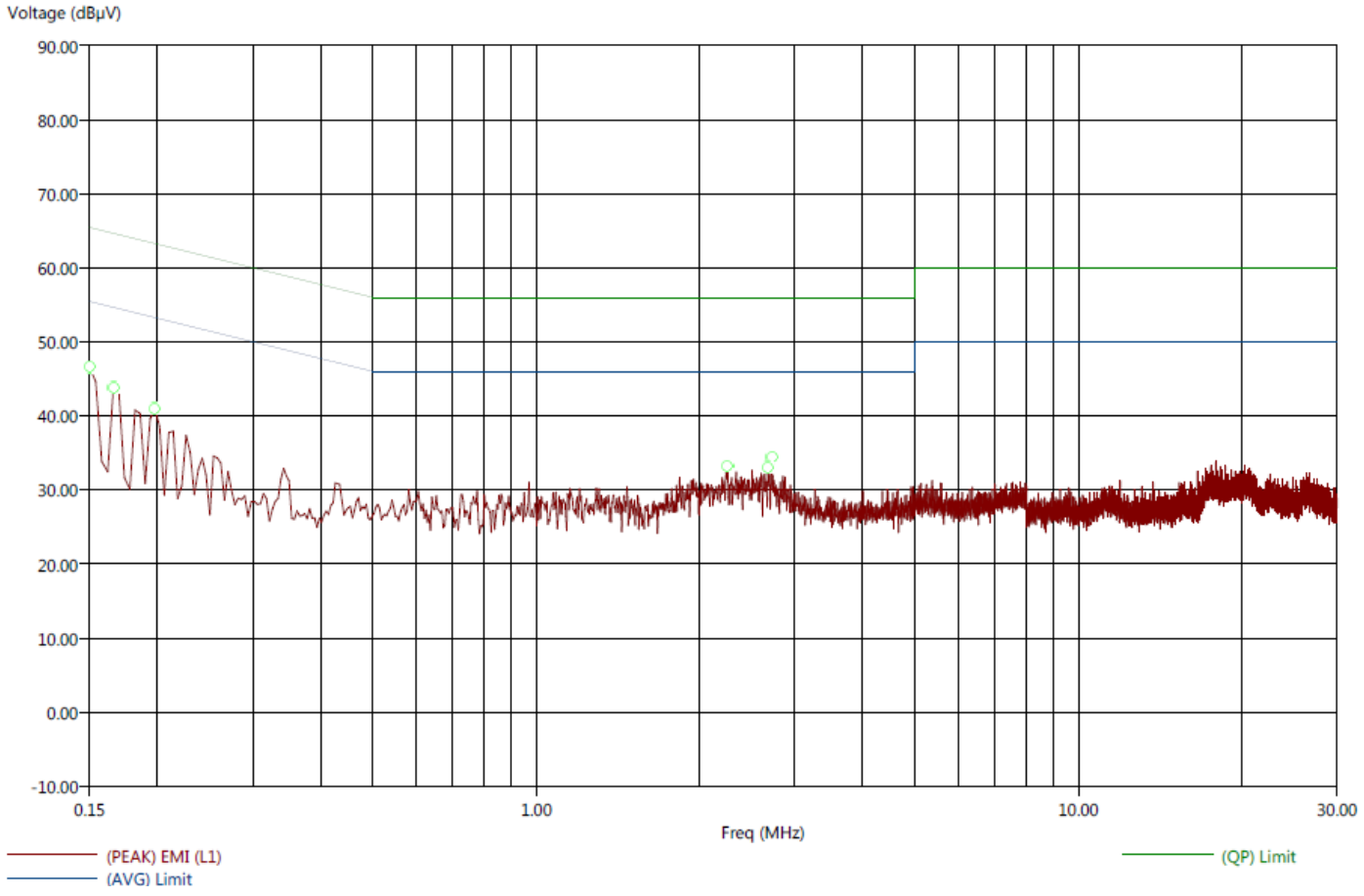
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

CONDUCTED EMISSIONS DATA SHEETS
(Worst Case Channel)

Title: FCC 15.207 10/28/2011 1:46:58 PM
File: Conducted Pre-Line_Ant3_Mid.set Sequence: Preliminary Scan
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Mid Channel
Comments: Performed on Dell Laptop representing as Host.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

Compatible Electronics, Inc. FAC-3 (Lab R)



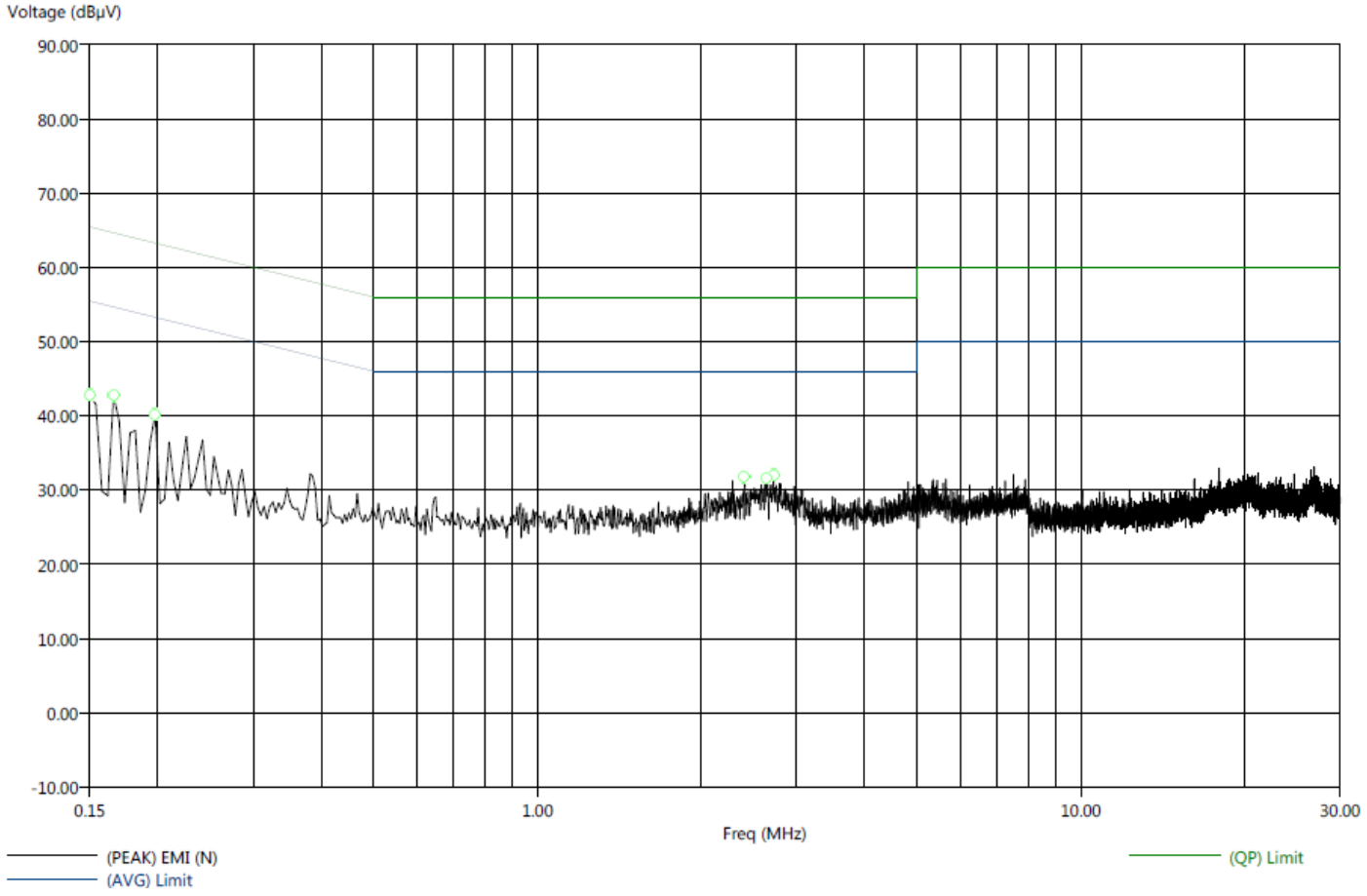
Title: FCC 15.207 10/28/2011 1:51:32 PM
File: Conducted Final-Line_Ant3_Mid.set Sequence: Final Measurements
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Mid Channel
Comments: Performed on Dell Laptop representing as Host.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

Compatible Electronics, Inc. FAC-3 (Lab R)

Freq (MHz)	(AVG) Margin AVL(dB)	(QP) Margin QPL(dB)	(AVG) EMI (dBµV)	(QP) EMI (dBµV)	(PEAK) EMI (dBµV)	(AVG) Limit (dBµV)	(QP) Limit (dBµV)	Transducer(dB)	Cable (dB)
0.15	-33.56	-24.06	21.92	41.41	49.47	55.46	65.46	0.11	0.00
0.17	-33.49	-23.96	21.17	40.70	46.40	54.66	64.66	0.10	0.00
0.20	-35.55	-29.05	17.73	34.22	43.59	53.28	63.28	0.08	0.01
2.25	-33.50	-36.95	12.50	19.05	21.18	46.00	56.00	0.04	0.12
2.67	-32.95	-37.10	13.05	18.90	23.17	46.00	56.00	0.04	0.13
2.72	-31.92	-35.16	14.08	20.84	23.83	46.00	56.00	0.04	0.13

Title: FCC 15.207 10/28/2011 1:55:06 PM
File: Conducted Pre-Neutral_Ant3_Mid.set Sequence: Preliminary Scan
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Mid Channel
Comments: Performed on Dell Laptop representing as Host.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

Compatible Electronics, Inc. FAC-3



Title: FCC 15.207 10/28/2011 1:58:49 PM
File: Conducted Final-Neutral_Ant3_Mid.set Sequence: Final Measurements
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Mid Channel
Comments: Performed on Dell Laptop representing as Host.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

Compatible Electronics, Inc. FAC-3 (Lab P)

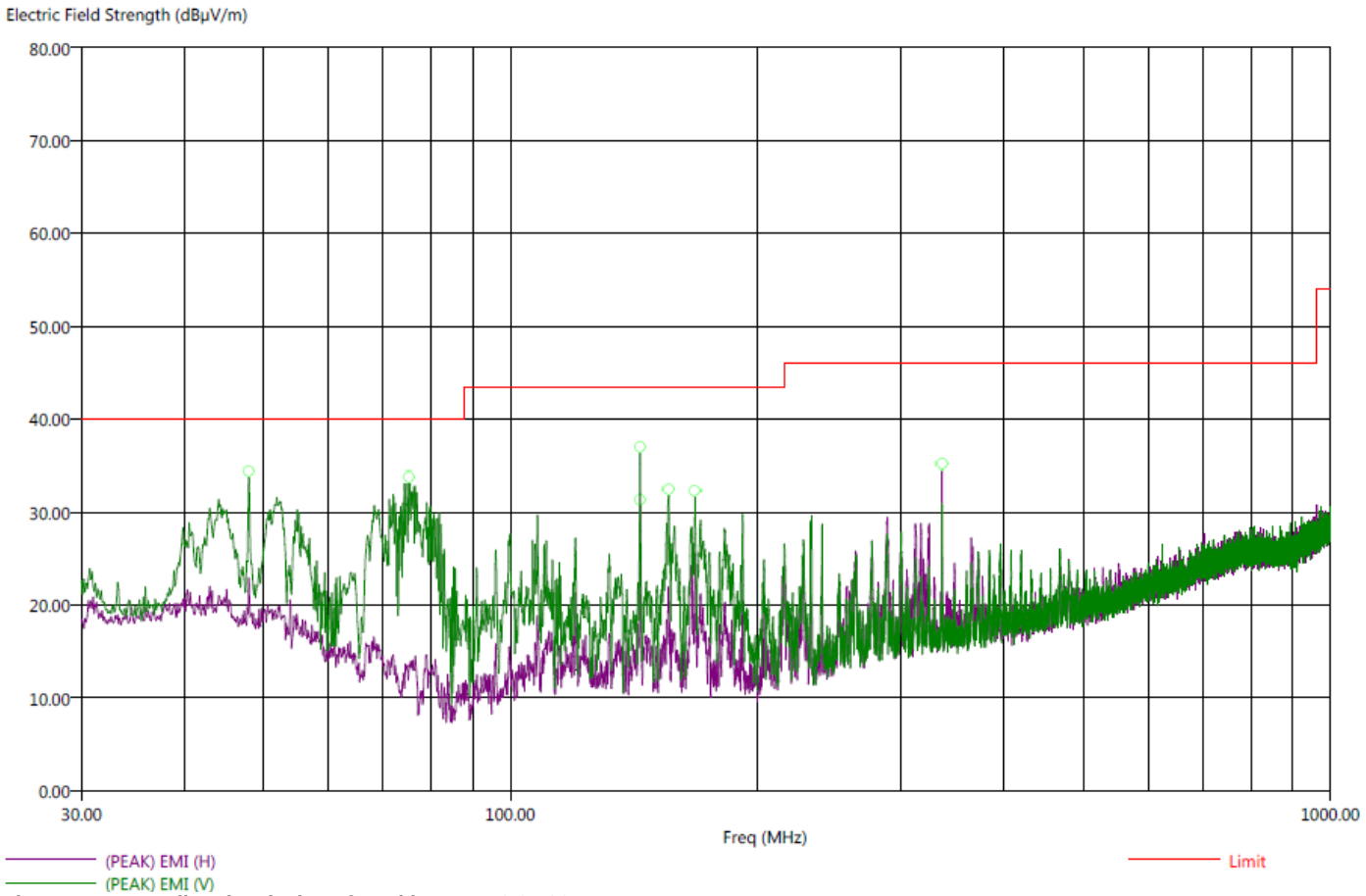
Freq (MHz)	(AVG) Margin AVL(dB)	(QP) Margin QPL(dB)	(AVG) EMI (dBµV)	(QP) EMI (dBµV)	(PEAK) EMI (dBµV)	(AVG) Limit (dBµV)	(QP) Limit (dBµV)	Transducer (dB)	Cable (dB)
0.15	-34.86	-29.59	20.60	35.87	43.72	55.46	65.46	0.08	0.00
0.17	-36.22	-30.18	18.44	34.48	42.02	54.66	64.66	0.05	0.00
0.20	-37.87	-31.23	15.41	32.05	37.56	53.28	63.28	0.00	0.01
2.41	-37.09	-41.87	8.91	14.13	20.38	46.00	56.00	0.03	0.12
2.64	-33.74	-38.94	12.26	17.06	27.54	46.00	56.00	0.03	0.13
2.72	-33.94	-36.43	12.06	19.57	22.92	46.00	56.00	0.04	0.13

APPENDIX E

RADIATED EMISSIONS DATA SHEETS
(Worst Case Channel)

Title: FCC 15.209 10/26/2011 9:54:29 AM
File: Radiated Pre-Scan 30-1000Mhz_Ant3_HiCh.set Sequence: Preliminary Scan
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: Ant 3, Tx High Channel.
Comments: Connected to Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

Compatible Electronics, Inc. FAC-3 (Lab R)



There were no radiated emissions found between 0.01-30 MHz

Title: FCC 15.209
File: Radiated Final 30-1000Mhz_Ant3_HiCh.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: Ant 3, Tx High Channel.
Comments: Connected to Remote Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/26/2011 10:16:06 AM
Sequence: Final Measurements

Compatible Electronics, Inc. FAC-3 (Lab R)

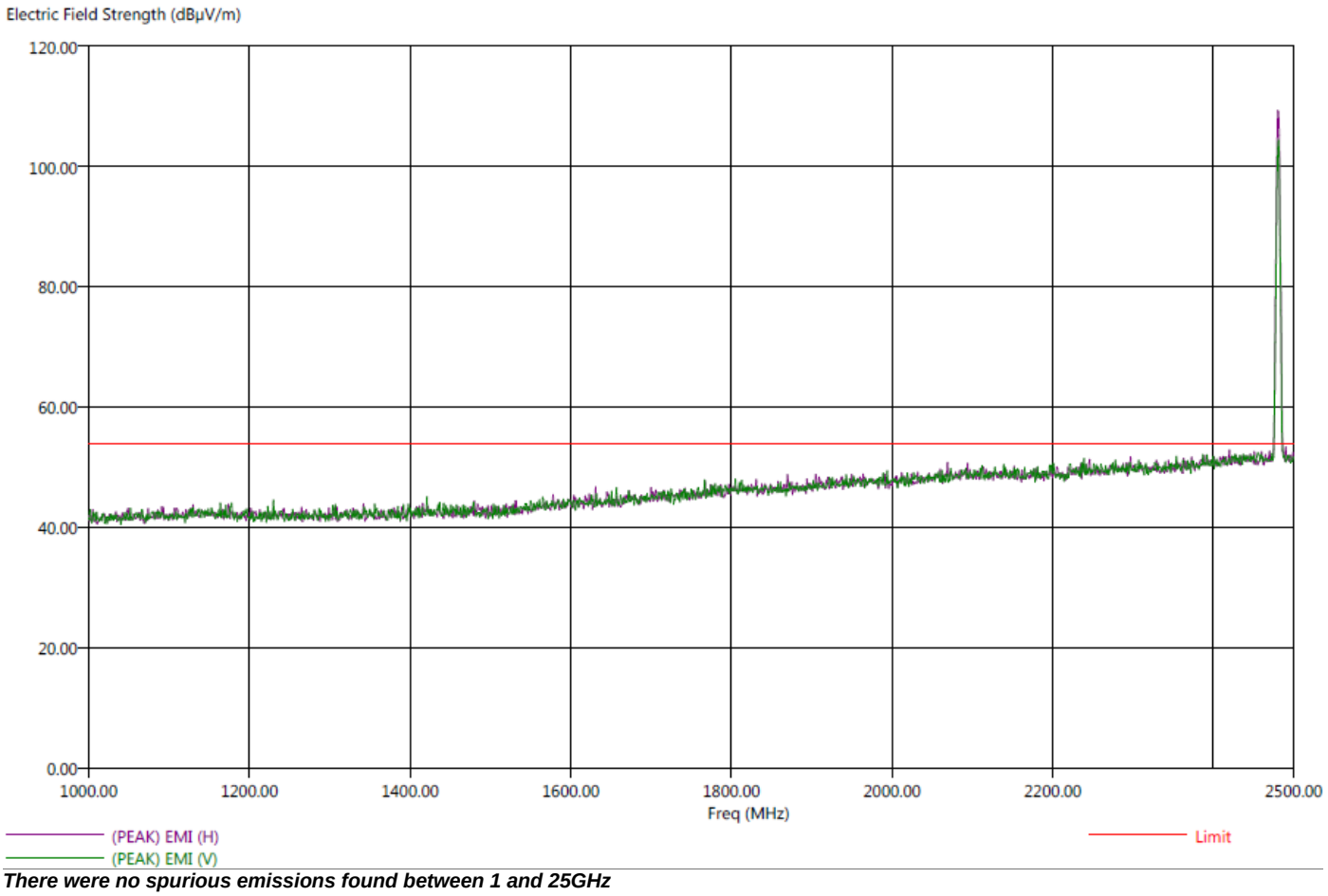
Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dBµV/m)	(PEAK) EMI (dBµV/m)	Limit (dBµV/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable(dB)
48.00	-5.56	34.44	36.45	40.00	V	218.25	101.85	16.49	0.68
75.20	-12.60	27.40	28.78	40.00	V	184.75	199.04	6.91	0.88
144.00	-30.99	12.53	19.50	43.52	H	360.25	128.65	8.56	1.27
144.00	-10.03	33.49	39.63	43.52	V	343.25	149.73	8.56	1.27
156.00	-12.11	31.41	42.63	43.52	V	358.25	131.34	8.44	1.32
168.10	-12.78	30.74	39.81	43.52	V	333.00	108.29	8.44	1.37
336.00	-11.57	34.43	37.98	46.00	H	101.25	111.28	14.03	2.00

There were no radiated emissions found between 0.01-30 MHz

Title: FCC 15.209
File: Radiated Pre-scan 1-18GHz_A3_Tx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, High Channel
Comments: Connected to Remote Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/26/2011 12:14:00 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (Lab R)

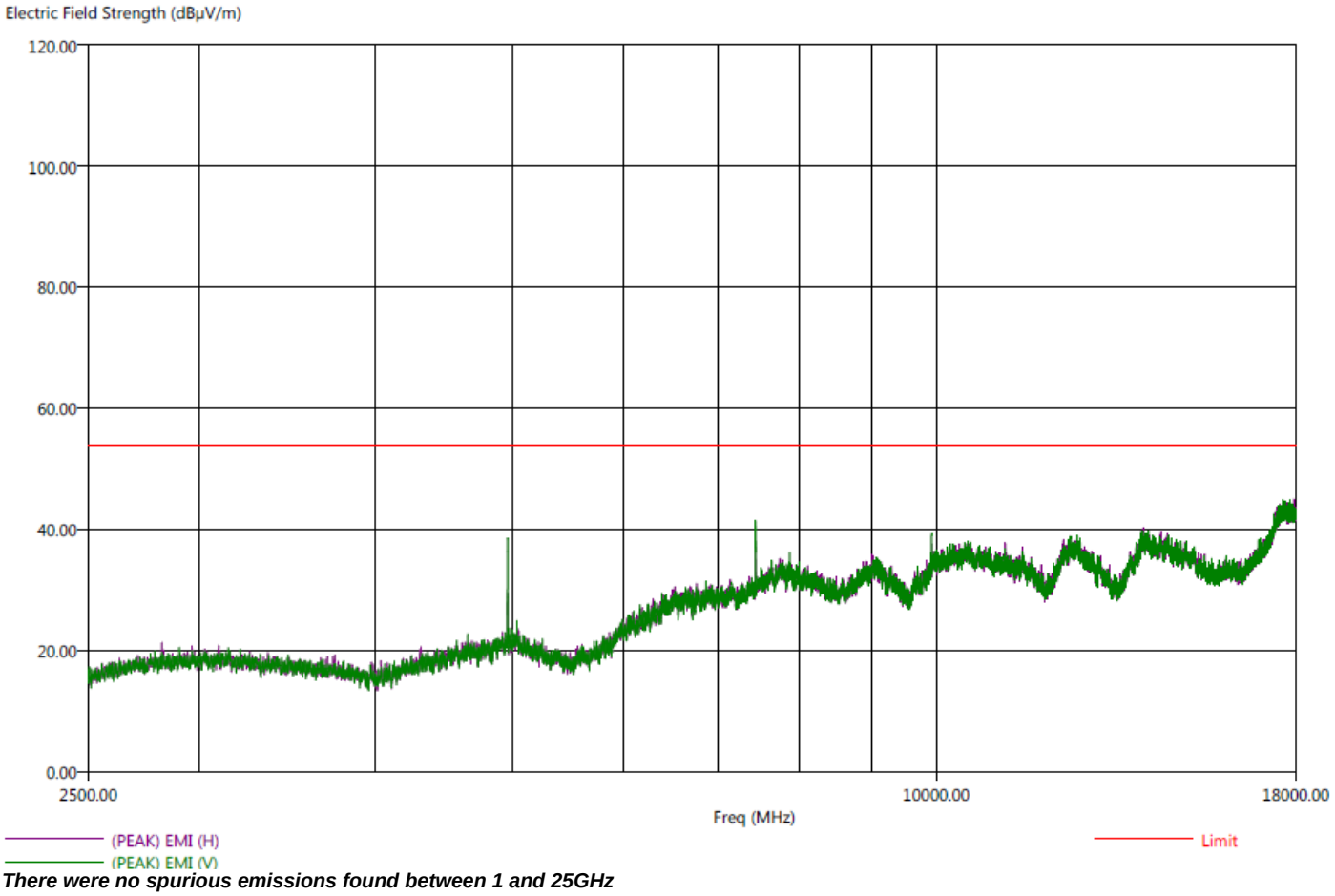


There were no spurious emissions found between 1 and 25GHz

Title: FCC 15.209
File: Radiated Pre-scan 1-18GHz_A3_Tx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, High Channel
Comments: Connected to Remote Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/26/2011 12:14:00 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (Lab R)



There were no spurious emissions found between 1 and 25GHz

FUNDAMENTAL & HARMONICS
LOW, MID, & HIGH CHANNELS

DATA SHEETS

FCC 15.247

RED.com
Wireless Transmitter
Model: RED Link

Date: 10/20/11
Lab: R
Tested By: Matt Harrison

Conducted Output Power With Power Averaging

Freq. (MHz)	Peak Power (dBm)	AVG Power (dBm)	Pol (V/H)	Limit (dBm)	Margin	Comments
2.405	19.08	5.76	N/A	30	-10.92	
2.445	18.48	5.11	N/A	30	-11.52	
2.480	18.02	4.68	N/A	30	-11.98	

FCC 15.247
Red Digital Cinemas
Wireless
Transmitter
Model: RED Link

Date: 10/26/2011

Lab: R
Tested By: Matt Harrison

Low Channel

Freq. (MHz)	Level (dBµV)	Pol (V/H)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4810	28.13	V	73.98	-45.85	Peak	1.98	62	**Restricted Band**
4810	9.71	V	53.98	-44.27	Avg	1.98	62	**Restricted Band**
7215	25.57	V	73.98	-48.41	Peak	1.20	191	
7215	12.85	V	53.98	-41.13	Avg	1.20	191	
9620	28.75	V	73.98	-45.23	Peak	1.43	223	
9620	15.79	V	53.98	-38.19	Avg	1.43	223	
12025	30.55	V	73.98	-43.43	Peak	4.00	0	**Restricted Band**
12025	18.19	V	53.98	-35.79	Avg	4.00	0	**Restricted Band**
14430	35.98	V	73.98	-38.00	Peak	3.33	344	
14430	23.61	V	53.98	-30.37	Avg	3.33	344	
16835		V	--	--	Peak			**No Emission Found**
16835		V	--	--	Avg			**No Emission Found**
19240		V	--	--	Peak			**Restricted Band**
19240		V	--	--	Avg			**Restricted Band**
21645		V	--	--	Peak			**No Emission Found**
21645		V	--	--	Avg			**No Emission Found**
24050		V	--	--	Peak			**No Emission Found**
24050		V	--	--	Avg			**No Emission Found**

Test distance
3meter

FCC 15.247

Red Digital Cinemas
Wireless
Transmitter
Model: RED
Link

Date: 10/26/2011

Lab: R

Tested By: Matt Harrison

Low Channel

Freq. (MHz)	Level (dBµV)	Pol (V/H)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4810	30.35	H	73.98	-43.63	Peak	1.00	2.89	**Restricted Band**
4810	11.98	H	53.98	-42	Avg	1.00	2.89	**Restricted Band**
7215	25.43	H	73.98	-48.55	Peak	1.63	310	
7215	12.81	H	53.98	-41.17	Avg	1.63	310	
9620	28.36	H	73.98	-45.62	Peak	2.08	10	
9620	15.8	H	53.98	-38.18	Avg	2.08	10	
12025	30.53	H	73.98	-43.45	Peak	3.02	83	**Restricted Band**
12025	18.15	H	53.98	-35.83	Avg	3.02	83	**Restricted Band**
14430	36.1	H	73.98	-37.88	Peak	1.22	198	
14430	23.57	H	53.98	-30.41	Avg	1.22	198	
16835		H	--	--	Peak			**No Emission Found**
16835		H	--	--	Avg			**No Emission Found**
19240		H	--	--	Peak			**Restricted Band**
19240		H	--	--	Avg			**Restricted Band**
21645		H	--	--	Peak			**No Emission Found**
21645		H	--	--	Avg			**No Emission Found**
24050		H	--	--	Peak			**No Emission Found**
24050		H	--	--	Avg			**No Emission Found**

Test distance
3meter

FCC 15.247
Red Digital Cinemas
Wireless
Transmitter
Model: RED
Link

Date: 10/26/2011

Lab: R

Tested By: Matt Harrison

Middle Channel

Freq. (MHz)	Level (dBµV)	Pol (V/H)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4890	23.87	V	73.98	-50.11	Peak	1.37	310	**Restricted Band**
4890	13.51	V	53.98	-40.47	Avg	1.37	310	**Restricted Band**
7335	26.53	V	73.98	-47.45	Peak	1.06	360	**Restricted Band**
7335	13.43	V	53.98	-40.55	Avg	1.06	360	**Restricted Band**
9780	30.66	V	73.98	-43.32	Peak	1.92	197	
9780	18.09	V	53.98	-35.89	Avg	1.92	197	
12225	33.43	V	73.98	-40.55	Peak	3.82	160	**Restricted Band**
12225	20.25	V	53.98	-33.73	Avg	3.82	160	**Restricted Band**
14670	36.81	V	73.98	-37.17	Peak	2.14	137	
14670	24.00	V	53.98	-29.98	Avg	2.14	137	
17115		V	--	--	Peak			**No Emission Found**
17115		V	--	--	Avg			**No Emission Found**
19560		V	--	--	Peak			**Restricted Band**
19560		V	--	--	Avg			**Restricted Band**
22005		V	--	--	Peak			**No Emission Found**
22005		V	--	--	Avg			**No Emission Found**
24450		V	--	--	Peak			**No Emission Found**
24450		V	--	--	Avg			**No Emission Found**

Test distance
3meter

FCC 15.247
Red Digital Cinemas
Wireless
Transmitter
Model: RED Link

Date: 10/26/2011
Lab: R
Tested By: Matt Harrison

Middle Channel

Freq. (MHz)	Level (dBµV)	Pol (V/H)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4890	24.27	H	73.98	-49.71	Peak	1.13	184	**Restricted Band**
4890	14.97	H	53.98	-39.01	Avg	1.13	184	**Restricted Band**
7335	26.38	H	73.98	-47.60	Peak	1.00	1.84	**Restricted Band**
7335	13.39	H	53.98	-40.59	Avg	1.00	1.84	**Restricted Band**
9780	30.59	H	73.98	-43.39	Peak	1.58	93	
9780	18.06	H	53.98	-35.92	Avg	1.58	93	
12225	32.58	H	73.98	-41.40	Peak	2.32	114	**Restricted Band**
12225	20.18	H	53.98	-33.80	Avg	2.32	114	**Restricted Band**
14670	36.55	H	73.98	-37.43	Peak	1.37	132	
14670	24.00	H	53.98	-29.98	Avg	1.37	132	
17115		H	--	--	Peak			**No Emission Found**
17115		H	--	--	Avg			**No Emission Found**
19560		H	--	--	Peak			**Restricted Band**
19560		H	--	--	Avg			**Restricted Band**
22005		H	--	--	Peak			**No Emission Found**
22005		H	--	--	Avg			**No Emission Found**
24450		H	--	--	Peak			**No Emission Found**
24450		H	--	--	Avg			**No Emission Found**

Test distance
3meter

FCC 15.247

Red Digital Cinemas
Wireless
Transmitter
Model: REDLink

Date: 10/26/2011

Lab: R
Tested By: Matt Harrison

High Channel

Freq. (MHz)	Level (dBµV)	Pol (V/H)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	38.52	V	73.98	-35.46	Peak	2.20	327	**Restricted Band**
4960	18.66	V	53.98	-35.32	Avg	2.20	327	**Restricted Band**
7440	26.59	V	73.98	-47.39	Peak	2.00	0	**Restricted Band**
7440	14.05	V	53.98	-39.93	Avg	2.00	0	**Restricted Band**
9920	33.44	V	73.98	-40.54	Peak	2.37	191	
9920	20.13	V	53.98	-33.85	Avg	2.37	191	
12400	35.25	V	73.98	-38.73	Peak	1.58	123	**Restricted Band**
12400	22.22	V	53.98	-31.76	Avg	1.58	123	**Restricted Band**
14880	37.58	V	73.98	-36.40	Peak	2.35	119	
14880	25.09	V	53.98	-28.89	Avg	2.35	119	
17360		V	--	--	Peak			**No Emission Found**
17360		V	--	--	Avg			**No Emission Found**
19840		V	--	--	Peak			**Restricted Band**
19840		V	--	--	Avg			**Restricted Band**
22320		V	--	--	Peak			**Restricted Band**
22320		V	--	--	Avg			**Restricted Band**
24800		V	--	--	Peak			**No Emission Found**
24800		V	--	--	Avg			**No Emission Found**

Test distance
3meter

FCC 15.247
Red Digital Cinemas
Wireless
Transmitter
Model: REDLink

Date: 10/26/2011

Lab: R
Tested By: Matt Harrison

High Channel

Freq. (MHz)	Level (dBµV)	Pol (V/H)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	42.62	H	73.98	-31.36	Peak	1.10	193	**Restricted Band**
4960	21.75	H	53.98	-32.23	Avg	1.10	193	**Restricted Band**
7440	27.12	H	73.98	-46.86	Peak	2.00	170	**Restricted Band**
7440	14.01	H	53.98	-39.97	Avg	2.00	170	**Restricted Band**
9920	32.33	H	73.98	-41.65	Peak	2.34	134	
9920	20.07	H	53.98	-33.91	Avg	2.34	134	
12400	35.14	H	73.98	-38.84	Peak	2.26	360	**Restricted Band**
12400	22.24	H	53.98	-31.74	Avg	2.26	360	**Restricted Band**
14880	37.71	H	73.98	-36.27	Peak	1.32	0	
14880	25.08	H	53.98	-28.90	Avg	1.32	0	
17360		H	--	--	Peak			**No Emission Found**
17360		H	--	--	Avg			**No Emission Found**
19840		H	--	--	Peak			**Restricted Band**
19840		H	--	--	Avg			**Restricted Band**
22320		H	--	--	Peak			**Restricted Band**
22320		H	--	--	Avg			**Restricted Band**
24800		H	--	--	Peak			**No Emission Found**
24800		H	--	--	Avg			**No Emission Found**

Test distance
3 meter

6dB BANDWIDTHS

DATA SHEETS

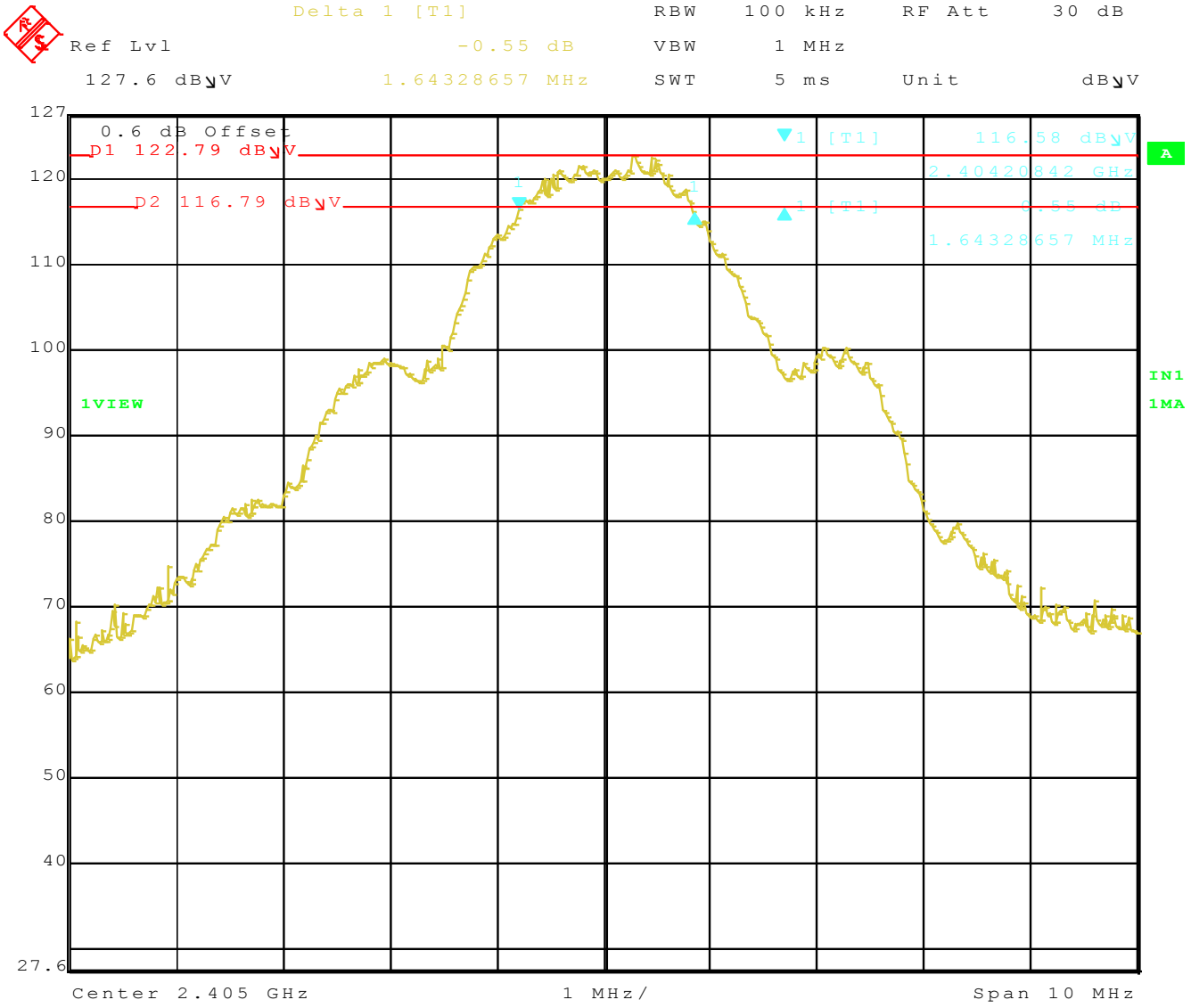
FCC 15.247
RED.com
Wireless Transmitter
Model: REDLink

Date: 10/20/11
Lab: R
Tested By: Matt Harrison

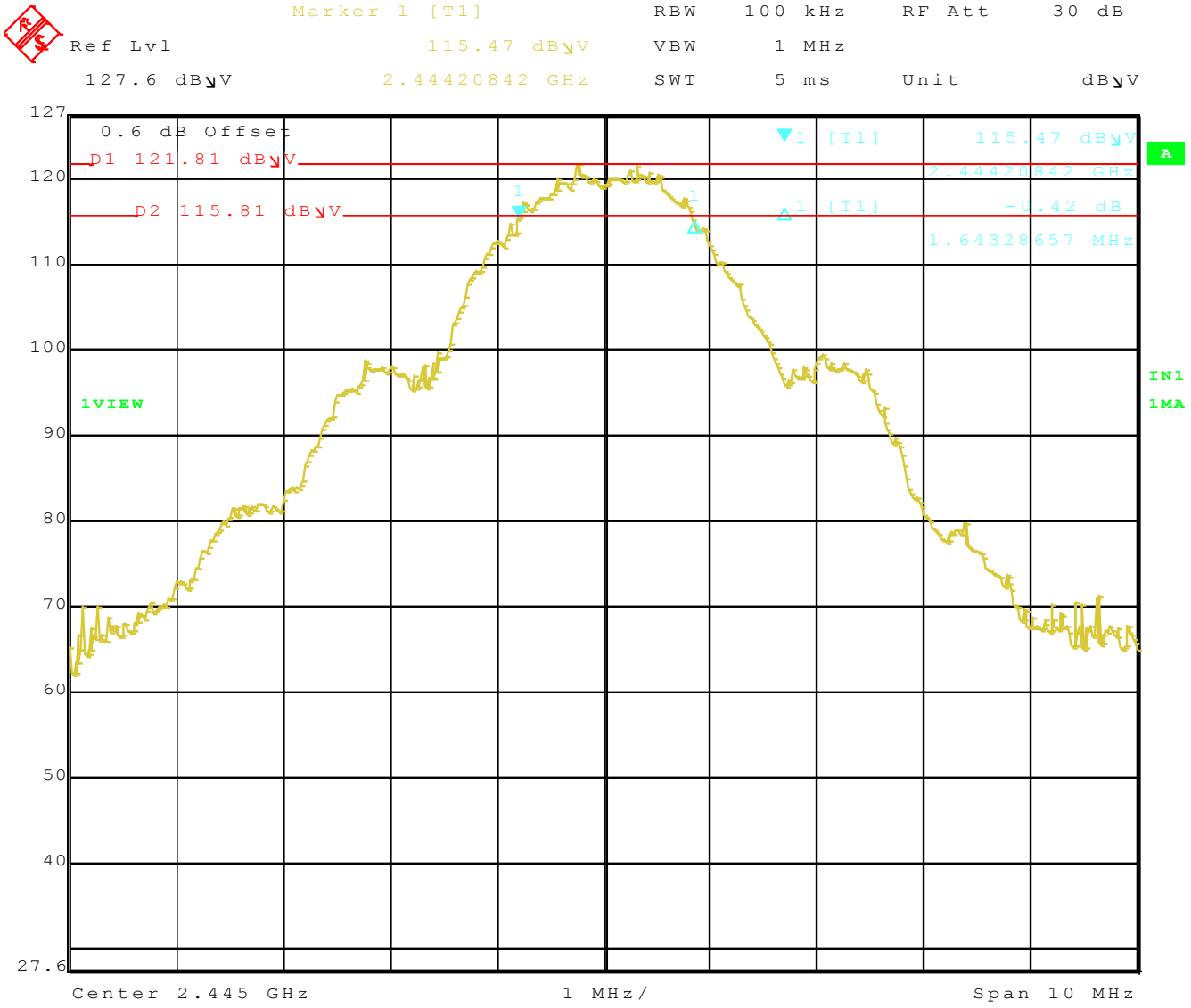
6dB Occupied Bandwidth

Freq. (MHz)	Bandwidth (kHz)	Minimum (kHz)	Margin (kHz)	Comments
2.405	1643	500	1143	Channel 1
2.445	1643	500	1143	Channel 8
2.480	1603	500	1103	Channel 16

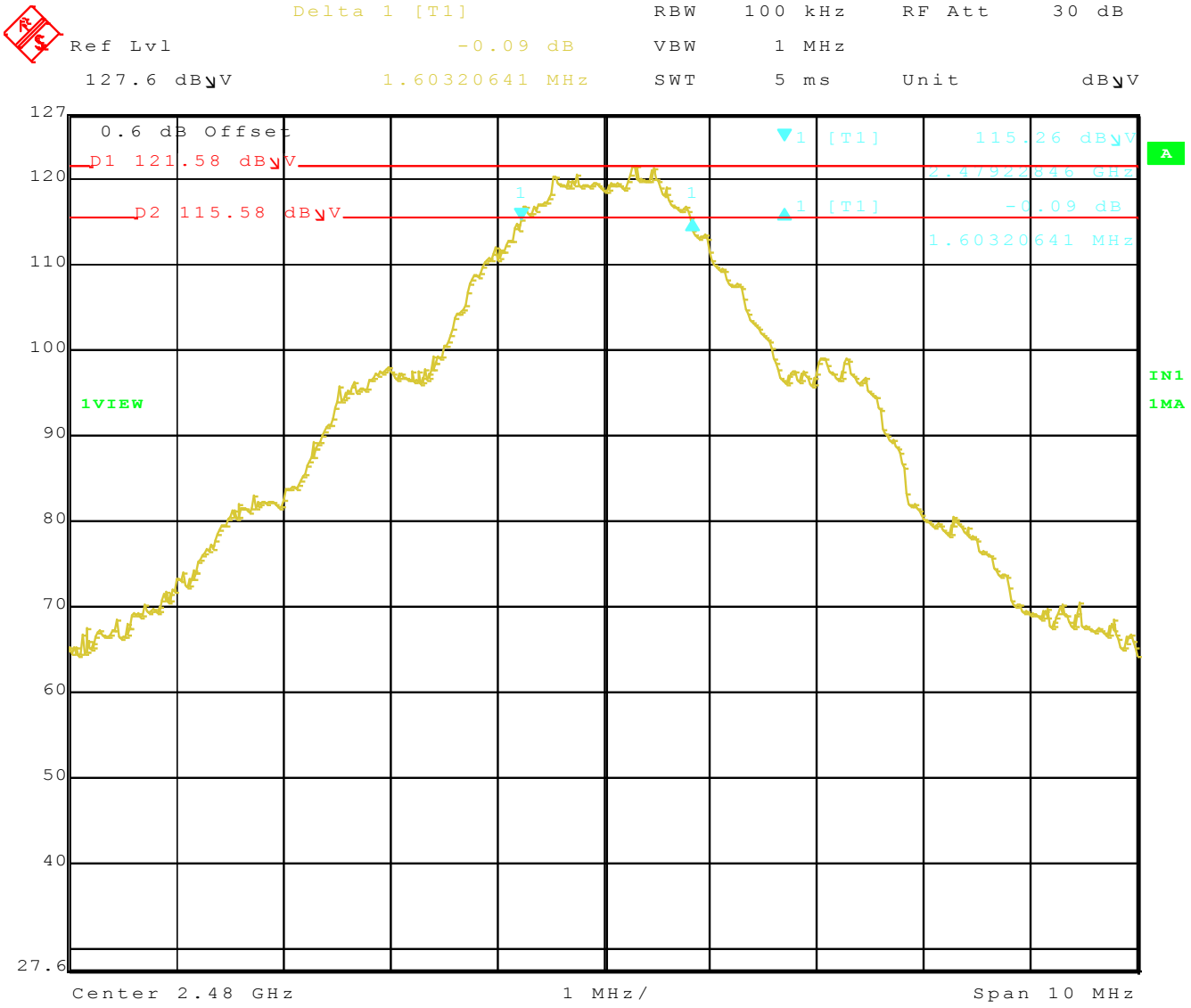
Test distance
3 meter



Title: RED Link
Comment A: 6dB Bandwidth Low Channel
Date: 20.OCT.2011 16:36:25



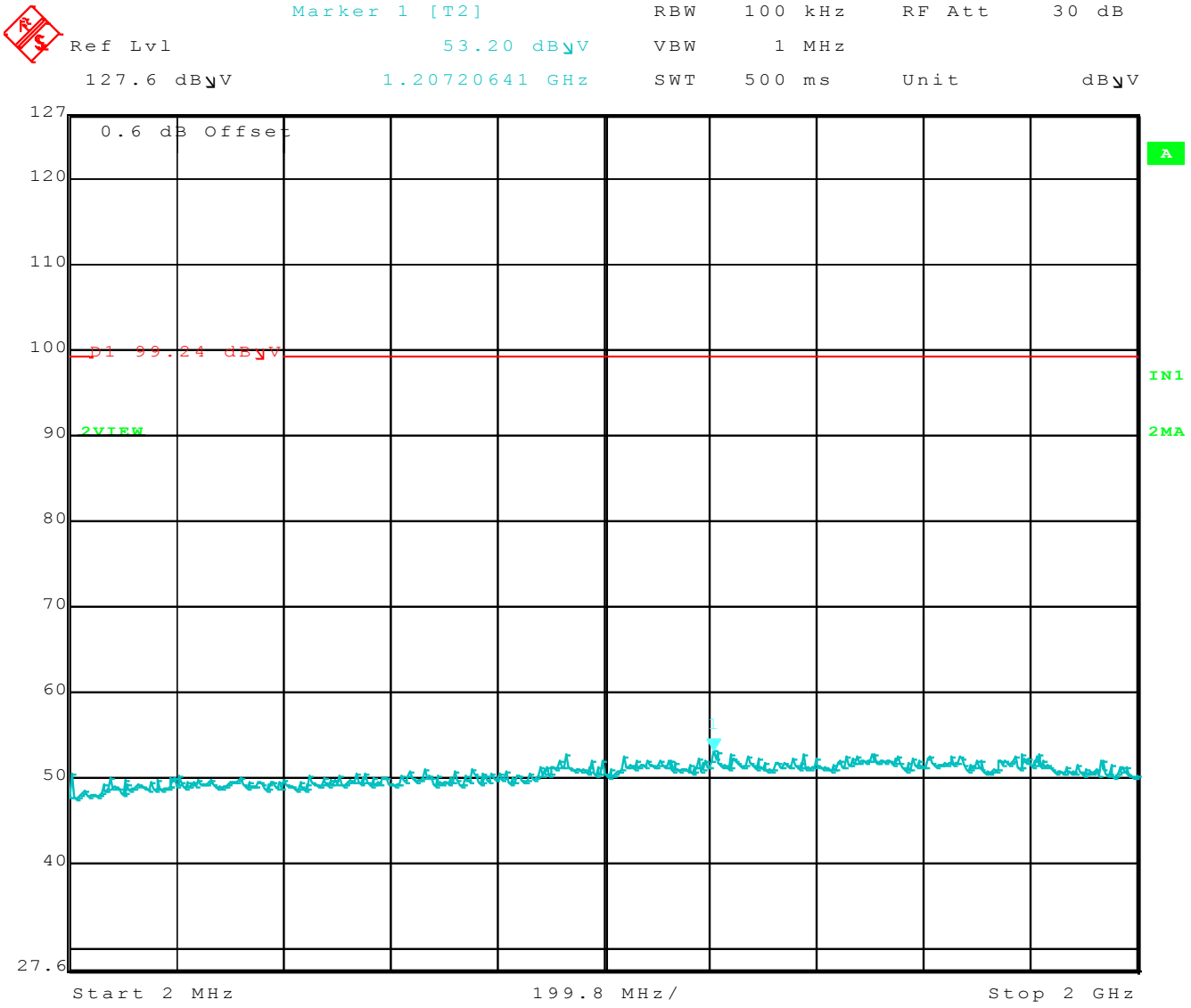
Title: RED Link
Comment A: 6dB Bandwidth Mid Channel
Date: 20.OCT.2011 16:43:21



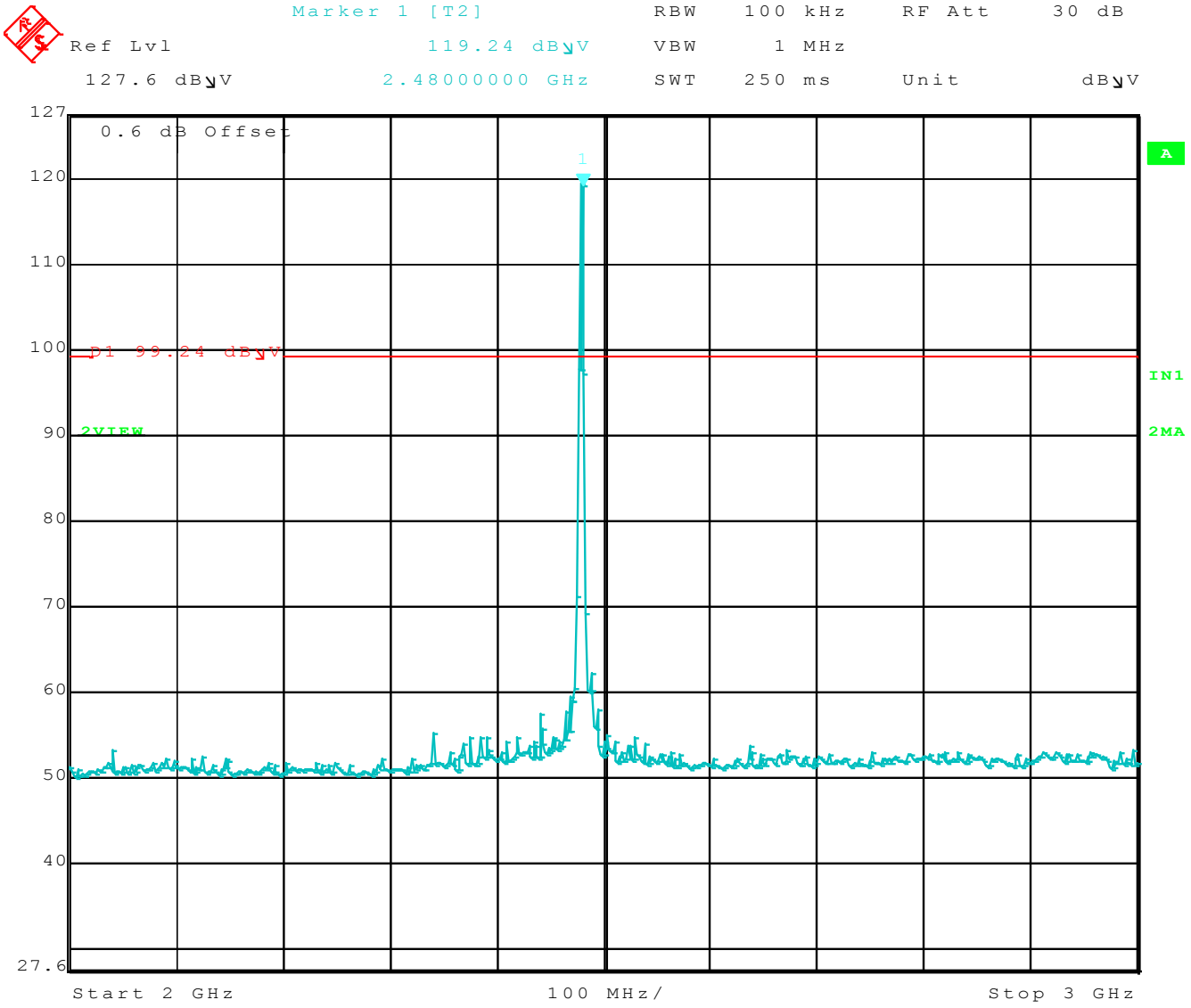
Title: RED Link
Comment A: 6dB Bandwidth High Channel
Date: 20.OCT.2011 16:48:30

RF ANTENNA CONDUCTED (WORST CASE)

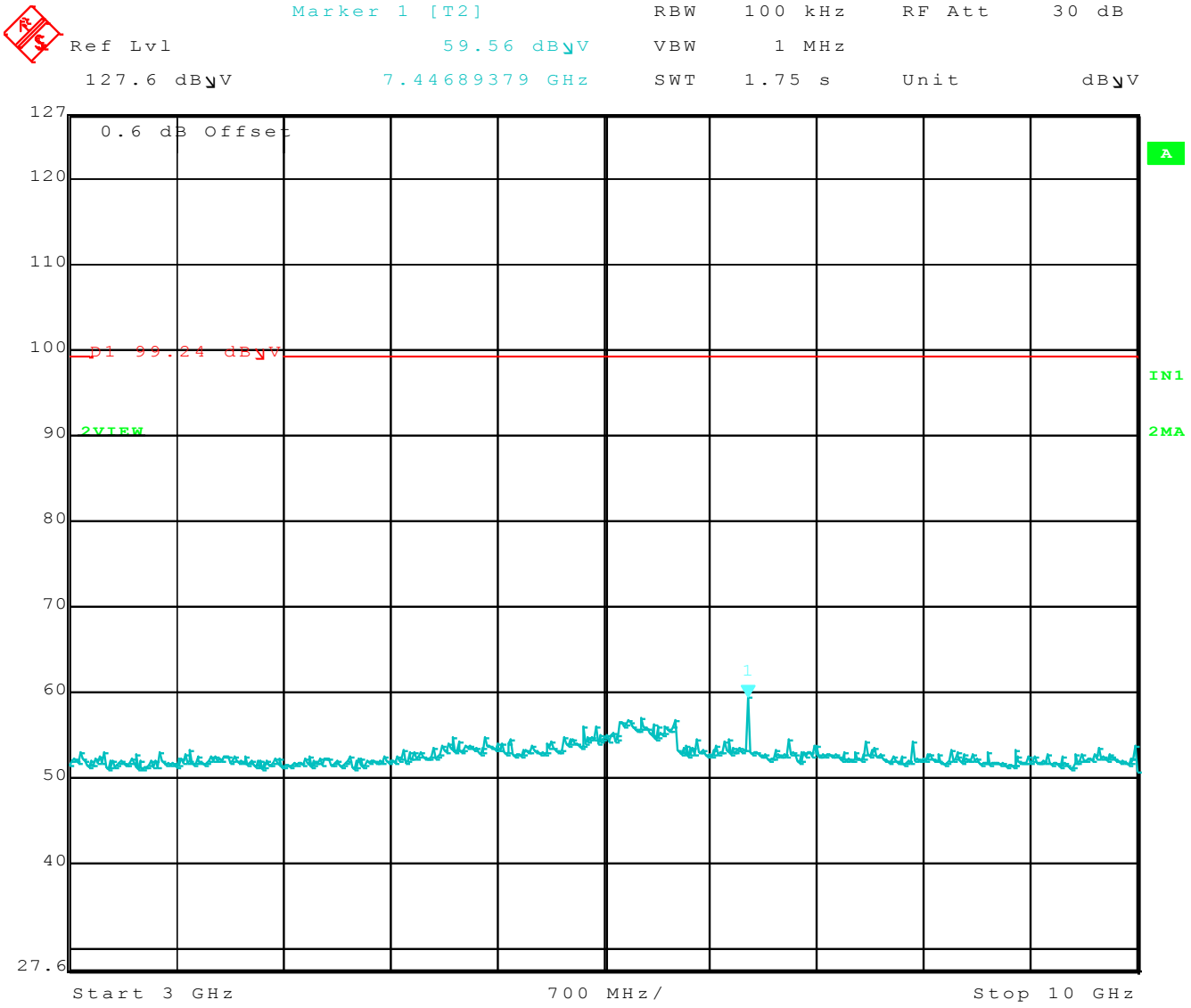
DATA SHEETS



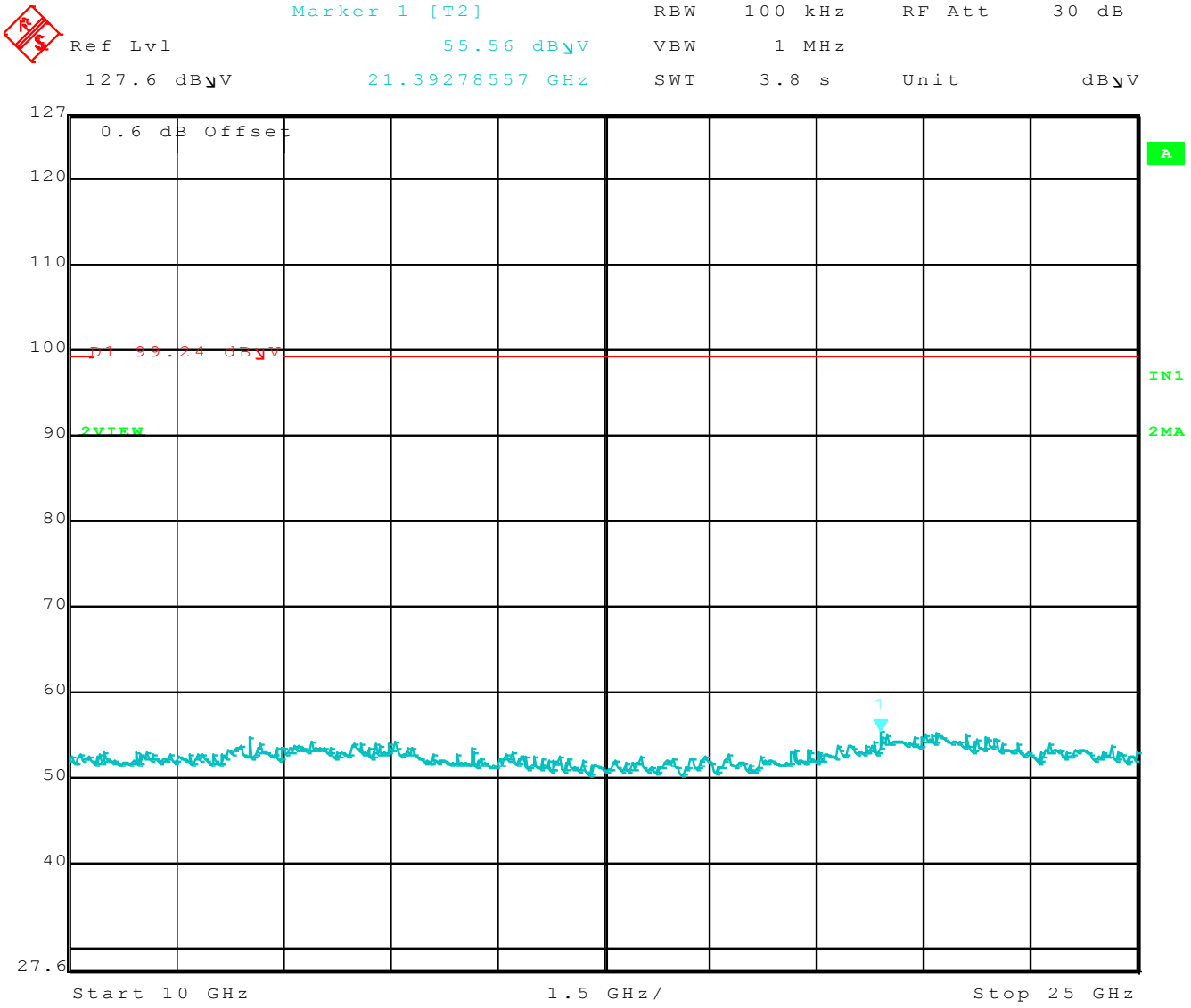
Title: RED Link Module
Comment A: Antenna Conducted High Channel
Date: 20.OCT.2011 13:46:30



Title: RED Link Module
Comment A: Antenna Conducted High Channel
Date: 20.OCT.2011 13:45:45



Title: RED Link Module
Comment A: Antenna Conducted High Channel
Date: 20.OCT.2011 13:47:25



Title: RED Link Module
Comment A: Antenna Conducted High Channel
Date: 20.OCT.2011 13:48:31

LOWER BAND EDGE

DATA SHEETS

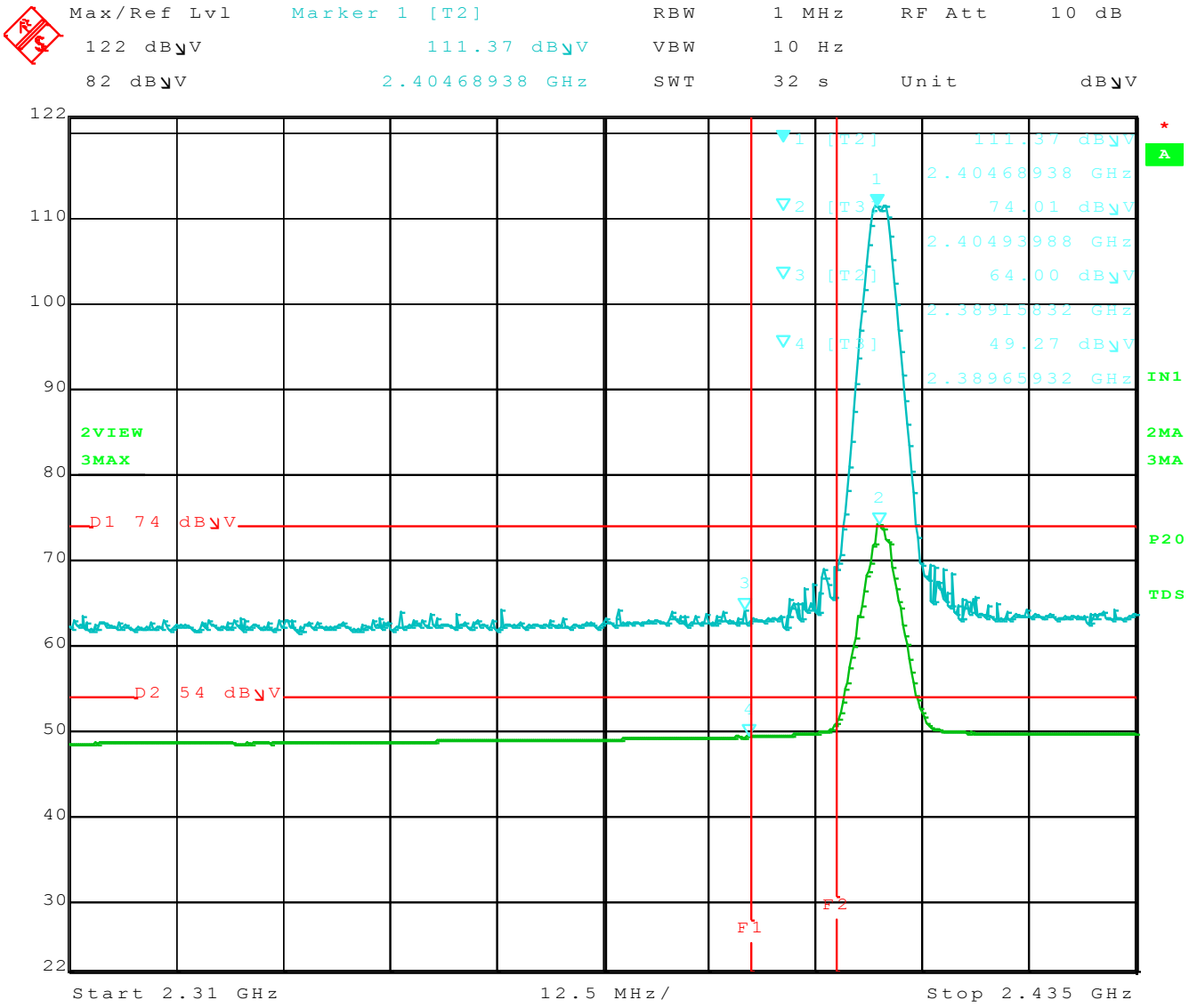
LOWER BAND EDGE

FCC 15.249
Red Digital Cinemas
Modular Transmitter
Model: RedLink

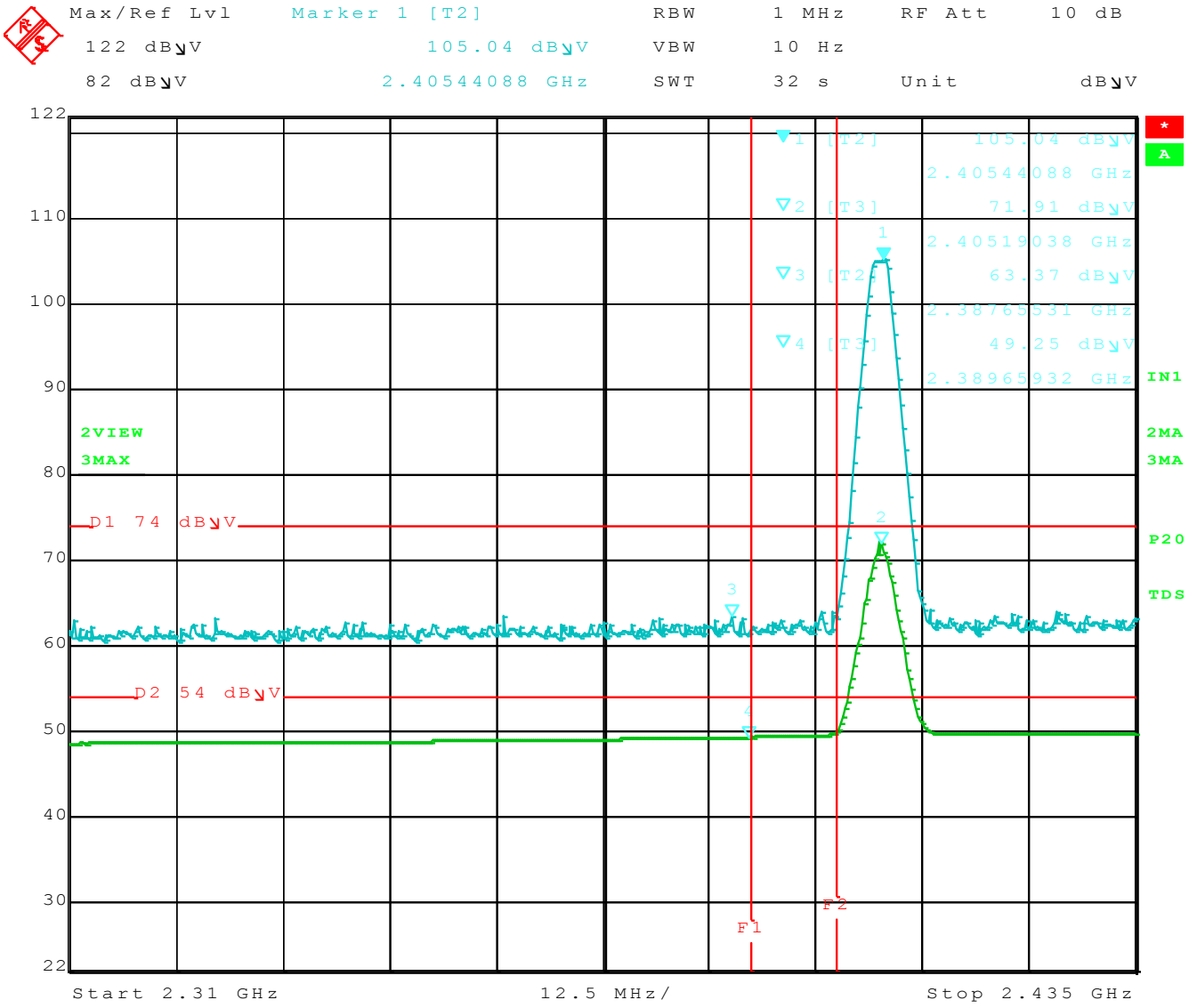
Date: 1/27/2012
Lab: R
Tested By: Josh Hansen

Channel Low - Tx Mode - Band Edge

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	111.37	H	--	--	Peak	1	338	Fundamental of Channel 1
2405	74.01	H	--	--	Avg	1	338	@ 3 meters
2389	64.00	H	73.98	-10.00	Peak	1	338	No Marker Delta Method Used
2389	49.27	H	53.98	-4.73	Avg	1	338	No Marker Delta Method Used
2405	105.04	V	--	--	Peak	1	180	Fundamental of Channel 1
2405	71.91	V	--	--	Avg	1	180	@ 3 meters
2387	63.37	V	73.98	-10.63	Peak	1	180	No Marker Delta Method Used
2387	49.25	V	53.98	-4.75	Avg	1	180	No Marker Delta Method Used



Title: RedLink with antenna 3
Comment A: Lower Band Edge Horizontal
Date: 27.JAN.2012 09:38:30



Title: RedLink with antenna 3
Comment A: Lower Band Edge Vertical
Date: 27.JAN.2012 09:29:44

UPPER BAND EDGE

DATA SHEETS

UPPER BAND EDGE

FCC 15.249
Red Digital Cinemas
Modular Transmitter
Model: RedLink

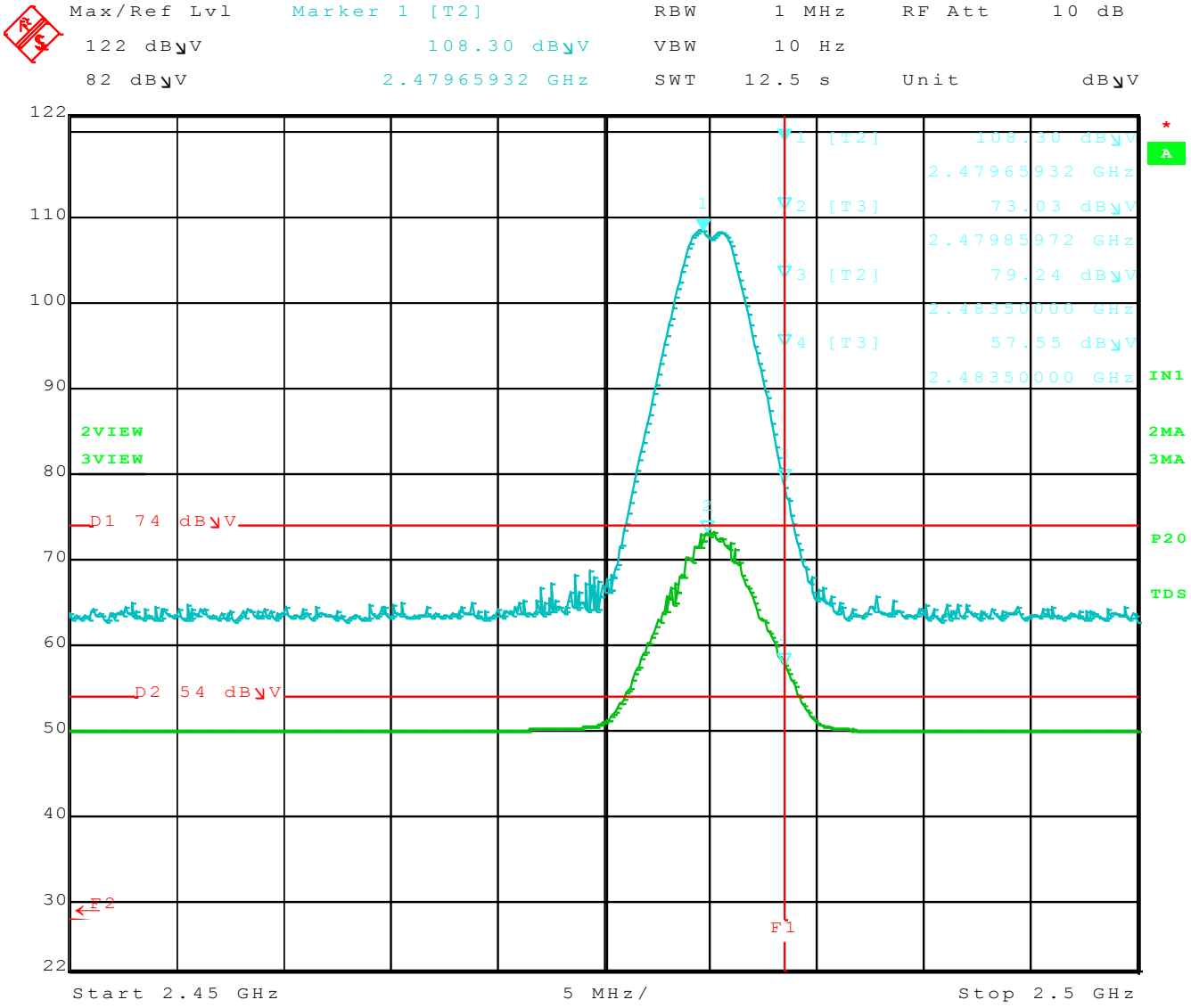
Date: 1/27/2012
Lab: R
Tested By: Josh Hansen

Channel High - Tx Mode - Band Edge

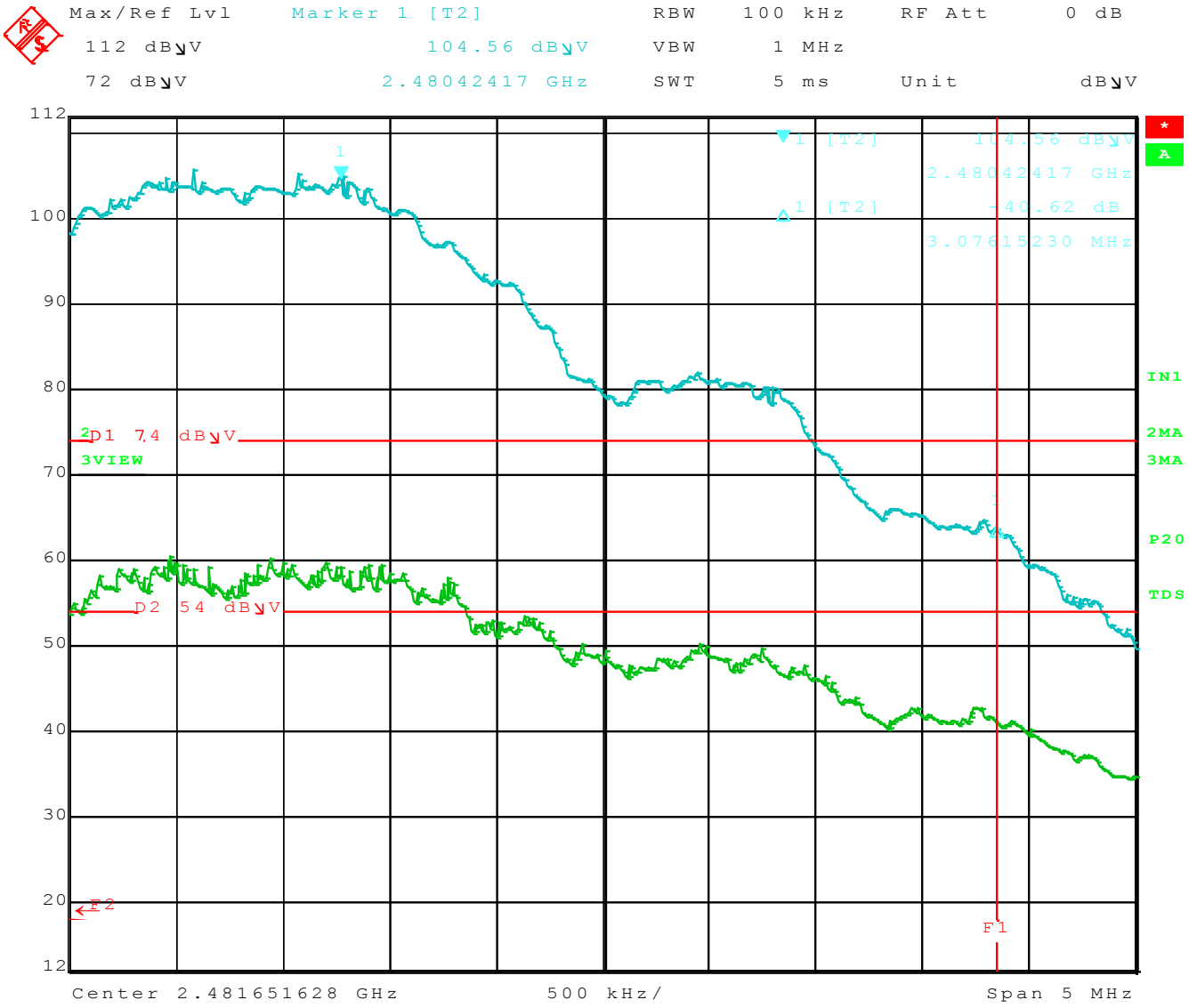
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	108.30	H	--	--	Peak	1	338	Fundamental of Channel 16
2480	73.03	H	--	--	Avg	1	338	@ 3 meters
2483.5	79.24	H	73.98	5.24	Peak	1	338	Marker Delta Method Used
2483.5	57.55	H	53.98	3.55	Avg	1	338	See Marker Delta Method Below
2480	103.35	V	--	--	Peak	1	180	Fundamental of Channel 16
2480	66.77	V	--	--	Avg	1	180	@ 3 meters
2483.5	74.65	V	73.98	0.65	Peak	1	180	Marker Delta Method Used
2483.5	50.61	V	53.98	-3.39	Avg	1	180	See Marker Delta Method Below

PUB# 913591 Marker Delta Method UPPER BAND EDGE

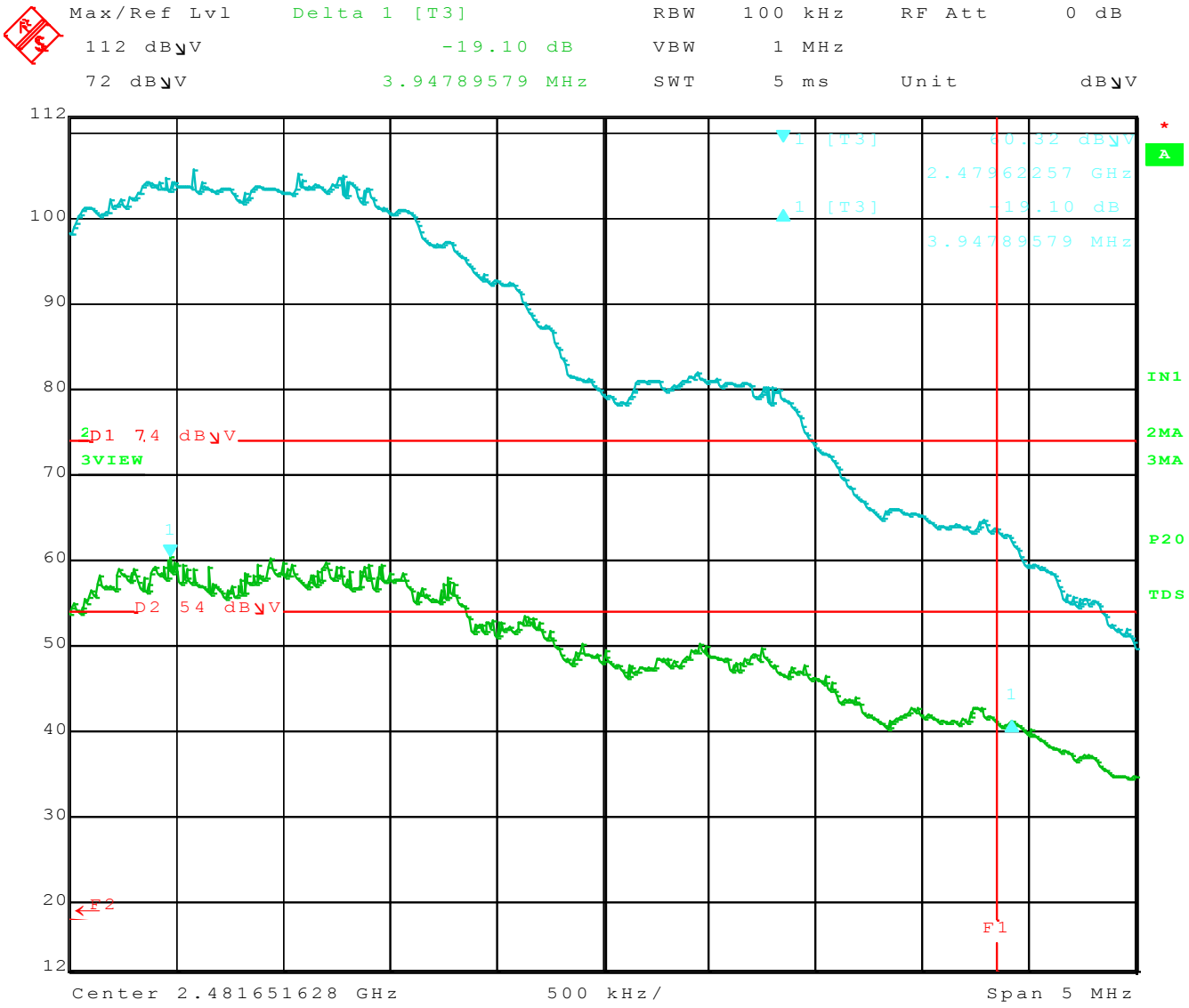
2480	108.30	H	--	--	Peak			PK Marker Delta Method Step 1
Delta	-40.62	H			Peak			PK Marker Delta Method Step 2
2483.5	67.68	H	73.98	-6.32	Peak			PK Marker Delta Method Step 3
2480	73.03	H	--	--	AVG			AVG Marker Delta Method Step 1
Delta	-19.10	H			AVG			AVG Marker Delta Method Step 2
2483.5	53.93	H	53.98	-0.05	AVG			AVG Marker Delta Method Step 3
2480	103.35	V	--	--	Peak			PK Marker Delta Method Step 1
Delta	-40.32	V			Peak			PK Marker Delta Method Step 2
2483.5	63.03	V	73.98	-10.97	Peak			PK Marker Delta Method Step 3
2480	66.35	V	--	--	AVG			AVG Marker Delta Method Step 1
Delta	-19.25	V			AVG			AVG Marker Delta Method Step 2
2483.5	47.10	V	53.98	-6.88	AVG			AVG Marker Delta Method Step 3



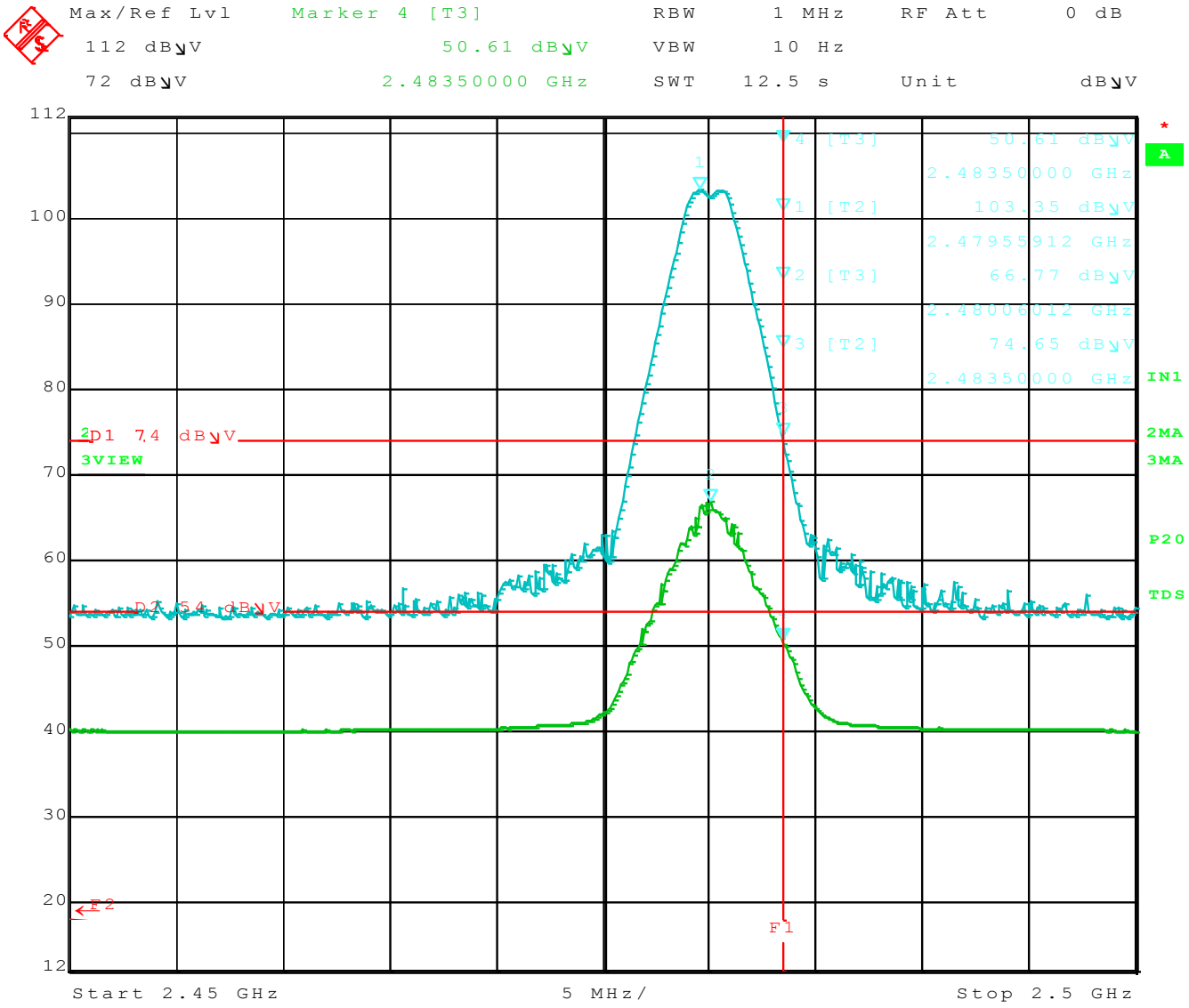
Title: RedLink with antenna 3
Comment A: Upper Band Edge Horizontal
Date: 27.JAN.2012 09:55:56



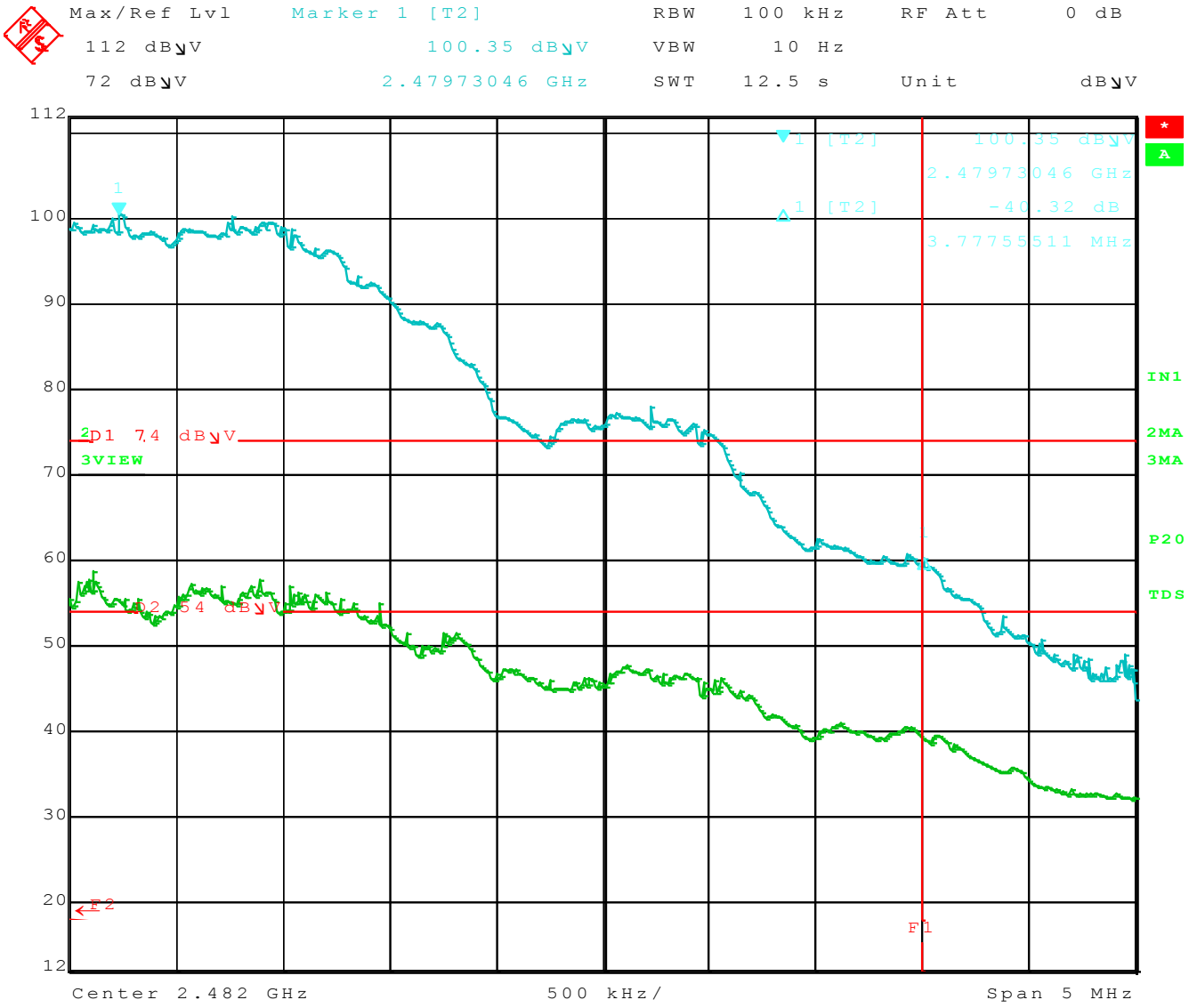
Title: RedLink with antenna 3
Comment A: Upper Band Edge Horizontal MKR Delka Step 2
Date: 27.JAN.2012 10:28:27



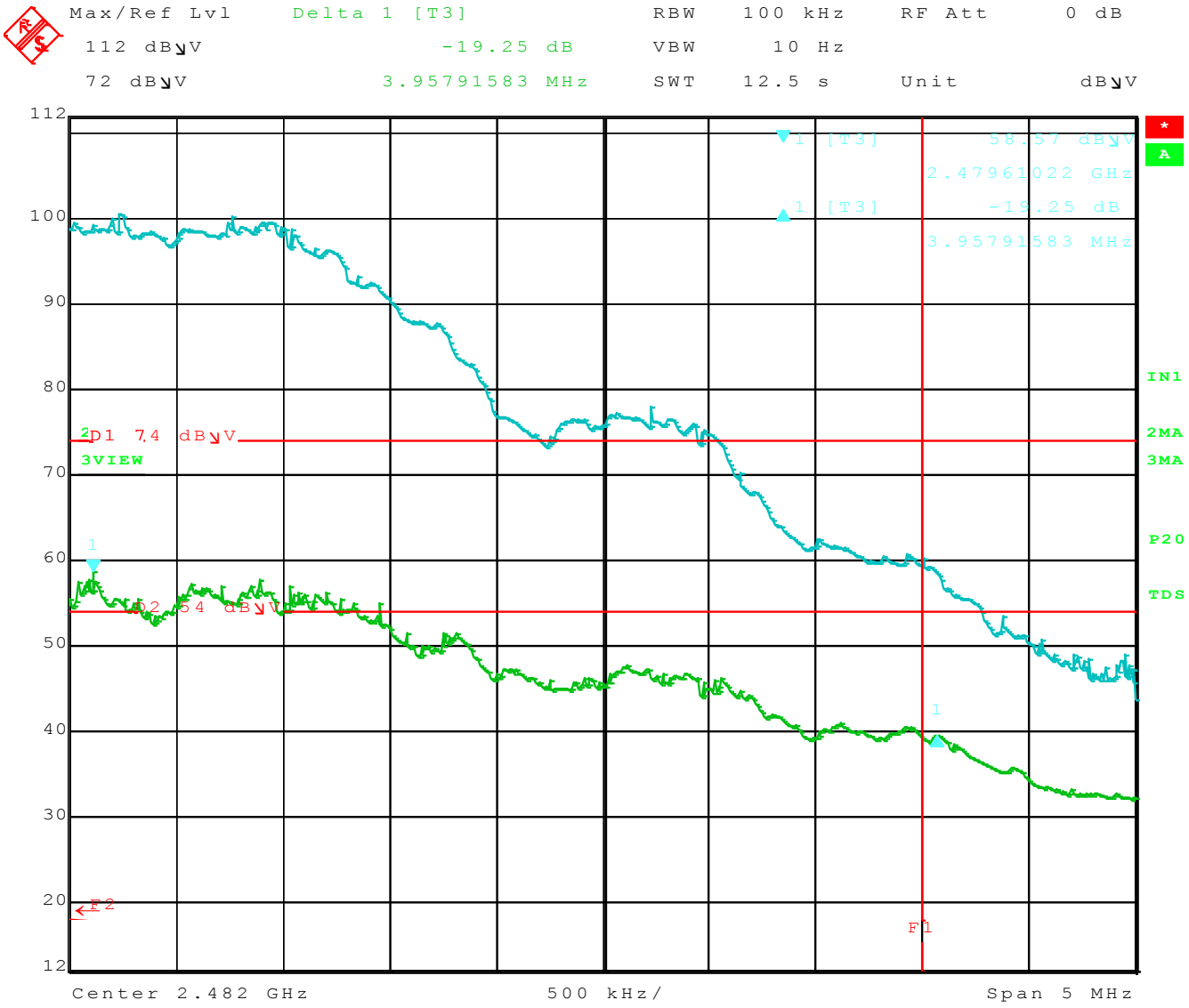
Title: RedLink with antenna 3
Comment A: Upper Band Edge Horizontal MKR Delka Step 2
Date: 27.JAN.2012 10:30:36



Title: RedLink with antenna 3
Comment A: Upper Band Edge Horizontal MKR Delka Step 2
Date: 27.JAN.2012 10:47:49



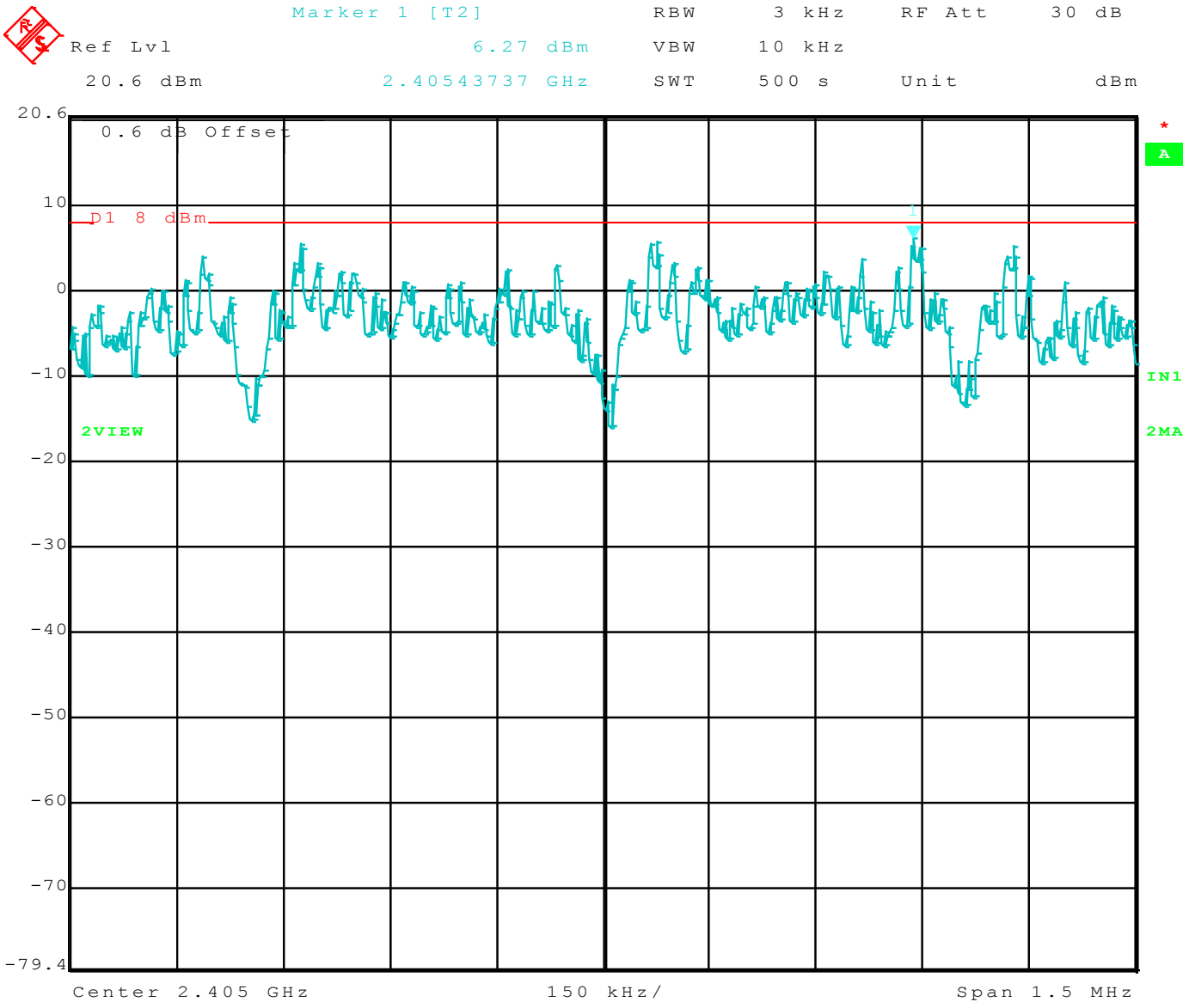
Title: RedLink with antenna 3
Comment A: Upper Band Edge Vertical MKR Delka Step 2
Date: 27.JAN.2012 10:57:24



Title: RedLink with antenna 3
Comment A: Upper Band Edge Vertical MKR Delka Step 2
Date: 27.JAN.2012 10:59:25

PEAK POWER SPECTRAL DENSITY (WORST CASE)

DATA SHEETS



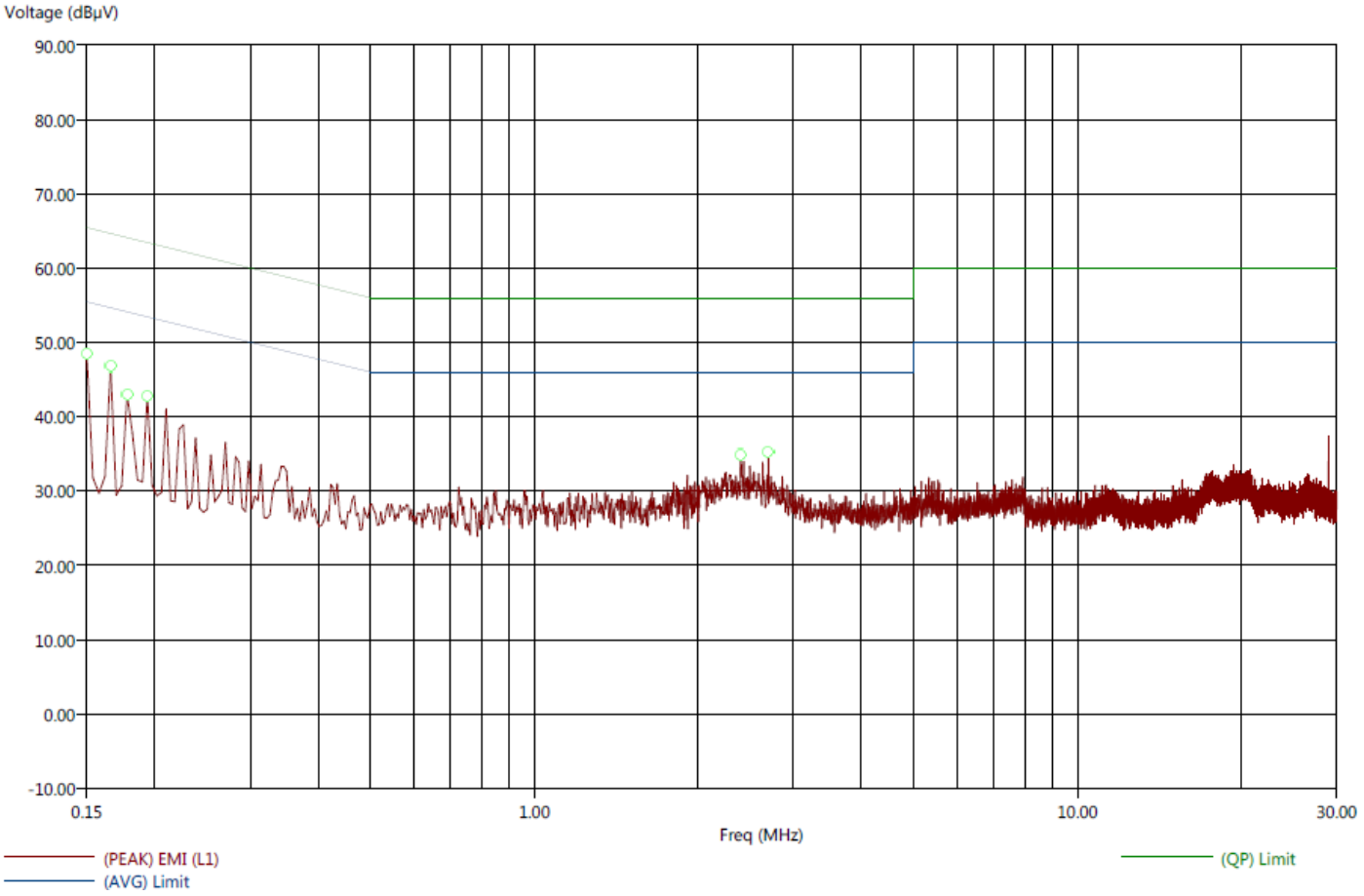
Title: RED Link Module
Comment A: Spectral Density Low Channel
Date: 20.OCT.2011 11:53:05

RADIATED & CONDUCTED EMISSIONS
RX ONLY
DATA SHEETS

Title: FCC 15.207
File: Conducted Pre-Line_Ant3_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only
Comments: Connected to Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/28/2011 1:13:00 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (Lab R)



Title: FCC 15.207
File: Conducted Final-Line_Ant3_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only
Comments: Connected to Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/28/2011 1:16:48 PM
Sequence: Final Measurements

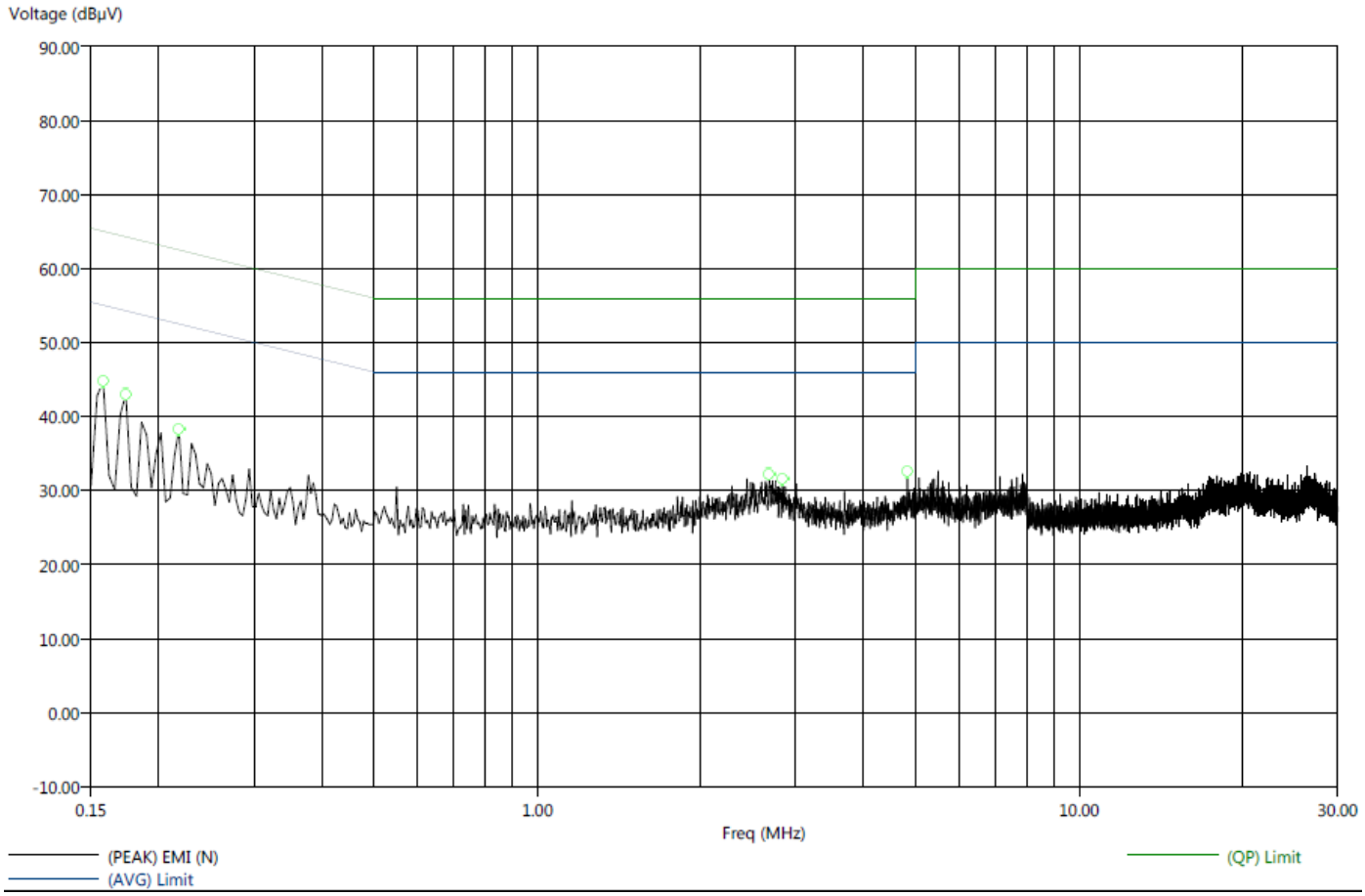
Compatible Electronics, Inc. FAC-3 (Lab R)

Freq (MHz)	(AVG) Margin AVL(dB)	(QP) Margin QPL(dB)	(AVG) EMI (dBµV)	(QP) EMI (dBµV)	(PEAK) EMI (dBµV)	(AVG) Limit (dBµV)	(QP) Limit (dBµV)	Transducer (dB)	Cable (dB)
0.15	-31.44	-23.19	24.04	42.29	48.19	55.46	65.46	0.11	0.00
0.17	-34.03	-24.92	20.63	39.74	53.94	54.66	64.66	0.10	0.00
0.18	-32.73	-25.36	21.38	38.76	45.19	54.11	64.11	0.09	0.00
0.19	-35.99	-27.56	17.45	35.87	43.34	53.44	63.44	0.08	0.01
2.40	-33.07	-37.37	12.93	18.63	23.36	46.00	56.00	0.04	0.12
2.70	-32.44	-36.69	13.56	19.31	24.42	46.00	56.00	0.04	0.13

Title: FCC 15.207
File: Conducted Pre-Neutral_Ant3_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only
Comments: Connected to Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/28/2011 1:20:19 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (Lab R)



Title: FCC 15.207
File: Conducted Final-Neutral_Ant3_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only
Comments: Connected to Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/28/2011 1:23:11 PM
Sequence: Final Measurements

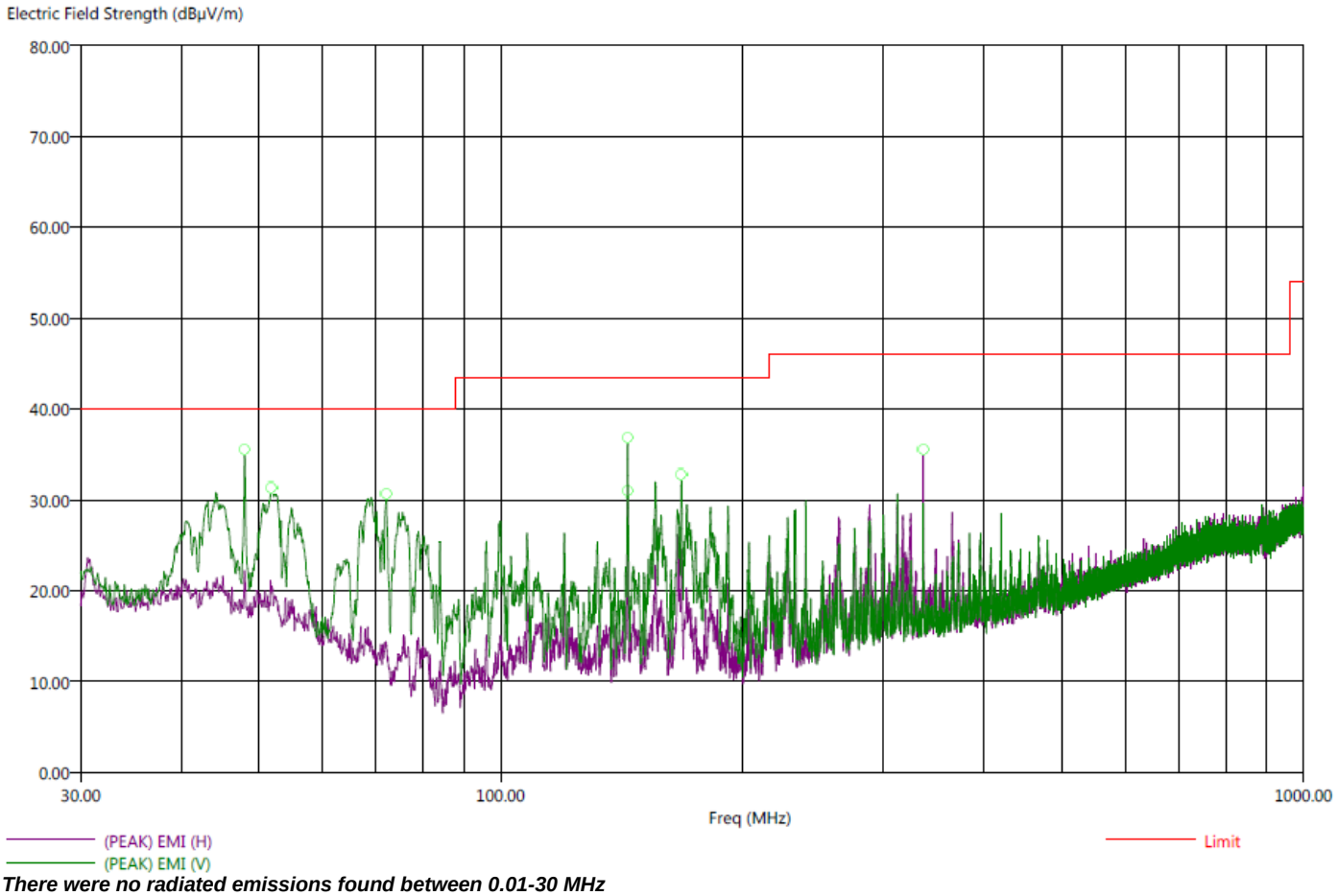
Compatible Electronics, Inc. FAC-3 (Lab R)

Freq (MHz)	(AVG) Margin AVL(dB)	(QP) Margin QPL(dB)	(AVG) EMI (dBµV)	(QP) EMI (dBµV)	(PEAK) EMI (dBµV)	(AVG) Limit (dBµV)	(QP) Limit (dBµV)	Transducer(dB)	Cable (dB)
0.16	-32.76	-28.80	22.29	36.25	45.23	55.05	65.05	0.06	0.00
0.17	-38.04	-30.24	16.26	34.05	41.25	54.29	64.29	0.04	0.00
0.22	-37.72	-34.20	14.80	28.32	36.22	52.52	62.52	0.01	0.01
2.68	-27.61	-29.53	18.39	26.47	30.36	46.00	56.00	0.04	0.13
2.84	-29.48	-32.81	16.52	23.19	26.70	46.00	56.00	0.04	0.13
4.82	-34.69	-36.40	11.31	19.60	24.71	46.00	56.00	0.05	0.15

Title: FCC 15.209
File: Radiated Pre-Scan 30-1000Mhz_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only.
Comments: Connected to Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/26/2011 9:09:33 AM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (Lab R)



There were no radiated emissions found between 0.01-30 MHz

Title: FCC 15.209
File: Radiated Final 30-1000Mhz_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only.
Comments: Connected to Remote Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/26/2011 9:30:20 AM
Sequence: Final Measurements

Compatible Electronics, Inc. FAC-3 (Lab R)

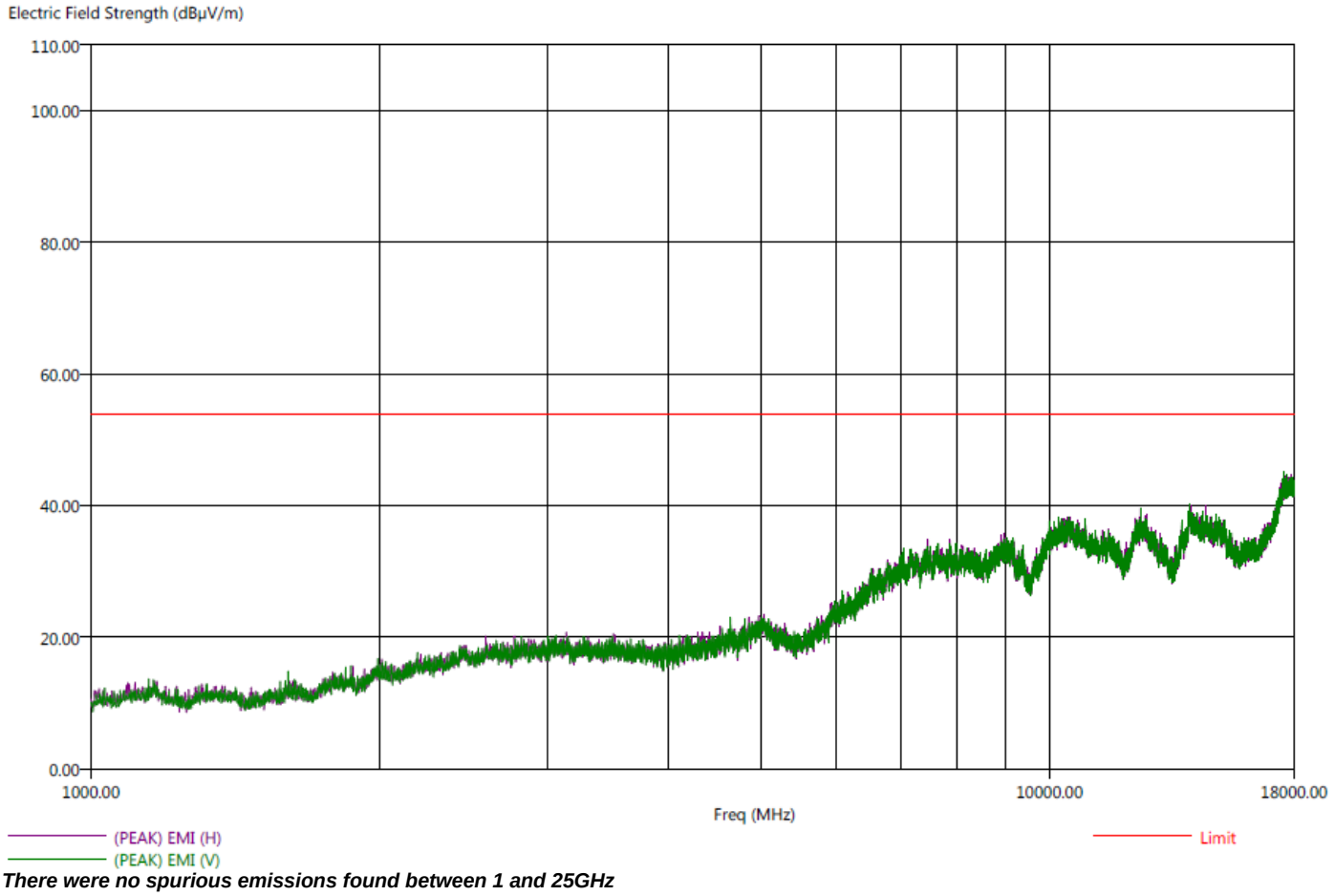
Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dBµV/m)	(PEAK) EMI (dBµV/m)	Limit (dBµV/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable(dB)
48.00	-6.29	33.71	35.56	40.00	V	194.75	118.32	16.49	0.68
51.90	-10.79	29.21	31.81	40.00	V	360.00	105.01	15.47	0.70
72.00	-11.11	28.89	33.15	40.00	V	202.75	101.73	7.94	0.86
144.00	-15.00	28.52	32.37	43.52	H	243.75	229.19	8.56	1.27
144.00	-7.56	35.96	40.28	43.52	V	360.25	114.14	8.56	1.27
168.00	-12.97	30.55	36.46	43.52	V	0.25	119.52	8.44	1.37
336.00	-10.73	35.27	37.50	46.00	H	84.75	118.74	14.03	2.00

There were no radiated emissions found between 0.01-30 MHz

Title: FCC 15.209
File: Radiated Pre-scan 1-18GHz_A3_Rx.set
Operator: Matt Harrison
EUT Type: RED Link
EUT Condition: 3.89 dBi Antenna, Rx Only
Comments: Connected to Remote Dell Laptop.
Witness: Josh Garcia
Temp: 70f
Hum: 60%
Laptop 120V 60Hz

10/26/2011 11:22:36 AM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (Lab R)



There were no spurious emissions found between 1 and 25GHz