FCC PART 15 SUBPART B and C
TEST REPORT

for

BIONOMADIX RECEIVER

MODEL: BN-RX

Prepared for

BIOPAC SYSTEMS, INC.
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DATE: OCTOBER 31, 2011

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
PAGES	17	2	2	2	21	49	**93**

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electromagnetic emission test report, 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, NIST or any other agency of the U.S. Government.

Device Tested:	BioNomadix Receiver Model: BN-RX S/N: ACCL3110300010D
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	BIOPAC Systems, Inc. 42 Aero Camino Goleta, California 93117
Test Date(s):	October 18 and 19, 2011
Test Specifications:	Emission requirements CFR Title 47, Part 15, Subpart B; and Subpart C, Sections 15.205, 15.207, 15.209 and 15.249
Test Procedure:	ANSI C63.4
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 to 30 MHz (IPS and Data Acquisition System Configurations)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.207
2	Radiated RF Emissions 10 kHz to 25000 MHz (Transmit, Receive, and Digital Portion – IPS Configuration)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.
3	Radiated RF Emissions 10 kHz to 25000 MHz (Transmit and Receive Portion – Data Acquisition System Configuration)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.
4	Radiated RF Emissions 30 MHz to 1000 MHz (Digital Portion – Data Acquisition System Configuration)	Complies with the **Class A** limits of CFR Title 47, Part 15, Subpart B

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the BioNomadix Receiver, Model: BN-RX. The emissions 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 for the receiver portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.

Note #1: For the digital portion of the Data Acquisition System Configuration, the EUT complies with the **Class A** limits of CFR Title 47, Part 15, Subpart B.

Note #2: For the digital portion of the IPS Configuration, the EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

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

BIOPAC Systems, Inc.

Alan Macy	R&D Director

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	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 yet been returned as of the date of this report.

2.6 Abbreviations and Acronyms

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

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
NCR	No Calibration Required
IPS	Isolated Power Supply

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions test report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2009	American National Standard for 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 – Emissions

IPS Configuration: The BioNomadix Receiver, Model: BN-RX (EUT) was directly connected to the Isolated Power Supply Module (IPS), Model: IPS100C-1. The IPS was connected to an external power supply via its DC in port. The EUT was continuously transmitting and receiving on a continuous basis.

Data Acquisition System Configuration: The BioNomadix Receiver, Model: BN-RX (EUT) was directly connected to the Data Acquisition System, Model: MP150. The MP150 was connected to an external power supply via its DC in port. The EUT was continuously transmitting and receiving on a continuous basis.

The antenna is an external antenna with a reverse polarity SMA conector.

Note: For the Data Acquisition System Configruation, select frequenices from the 10 MHz and 25 MHz clocks were tested to the **Class A** limits. These emissions were verified to be from the digital portion by shutting the transmitter off and verifying these emissions did not change amplitude as a result.

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

4.1.1 Cable Construction and Termination

Cable 1 **(IPS Configuration)** This is a 2-meter unshielded cable connecting the external power supply to the Isolated Power Supply Module. The cable has a 1/8 inch power connector at the Isolated Power Supply Module end and is hard wired into the external power supply.

Cable 1 **(MP150 Configuration)** This is a 2-meter unshielded cable connecting the external power supply to the Data Acquisition System. The cable has a 1/8 inch power connector at the Isolated Power Supply Module end and is hard wired into the external power supply.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
BIONOMADIX RECEIVER (EUT)	BIOPAC SYSTEMS, INC.	BN-RX	N/A	ZWIBNXR1 IC: 9901A-BNXR1

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	2637A03618	May 27, 2011	May 27, 2012
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A13404	May 27, 2011	May 27, 2012
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 27, 2011	May 27, 2012
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2010	November 19, 2012
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Loop Antenna	Com-Power	AL-130	17089	January 21, 2011	January 21, 2012
Biconical Antenna	Com Power	AB-900	15250	June 8, 2011	June 8, 2012
Log Periodic Antenna	Com Power	AL-100	16252	June 8, 2011	June 8, 2012
Horn Antenna	Com-Power	AH-118	071175	March 18, 2010	March 18, 2012
Horn Antenna	Com-Power	AH826	71957	NCR	N/A
Microwave Preamplifier	Com-Power	PA-102	1017	January 11, 2011	January 12, 2012
Microwave Preamplifier	Com-Power	PA-118	181656	December 22, 2010	December 22, 2011
Microwave Preamplifier	Com-Power	PA-840	711013	March 11, 2010	March 11, 2012
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 7.1.2 of this report for emissions 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 not grounded.

6.3 Facility Environmental Characteristics

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

7. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The measurement receiver was used as a measuring meter. The data was collected with the measurement receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement 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 was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

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

Test Results:

The EUT 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 15.207, 15.209 and 15.249.

7.1.2 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-102 was used for frequencies from 30 MHz to 1 GHz, the Com-Power Microwave Preamplifier Model: PA-118 was used for frequencies from 1 GHz to 18 GHz, and the Com-Power Microwave Preamplifier Model: PA-840 were used for frequencies above 18 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

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

The frequencies above 1 GHz were averaged by using a video bandwidth that was > 1/T. Where T is the time for one pulse of the transmitter in seconds.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antennas

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

Radiated Emissions (Spurious and Harmonics) Test (continued)

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 to obtain the final test data, except for the digital portion of the Data Acquisition System and below 30 MHz, where the EUT was tested at a 10-meter test distance to obtain the final test data.

Test Results:

The EUT, except for the digital portion of the Data Acquisition System, 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 15.249.

For the digital portion of the Data Acquisition System, the EUT complies with the **Class A** limits of CFR Title 47, Part 15, Subpart B.

7.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
BioNomadix Receiver, Model: BN-RX

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
19.439 (WL) (IPS)	49.67 **(A)**	50.00	-0.33
19.644 (WL) (IPS)	49.31 **(A)**	50.00	-0.69
20.716 (WL) (IPS)	49.12 **(A)**	50.00	-0.88
20.935 (WL) (IPS)	48.90 **(A)**	50.00	-1.10
19.541 (BL) (IPS)	48.75 **(A)**	50.00	-1.25
19.235 (WL) (IPS)	48.31 **(A)**	50.00	-1.69

Table 2.0 RADIATED EMISSION RESULTS
BioNomadix Receiver, Model: BN-RX

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
2481 (Vertical)(MP150)	93.9 **(A)**	94.00	-0.1
2440 (Vertical) (IPS)	93.81 **(A)**	94.00	-0.19
2402 (Vertical (IPS)	93.47 **(A)**	94.00	-0.57
2440 (Vertical) (MP150)	93.45 **(A)**	94.00	-0.55
2402 (Vertical) (IPS)	93.43 **(A)**	94.00	-0.57
2402 (Vertical) (MP150)	93.22 **(A)**	94.00	-0.78

Notes:

* The complete emissions data is given in Appendix E of this report.
A Average Reading
BL Black Lead
WL White Lead

8. CONCLUSIONS

The BioNomadix, Model: BN-RX (EUT), as tested, meets all of the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the receiver portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.

Note #1: For the digital portion of the Data Acquisition System Configuration, the EUT complies with the **Class A** limits of CFR Title 47, Part 15, Subpart B.

Note #2: For the digital portion of the IPS Configuration, the EUT complies with the **Class B** limits of 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 Systems requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management Systems 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 15.249 and/or FCC **Class B** 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 modification 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

BioNomadix Receiver
Model: BN-RX
S/N: ACCL3110300010D

ALSO APPROVED UNDER THIS REPORT:

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

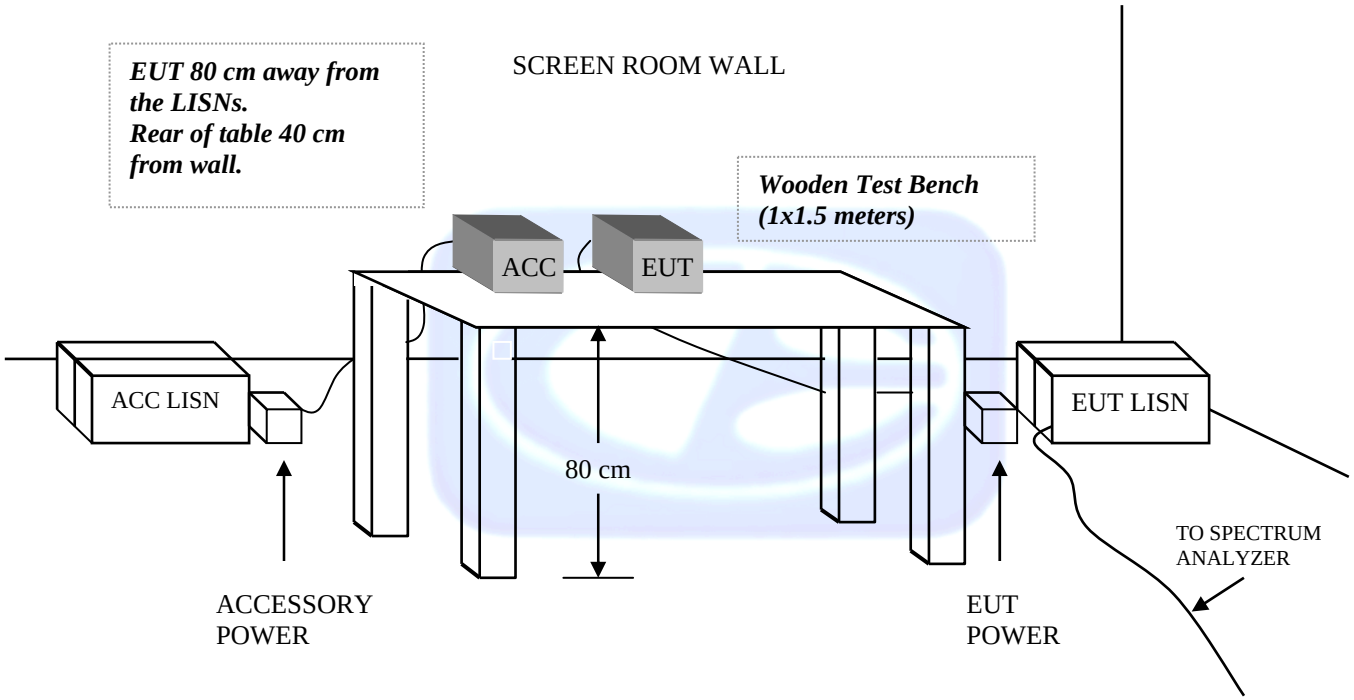
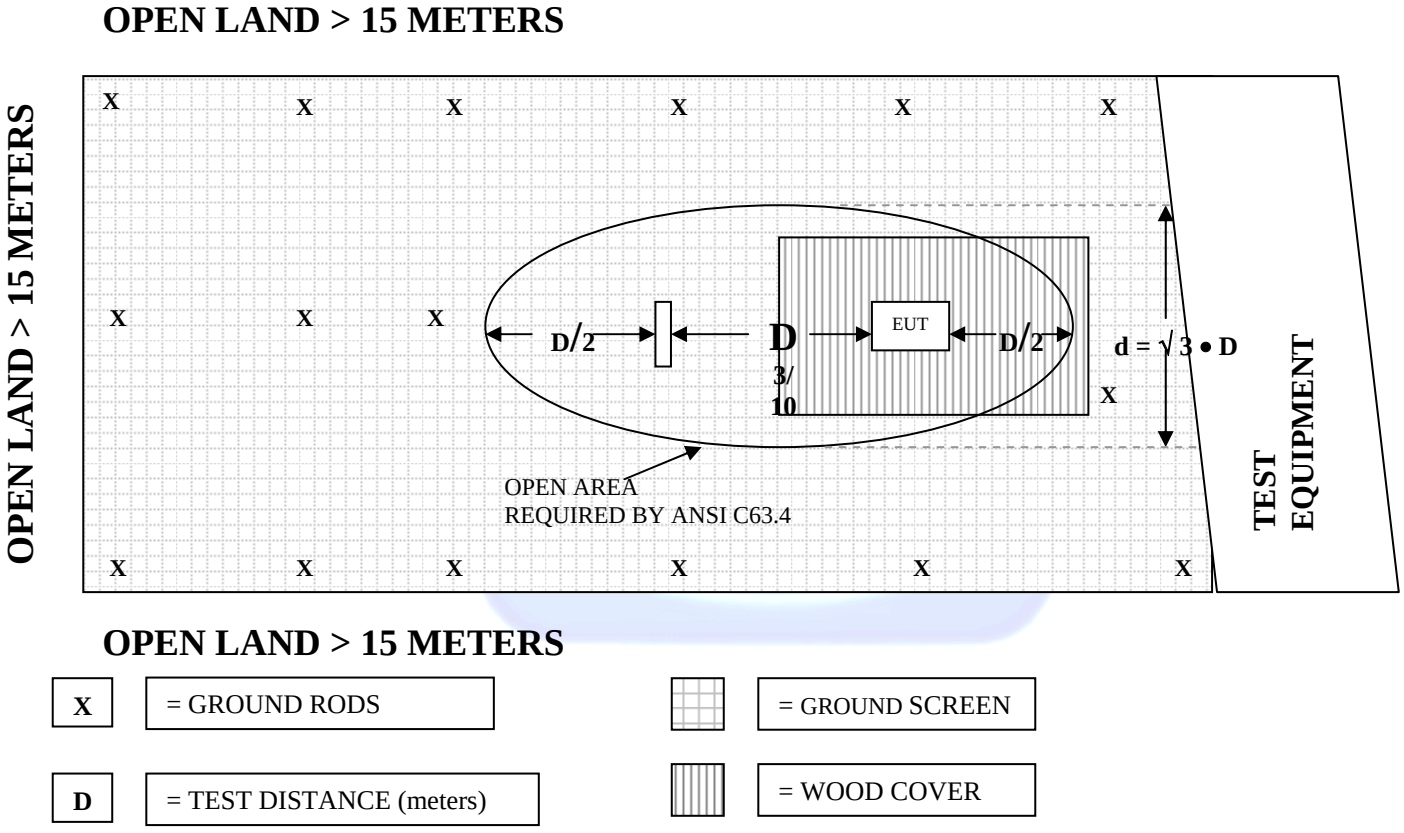


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 21, 2011

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.9	9.6
0.01	-41.79	9.71
0.02	-41.43	10.07
0.05	-41.53	9.97
0.07	-41.47	10.03
0.1	-41.44	10.06
0.2	-41.61	9.89
0.3	-41.62	9.88
0.5	-41.66	9.84
0.7	-41.48	10.02
1	-41.13	10.37
2	-40.89	10.61
3	-41.00	10.50
4	-41.14	10.36
5	-41.02	10.48
10	-40.69	10.82
15	-40.41	11.09
20	-41.07	10.43
25	-42.10	9.40
30	-41.15	10.35

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: JUNE 8, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	10.90	100	9.50
35	11.00	120	12.10
40	11.80	140	11.40
45	11.60	160	12.40
50	11.40	180	15.70
60	9.80	200	16.20
70	7.00	250	16.10
80	5.70	275	19.00
90	7.00	300	9.50

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: JUNE 8, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.30	700	20.40
400	15.50	800	20.60
500	15.80	900	20.10
600	20.20	1000	22.80

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: MARCH 18, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	22.2	10.0	39.8
1.5	24.2	10.5	40.2
2.0	27.2	11.0	39.7
2.5	27.8	11.5	39.9
3.0	30.5	12.0	41.7
3.5	30.9	12.5	42.7
4.0	31.9	13.0	42.3
4.5	33.2	13.5	40.3
5.0	33.6	14.0	42.6
5.5	36.2	14.5	43.4
6.0	35.8	15.0	41.9
6.5	36.1	15.5	40.8
7.0	37.9	16.0	41.0
7.5	37.4	16.5	41.5
8.0	38.0	17.0	44.5
8.5	38.8	17.5	47.6
9.0	38.0	18.0	50.8
9.5	39.2		

COM-POWER AH826

HORN ANTENNA

S/N: 71957

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 11, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.1	300	38.1
40	38.2	350	38.0
50	38.2	400	37.9
60	38.2	450	37.7
70	38.2	500	37.6
80	38.2	550	37.9
90	38.2	600	37.9
100	38.1	650	37.7
125	38.2	700	37.9
150	38.2	750	37.5
175	38.2	800	37.6
200	38.2	850	37.6
225	38.2	900	37.0
250	38.2	950	37.2
275	38.2	1000	36.8

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 22, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.90	10.0	26.07
1.5	26.50	10.5	24.97
2.0	26.79	11.0	24.79
2.5	26.90	11.5	24.33
3.0	27.03	12.0	24.24
3.5	26.94	12.5	24.92
4.0	27.18	13.0	24.52
4.5	26.79	13.5	24.33
5.0	26.25	14.0	24.56
5.5	26.16	14.5	24.99
6.0	25.52	15.0	26.06
6.5	25.29	15.5	26.87
7.0	24.45	16.0	25.95
7.5	24.18	16.5	24.69
8.0	24.02	17.0	24.20
8.5	24.54	17.5	25.12
9.0	24.91	18.0	26.03
9.5	25.42		

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 11, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	24.36	29.5	23.52
18.5	24.54	30.0	21.73
19.0	24.06	30.5	22.34
19.5	23.71	31.0	20.06
20.0	23.42	31.5	20.02
20.5	22.87	32.0	18.11
21.0	22.60	32.5	19.35
21.5	21.08	33.0	17.50
22.0	22.13	33.5	17.49
22.5	22.42	34.0	17.48
23.0	22.85	34.5	18.57
23.5	22.85	35.0	18.64
24.0	23.82	35.5	18.82
24.5	22.33	36.0	19.14
25.0	24.09	36.5	18.58
25.5	23.20	37.0	15.07
26.0	23.18	37.5	17.29
26.5	23.50	38.0	20.82
27.0	24.25	38.5	19.96
27.5	23.58	39.0	20.66
28.0	23.81	39.5	21.41
28.5	23.76	40.0	18.89
29.0	24.83		

FRONT VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – IPS CONFIGURATION – RADIATED EMISSIONS – 10/18/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – IPS CONFIGURATION – RADIATED EMISSIONS – 10/18/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – MP150 CONFIGURATION – RADIATED EMISSIONS – 10/18/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – MP150 CONFIGURATION – RADIATED EMISSIONS – 10/18/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC CLASS A – MP150 CONFIGURATION – RADIATED EMISSIONS – 10/18/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC CLASS A – MP150 CONFIGURATION – RADIATED EMISSIONS – 10/18/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – IPS CONFIGURATION – CONDUCTED EMISSIONS – 10/19/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – IPS CONFIGURATION – CONDUCTED EMISSIONS – 10/19/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – MP150 CONFIGURATION – CONDUCTED EMISSIONS – 10/19/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

BIOPAC SYSTEMS, INC.
BIONOMADIX RECEIVER
MODEL: BN-RX
FCC SUBPART B AND C – MP150 CONFIGURATION – CONDUCTED EMISSIONS – 10/19/2011

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Transmit Mode
IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	94.83	V	114	-19.17	Peak	1.25	180	
2402	93.49	V	94	-0.51	Avg	1.25	180	
4804	58.44	V	74	-15.56	Peak	2.25	225	
4804	52.12	V	54	-1.88	Avg	2.25	225	
7206	48.44	V	74	-25.56	Peak	1.25	135	
7206	37.11	V	54	-16.89	Avg	1.25	135	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Transmit Mode

IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	90.99	H	114	-23.01	Peak	1.25	135	
2402	89.6	H	94	-4.4	Avg	1.25	135	
4804	50.07	H	74	-23.93	Peak	1.25	270	
4804	41.21	H	54	-12.79	Avg	1.25	270	
7206	48.76	H	74	-25.24	Peak	1.35	135	
7206	37.05	H	54	-16.95	Avg	1.35	135	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Transmit Mode
IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2440	95.21	V	114	-18.79	Peak	1	180	
2440	93.81	V	94	-0.19	Avg	1	180	
4880	50.24	V	74	-23.76	Peak	1.25	225	
4880	44.21	V	54	-9.79	Avg	1.25	225	
7320	47.96	V	74	-26.04	Peak	1.25	45	
7320	37.85	V	54	-16.15	Avg	1.25	45	
9760								**No Emission**
9760								**Detected**
12200								**No Emission**
12200								**Detected**
14640								**No Emission**
14640								**Detected**
17080								**No Emission**
17080								**Detected**
19520								**No Emission**
19520								**Detected**
21960								**No Emission**
21960								**Detected**
24400								**No Emission**
24400								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Transmit Mode
IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2440	88.95	H	114	-25.05	Peak	1.25	270	
2440	86.81	H	94	-7.19	Avg	1.25	270	
4880	51.84	H	74	-22.16	Peak	1.25	315	
4880	47.29	H	54	-6.71	Avg	1.25	315	
7320	56.83	H	74	-17.17	Peak	1.35	345	
7320	44.66	H	54	-9.34	Avg	1.35	345	
9760								**No Emission**
9760								**Detected**
12200								**No Emission**
12200								**Detected**
14640								**No Emission**
14640								**Detected**
17080								**No Emission**
17080								**Detected**
19520								**No Emission**
19520								**Detected**
21960								**No Emission**
21960								**Detected**
24400								**No Emission**
24400								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel - Transmit Mode
IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	94.81	V	114	-19.19	Peak	1.25	180	
2481	93.43	V	94	-0.57	Peak	1.25	180	
4962	52.56	V	74	-21.44	Peak	1	225	
4962	46.21	V	54	-7.79	Avg	1	225	
7443	49.25	V	74	-24.75	Peak	1	180	
7443	38.56	V	54	-15.44	Avg	1	180	
9924								**No Emission**
9924								**Detected**
12405								**No Emission**
12405								**Detected**
14886								**No Emission**
14886								**Detected**
17367								**No Emission**
17367								**Detected**
19848								**No Emission**
19848								**Detected**
22329								**No Emission**
22329								**Detected**
24810								**No Emission**
24810								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel - Transmit Mode

IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	84.97	H	114	-29.03	Peak	1.25	135	
2481	83.64	H	94	-10.36	Avg	1.25	135	
4962	45.21	H	74	-28.79	Peak	1.25	155	
4962	31.33	H	54	-22.67	Avg	1.25	155	
7443	46.85	H	74	-27.15	Peak	1.35	165	
7443	37.68	H	54	-16.32	Avg	1.35	165	
9924								**No Emission**
9924								**Detected**
12405								**No Emission**
12405								**Detected**
14886								**No Emission**
14886								**Detected**
17367								**No Emission**
17367								**Detected**
19848								**No Emission**
19848								**Detected**
22329								**No Emission**
22329								**Detected**
24810								**No Emission**
24810								**Detected**

RSS-210

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Receive Mode
Vertical and Horizontal Polarization - 1 GHz to 25 GHz
IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2790.87	48.25	V	74	-25.75	Peak	1.25	315	
2790.87	45.29	V	54	-8.71	Avg	1.25	315	
5581.69	47.72	V	74	-26.28	Peak	1.25	90	
5581.69	34.77	V	54	-19.23	Avg	1.25	90	
8372.54	51.61	V	74	-22.39	Peak	1.35	135	
8372.54	39.92	V	54	-14.08	Avg	1.35	135	
2790.87	40.82	H	74	-33.18	Peak	1.25	165	
2790.87	29.88	H	54	-24.12	Avg	1.25	165	
5581.69	47.51	H	74	-26.49	Peak	1.35	175	
5581.69	35.03	H	54	-18.97	Avg	1.35	175	
8372.54	51.78	H	74	-22.22	Peak	1	180	
8372.54	39.92	H	54	-14.08	Avg	1	180	

FCC 15.249 and FCC Class B

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions from the Tx
Vertical and Horizontal Polarization - 1 GHz to 25 GHz
IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No emissions were
								detected for the digital portion
								from 1 GHz to 25 GHz
								No emissions were
								detected for the non-harmonic
								emissions from the Tx
								from 1 GHz to 25 GHz

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Transmit Mode
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	94.6	V	114	-19.40	Peak	1	315	
2402	93.22	V	94	-0.78	Peak	1	315	
4804	54.46	V	74	-19.54	Peak	1	90	
4804	51.48	V	54	-2.52	Avg	1	90	
7206	48.34	V	74	-25.66	Peak	1	135	
7206	39.01	V	54	-14.99	Avg	1	135	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Transmit Mode
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	87.49	H	114	-26.51	Peak	1.25	180	
2402	85.85	H	94	-8.15	Avg	1.25	180	
4804	50.32	H	74	-23.68	Peak	1.25	180	
4804	44.37	H	54	-9.63	Avg	1.25	180	
7206	48.48	H	74	-25.52	Peak	1.25	155	
7206	36.97	H	54	-17.03	Avg	1.25	155	
9608								**No Emission**
9608								**Detected**
12010								**No Emission**
12010								**Detected**
14412								**No Emission**
14412								**Detected**
16814								**No Emission**
16814								**Detected**
19216								**No Emission**
19216								**Detected**
21618								**No Emission**
21618								**Detected**
24020								**No Emission**
24020								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Transmit Mode
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2440	94.51	V	114	-19.49	Peak	1.25	135	
2440	93.45	V	94	-0.55	Avg	1.25	135	
4880	54.19	V	74	-19.81	Peak	1.35	165	
4880	50.39	V	54	-3.61	Avg	1.35	165	
7320	55.05	V	74	-18.95	Peak	1.25	175	
7320	44.59	V	54	-9.41	Avg	1.25	175	
9760								**No Emission**
9760								**Detected**
12200								**No Emission**
12200								**Detected**
14640								**No Emission**
14640								**Detected**
17080								**No Emission**
17080								**Detected**
19520								**No Emission**
19520								**Detected**
21960								**No Emission**
21960								**Detected**
24400								**No Emission**
24400								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Transmit Mode
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2440	88.32	H	114	-25.68	Peak	1.25	180	
2440	86.76	H	94	-7.24	Avg	1.25	180	
4880	52.38	H	74	-21.62	Peak	1.35	145	
4880	44.61	H	54	-9.39	Avg	1.35	145	
7320	56.84	H	74	-17.16	Peak	1.25	135	
7320	44.53	H	54	-9.47	Avg	1.25	135	
9760								**No Emission**
9760								**Detected**
12200								**No Emission**
12200								**Detected**
14640								**No Emission**
14640								**Detected**
17080								**No Emission**
17080								**Detected**
19520								**No Emission**
19520								**Detected**
21960								**No Emission**
21960								**Detected**
24400								**No Emission**
24400								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel - Transmit Mode
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	95.25	V	114	-18.75	Peak	1.25	145	
2481	93.9	V	94	-0.1	Avg	1.25	145	
4962	56.14	V	74	-17.86	Peak	1.25	165	
4962	51.53	V	54	-2.47	Avg	1.25	165	
7443	49.25	V	74	-24.75	Peak	1.25	175	
7443	37.11	V	54	-16.89	Avg	1.25	175	
9924								**No Emission**
9924								**Detected**
12405								**No Emission**
12405								**Detected**
14886								**No Emission**
14886								**Detected**
17367								**No Emission**
17367								**Detected**
19848								**No Emission**
19848								**Detected**
22329								**No Emission**
22329								**Detected**
24810								**No Emission**
24810								**Detected**

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel - Transmit Mode
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2481	88.24	H	114	-25.76	Peak	1.25	315	
2481	86.77	H	94	-7.23	Avg	1.25	315	
4962	50.52	H	74	-23.48	Peak	1.25	90	
4962	40.11	H	54	-13.89	Avg	1.25	90	
7443	50.24	H	74	-23.76	Peak	1.35	135	
7443	48.88	H	54	-5.12	Avg	1.35	135	
9924								**No Emission**
9924								**Detected**
12405								**No Emission**
12405								**Detected**
14886								**No Emission**
14886								**Detected**
17367								**No Emission**
17367								**Detected**
19848								**No Emission**
19848								**Detected**
22329								**No Emission**
22329								**Detected**
24810								**No Emission**
24810								**Detected**

RSS-210

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Receive Mode - 1 GHz to 25 GHz
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2790.87	46.21	V	74	-27.79	Peak	1.25	315	
2790.87	41.28	V	54	-12.72	Avg	1.25	315	
5581.69	47.29	V	74	-26.71	Peak	1.25	90	
5581.69	34.29	V	54	-19.71	Avg	1.25	90	
8372.54	52.11	V	74	-21.89	Peak	1.35	135	
8372.54	39.38	V	54	-14.62	Avg	1.35	135	
2790.87	42.51	H	74	-31.49	Peak	1.25	165	
2790.87	33.62	H	54	-20.38	Avg	1.25	165	
5581.69	46.18	H	74	-27.82	Peak	1.35	175	
5581.69	34.13	H	54	-19.87	Avg	1.35	175	
8372.54	50.68	H	74	-23.32	Peak	1	180	
8372.54	39.87	H	54	-14.13	Avg	1	180	

FCC 15.249 and FCC Class B

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions from the Tx - 1 GHz to 25 GHz

MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No emissions were
								detected for the digital portion
								from 1 GHz to 25 GHz
								No emissions were
								detected for the non-harmonic
								emissions from the Tx
								from 1 GHz to 25 GHz

Test Location : Compatible Electronics **Page** : 1/1
Customer : BioPac Systems, Inc. **Date** : 10/19/2011
Manufacturer : BioPac Systems, Inc. **Time** : 11:35:22
Eut name : BioNomadix Receiver **Lab** : D
Model : BN-RX **Test Distance** : 3.0 Meters
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emisisons: 10 kHz to 1000 MHz
Vertical and Horizontal Polarization
Clocks: 8 MHz - IPS Configuration
Tested By: Kyle Fujimoto

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
1V	30.110	48.40	0.70	10.90	38.10	21.90	40.00	-18.10
2V	41.630	46.40	0.88	11.73	38.20	20.81	40.00	-19.19
3V	48.030	58.00	0.82	11.48	38.20	32.09	40.00	-7.91
4V	51.000	56.50	0.81	11.23	38.20	30.34	40.00	-9.66
5V	73.940	60.40	1.14	6.47	38.20	29.81	40.00	-10.19
6H	79.680	45.30	1.20	5.74	38.20	14.04	40.00	-25.96
7V	308.850	36.60	2.24	13.70	38.08	14.46	46.00	-31.54
8H	320.006	37.80	2.28	13.95	38.06	15.97	46.00	-30.03
9V	351.250	35.80	2.41	14.60	38.00	14.80	46.00	-31.20
10H	383.839	48.00	2.54	15.21	37.93	27.82	46.00	-18.18
11V	400.205	36.90	2.60	15.50	37.90	17.10	46.00	-28.90
12V	430.605	39.60	2.60	15.60	37.77	20.02	46.00	-25.98
13H	431.240	54.70	2.60	15.60	37.77	35.13	46.00	-10.87
14V	450.315	36.50	2.60	15.66	37.70	17.06	46.00	-28.94
15V	479.915	32.30	2.72	15.74	37.64	13.13	46.00	-32.87
16H	663.080	35.10	3.25	20.33	37.75	20.93	46.00	-25.07
17H	800.170	36.60	3.70	20.60	37.60	23.30	46.00	-22.70

Test Location : Compatible Electronics **Page** : 1/4
Customer : BioPac Systems, Inc. **Date** : 10/19/2011
Manufacturer : BioPac Systems, Inc. **Time** : 8:51:14
Eut name : BioNomadix Receiver **Lab** : D
Model : BN-RX **Test Distance** : 3.0 Meters
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emisisons: 10 kHz to 1000 MHz
Vertical and Horizontal Polarization
Clocks: 8 MHz (Transmitter Portion) - MP150 Configuration
Tested By: Kyle Fujimoto

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
1V	48.040	51.90	0.82	11.48	38.20	25.99	40.00	-14.01
2V	59.988	64.80	0.90	9.80	38.20	37.30	40.00	-2.70
3V	70.024	65.10	1.10	7.00	38.20	35.00	40.00	-5.00
4V	110.047	58.10	1.24	10.87	38.14	32.07	43.50	-11.43
5V	129.993	64.40	1.36	11.74	38.20	39.30	43.50	-4.20
6V	66.820	53.20	1.04	7.84	38.20	23.88	40.00	-16.12
7V	80.000	53.70	1.20	5.70	38.20	22.40	40.00	-17.60
8V	104.000	51.40	1.22	10.06	38.12	24.56	43.50	-18.94
9V	110.008	59.30	1.24	10.86	38.14	33.26	43.50	-10.24
10V	120.006	57.90	1.28	12.10	38.18	33.10	43.50	-10.40
11V	130.004	65.20	1.36	11.74	38.20	40.10	43.50	-3.40
12V	139.998	57.70	1.49	11.40	38.20	32.39	43.50	-11.11
13V	149.990	58.00	1.60	11.92	38.20	33.32	43.50	-10.18
14V	159.998	55.40	1.64	12.40	38.20	31.24	43.50	-12.26
15V	170.014	50.50	1.68	14.10	38.20	28.08	43.50	-15.42
16V	190.014	56.70	1.70	15.96	38.20	36.16	43.50	-7.34
17V	199.998	55.00	1.70	16.20	38.20	34.70	43.50	-8.80
18V	209.990	54.10	1.78	16.18	38.20	33.86	43.50	-9.64
19V	219.998	43.80	1.86	16.16	38.20	23.62	46.00	-22.38
20V	225.002	58.00	1.90	16.15	38.20	37.85	46.00	-8.15
21V	230.006	53.60	1.94	16.14	38.20	33.48	46.00	-12.52
22V	240.406	48.10	2.03	16.12	38.20	28.04	46.00	-17.96
23V	249.980	55.10	2.10	16.10	38.20	35.10	46.00	-10.90
24V	259.972	40.60	2.14	16.72	38.20	21.26	46.00	-24.74
25V	269.972	49.30	2.18	17.32	38.20	30.60	46.00	-15.40
26V	275.039	53.40	2.20	17.62	38.20	35.02	46.00	-10.98
27V	280.639	43.50	2.20	17.94	38.18	25.46	46.00	-20.54
28V	290.059	51.70	2.20	18.46	38.14	34.23	46.00	-11.77
29V	300.029	65.10	2.20	13.50	38.10	42.70	46.00	-3.30
30V	310.027	64.20	2.24	13.73	38.08	42.09	46.00	-3.91
31V	319.999	58.50	2.28	13.95	38.06	36.67	46.00	-9.33
32V	330.009	64.30	2.32	14.16	38.04	42.75	46.00	-3.25
33V	340.041	63.60	2.36	14.37	38.02	42.31	46.00	-3.69
34V	360.000	59.40	2.44	14.77	37.98	38.63	46.00	-7.37
35V	369.992	60.90	2.48	14.96	37.96	40.38	46.00	-5.62

Test Location : Compatible Electronics **Page** : 2/4
Customer : BioPac Systems, Inc. **Date** : 10/19/2011
Manufacturer : BioPac Systems, Inc. **Time** : 8:51:14
Eut name : BioNomadix Receiver **Lab** : D
Model : BN-RX **Test Distance** : 3.0 Meters
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emisisons: 10 kHz to 1000 MHz
Vertical and Horizontal Polarization
Clocks: 8 MHz (Transmitter Portion) - MP150 Configuration
Tested By: Kyle Fujimoto

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
36V	375.032	58.30	2.50	15.05	37.95	37.91	46.00	-8.09
37V	379.982	57.50	2.52	15.14	37.94	37.23	46.00	-8.77
38V	390.022	61.50	2.56	15.32	37.92	41.47	46.00	-4.53
39V	400.002	62.30	2.60	15.50	37.90	42.50	46.00	-3.50
40V	410.009	64.00	2.60	15.53	37.86	44.28	46.00	-1.72
41V	410.009Qp	63.13	2.60	15.53	37.86	43.41	46.00	-2.59
42V	420.011	61.50	2.60	15.57	37.82	41.85	46.00	-4.15
43V	424.973	57.00	2.60	15.58	37.80	37.38	46.00	-8.62
44V	430.050	64.80	2.60	15.60	37.78	45.22	46.00	-0.78
45V	430.009Qp	63.75	2.60	15.60	37.78	44.17	46.00	-1.83
46V	440.038	61.00	2.60	15.63	37.74	41.49	46.00	-4.51
47V	460.012	60.80	2.64	15.69	37.68	41.45	46.00	-4.55
48V	470.020	58.20	2.68	15.72	37.66	38.94	46.00	-7.06
49V	474.962	57.00	2.70	15.73	37.65	37.78	46.00	-8.22
50V	480.008	60.00	2.72	15.75	37.64	40.83	46.00	-5.17
51V	490.018	60.60	2.76	15.77	37.62	41.52	46.00	-4.48
52V	510.010	60.90	2.82	16.28	37.66	42.34	46.00	-3.66
53V	520.020	60.50	2.84	16.75	37.72	42.37	46.00	-3.63
54V	530.061	58.70	2.86	17.21	37.78	40.99	46.00	-5.01
55V	540.005	56.90	2.88	17.66	37.84	39.60	46.00	-6.40
56V	550.012	57.20	2.90	18.10	37.90	40.30	46.00	-5.70
57V	560.051	58.10	2.94	18.54	37.90	41.68	46.00	-4.32
58V	570.067	53.60	2.98	18.96	37.90	37.65	46.00	-8.35
59V	610.060	49.00	3.12	20.22	37.86	34.48	46.00	-11.52
60V	640.016	54.60	3.18	20.28	37.74	40.33	46.00	-5.67
61V	650.021	49.40	3.20	20.30	37.70	35.20	46.00	-10.80
62V	690.021	49.90	3.36	20.38	37.86	35.78	46.00	-10.22
63V	700.032	55.40	3.40	20.40	37.90	41.30	46.00	-4.70
64V	720.019	53.10	3.52	20.44	37.74	39.33	46.00	-6.67
65V	740.051	51.50	3.64	20.48	37.58	38.05	46.00	-7.95
66V	760.027	55.80	3.70	20.52	37.52	42.50	46.00	-3.50
67V	770.057	50.70	3.70	20.54	37.54	37.40	46.00	-8.60
68V	780.047	53.30	3.70	20.56	37.56	40.00	46.00	-6.00
69V	790.016	47.30	3.70	20.58	37.58	34.00	46.00	-12.00
70V	800.023	48.00	3.70	20.60	37.60	34.70	46.00	-11.30

Test Location : Compatible Electronics **Page** : 3/4
Customer : BioPac Systems, Inc. **Date** : 10/19/2011
Manufacturer : BioPac Systems, Inc. **Time** : 8:51:14
Eut name : BioNomadix Receiver **Lab** : D
Model : BN-RX **Test Distance** : 3.0 Meters
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emisisons: 10 kHz to 1000 MHz
Vertical and Horizontal Polarization
Clocks: 8 MHz (Transmitter Portion) - MP150 Configuration
Tested By: Kyle Fujimoto

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
71V	820.016	47.20	3.94	20.50	37.60	34.04	46.00	-11.96
72V	840.016	44.50	4.18	20.39	37.60	31.48	46.00	-14.52
73V	860.024	50.30	4.30	20.29	37.48	37.42	46.00	-8.58
74V	880.026	50.20	4.30	20.20	37.24	37.46	46.00	-8.54
75V	900.030	51.80	4.30	20.10	37.00	39.20	46.00	-6.80
76V	920.023	49.00	4.30	20.66	37.08	36.88	46.00	-9.12
77V	940.026	48.70	4.30	21.22	37.16	37.05	46.00	-8.95
78V	960.026	52.90	4.32	21.75	37.12	41.86	54.00	-12.14
79V	980.018	44.80	4.36	22.28	36.96	34.49	54.00	-19.51
80H	60.004	56.80	0.90	9.80	38.20	29.30	40.00	-10.70
81H	70.004	57.30	1.10	7.00	38.20	27.20	40.00	-12.80
82H	80.004	46.30	1.20	5.70	38.20	15.00	40.00	-25.00
83H	110.004	51.40	1.24	10.86	38.14	25.36	43.50	-18.14
84H	130.004	55.80	1.36	11.74	38.20	30.70	43.50	-12.80
85H	149.989	53.00	1.60	11.92	38.20	28.32	43.50	-15.18
86H	159.989	48.20	1.64	12.40	38.20	24.04	43.50	-19.46
87H	219.989	48.30	1.86	16.16	38.20	28.12	46.00	-17.88
88H	229.991	53.90	1.94	16.14	38.20	33.78	46.00	-12.22
89H	249.994	61.60	2.10	16.10	38.20	41.60	46.00	-4.40
90H	269.994	60.00	2.18	17.32	38.20	41.30	46.00	-4.70
91H	320.000	64.20	2.28	13.95	38.06	42.37	46.00	-3.63
92H	325.022	63.20	2.30	14.06	38.05	41.51	46.00	-4.49
93H	330.040	66.90	2.32	14.16	38.04	45.35	46.00	-0.65
94H	330.040Qp	65.22	2.32	14.16	38.04	43.67	46.00	-2.33
95H	424.977	62.90	2.60	15.58	37.80	43.28	46.00	-2.72
96H	424.977Qp	62.09	2.60	15.58	37.80	42.47	46.00	-3.53
97H	460.013	59.80	2.64	15.69	37.68	40.45	46.00	-5.55
98H	470.023	57.00	2.68	15.72	37.66	37.74	46.00	-8.26
99H	474.998	55.70	2.70	15.73	37.65	36.48	46.00	-9.52
100H	480.007	57.40	2.72	15.75	37.64	38.23	46.00	-7.77
101H	490.029	58.60	2.76	15.77	37.62	39.52	46.00	-6.48
102H	500.005	60.60	2.80	15.80	37.60	41.60	46.00	-4.40
103H	510.045	58.20	2.82	16.28	37.66	39.64	46.00	-6.36
104H	520.043	58.70	2.84	16.75	37.72	40.57	46.00	-5.43
105H	530.047	55.70	2.86	17.21	37.78	37.99	46.00	-8.01

Test Location : Compatible Electronics **Page** : 4/4
Customer : BioPac Systems, Inc. **Date** : 10/19/2011
Manufacturer : BioPac Systems, Inc. **Time** : 8:51:14
Eut name : BioNomadix Receiver **Lab** : D
Model : BN-RX **Test Distance** : 3.0 Meters
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emisisons: 10 kHz to 1000 MHz
Vertical and Horizontal Polarization
Clocks: 8 MHz (Transmitter Portion) - MP150 Configuration
Tested By: Kyle Fujimoto

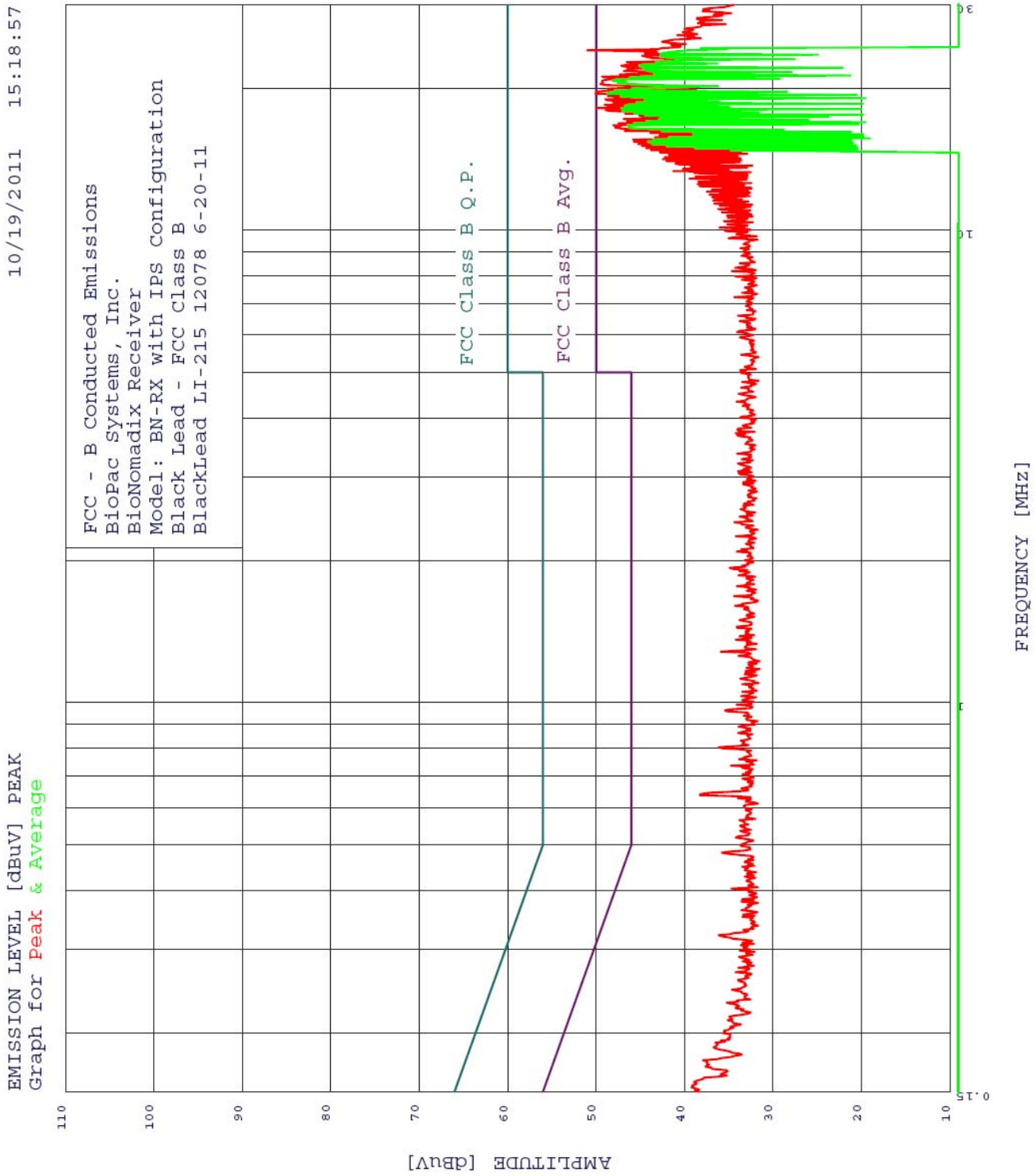
Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
106H	540.024	54.30	2.88	17.66	37.84	37.00	46.00	-9.00
107H	550.036	54.50	2.90	18.10	37.90	37.60	46.00	-8.40
108H	570.036	53.30	2.98	18.96	37.90	37.35	46.00	-8.65
109H	610.036	42.70	3.12	20.22	37.86	28.18	46.00	-17.82
110H	700.025	54.40	3.40	20.40	37.90	40.30	46.00	-5.70
111H	720.015	50.90	3.52	20.44	37.74	37.13	46.00	-8.87
112H	760.014	52.30	3.70	20.52	37.52	39.00	46.00	-7.00
113H	780.014	45.70	3.70	20.56	37.56	32.40	46.00	-13.60
114H	800.014	46.70	3.70	20.60	37.60	33.40	46.00	-12.60
115H	820.032	51.00	3.94	20.50	37.60	37.84	46.00	-8.16
116H	840.032	49.00	4.18	20.39	37.60	35.98	46.00	-10.02
117H	850.034	47.30	4.30	20.34	37.60	34.34	46.00	-11.66
118H	860.020	53.80	4.30	20.29	37.48	40.92	46.00	-5.08
119H	870.013	47.60	4.30	20.24	37.36	34.79	46.00	-11.21
120H	880.023	55.20	4.30	20.20	37.24	42.46	46.00	-3.54
121H	900.027	56.10	4.30	20.10	37.00	43.50	46.00	-2.50
122H	900.027Qp	55.69	4.30	20.10	37.00	43.09	46.00	-2.91
123H	920.033	54.40	4.30	20.66	37.08	42.28	46.00	-3.72
124H	940.030	53.30	4.30	21.22	37.16	41.65	46.00	-4.35
125H	960.029	53.90	4.32	21.75	37.12	42.86	54.00	-11.14
126H	980.033	47.80	4.36	22.28	36.96	37.49	54.00	-16.51

Test Location : Compatible Electronics **Page** : 1/1
Customer : BioPac Systems, Inc. **Date** : 10/19/2011
Manufacturer : BioPac Systems, Inc. **Time** : 13:41:18
Eut name : BioNomadix Receiver **Lab** : D
Model : BN-RX **Test Distance** : 10.0 Meters
Serial # : N/A
Specification : FCC Class A
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emisisons: 30 MHz to 1000 MHz
Vertical and Horizontal Polarization
Clocks: 10 and 25 MHz (Digital Portion) - MP150 Configuration
Tested By: Kyle Fujimoto

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
1V	49.983	57.60	1.40	11.40	38.20	32.20	39.10	-6.90
2H	290.008	52.70	3.02	18.46	38.14	36.04	46.40	-10.36
3V	290.016	41.40	3.02	18.46	38.14	24.75	46.40	-21.65
4H	300.005	58.10	3.10	13.50	38.10	36.60	46.40	-9.80
5V	300.026	56.70	3.10	13.50	38.10	35.20	46.40	-11.20
6V	309.994	57.60	3.12	13.73	38.08	36.37	46.40	-10.03
7H	310.036	55.10	3.12	13.73	38.08	33.87	46.40	-12.53
8V	349.992	57.00	3.20	14.57	38.00	36.77	46.40	-9.63
9H	350.022	59.90	3.20	14.57	38.00	39.67	46.40	-6.73
10H	360.000	52.30	3.31	14.77	37.98	32.39	46.40	-14.01
11H	369.998	57.60	3.41	14.96	37.96	38.01	46.40	-8.39
12H	374.968	53.50	3.46	15.05	37.95	34.06	46.40	-12.34
13H	380.028	54.00	3.51	15.14	37.94	34.71	46.40	-11.69
14H	390.028	56.30	3.61	15.32	37.92	37.31	46.40	-9.09
15H	400.028	57.20	3.70	15.50	37.90	38.50	46.40	-7.90
16H	410.028	57.20	3.70	15.53	37.86	38.58	46.40	-7.82
17H	420.028	55.50	3.70	15.57	37.82	36.95	46.40	-9.45
18H	430.028	57.00	3.70	15.60	37.78	38.52	46.40	-7.88
19H	439.996	55.90	3.70	15.63	37.74	37.49	46.40	-8.91
20V	449.999	61.00	3.70	15.66	37.70	42.66	46.40	-3.74
21H	450.003	58.30	3.70	15.66	37.70	39.96	46.40	-6.44
22V	499.999	50.40	4.10	15.80	37.60	32.70	46.40	-13.70
23H	500.003	51.70	4.10	15.80	37.60	34.00	46.40	-12.40

CONDUCTED EMISSIONS

DATA SHEETS


10/19/2011 15:18:57
FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with IPS Configuration
Black Lead - FCC class B
BlackLead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
30
10
1
0.15

page 1/1

10/19/2011 15:18:57

FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with IPS Configuration
Black Lead - FCC Class B
BlackLead LI-215 12078 6-20-11
TEST ENGINEER : Kyle Fujimoto

48 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	24.027	51.01	50.00	1.01**
2	19.439	50.08	50.00	0.08**
3	18.145	49.93	50.00	-0.07**
4	20.388	49.51	50.00	-0.49**
5	21.154	49.33	50.00	-0.67**
6	18.431	49.04	50.00	-0.96**
7	18.929	48.96	50.00	-1.04**
8	17.955	48.93	50.00	-1.07**
9	19.950	48.70	50.00	-1.30**
10	19.235	48.67	50.00	-1.33**
11	16.671	48.08	50.00	-1.92**
12	18.622	48.05	50.00	-1.95**
13	16.849	47.49	50.00	-2.51**
14	21.373	47.34	50.00	-2.66**
15	22.310	47.16	50.00	-2.84**
16	17.205	46.90	50.00	-3.10**
17	21.724	46.85	50.00	-3.15**
18	16.226	46.76	50.00	-3.24**
19	17.669	46.72	50.00	-3.28**
20	22.662	46.57	50.00	-3.43**
21	17.027	46.49	50.00	-3.51**
22	15.561	45.84	50.00	-4.16**
23	15.395	45.73	50.00	-4.27**
24	15.229	45.23	50.00	-4.77**
25	17.478	45.11	50.00	-4.89**
26	15.068	44.82	50.00	-5.18**
27	23.399	44.80	50.00	-5.20**
28	23.650	44.50	50.00	-5.50**
29	14.913	44.31	50.00	-5.69**
30	16.059	43.86	50.00	-6.14**
31	14.758	43.80	50.00	-6.20**
32	15.727	43.35	50.00	-6.65**
33	15.893	42.85	50.00	-7.15**
34	14.603	42.79	50.00	-7.21
35	25.067	42.54	50.00	-7.46
36	14.138	42.45	50.00	-7.55
37	0.637	38.28	46.00	-7.72
38	14.293	42.27	50.00	-7.73
39	13.993	42.04	50.00	-7.96
40	14.448	41.78	50.00	-8.22
41	24.664	41.53	50.00	-8.47
42	13.341	41.29	50.00	-8.71
43	13.848	41.03	50.00	-8.97
44	25.875	40.83	50.00	-9.17
45	26.278	40.22	50.00	-9.78
46	13.486	40.20	50.00	-9.80
47	0.805	36.14	46.00	-9.86
48	1.283	35.90	46.00	-10.10

** Please See the Average Readings on the Next Page and on the Plot

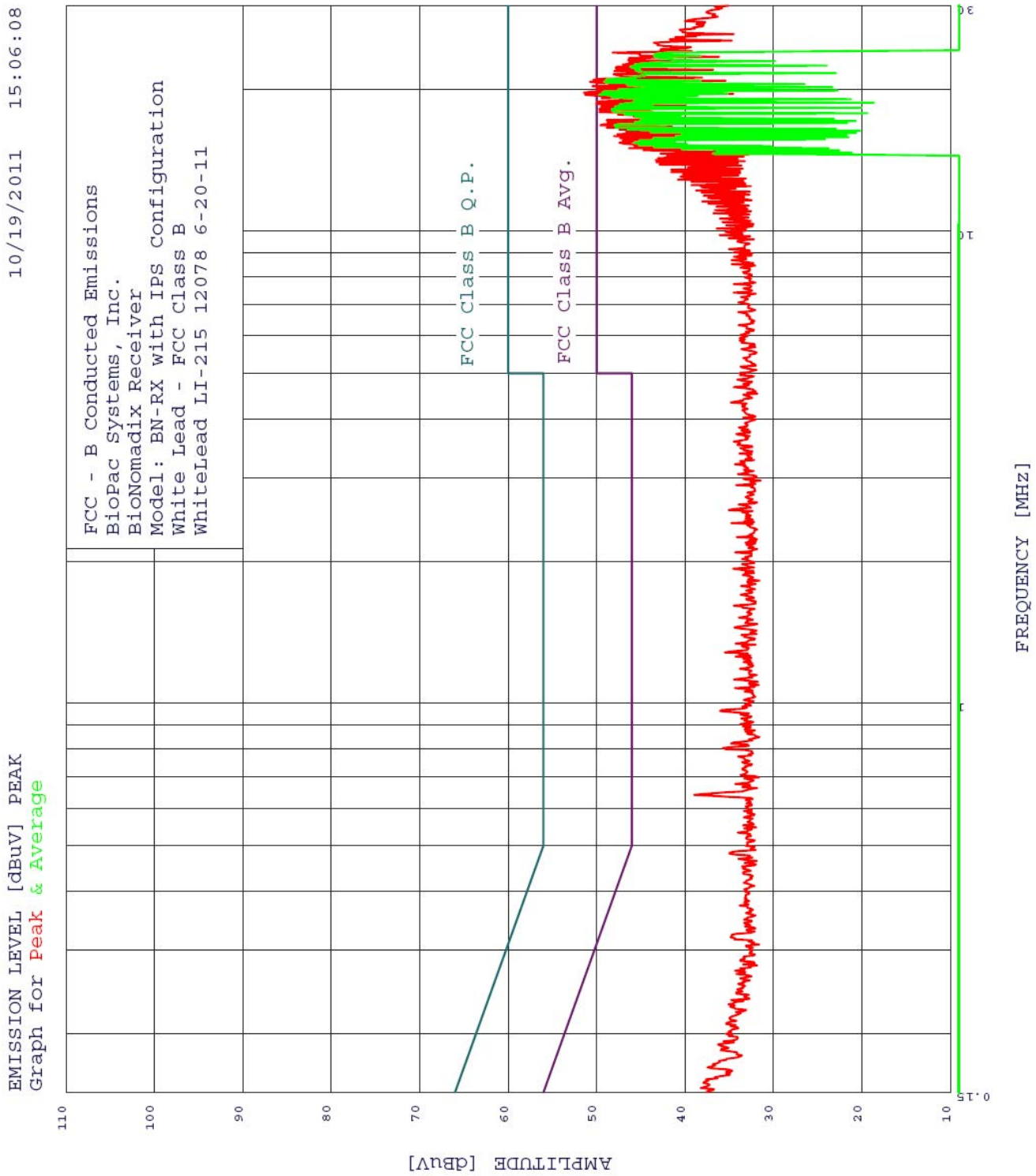
page 1/1

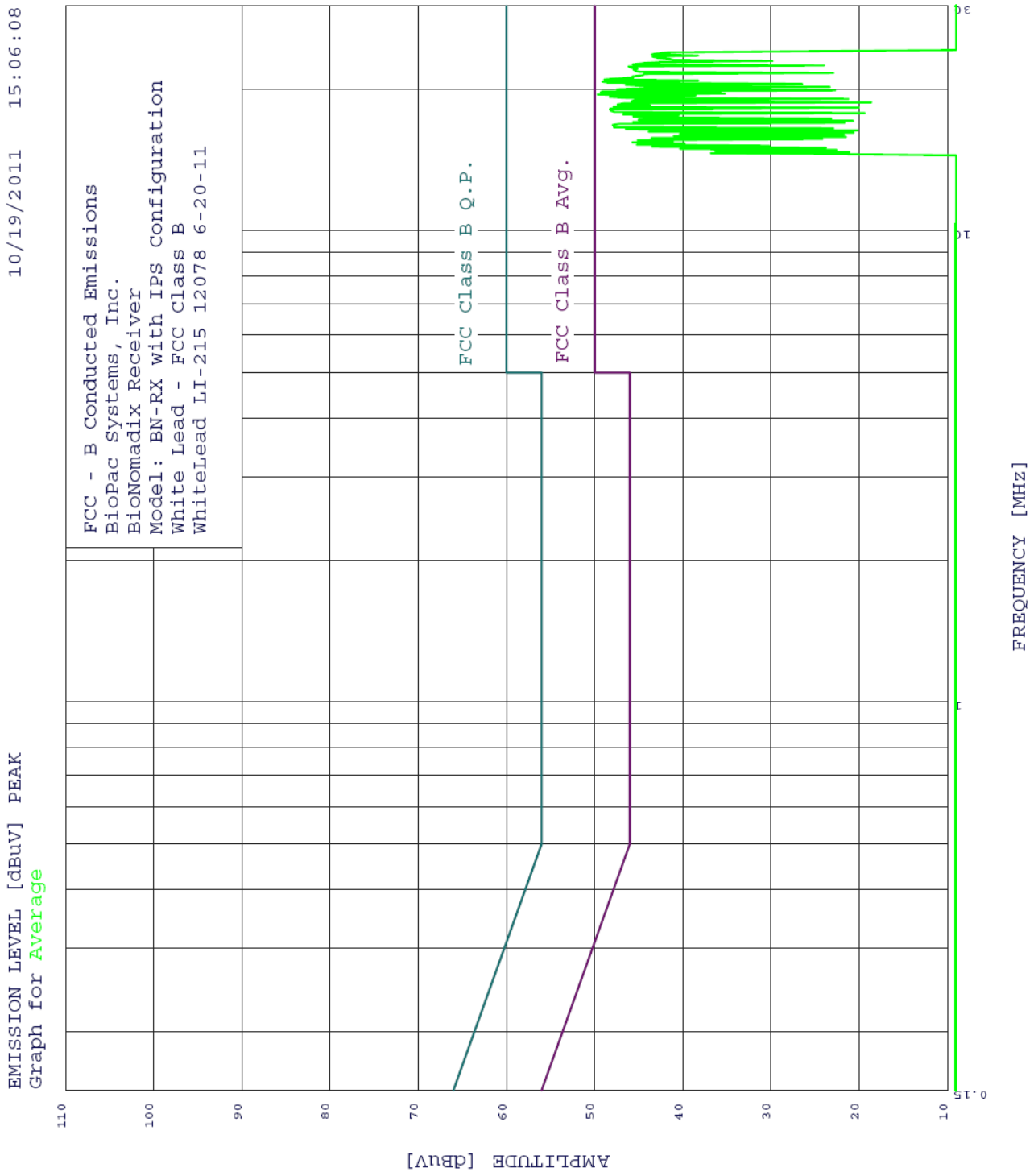
10/19/2011 15:18:57

FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with IPS Configuration
Black Lead - FCC Class B
BlackLead LI-215 12078 6-20-11
TEST ENGINEER : Kyle Fujimoto

36 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	19.541	48.75	50.00	-1.25
2	20.716	48.16	50.00	-1.84
3	19.746	47.89	50.00	-2.11
4	20.497	47.57	50.00	-2.43
5	19.235	47.22	50.00	-2.78
6	18.145	47.11	50.00	-2.89
7	17.955	47.03	50.00	-2.97
8	18.336	46.72	50.00	-3.28
9	16.671	46.46	50.00	-3.54
10	16.493	46.30	50.00	-3.70
11	21.044	46.17	50.00	-3.83
12	19.950	45.92	50.00	-4.08
13	16.849	45.68	50.00	-4.32
14	17.669	45.65	50.00	-4.35
15	18.622	45.41	50.00	-4.59
16	22.310	45.09	50.00	-4.91
17	21.959	44.61	50.00	-5.39
18	18.826	44.49	50.00	-5.51
19	17.478	44.44	50.00	-5.56
20	17.027	44.29	50.00	-5.71
21	15.395	44.10	50.00	-5.90
22	15.229	43.68	50.00	-6.32
23	15.561	43.49	50.00	-6.51
24	21.490	43.45	50.00	-6.55
25	22.662	43.23	50.00	-6.77
26	17.205	42.86	50.00	-7.14
27	23.399	42.74	50.00	-7.26
28	23.650	42.73	50.00	-7.27
29	16.226	42.59	50.00	-7.41
30	15.068	42.00	50.00	-8.00
31	15.727	41.75	50.00	-8.25
32	16.059	39.03	50.00	-10.97
33	15.893	38.94	50.00	-11.06
34	14.913	38.80	50.00	-11.20
35	24.278	38.19	50.00	-11.81
36	14.758	34.73	50.00	-15.27


10/19/2011 15:06:08
FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with IPS Configuration
White Lead - FCC Class B
WhiteLead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
30
10
1
0.15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FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with IPS Configuration
White Lead - FCC Class B
WhiteLead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Average
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15

page 1/1

10/19/2011 15:06:08

FCC - B Conducted Emissions
BioPac Systems, Inc.
Bionomadix Receiver
Model: BN-RX with IPS Configuration
White Lead - FCC Class B
WhiteLead LI-215 12078 6-20-11
TEST ENGINEER : Kyle Fujimoto

48 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	19.644	51.43	50.00	1.43**
2	19.439	51.33	50.00	1.33**
3	20.716	50.77	50.00	0.77**
4	20.278	50.45	50.00	0.45**
5	20.935	50.37	50.00	0.37**
6	18.622	50.01	50.00	0.01**
7	20.059	49.94	50.00	-0.06**
8	18.826	49.91	50.00	-0.09**
9	18.145	49.70	50.00	-0.30**
10	17.859	49.69	50.00	-0.31**
11	16.760	49.56	50.00	-0.44**
12	18.336	49.50	50.00	-0.50**
13	19.133	49.42	50.00	-0.58**
14	17.205	48.87	50.00	-1.13**
15	16.582	48.86	50.00	-1.14**
16	17.027	48.77	50.00	-1.23**
17	23.901	48.18	50.00	-1.82**
18	21.490	48.09	50.00	-1.91**
19	15.893	48.04	50.00	-1.96**
20	21.841	48.00	50.00	-2.00**
21	22.193	47.82	50.00	-2.18**
22	16.059	47.65	50.00	-2.35**
23	17.669	47.58	50.00	-2.42**
24	16.404	47.45	50.00	-2.55**
25	15.395	47.43	50.00	-2.57**
26	15.727	47.34	50.00	-2.66**
27	15.561	47.03	50.00	-2.97**
28	22.545	47.03	50.00	-2.97**
29	16.226	46.65	50.00	-3.35**
30	23.022	46.45	50.00	-3.55**
31	14.991	46.32	50.00	-3.68**
32	14.835	44.70	50.00	-5.30**
33	25.067	43.51	50.00	-6.49
34	14.138	43.33	50.00	-6.67
35	13.993	43.22	50.00	-6.78
36	14.293	43.05	50.00	-6.95
37	0.641	38.94	46.00	-7.06
38	13.848	42.90	50.00	-7.10
39	24.152	42.79	50.00	-7.21
40	14.603	42.78	50.00	-7.22**
41	14.448	42.06	50.00	-7.94
42	25.471	41.71	50.00	-8.29
43	13.486	41.57	50.00	-8.43
44	13.341	41.55	50.00	-8.45
45	12.859	40.80	50.00	-9.20
46	26.711	40.61	50.00	-9.39
47	13.061	40.52	50.00	-9.48
48	13.197	40.24	50.00	-9.76

** Please See the Average Readings on the Next Page and on the Plot

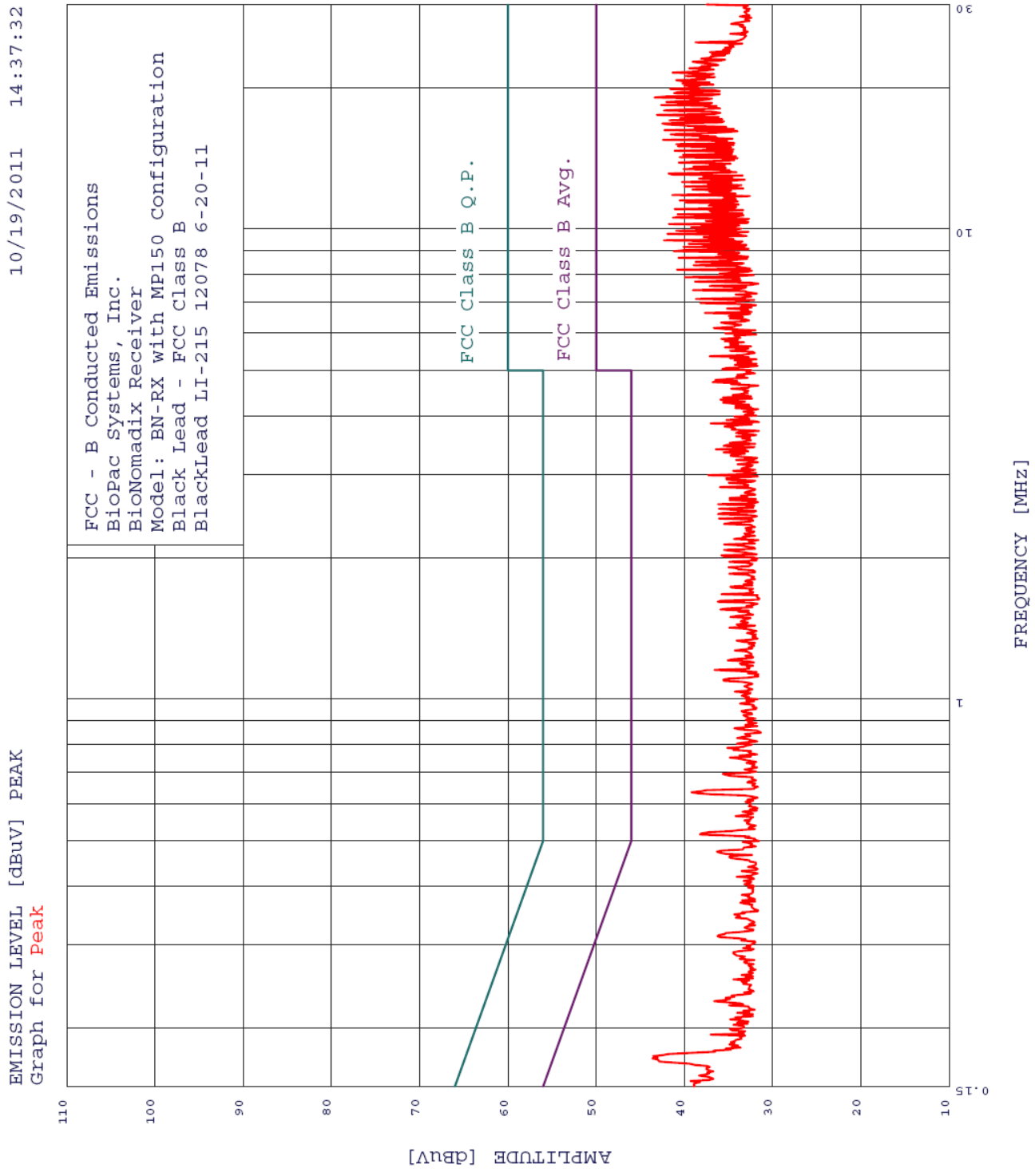
page 1/1

10/19/2011 15:06:08

FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with IPS Configuration
White Lead - FCC Class B
WhiteLead LI-215 12078 6-20-11
TEST ENGINEER : Kyle Fujimoto

35 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	19.439	49.67	50.00	-0.33
2	19.644	49.31	50.00	-0.69
3	20.716	49.12	50.00	-0.88
4	20.935	48.90	50.00	-1.10
5	19.235	48.31	50.00	-1.69
6	18.145	48.26	50.00	-1.74
7	16.760	47.94	50.00	-2.06
8	18.336	47.89	50.00	-2.11
9	16.582	47.79	50.00	-2.21
10	19.950	47.51	50.00	-2.49
11	18.527	47.37	50.00	-2.63
12	17.669	46.80	50.00	-3.20
13	20.388	46.48	50.00	-3.52
14	16.404	46.43	50.00	-3.57
15	22.310	46.14	50.00	-3.86
16	18.826	45.83	50.00	-4.17
17	15.395	45.73	50.00	-4.27
18	21.263	45.69	50.00	-4.31
19	22.545	45.67	50.00	-4.33
20	17.027	45.63	50.00	-4.37
21	17.478	45.61	50.00	-4.39
22	21.959	45.59	50.00	-4.41
23	15.229	45.21	50.00	-4.79
24	15.561	45.10	50.00	-4.90
25	17.205	45.02	50.00	-4.98
26	16.226	43.87	50.00	-6.13
27	15.727	43.56	50.00	-6.44
28	23.650	43.53	50.00	-6.47
29	15.068	43.48	50.00	-6.52
30	23.399	43.44	50.00	-6.56
31	15.893	41.02	50.00	-8.98
32	16.059	40.34	50.00	-9.66
33	14.913	40.31	50.00	-9.69
34	14.603	36.82	50.00	-13.18
35	14.758	36.36	50.00	-13.64


10/19/2011 14:37:32
FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with MP150 Configuration
Black Lead - FCC Class B
BlackLead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30

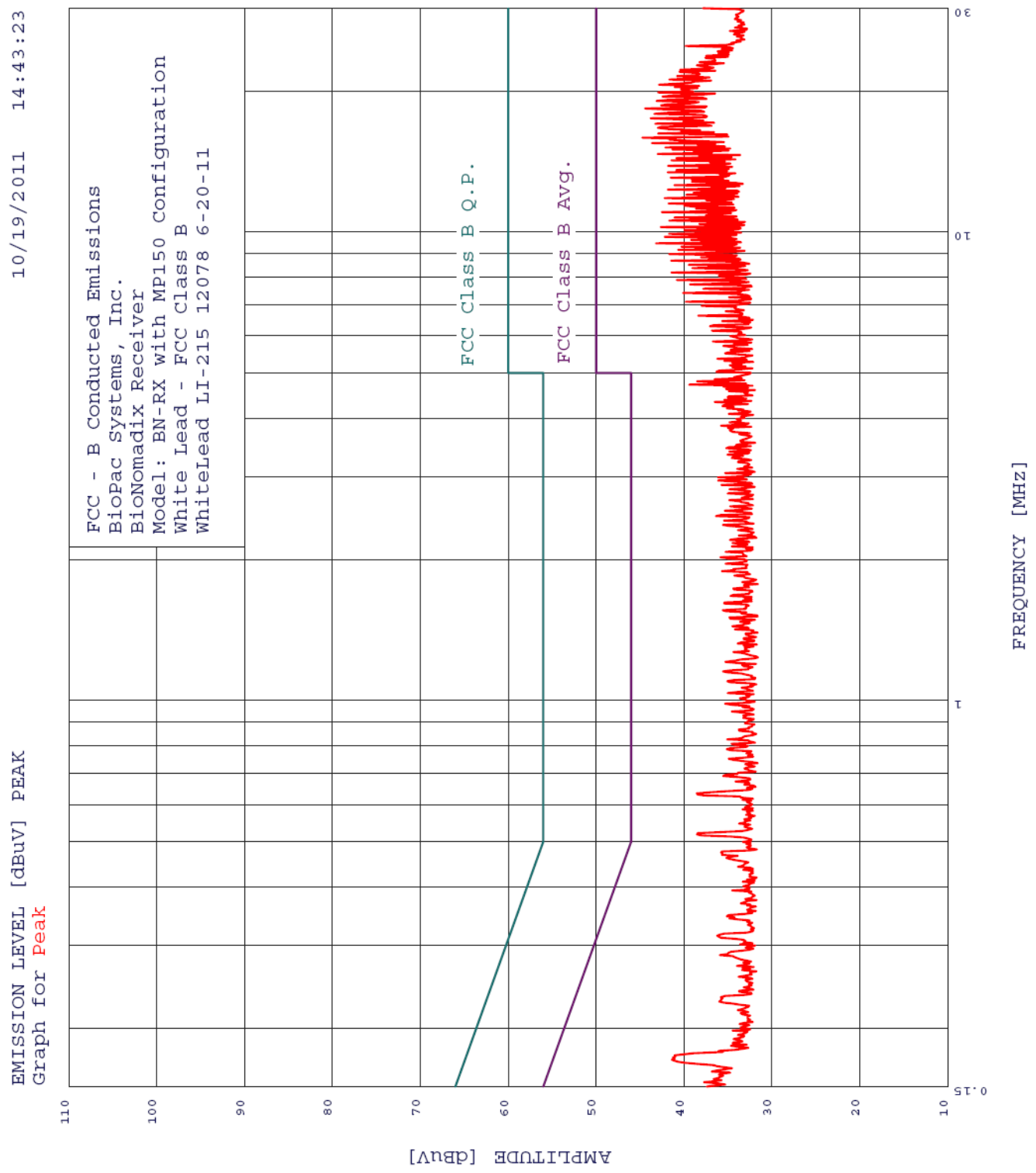
page 1/1

10/19/2011 14:37:32

FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with MP150 Configuration
Black Lead - FCC Class B
BlackLead LI-215 12078 6-20-11
TEST ENGINEER : Kyle Fujimoto

48 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	19.031	43.37	50.00	-6.63
2	0.634	39.18	46.00	-6.82
3	17.478	43.11	50.00	-6.89
4	18.336	42.64	50.00	-7.36
5	16.760	42.48	50.00	-7.52
6	15.478	42.44	50.00	-7.56
7	17.859	42.32	50.00	-7.68
8	9.454	42.31	50.00	-7.69
9	16.226	42.26	50.00	-7.74
10	0.516	38.21	46.00	-7.79
11	18.622	42.05	50.00	-7.95
12	9.762	41.93	50.00	-8.07
13	13.129	41.78	50.00	-8.22
14	10.238	41.76	50.00	-8.24
15	17.027	41.69	50.00	-8.31
16	19.848	41.59	50.00	-8.41
17	15.893	41.55	50.00	-8.45
18	11.814	41.38	50.00	-8.62
19	21.490	41.34	50.00	-8.66
20	10.568	41.28	50.00	-8.72
21	2.995	37.27	46.00	-8.73
22	8.969	41.18	50.00	-8.82
23	19.439	41.18	50.00	-8.82
24	11.027	41.12	50.00	-8.88
25	14.680	41.10	50.00	-8.90
26	3.862	37.04	46.00	-8.96
27	9.916	40.94	50.00	-9.06
28	15.146	40.93	50.00	-9.07
29	20.716	40.92	50.00	-9.08
30	8.193	40.84	50.00	-9.16
31	4.722	36.81	46.00	-9.19
32	10.733	40.80	50.00	-9.20
33	14.991	40.72	50.00	-9.28
34	8.685	40.67	50.00	-9.33
35	13.848	40.63	50.00	-9.37
36	1.154	36.60	46.00	-9.40
37	14.215	40.56	50.00	-9.44
38	11.498	40.55	50.00	-9.45
39	4.774	36.51	46.00	-9.49
40	17.205	40.50	50.00	-9.50
41	3.401	36.45	46.00	-9.55
42	12.588	40.24	50.00	-9.76
43	20.388	40.21	50.00	-9.79
44	1.611	36.20	46.00	-9.80
45	2.475	36.18	46.00	-9.82
46	2.596	36.18	46.00	-9.82
47	14.370	40.17	50.00	-9.83
48	13.414	40.10	50.00	-9.90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FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with MP150 Configuration
White Lead - FCC Class B
WhiteLead LI-215 12078 6-20-11
FCC Class B Q.P.
FCC Class B Avg.
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
30
10
1
0.15

page 1/1

10/19/2011 14:43:23

FCC - B Conducted Emissions
BioPac Systems, Inc.
BioNomadix Receiver
Model: BN-RX with MP150 Configuration
White Lead - FCC Class B
WhiteLead LI-215 12078 6-20-11
TEST ENGINEER : Kyle Fujimoto

48 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	15.893	44.74	50.00	-5.26
2	18.336	44.40	50.00	-5.60
3	17.478	43.78	50.00	-6.22
4	15.478	43.63	50.00	-6.37
5	4.722	39.40	46.00	-6.60
6	17.859	43.39	50.00	-6.61
7	17.027	43.27	50.00	-6.73
8	9.454	43.18	50.00	-6.82
9	19.031	43.12	50.00	-6.88
10	14.680	42.99	50.00	-7.01
11	16.671	42.96	50.00	-7.04
12	16.226	42.95	50.00	-7.05
13	19.848	42.94	50.00	-7.06
14	20.607	42.86	50.00	-7.14
15	10.238	42.63	50.00	-7.37
16	18.622	42.61	50.00	-7.39
17	0.634	38.54	46.00	-7.46
18	11.027	42.51	50.00	-7.49
19	0.518	38.51	46.00	-7.49
20	4.799	38.50	46.00	-7.50
21	19.439	42.43	50.00	-7.57
22	9.762	42.20	50.00	-7.80
23	11.814	42.19	50.00	-7.81
24	15.146	42.12	50.00	-7.88
25	13.414	41.86	50.00	-8.14
26	12.318	41.85	50.00	-8.15
27	13.848	41.80	50.00	-8.20
28	11.498	41.76	50.00	-8.24
29	9.916	41.71	50.00	-8.29
30	21.154	41.68	50.00	-8.32
31	10.568	41.67	50.00	-8.33
32	8.969	41.66	50.00	-8.34
33	13.061	41.52	50.00	-8.48
34	8.685	41.45	50.00	-8.55
35	14.215	41.44	50.00	-8.56
36	8.193	41.43	50.00	-8.57
37	14.991	41.32	50.00	-8.68
38	10.733	41.08	50.00	-8.92
39	12.588	41.07	50.00	-8.93
40	20.388	41.05	50.00	-8.95
41	13.559	40.87	50.00	-9.13
42	14.370	40.86	50.00	-9.14
43	7.898	40.81	50.00	-9.19
44	21.490	40.79	50.00	-9.21
45	9.160	40.67	50.00	-9.33
46	4.339	36.51	46.00	-9.49
47	21.959	40.51	50.00	-9.49
48	4.851	36.49	46.00	-9.51

BAND EDGES

DATA SHEETS

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Vertical Polarization

IPS Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	94.83	V	114	-19.17	Peak	1.25	180	Fundamental of Low Channel
2402	93.49	V	94	-0.51	Peak	1.25	180	@ 3 meters
2400	72.87	V	74	-1.13	Peak	1.25	180	**Band Edge**
2400	49.80	V	54	-4.20	Avg	1.25	180	**Low Channel**
2481	94.81	V	114	-19.19	Peak	1	225	Fundamental of High Channel
2481	93.43	V	94	-0.57	Avg	1	225	@ 3 meters
2483.5	69.80	V	74	-4.20	Peak	1	225	**Band Edge**
2483.5	40.38	V	54	-13.62	Avg	1	225	**High Channel**

FCC 15.249

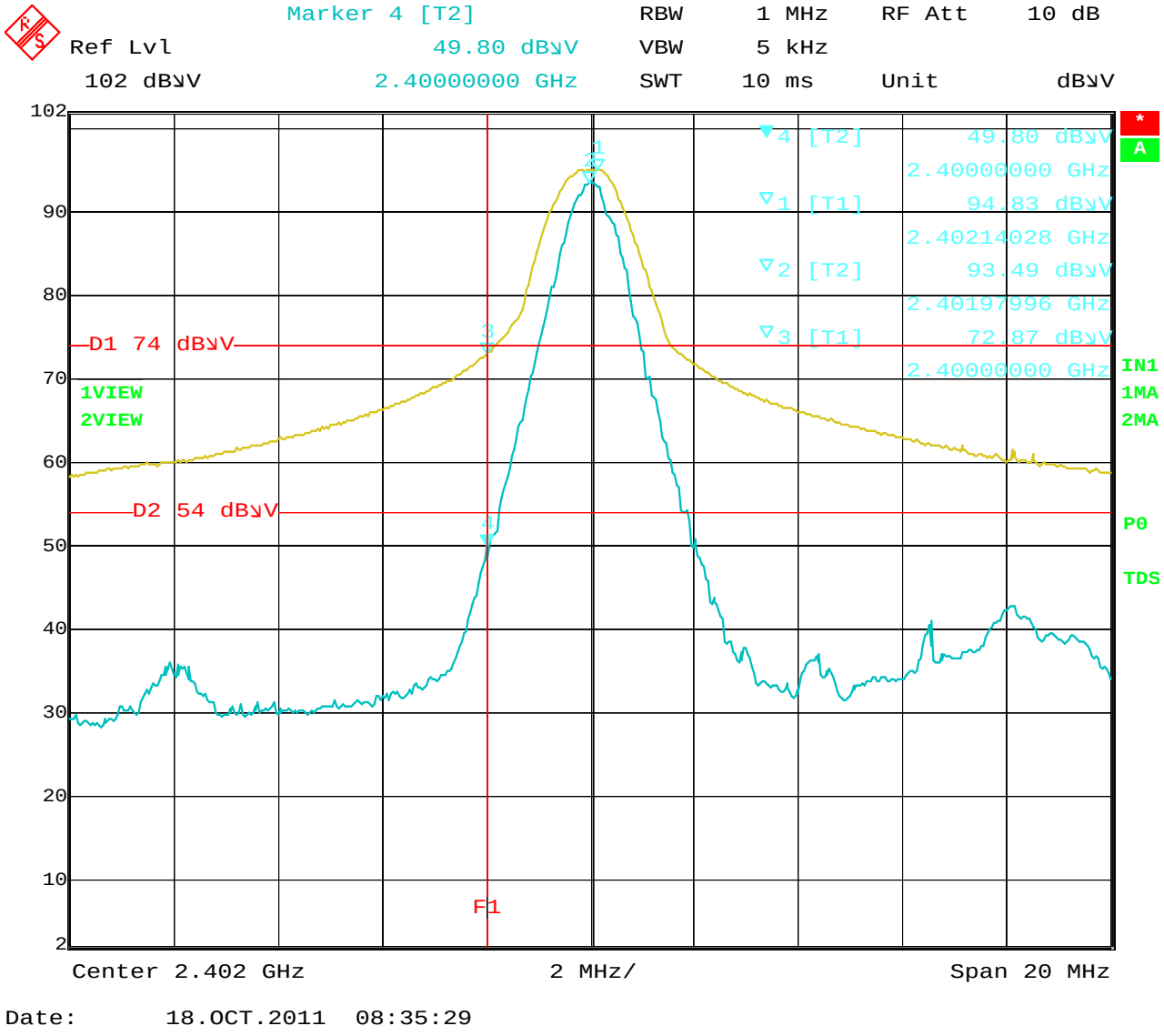
BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

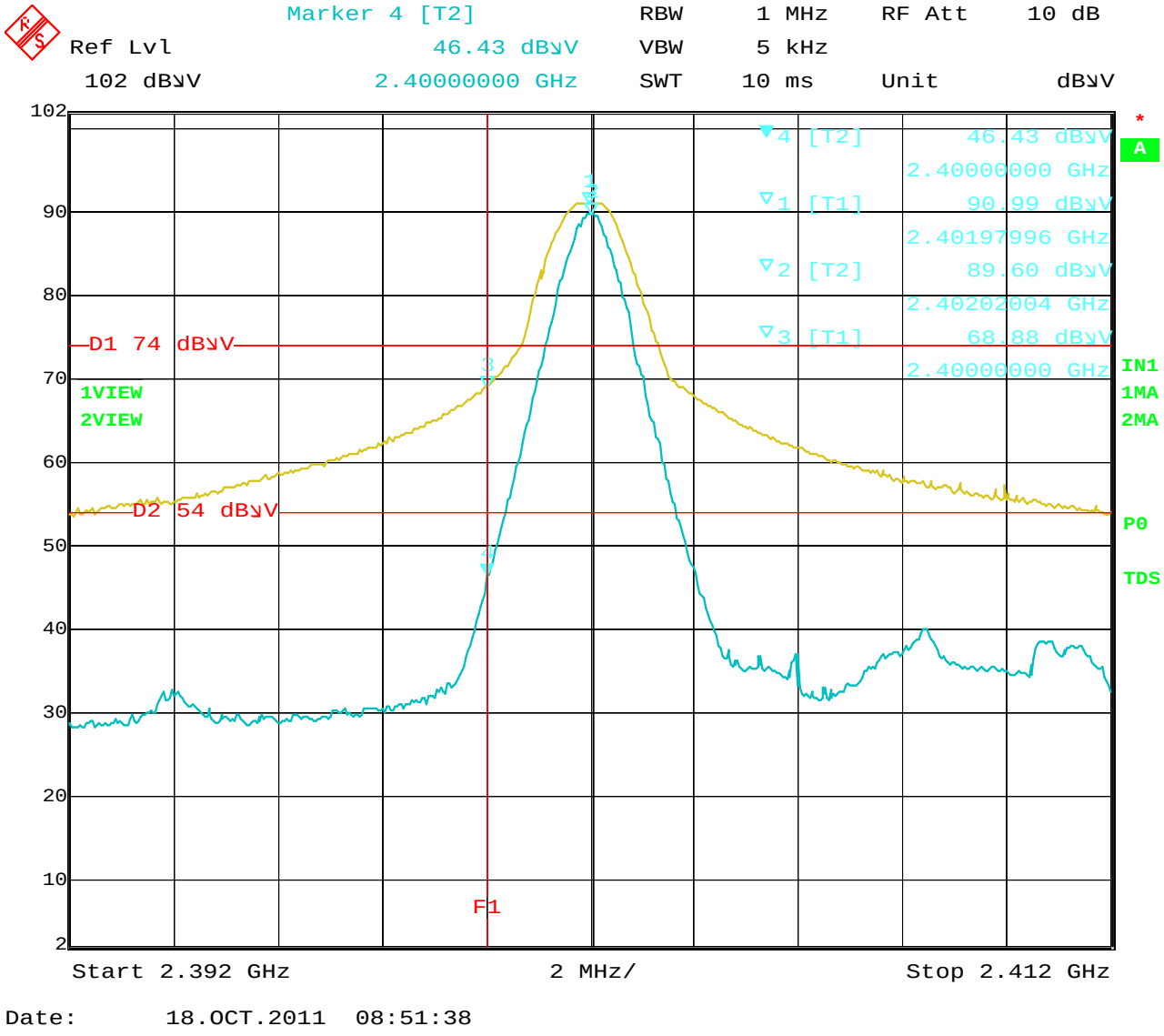
Band Edges - Horizontal Polarization

IPS Configuration

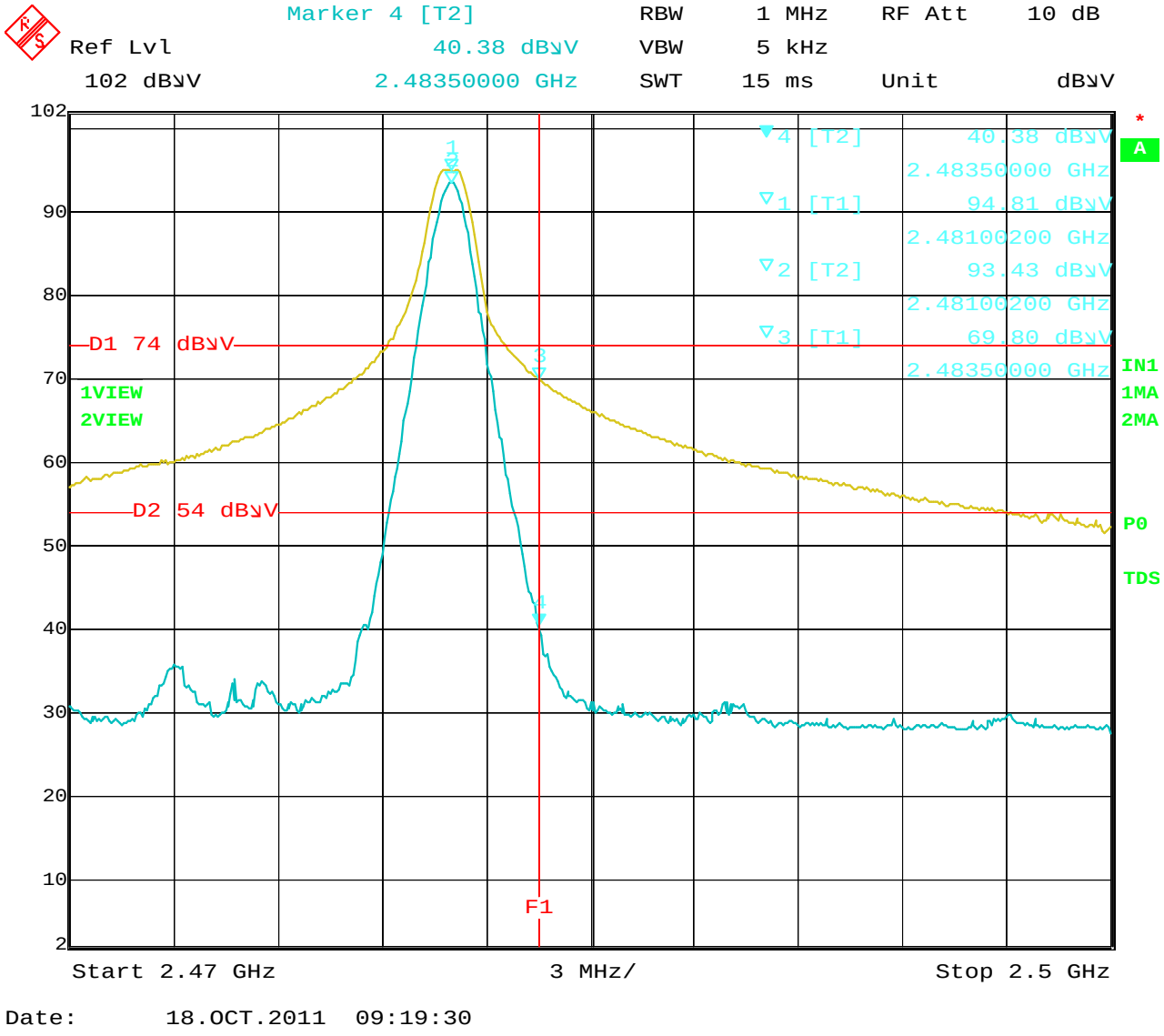
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	90.99	H	114	-23.01	Peak	1.25	135	Fundamental of Low Channel
2402	89.6	H	94	-4.4	Avg	1.25	135	@ 3 meters
2400	68.88	H	74	-5.12	Peak	1.25	135	**Band Edge**
2400	46.43	H	54	-7.57	Avg	1.25	135	**Low Channel**
2481	84.97	H	114	-29.03	Peak	1.25	135	Fundamental of High Channel
2481	83.64	H	94	-10.36	Avg	1.25	135	@ 3 meters
2483.5	58.95	H	74	-15.05	Peak	1.25	135	**Band Edge**
2483.5	31.65	H	54	-22.35	Avg	1.25	135	**High Channel**



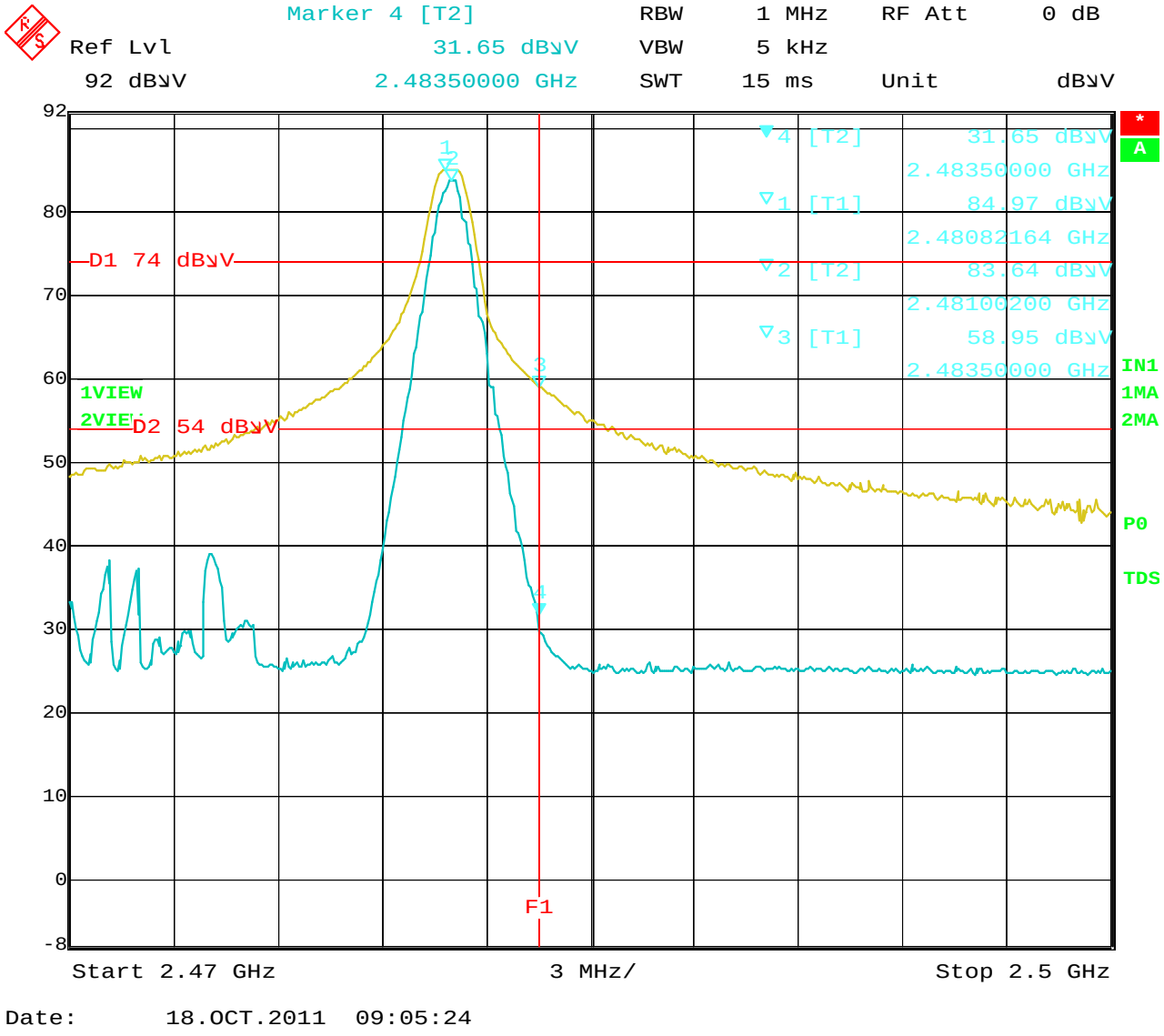
Band Edge – Low Channel – Vertical Polarization – IPS Configuration



Band Edge – Low Channel – Horizontal Polarization – IPS Configuration



Band Edge – High Channel – Vertical Polarization – IPS Configuration



Band Edge – High Channel – Horizontal Polarization – IPS Configuration

FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Vertical Polarization
MP150 Configuration

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	94.6	V	114	-19.40	Peak	1	315	Fundamental of Low Channel
2402	93.22	V	94	-0.78	Peak	1	315	@ 3 meters
2400	72.61	V	74	-1.39	Peak	1	315	**Band Edge**
2400	49.10	V	54	-4.9	Avg	1	315	**Low Channel**
2481	95.25	V	114	-18.75	Peak	1.25	145	Fundamental of High Channel
2481	93.9	V	94	-0.1	Avg	1.25	145	@ 3 meters
2483.5	69.16	V	74	-4.84	Peak	1.25	145	**Band Edge**
2483.5	40.62	V	54	-13.38	Avg	1.25	145	**High Channel**

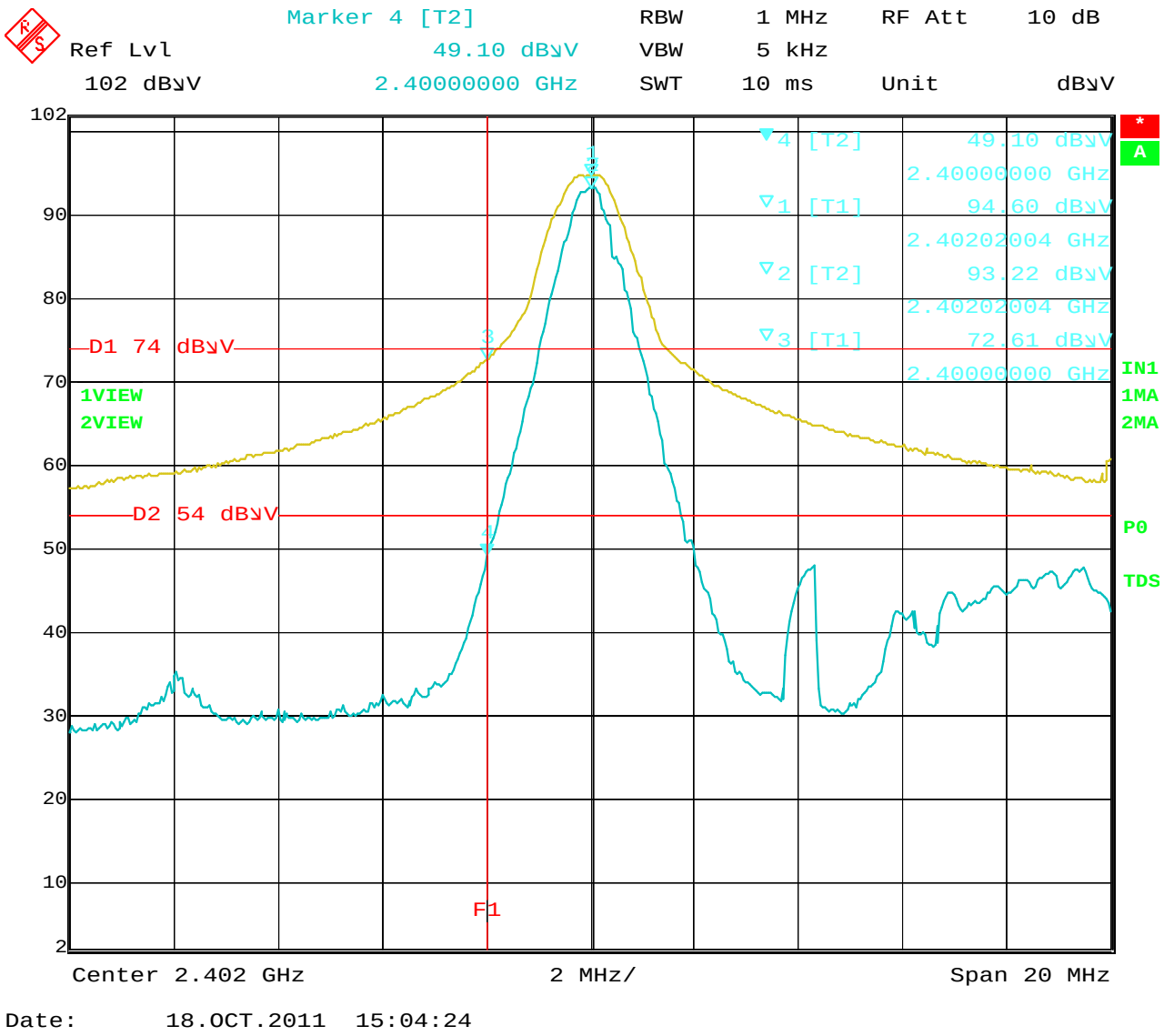
FCC 15.249

BIOPAC Systems, Inc.
BioNomadix Receiver
Model: BN-RX

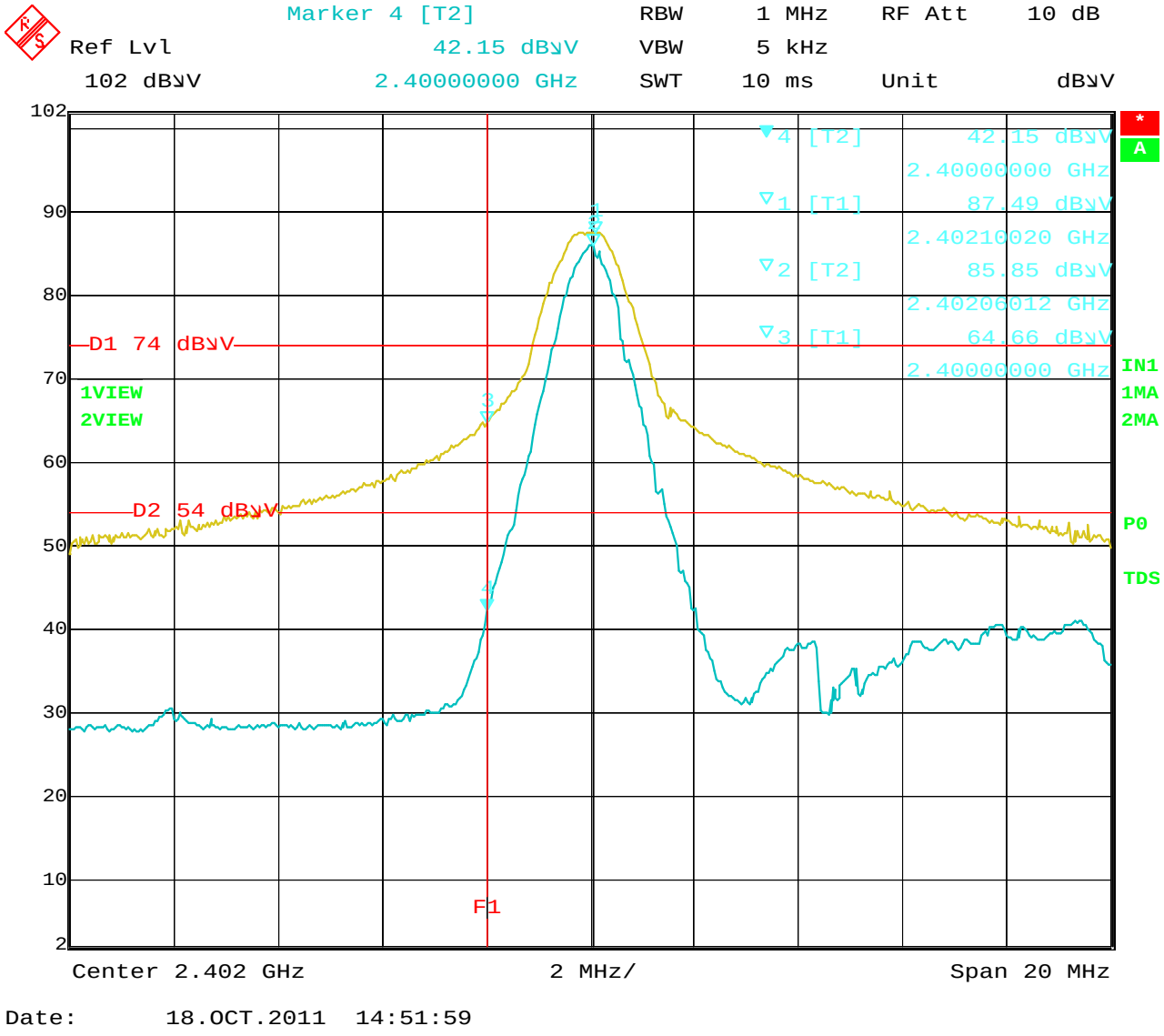
Date: 10/18/2011
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Horizontal Polarization
MP150 Configuration

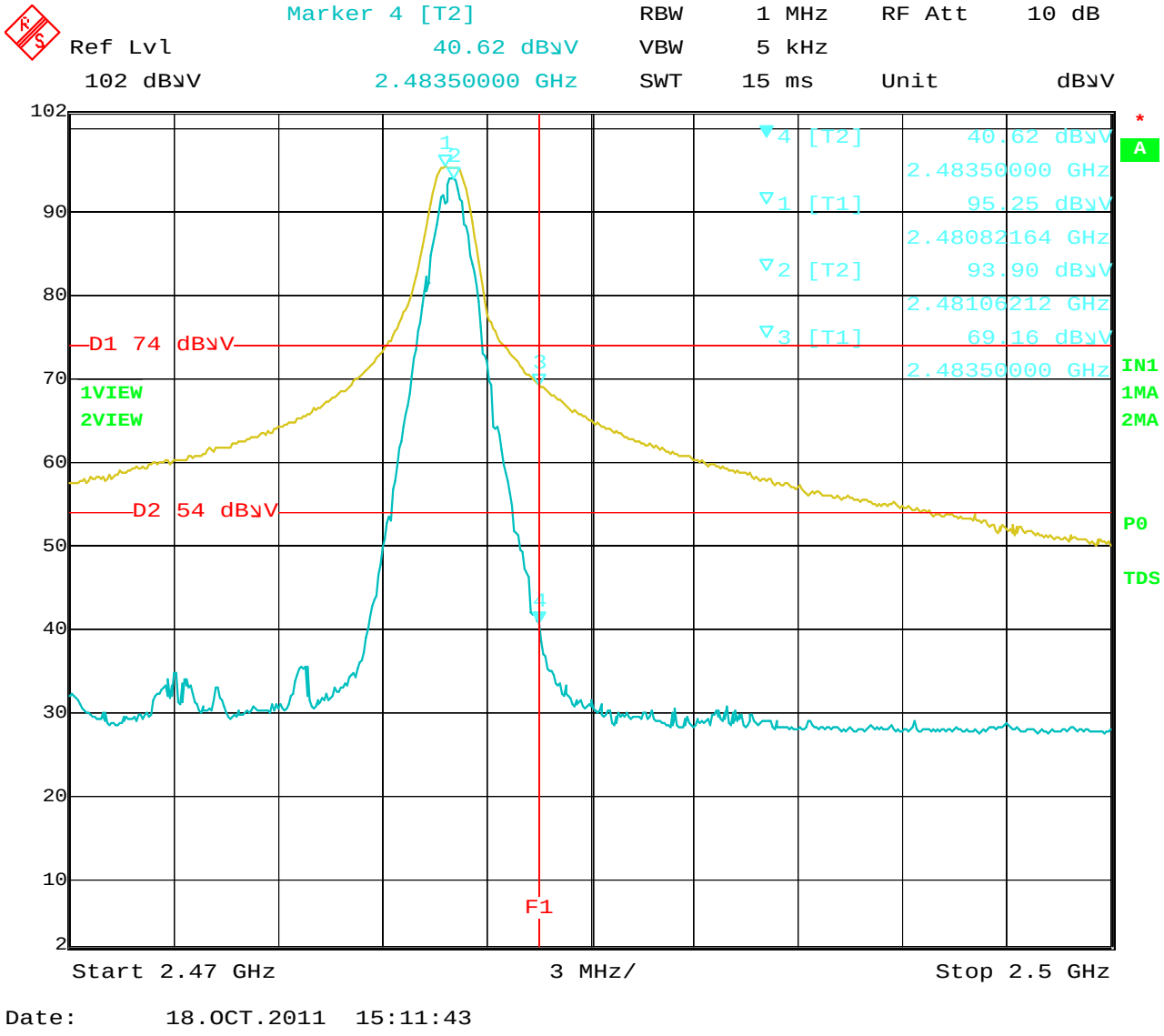
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	87.49	H	114	-26.51	Peak	1.25	180	Fundamental of Low Channel
2402	85.85	H	94	-8.15	Avg	1.25	180	@ 3 meters
2400	64.66	H	74	-9.34	Peak	1.25	315	**Band Edge**
2400	42.15	H	54	-11.85	Avg	1.25	315	**Low Channel**
2481	88.24	H	114	-25.76	Peak	1.25	315	Fundamental of High Channel
2481	86.77	H	94	-7.23	Avg	1.25	315	@ 3 meters
2483.5	62.01	H	74	-11.99	Peak	1.25	315	**Band Edge**
2483.5	33.98	H	54	-20.02	Avg	1.25	315	**High Channel**



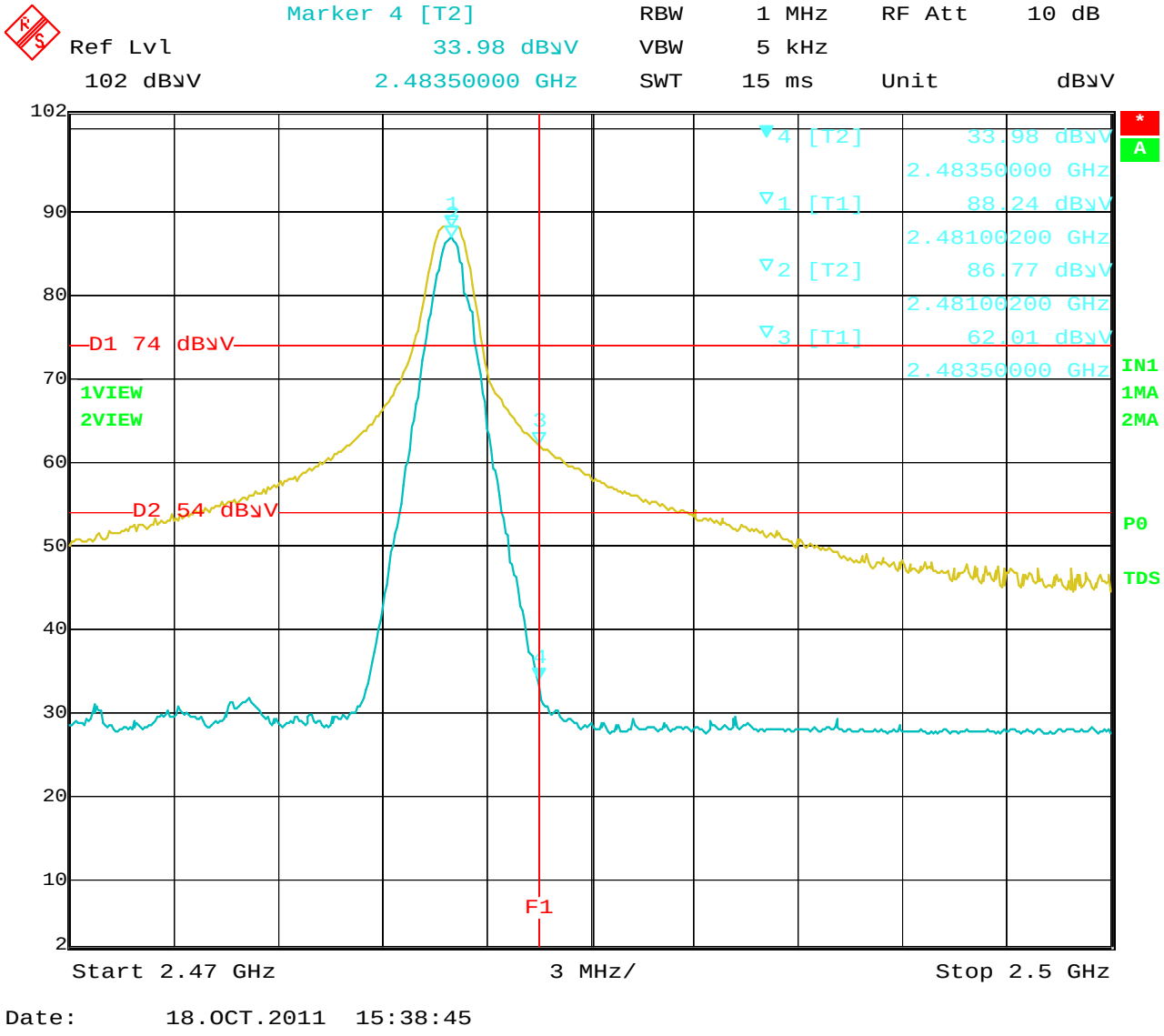
Band Edge – Low Channel – Vertical Polarization – MP150 Configuration



Band Edge – Low Channel – Horizontal Polarization – MP150 Configuration



Band Edge – High Channel – Vertical Polarization – MP150 Configuration



Band Edge – High Channel – Horizontal Polarization – MP150 Configuration