

**FCC PART 15 SUBPART B and FCC PART 15 SUBPART C
TEST REPORT***for***PACIFI****MODEL: PAC1**

Prepared for

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DATE: JULY 28, 2014

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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 certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested: Pacifi
Model: PAC1
S/N: N/A

Product Description: See Expository Statement

Modifications: The EUT was not modified in order to meet the specifications.

Manufacturer: Blue Maestro Limited
Cheltnam Place, Broom Way
Weybridge, KT13 9TG, United Kingdom

Test Date(s): July 10, 2014

Test Specifications: Emissions requirements
CFR Title 47, Part 15, Subpart B and Subpart C, Sections 15.205, 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	This test was not performed because the EUT operates on battery power and does not connect to the AC mains.
2	Radiated RF Emissions 10 kHz to 25000 MHz (Transmitter and Digital Portion)	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.

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Pacifi, Model: PAC1 (EUT). 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 digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.



2. ADMINISTRATIVE DATA

2.1 Location of Testing

The Emissions 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

Blue Maestro Limited

Richard Hancock CEO

Compatible Electronics Inc.

James Ross Test Engineer

Kyle Fujimoto Test Engineer

2.4 Date Test Sample was Received

The test sample was received prior to the initial test date of July 10, 2014.

2.5 Disposition of the Test Sample

The test sample has not been returned to Blue Maestro Limited as of the date of the test 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
URC	Universal Remote Control

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

The Pacifi, Model: PAC1 (EUT) was tested as a stand alone unit. The EUT was connected to a switch that allowed the EUT to be set at the low, middle, or high channel and continuously transmit at that channel.

Note: The switch is only used to allow the EUT to switch channels and will not be connected during normal operation.

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

4.1.1 Cable Construction and Termination

Cable 1 This is a 10-centimeter unshielded cable connecting the EUT to a switch. The cable is hard wired at each end.

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

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
PACIFI (EUT)	BLUE MAESTRO LIMITED	PAC1	N/A	2AC2YPAC1
SWITCH	N/A	N/A	N/A	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB B					
Computer	Compaq	CQ5210F	CNX9360CF9	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MD	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2012	2 Year
GENERAL TEST EQUIPMENT USED IN LAB D					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver, 20 Hz to 26.5 GHz	Agilent	N9038A	MY51100115	March 6, 2014	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	May 20, 2014	1 Year
Preamplifier	Com-Power	PA-118	181656	January 13, 2014	1 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2014	2 Year
Loop Antenna	Com-Power	AL-130	17089	January 29, 2013	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2014	2 Year
Horn Antenna	Com-Power	AH-826	0071957	N/A	N/A
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	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 was 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:

This test was not performed because the EUT operates on battery power and does not connect to the AC mains.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test – Lab B

The EMI Receiver was used as a measuring meter. A preamplifier was used to increase the sensitivity of the instrument. The Com Power Microwave Preamplifier M/N: PA-118 was used for frequencies from 1 GHz to 18 GHz, and the M/N: PA-840 was used for frequencies above 18 GHz. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver records the highest measured reading over all the sweeps.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 1/T where T is the time of the pulse in seconds and putting the sweep time on AUTO on the EMI Receiver to keep the amplitude reading calibrated.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 2009. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT by the Radiated Emission Manual Test software. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance from 1 GHz to 25 GHz to obtain the final test data.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249.

7.1.3 Radiated Emissions (Spurious and Harmonics) Test – Lab D

The EMI Receiver was used as the measuring meter. A built-in, internal preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was initially used in the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets.

The EMI shielded test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is set up according to ANSI C63.4: 2009. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT.

The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. 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 measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna

The EUT was tested at a 3 meter test distance. The six highest emissions are listed in Table 1.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249.

7.1.4 RF Emissions Test ResultsTable 1.0 RADIATED EMISSION RESULTS
Pacifi, Model: PAC1

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
912.50 (H) (X-Axis)	28.17 (QP)	46.00	-17.83
914.20 (V) (X-Axis)	28.17 (QP)	46.00	-17.83
916.60 (V) (X-Axis)	28.14 (QP)	46.00	-17.86
38.30 (V) (X-Axis)	21.96 (QP)	46.00	-18.04
900.70 (V) (X-Axis)	27.89 (QP)	46.00	-18.11
7278 (H) (X-Axis)	34.82 (A)	54.00	-19.18

Notes:

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

8. CONCLUSIONS

The Pacifi, Model: PAC1 (EUT), as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.



APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

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

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

NVLAP listing links[Agoura Division](#) / [Brea Division](#) / [Silverado/Lake Forest Division](#)

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

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

**ANSI listing** [CETCB](#)

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

US/EU MRA list [NIST MRA site](#)

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).

APEC MRA list [NIST MRA site](#)

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

**VCCI Support member:** Please visit http://www.vcci.jp/vcci_e/**FCC Listing, from FCC OET site**[FCC test lab search](https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm) <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>

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

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 modifications were made to the EUT during the testing.



APPENDIX C

ADDITIONAL MODELS

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Pacifi
Model: PAC1
S/N: N/A

No additional models covered under this report.



APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

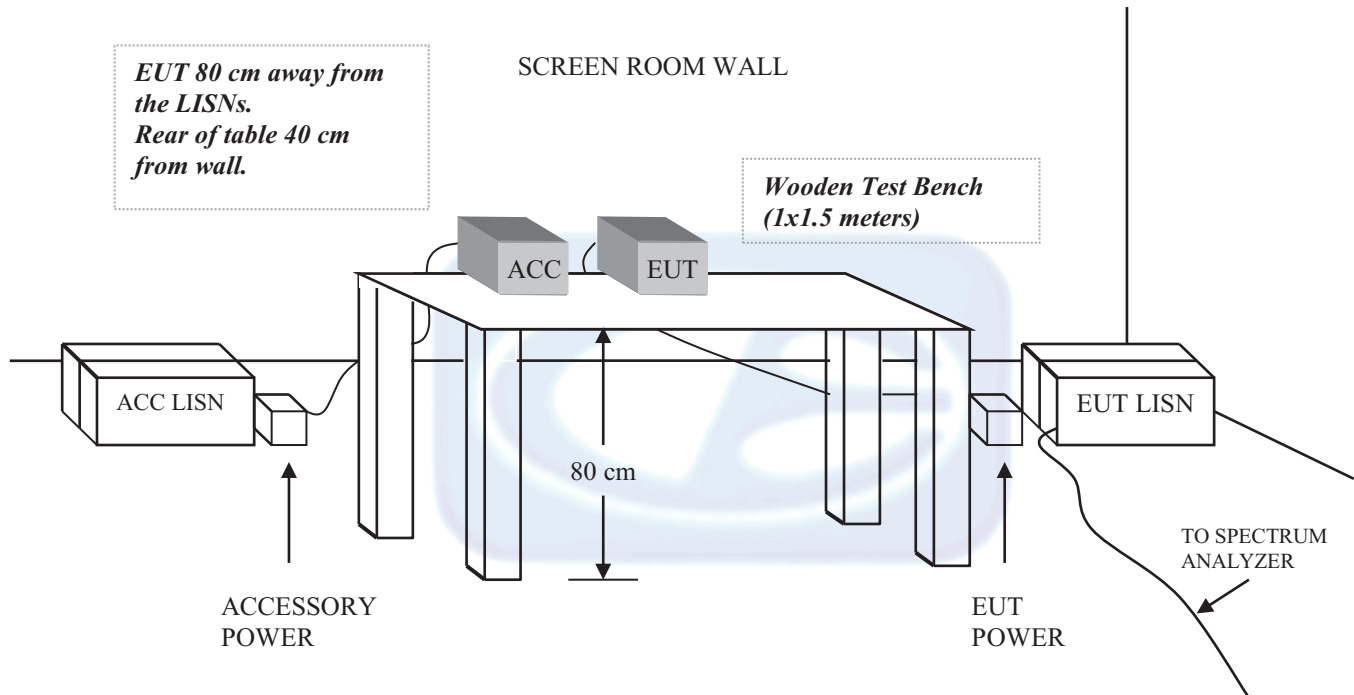
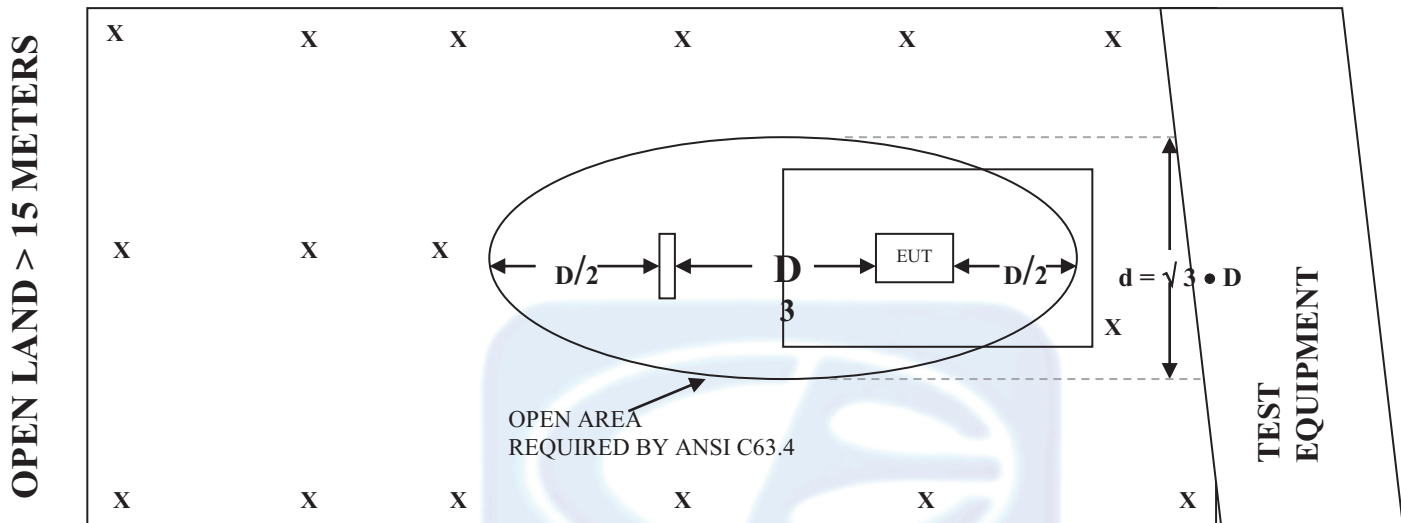


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE

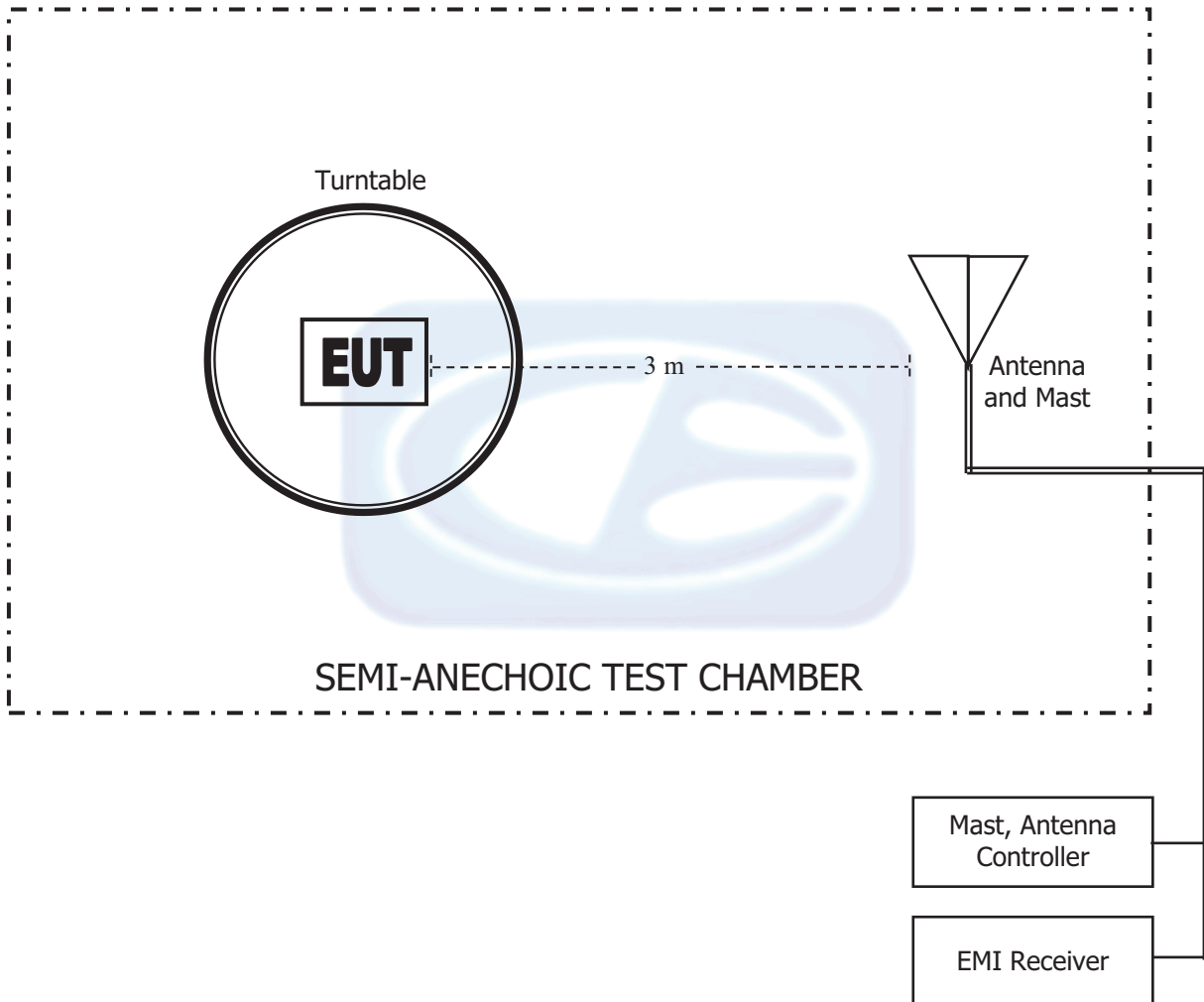
OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

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

FIGURE 3: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



COM-POWER AL-130**LOOP ANTENNA**

S/N: 17089

CALIBRATION DATE: JANUARY 29, 2013

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

COM-POWER AC-220**COMBILOG ANTENNA****S/N: 61060****CALIBRATION DATE: MAY 20, 2014**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	23.40	200	14.40
35	23.70	250	16.40
40	24.20	300	17.90
45	22.60	350	15.60
50	22.10	400	19.90
60	17.90	450	20.40
70	12.70	500	21.60
80	11.60	550	21.50
90	12.20	600	22.30
100	13.20	650	23.50
120	15.70	700	23.70
125	15.80	750	25.90
140	13.60	800	25.90
150	16.90	850	26.40
160	14.20	900	27.00
175	14.90	950	27.70
180	15.00	1000	27.50

COM POWER AH-118**HORN ANTENNA****S/N: 071175****CALIBRATION DATE: FEBRUARY 26, 2014**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.23	10.0	38.43
1.5	25.84	10.5	40.19
2.0	28.14	11.0	40.49
2.5	29.51	11.5	41.39
3.0	31.20	12.0	42.02
3.5	32.17	12.5	43.30
4.0	31.40	13.0	42.77
4.5	31.86	13.5	40.18
5.0	34.82	14.0	42.59
5.5	34.38	14.5	41.74
6.0	36.31	15.0	41.84
6.5	34.81	15.5	38.48
7.0	37.48	16.0	39.52
7.5	36.98	16.5	37.85
8.0	36.66	17.0	41.33
8.5	38.47	17.5	44.96
9.0	37.22	18.0	48.50
9.5	37.86		

COM-POWER PA-118**PREAMPLIFIER**

S/N: 181656

CALIBRATION DATE: JANUARY 13, 2014

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.90	6.0	25.40
1.1	25.30	6.5	25.20
1.2	26.00	7.0	24.40
1.3	26.20	7.5	24.00
1.4	26.30	8.0	23.90
1.5	26.40	8.5	24.50
1.6	26.50	9.0	25.20
1.7	26.60	9.5	24.80
1.8	26.50	10.0	24.90
1.9	26.60	11.0	25.40
2.0	26.70	12.0	24.50
2.5	26.90	13.0	24.30
3.0	27.00	14.0	25.20
3.5	27.10	15.0	25.90
4.0	26.60	16.0	25.60
4.5	26.10	17.0	23.70
5.0	26.40	18.0	25.80
5.5	25.80		

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

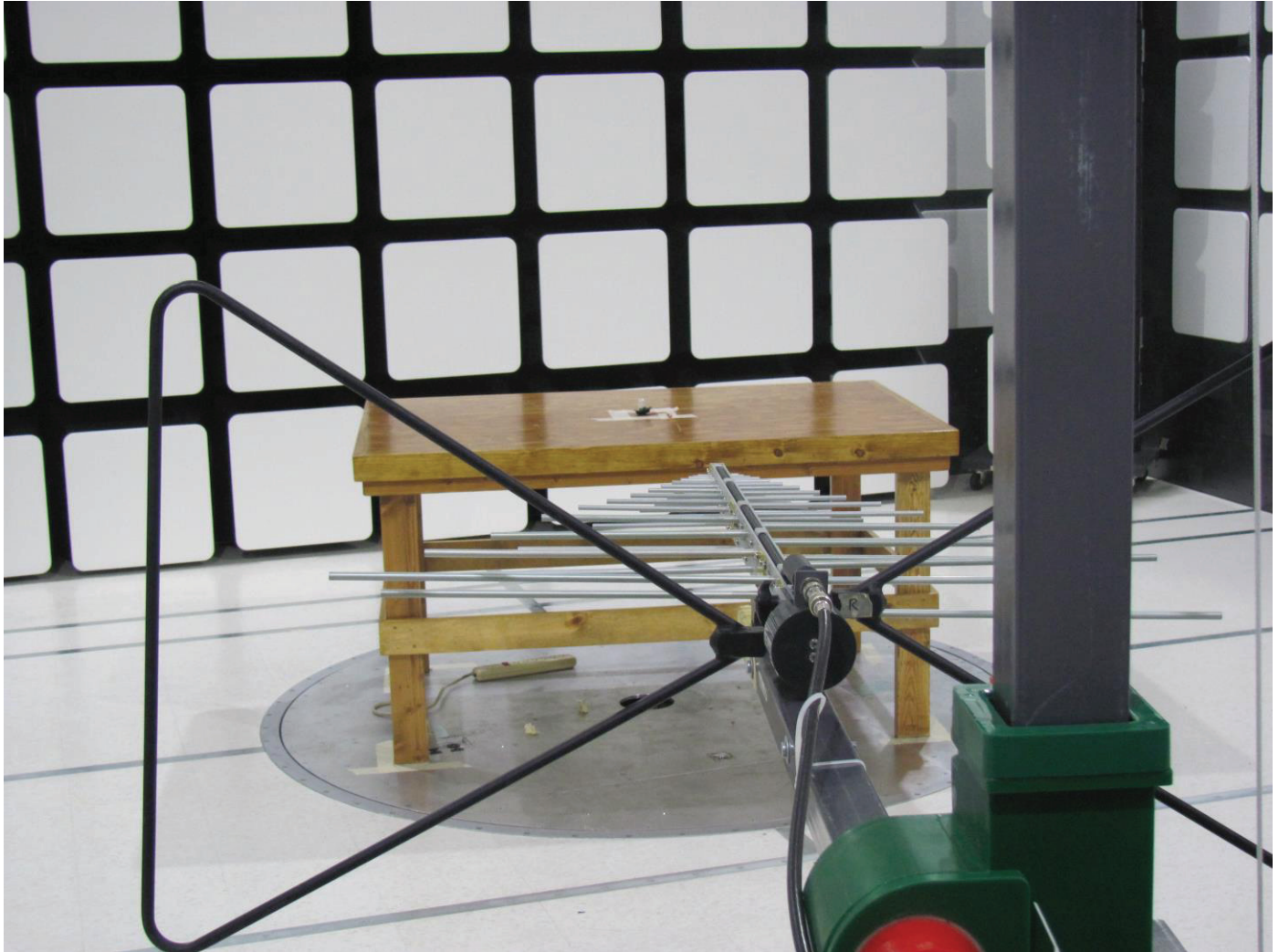
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2014

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.5	23.71
27.5	25.33	37.0	26.35
28.0	24.49	37.5	23.94
28.5	24.74	38.0	25.42
29.0	25.93	38.5	24.87
29.5	26.28	39.0	22.60
30.0	26.17	39.5	20.57
30.5	26.11	40.0	19.15



FRONT VIEW

**BLUE MAESTRO LIMITED
PACIFI
MODEL: PAC1**

FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

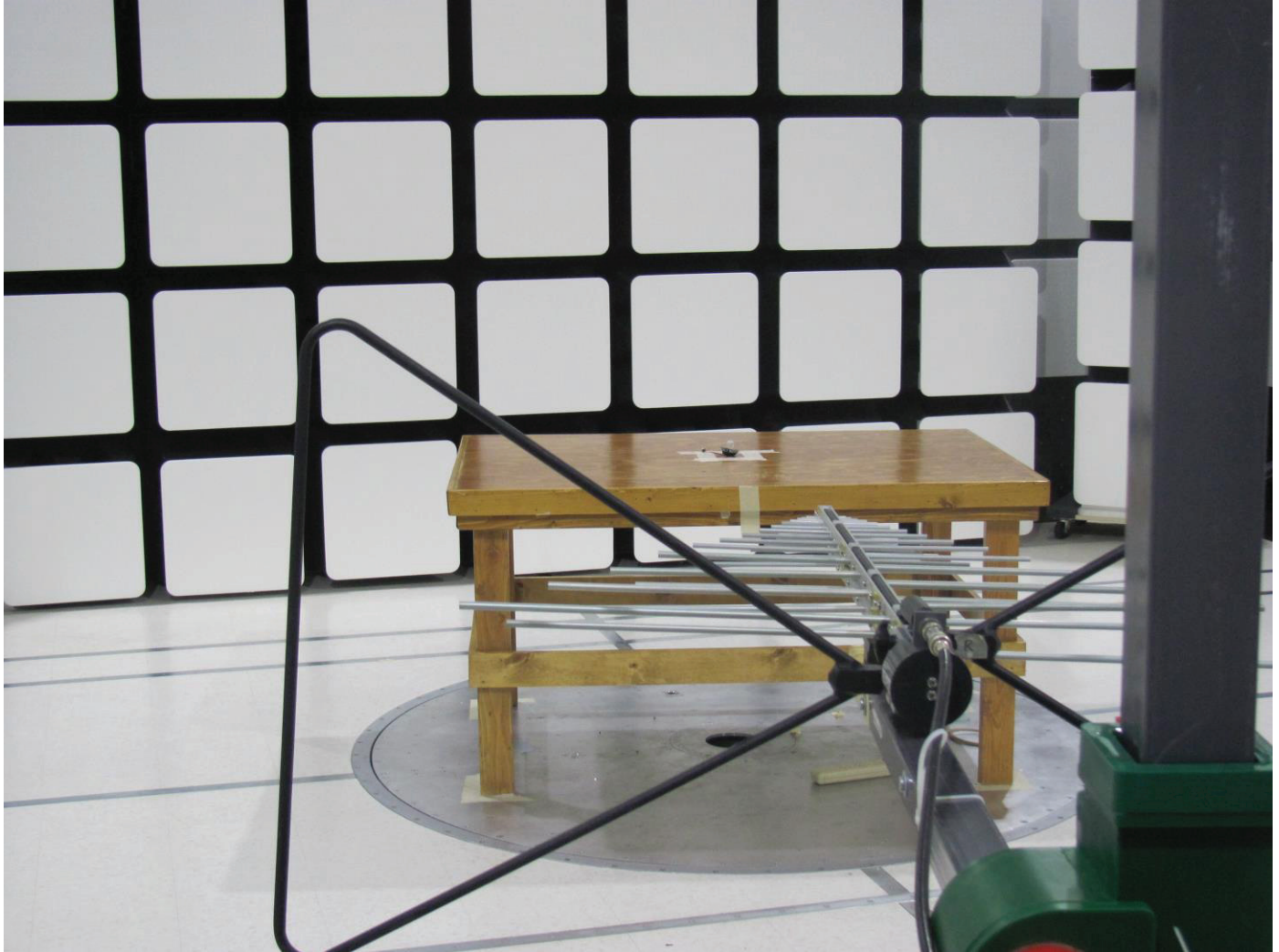
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



REAR VIEW

BLUE MAESTRO LIMITED
PACIFI
MODEL: PAC1

FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



FRONT VIEW

**BLUE MAESTRO LIMITED
PACIFI**

MODEL: PAC1

FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



REAR VIEW

BLUE MAESTRO LIMITED
PACIFI
MODEL: PAC1

FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Low Channel

X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	67.85	V	114	-46.15	Peak	1.25	155	
2402	47.85	V	94	-46.15	Avg	1.25	155	
4804	49.17	V	74	-24.83	Peak	1.25	135	
4804	29.17	V	54	-24.83	Avg	1.25	135	
7206	54.51	V	74	-19.49	Peak	1.25	155	
7206	34.51	V	54	-19.49	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

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Low Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	69.42	H	114	-44.58	Peak	1.25	155	
2402	49.42	H	94	-44.58	Avg	1.25	155	
4804	52.15	H	74	-21.85	Peak	1.35	165	
4804	32.15	H	54	-21.85	Avg	1.35	165	
7206	50.85	H	74	-23.15	Peak	1.25	175	
7206	30.85	H	54	-23.15	Avg	1.25	175	
9608								No Emission Detected
12010								No Emission Detected
14412								No Emission Detected
16814								No Emission Detected
19216								No Emission Detected
21618								No Emission Detected
24020								No Emission Detected

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Low Channel

Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	67.61	V	114	-46.39	Peak	1.25	155	
2402	47.61	V	94	-46.39	Avg	1.25	155	
4804	54.18	V	74	-19.82	Peak	1.25	155	
4804	34.18	V	54	-19.82	Avg	1.25	155	
7206	49.65	V	74	-24.35	Peak	1.35	165	
7206	29.65	V	54	-24.35	Avg	1.35	165	
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

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Low Channel

Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	70.5	H	114	-43.5	Peak	1.25	155	
2402	50.5	H	94	-43.5	Avg	1.25	155	
4804	53.44	H	74	-20.56	Peak	1.25	145	
4804	33.44	H	54	-20.56	Avg	1.25	145	
7206	53.11	H	74	-20.89	Peak	1.25	155	
7206	33.11	H	54	-20.89	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

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Low Channel

Z-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	67.84	V	114	-46.16	Peak	1.25	180	
2402	47.84	V	94	-46.16	Avg	1.25	180	
4804	51.89	V	74	-22.11	Peak	1.25	135	
4804	31.89	V	54	-22.11	Avg	1.25	135	
7206	53.51	V	74	-20.49	Peak	1.25	145	
7206	33.51	V	54	-20.49	Avg	1.25	145	
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

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Low Channel
Z-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	68.88	H	114	-45.12	Peak	1.25	155	
2402	48.88	H	94	-45.12	Avg	1.25	155	
4804	53.29	H	74	-20.71	Peak	1.25	165	
4804	33.29	H	54	-20.71	Avg	1.25	165	
7206	53.44	H	74	-20.56	Peak	1.35	165	
7206	33.44	H	54	-20.56	Avg	1.35	165	
9608								No Emission Detected
12010								No Emission Detected
14412								No Emission Detected
16814								No Emission Detected
19216								No Emission Detected
21618								No Emission Detected
24020								No Emission Detected

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Middle Channel

X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2426	69.23	V	114	-44.77	Peak	1.25	155	
2426	49.23	V	94	-44.77	Avg	1.25	155	
4852	48.13	V	74	-25.87	Peak	1.35	165	
4852	28.13	V	54	-25.87	Avg	1.35	165	
7278	45.98	V	74	-28.02	Peak	1.25	175	
7278	25.98	V	54	-28.02	Avg	1.25	175	
9704								No Emission
9704								Detected
12130								No Emission
12130								Detected
14556								No Emission
14556								Detected
16982								No Emission
16982								Detected
19408								No Emission
19408								Detected
21834								No Emission
21834								Detected
24260								No Emission
24260								Detected

FCC 15.249

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Middle Channel

X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2426	71.04	H	114	-42.96	Peak	1.25	155	
2426	51.04	H	94	-42.96	Avg	1.25	155	
4852	51.49	H	74	-22.51	Peak	1.25	145	
4852	31.49	H	54	-22.51	Avg	1.25	145	
7278	54.82	H	74	-19.18	Peak	1.35	165	
7278	34.82	H	54	-19.18	Avg	1.35	165	
9704								No Emission
9704								Detected
12130								No Emission
12130								Detected
14556								No Emission
14556								Detected
16982								No Emission
16982								Detected
19408								No Emission
19408								Detected
21834								No Emission
21834								Detected
24260								No Emission
24260								Detected

FCC 15.249

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

**Middle Channel
Y-Axis - Vertical**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2426	69.17	V	114	-44.83	Peak	1.25	155	
2426	49.17	V	94	-44.83	Avg	1.25	155	
4852	53.62	V	74	-20.38	Peak	1.25	155	
4852	33.62	V	54	-20.38	Avg	1.25	155	
7278	53.48	V	114	-60.52	Peak	1.25	145	
7278	33.48	V	94	-60.52	Avg	1.25	145	
9704								No Emission Detected
12130								No Emission Detected
14556								No Emission Detected
16982								No Emission Detected
19408								No Emission Detected
21834								No Emission Detected
24260								No Emission Detected

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Middle Channel

Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2426	70.14	H	114	-43.86	Peak	1.25	225	
2426	50.14	H	94	-43.86	Avg	1.25	225	
4852	51.62	H	74	-22.38	Peak	1.25	155	
4852	31.62	H	54	-22.38	Avg	1.25	155	
7278	53.36	H	74	-20.64	Peak	1.25	145	
7278	33.36	H	54	-20.64	Avg	1.25	145	
9704								No Emission
9704								Detected
12130								No Emission
12130								Detected
14556								No Emission
14556								Detected
16982								No Emission
16982								Detected
19408								No Emission
19408								Detected
21834								No Emission
21834								Detected
24260								No Emission
24260								Detected

FCC 15.249

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Middle Channel
Z-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2426	71.81	V	114	-42.19	Peak	1.25	155	
2426	51.81	V	94	-42.19	Avg	1.25	155	
4852	51.79	V	74	-22.21	Peak	1.35	165	
4852	31.79	V	54	-22.21	Avg	1.35	165	
7278	54.06	V	74	-19.94	Peak	1.25	175	
7278	34.06	V	54	-19.94	Avg	1.25	175	
9704								No Emission Detected
12130								No Emission Detected
14556								No Emission Detected
16982								No Emission Detected
19408								No Emission Detected
21834								No Emission Detected
24260								No Emission Detected

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

Middle Channel
Z-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2426	70.63	H	114	-43.37	Peak	1.25	155	
2426	50.63	H	94	-43.37	Avg	1.25	155	
4852	52.27	H	74	-21.73	Peak	1.35	145	
4852	32.27	H	54	-21.73	Avg	1.35	145	
7278	54.08	H	74	-19.92	Peak	1.25	155	
7278	34.08	H	54	-19.92	Avg	1.25	155	
9704								No Emission
9704								Detected
12130								No Emission
12130								Detected
14556								No Emission
14556								Detected
16982								No Emission
16982								Detected
19408								No Emission
19408								Detected
21834								No Emission
21834								Detected
24260								No Emission
24260								Detected

FCC 15.249

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

**High Channel
X-Axis - Vertical**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	72.82	V	114	-41.18	Peak	1.25	155	
2480	52.82	V	94	-41.18	Avg	1.25	155	
4960	48.31	V	74	-25.69	Peak	1.25	155	
4960	28.31	V	54	-25.69	Avg	1.25	155	
7440	52.03	V	74	-21.97	Peak	1.35	165	
7440	32.03	V	54	-21.97	Avg	1.35	165	
9920								No Emission
9920								Detected
12400								No Emission
12400								Detected
14880								No Emission
14880								Detected
17360								No Emission
17360								Detected
19840								No Emission
19840								Detected
22320								No Emission
22320								Detected
24800								No Emission
24800								Detected

FCC 15.249
 Blue Maestro
 Pacifi
 Model: PAC1

Date: 07/10/2014
 Lab: B
 Tested By: Kyle Fujimoto

High Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	66.72	H	114	-47.28	Peak	1.25	155	
2480	46.72	H	94	-47.28	Avg	1.25	155	
4960	47.98	H	74	-26.02	Peak	1.25	145	
4960	27.98	H	54	-26.02	Avg	1.25	145	
7440	50.35	H	74	-23.65	Peak	1.35	155	
7440	30.35	H	54	-23.65	Avg	1.35	155	
9920								No Emission
9920								Detected
12400								No Emission
12400								Detected
14880								No Emission
14880								Detected
17360								No Emission
17360								Detected
19840								No Emission
19840								Detected
22320								No Emission
22320								Detected
24800								No Emission
24800								Detected

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

High Channel

Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	69.61	V	114	-44.39	Peak	1.25	155	
2480	49.61	V	94	-44.39	Avg	1.25	155	
4960	48.81	V	74	-25.19	Peak	1.25	165	
4960	28.81	V	54	-25.19	Avg	1.25	165	
7440	50.52	V	74	-23.48	Peak	1.35	175	
7440	30.52	V	54	-23.48	Avg	1.35	175	
9920								No Emission
9920								Detected
12400								No Emission
12400								Detected
14880								No Emission
14880								Detected
17360								No Emission
17360								Detected
19840								No Emission
19840								Detected
22320								No Emission
22320								Detected
24800								No Emission
24800								Detected

FCC 15.249

Blue Maestro

Pacifi

Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

High Channel

Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	71.48	H	114	-42.52	Peak	1.5	225	
2480	51.48	H	94	-42.52	Avg	1.5	225	
4960	46.97	H	74	-27.03	Peak	1.35	225	
4960	26.97	H	54	-27.03	Avg	1.35	225	
7440	50.85	H	74	-23.15	Peak	1.25	135	
7440	30.85	H	54	-23.15	Avg	1.25	135	
9920								No Emission
9920								Detected
12400								No Emission
12400								Detected
14880								No Emission
14880								Detected
17360								No Emission
17360								Detected
19840								No Emission
19840								Detected
22320								No Emission
22320								Detected
24800								No Emission
24800								Detected

FCC 15.249

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

Tested By: Kyle Fujimoto

High Channel

Z-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	66.17	V	114	-47.83	Peak	1.25	90	
2480	46.17	V	94	-47.83	Avg	1.25	90	
4960	47.34	V	74	-26.66	Peak	1.25	225	
4960	27.34	V	54	-26.66	Avg	1.25	225	
7440	50.28	V	74	-23.72	Peak	1.25	135	
7440	30.28	V	54	-23.72	Avg	1.25	135	
9920								No Emission
9920								Detected
12400								No Emission
12400								Detected
14880								No Emission
14880								Detected
17360								No Emission
17360								Detected
19840								No Emission
19840								Detected
22320								No Emission
22320								Detected
24800								No Emission
24800								Detected

FCC 15.249

Blue Maestro
Pacifi
Model: PAC1

Date: 07/10/2014

Lab: B

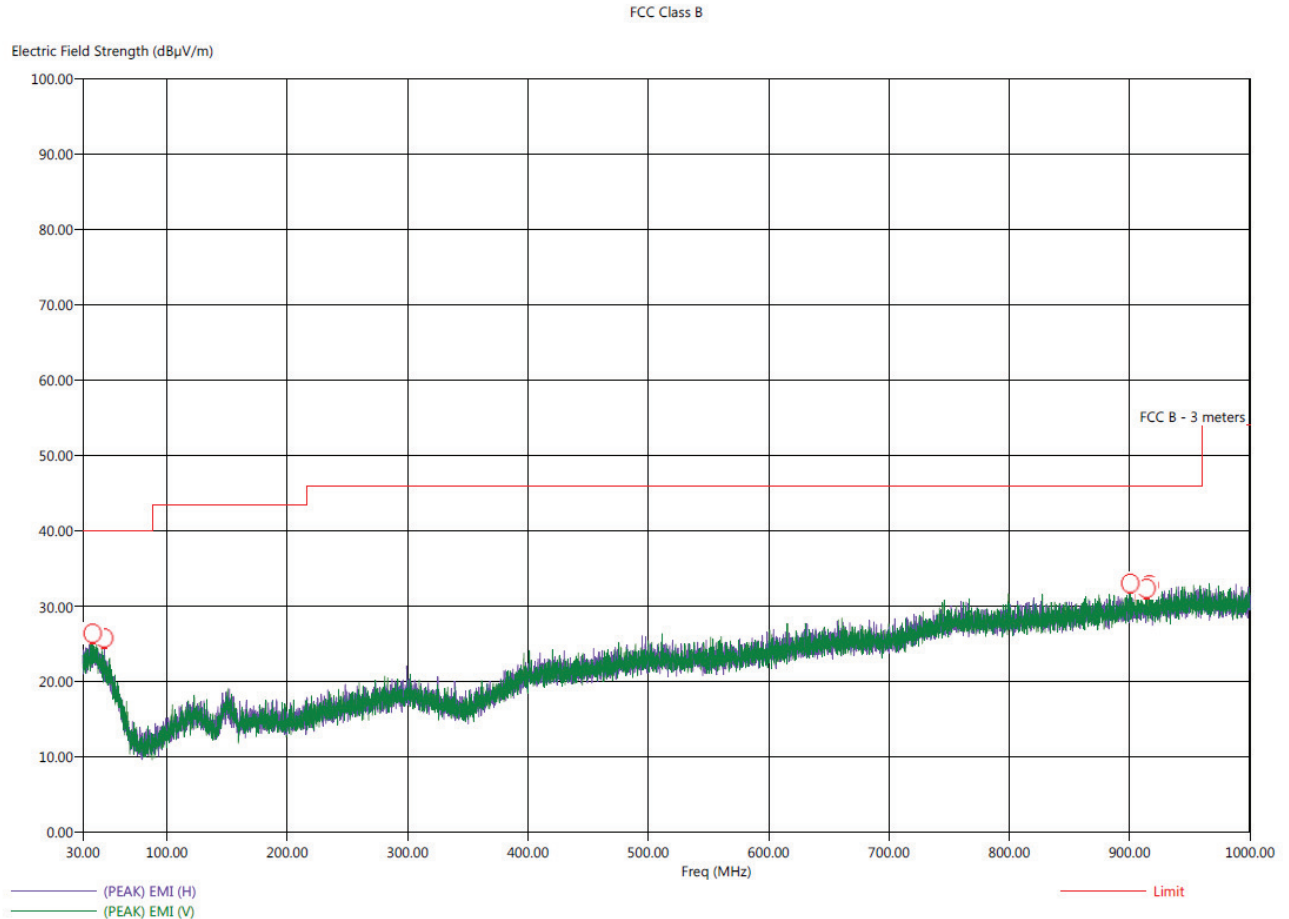
Tested By: Kyle Fujimoto

High Channel
Z-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	70.08	H	114	-43.92	Peak	1.25	0	
2480	50.08	H	94	-43.92	Avg	1.25	0	
4960	47.94	H	74	-26.06	Peak	1.25	165	
4960	27.94	H	54	-26.06	Avg	1.25	165	
7440	48.96	H	74	-25.04	Peak	1.25	155	
7440	28.96	H	54	-25.04	Avg	1.25	155	
9920								No Emission
9920								Detected
12400								No Emission
12400								Detected
14880								No Emission
14880								Detected
17360								No Emission
17360								Detected
19840								No Emission
19840								Detected
22320								No Emission
22320								Detected
24800								No Emission
24800								Detected

Title: Pre-Scan - FCC Class B
File: Agilent - Radiated Pre-Scan - X-Axis - FCC Class B.set
Operator: Kyle Fujimoto
EUT Type: Pacifi
EUT Condition: Continuously Transmitting - X-Axis (Worst Case)
Comments: Customer: Blue Maestro Limited
M/N: PAC1

7/10/2014 3:19:36 PM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan - X-Axis - FCC Class B.set
Operator: Kyle Fujimoto
EUT Type: Pacifi
EUT Condition: Continuously Transmitting - X-Axis (Worst Case)
Comments: Customer: Blue Maestro Limited
M/N: PAC1

7/10/2014 3:54:08 PM
Sequence: Final Measurements

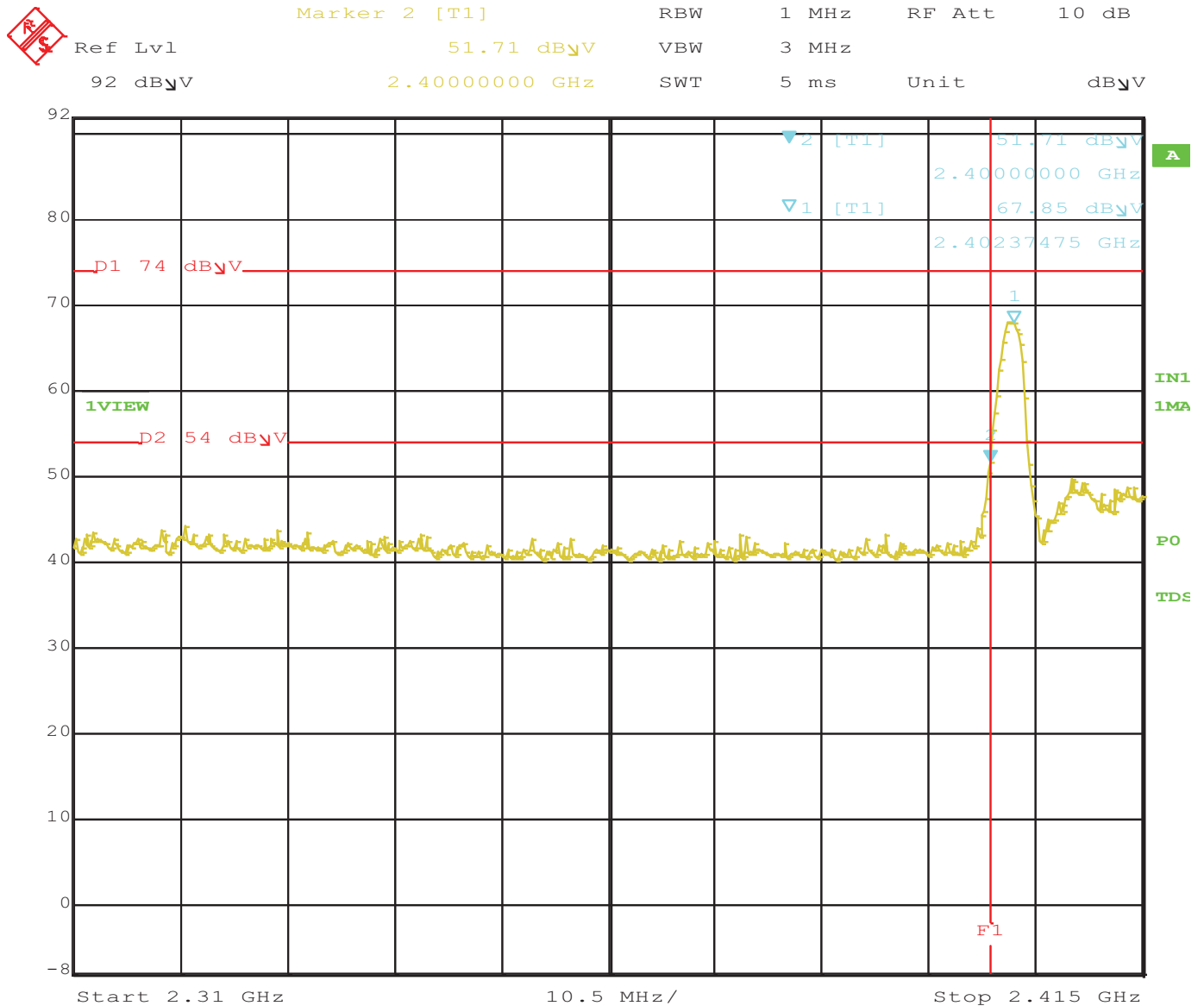
Final Scan - FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dB μ V/m)	(QP) EMI (dB μ V/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dB μ V/m)	Transducer (dB)	Cable (dB)	Twr Ht (cm)	Ttbl Aql (deg)
38.30	V	26.70	21.96	-13.30	-18.04	40.00	24.04	0.42	333.97	49.75
47.90	H	24.22	20.16	-15.78	-19.84	40.00	22.31	0.49	100.00	198.75
900.70	V	32.65	27.89	-13.35	-18.11	46.00	27.01	2.64	306.32	110.25
912.50	H	32.49	28.17	-13.51	-17.83	46.00	27.18	2.66	290.68	179.75
914.20	V	31.97	28.17	-14.03	-17.83	46.00	27.20	2.66	168.71	174.75
916.60	V	32.21	28.14	-13.79	-17.86	46.00	27.24	2.66	203.40	85.00



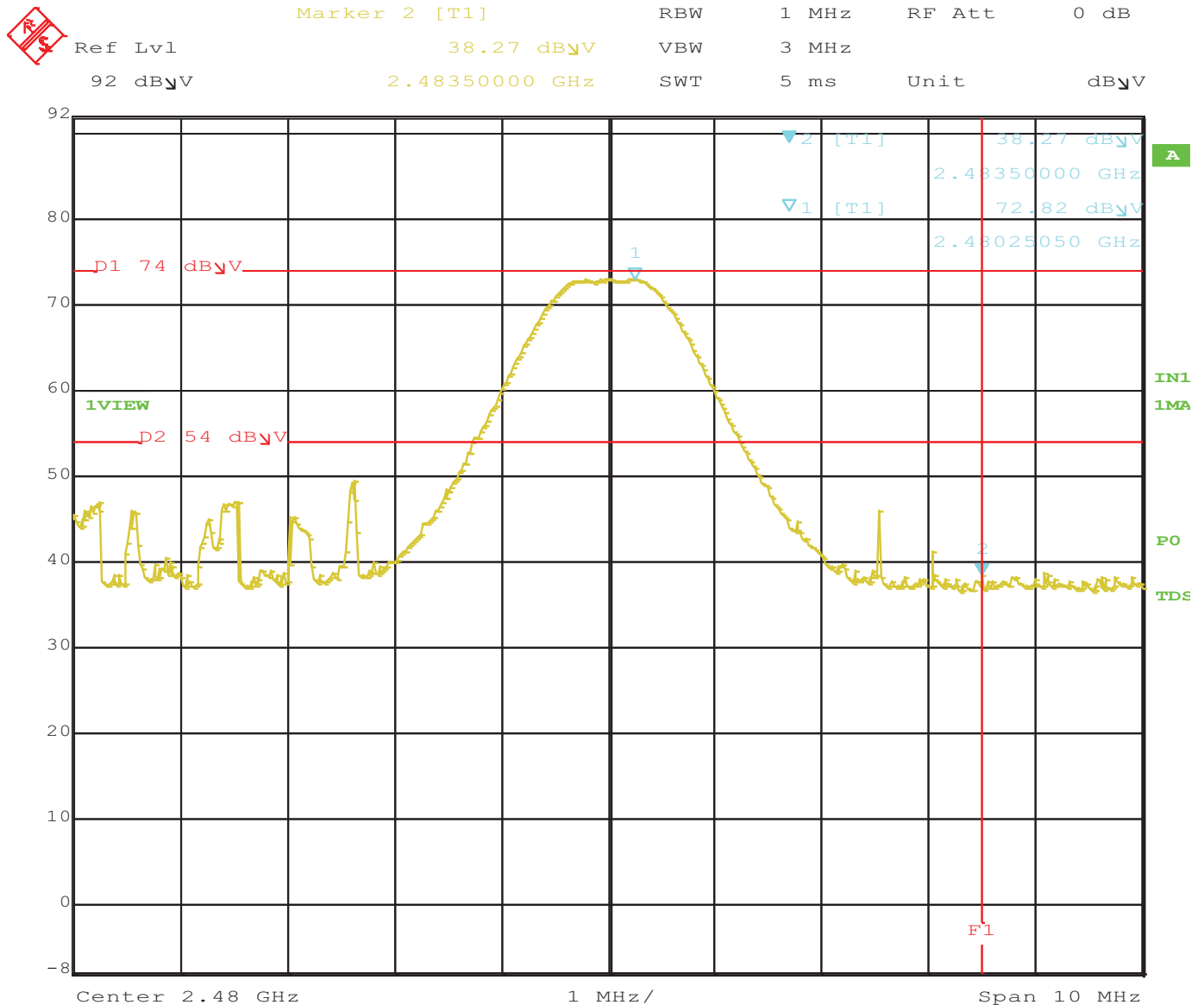
BAND EDGES

DATA SHEETS



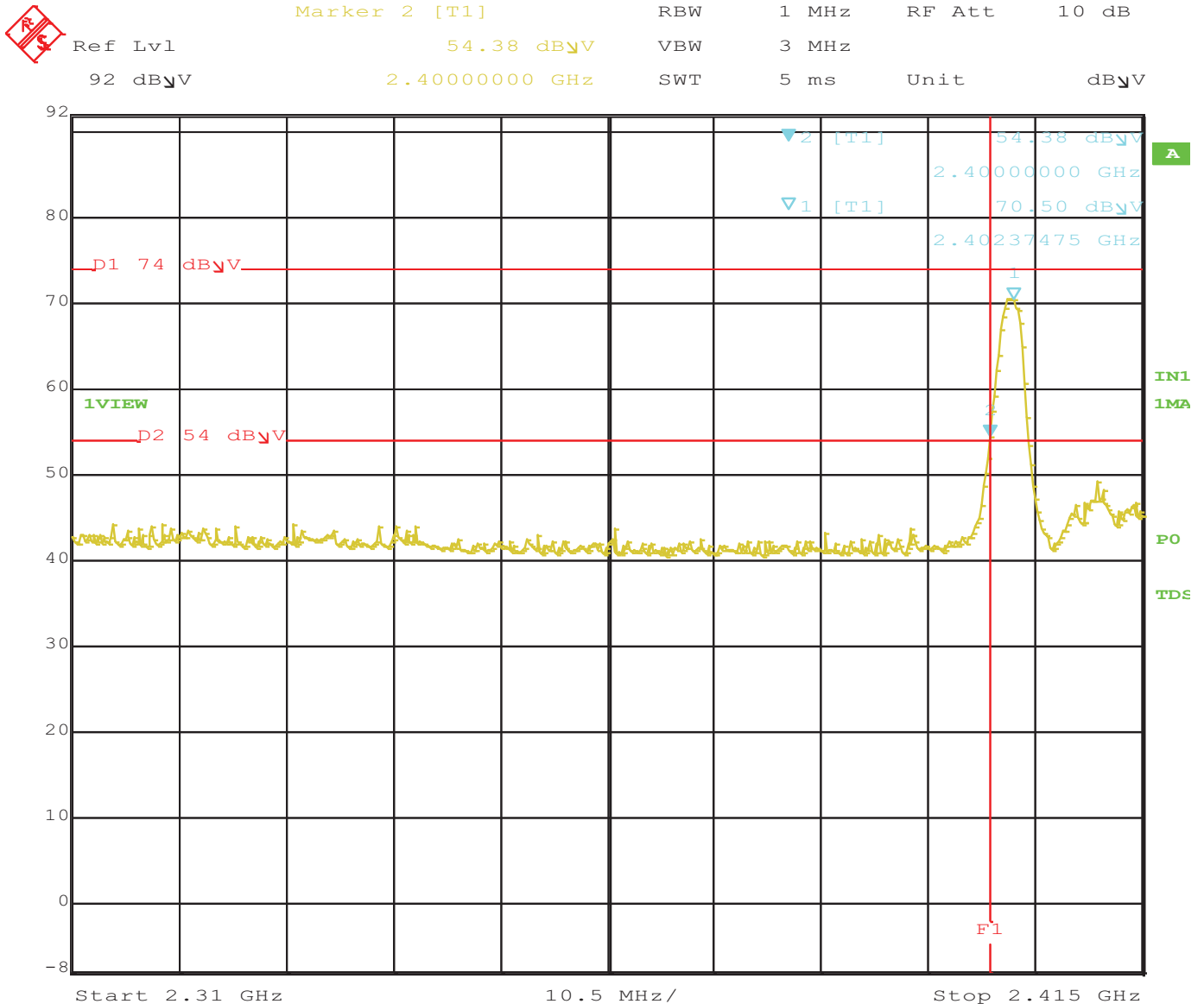
Date: 10.JUL.2014 12:43:57

Band Edge – Vertical Polarization – Low Channel – X-Axis (Worst Case)



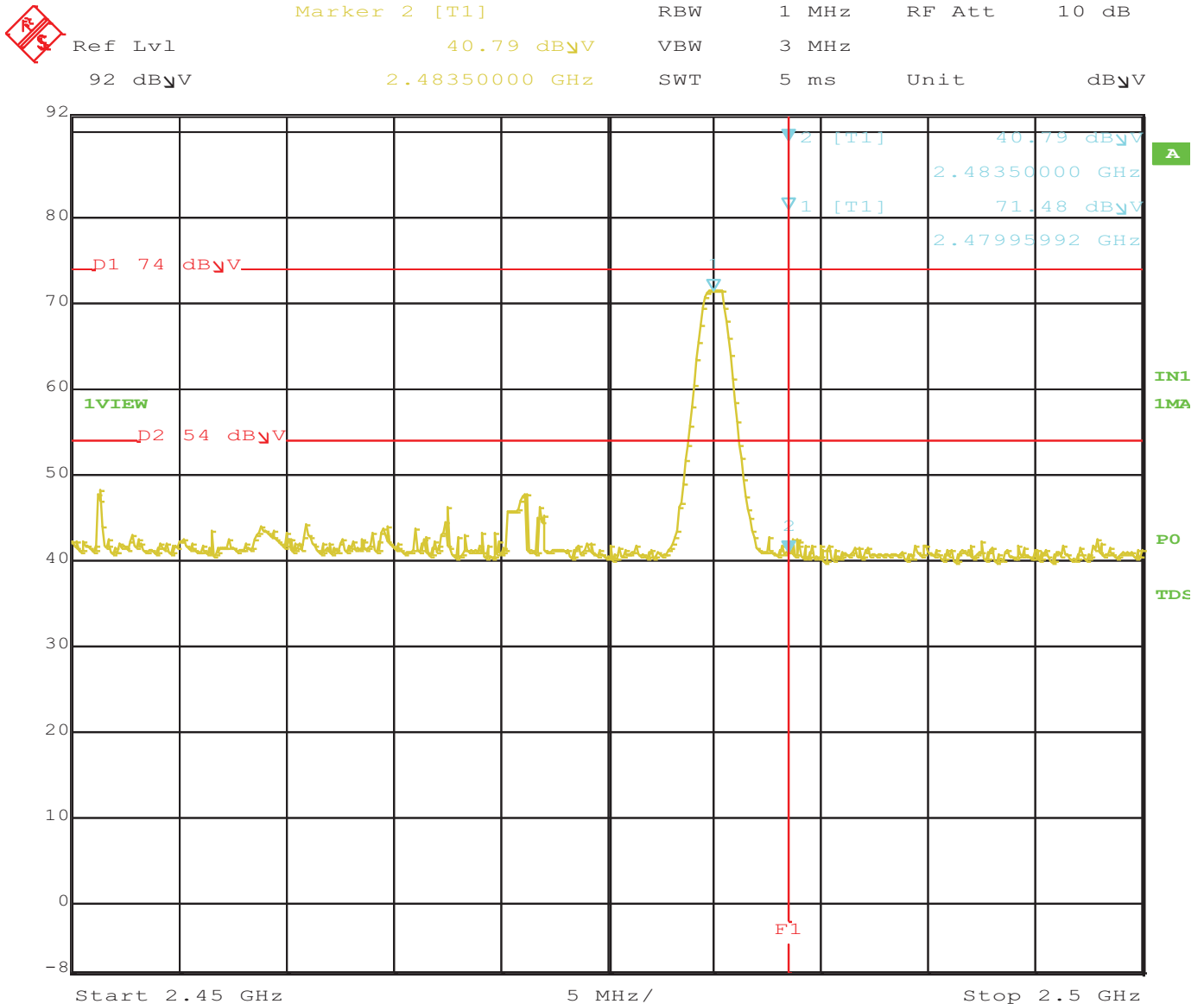
Date: 10.JUL.2014 13:15:24

Band Edge – Vertical Polarization – High Channel – X-Axis (Worst Case)



Date: 10.JUL.2014 12:49:45

Band Edge – Horizontal Polarization – Low Channel – Y-Axis (Worst Case)



Date: 10.JUL.2014 12:54:56

Band Edge – Horizontal Polarization – High Channel – Y-Axis (Worst Case)