FCC PART 15, SUBPART B and C
TEST REPORT

for

ECOAIR

MODEL: PST6550

Prepared for

TELKONET, INC.
10200 WEST INNOVATION DRIVE, SUITE 300
MILWAUKEE, WISCONSIN 53226

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

JAMES ROSS

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

DATE: JULY 20, 2014

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced 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:	EcoAir Model: PST6550 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Customer:	Telkonet, Inc. 10200 West Innovation Drive, Suite 300 Milwaukee, Wisconsin 53226
Test Dates:	April 23, 28, and 29, 2014
Test Specifications:	EMI 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	Spurious Radiated RF Emissions, 10 kHz – 25000 MHz (Transmitter and Digital portion)	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 15.205, 15.209 and 15.249
2	Conducted RF Emissions, 150 kHz to 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the EcoAir, Model: PST6550. 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; and Subpart C, sections 15.205, 15.207, 15.209, and 15.249.

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

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Telkonet, Inc.

Clark Stremke	Principal Firmware Engineer
Jeff Sobieski	CTO

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 been returned to Telkonet, Inc. as of the date of this test report.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
N/A	Not Applicable

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
ANSI C63.4 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

Battery Power Mode: The EcoAir, Model: PST6550 (EUT). The EUT was tested as a stand alone unit.

Temperature Power Mode: The EcoAir, Model: PST6550 (EUT) was connected to a Zigbee Temperature Sensor, Model: PST6000 via its DC IN port.

The EUT was tested for emissions at the low, middle, and high channels. The channels were changed by special firmware on the EUT that allowed the EUT to transmit continuously at either the low, middle, or high channel.

It was determined that the emissions were at their highest level when the EUT was operating in the mode described above. The final emissions data was taken in this mode of operation and any cables were moved to maximize the emissions. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. The EUT was set up as shown in the photographs in Appendix D. The data sheets are located in Appendix E.

4.1.1 Description of Test Configuration - Emissions

Cable 1:

This is a 1-meter unshielded cable connecting the EUT to the Zigbee Temperature Sensor. 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
EcoAir	Telkonet, Inc..	PST6550	N/A	XV6PST6550
Zigbee Temperature Sensor	Telkonet, Inc.	PST6000	N/A	XV6PST6000

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2012	2 Year
EMI Receiver, 20 Hz – 26.5 GHz	Agilent Technologies	N9038A	MY51100115	March 6, 2014	2 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
TDK Emissions Lab	TDK RF Solutions, Inc.	7.8.7	N/A	N/A	N/A
CombiLog Antenna	Com-Power	AC-220	61060	May 29, 2013	1 Year
Preamplifier	Com-Power	PA-118	181656	January 13, 2014	1 Year
Preamplifier	Com-Power	PA-840	711013	May 17, 2012	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

EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
Shield Room Test	Compatible Electronics	11CD	N/A	N/A	N/A
LISN	Com-Power	LI-215	12082	June 17, 2013	1 Year
LISN	Com-Power	LI-215	12090	June 17, 2013	1 Year
Transient Limiter	Com-Power	252A910	1	October 8, 2013	1 Year
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 26, 2013	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	June 26, 2013	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 26, 2013	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. 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 spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. 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. The six highest emissions are listed in Table 1.

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, Section 15.207 for conducted emissions. Please see Appendix E for the data sheets.

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 adjusted by a “duty cycle correction factor”, derived from 20 log (dwell time / 100 ms).

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.

Radiated Emissions (Spurious and Harmonics) Test -- Lab B (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance from 1 GHz to 25 GHz to obtain the final test data. The six highest emissions are listed in Table 2.0.

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 for radiated emissions. Please see Appendix E for the data sheets.

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 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 2.0.

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 (d) for radiated emissions. Please see Appendix E for the data sheets.

7.1.4 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
EcoAir, Model: PST6550

Frequency MHz	Emission Level* dBuV	Average Specification Limit dBuV	Delta (Spec limit-Emission) dB
0.641 (WL)	38.78 (Average)	46.00	-7.22
0.641 (BL)	38.39 (Average)	46.00	-7.61
0.831 (BL)	37.14 (Average)	46.00	-8.86
0.826 (WL)	37.07 (Average)	46.00	-8.93
0.895 (BL)	35.78 (Average)	46.00	-10.22
0.899 (WL)	35.45 (Average)	46.00	-10.55

Notes:

(WL) White Lead
(BL) Black Lead
* The complete data is given in Appendix E of this report.

RF Emissions Test Results (Continued)

Table 2.0 RADIATED EMISSION RESULTS
EcoAir, Model: PST6550

Frequency MHz	Average Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
2483.5 (Y-Axis) (V) (Thermostat Power)	41.04 (A)	54	-12.96
2483.5 (Y-Axis) (V) (Battery Power)	40.85 (A)	54	-13.15
2483.5 (Y-Axis) (H) (Thermostat Power)	39.04 (A)	54	-14.96
625.00 (Y-Axis) (V) (Thermostat Power)	30.25 (QP)	46	-15.75
2405.00 (Y-Axis) (V) (Thermostat Power)	76.89 (A)	94	-17.11
375.00 (Y-Axis) (V) (Thermostat Power)	28.88 (QP)	46	-17.12

Notes:

(H) Horizontal
(V) Vertical
* The complete emissions data is given in Appendix E of this report.

8. CONCLUSIONS

The EcoAir, Model: PST6550 meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.207, 15.209, and 15.249.

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

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

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

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

NVLAP listing links

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

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

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

ANSI listing CETCB

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

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

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

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

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

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

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.249 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.

The EUT was not modified during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

EcoAir
Model: PST6550
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

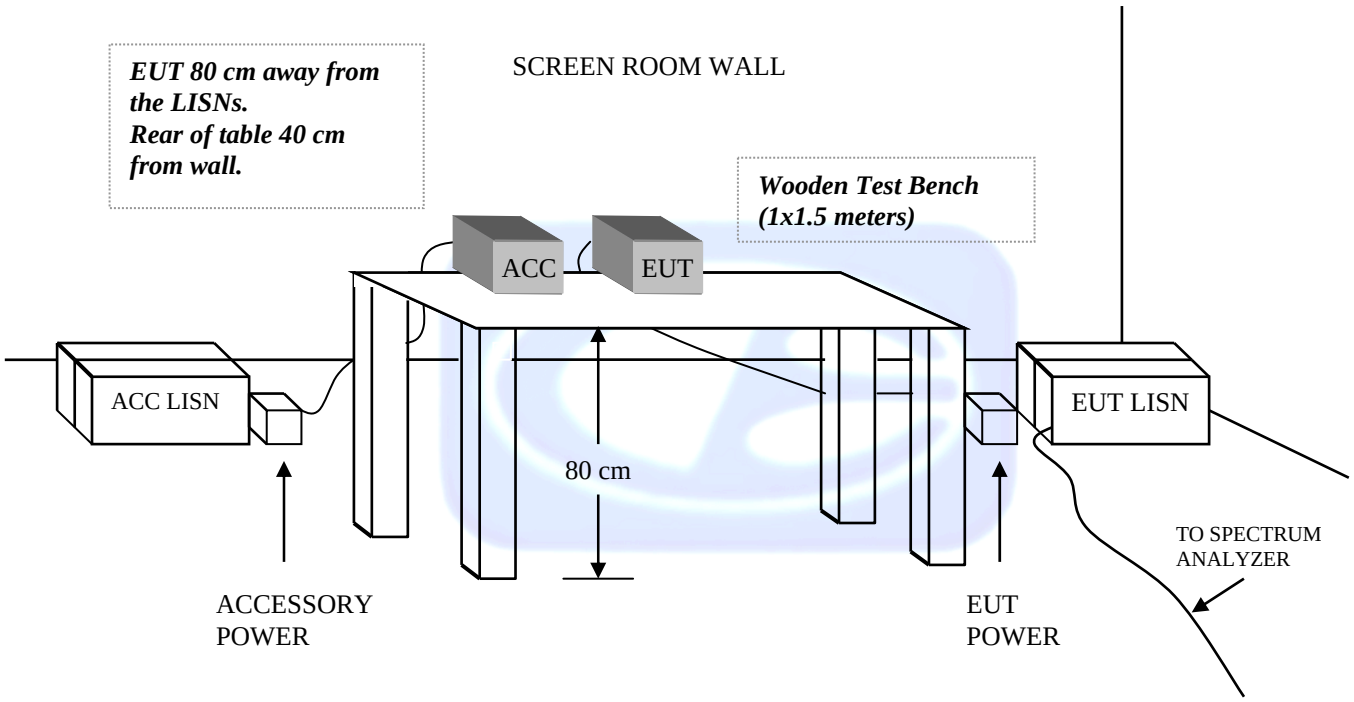
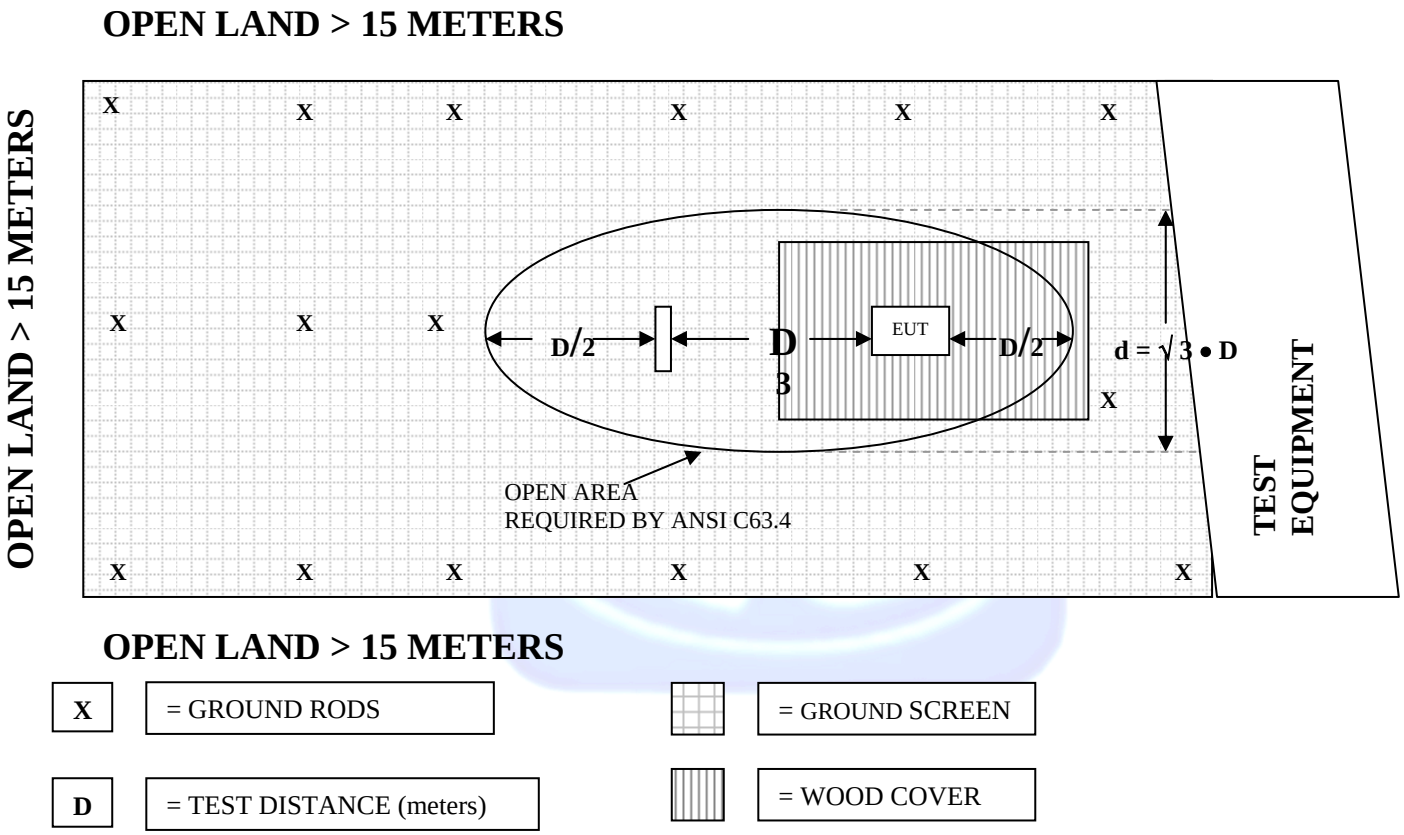
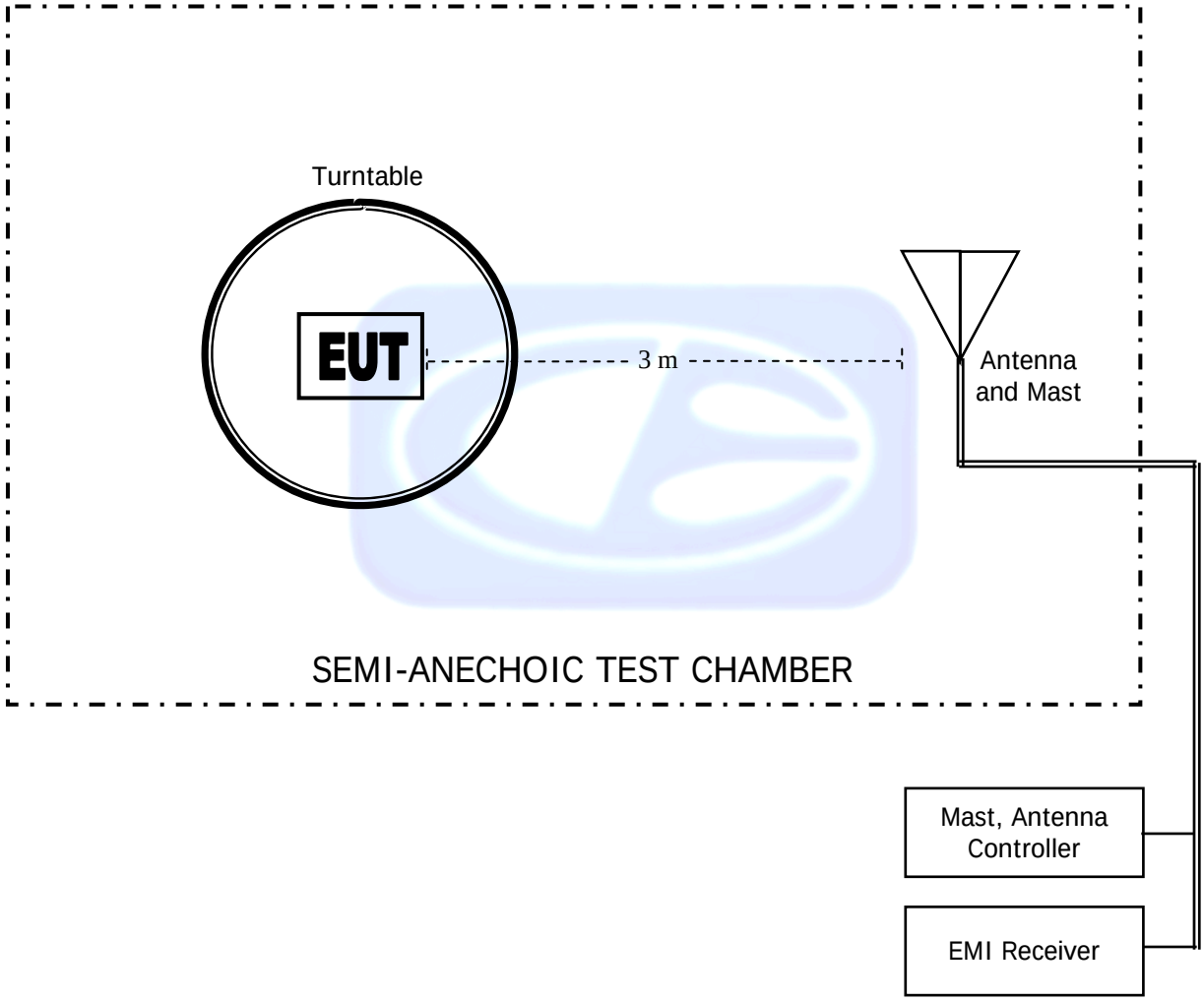


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



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 29, 2013

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

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 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

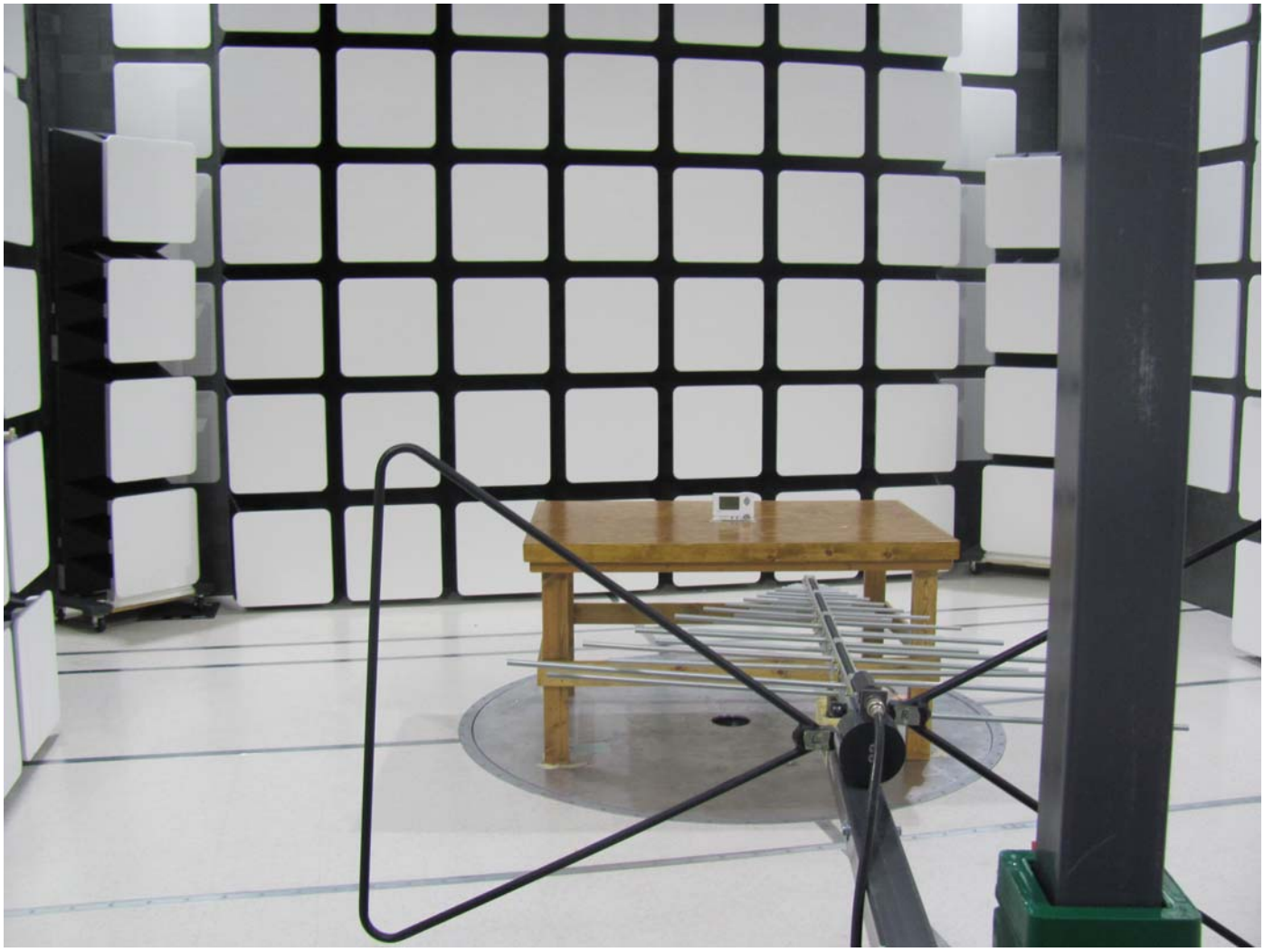
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 17, 2012

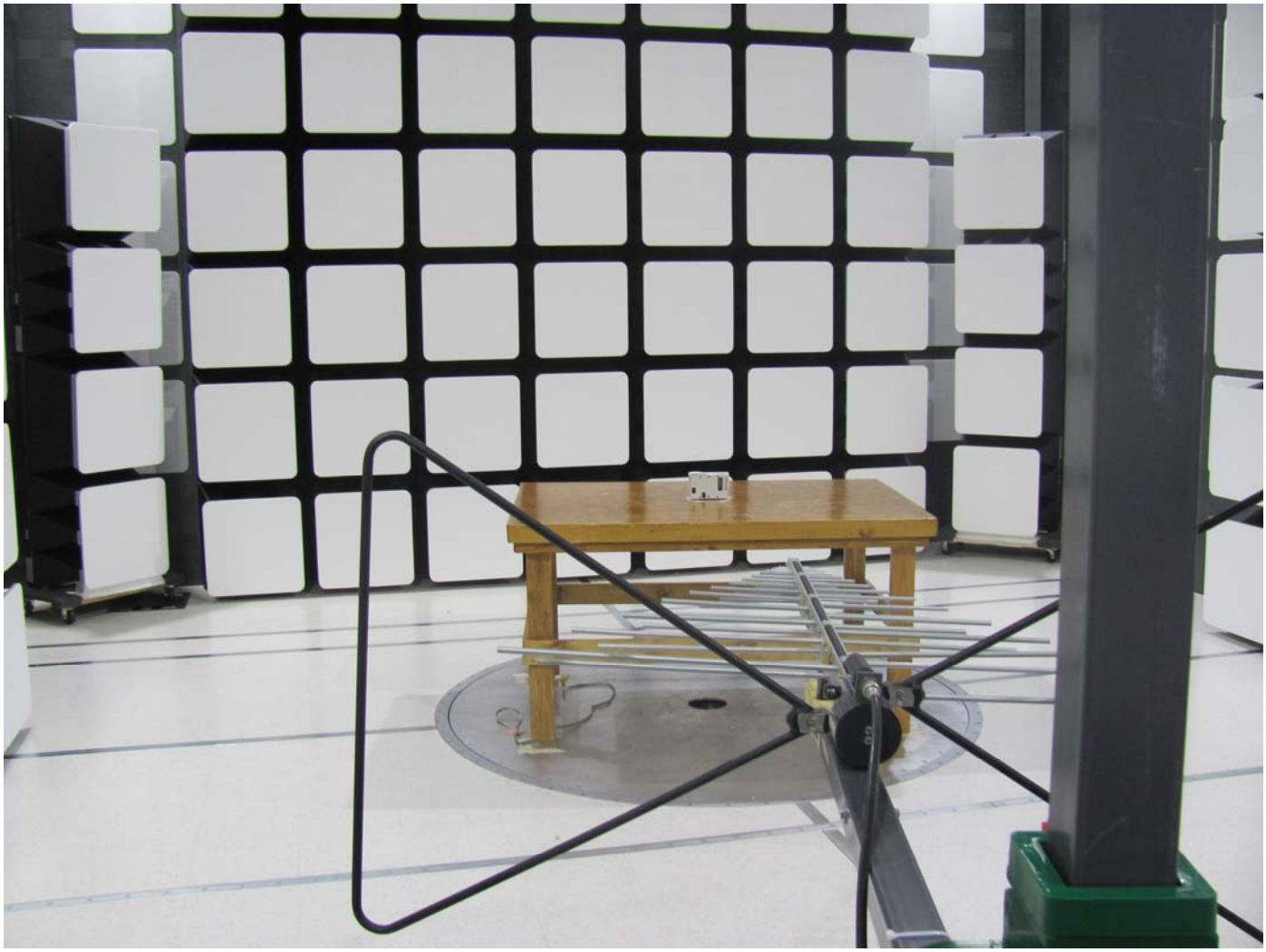
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.81	31.0	25.77
19.0	24.57	31.5	25.36
20.0	23.46	32.0	25.15
21.0	22.51	32.5	25.13
22.0	23.85	33.0	25.52
23.0	23.31	33.5	25.24
24.0	24.44	34.0	25.08
25.0	25.42	34.5	25.27
26.0	25.71	35.0	23.99
26.5	25.66	35.5	24.67
27.0	25.84	36.5	24.80
27.5	25.29	37.0	26.27
28.0	25.46	37.5	24.86
28.5	25.58	38.0	24.64
29.0	26.16	38.5	23.46
29.5	26.14	39.0	21.29
30.0	26.01	39.5	20.83
30.5	25.67	40.0	19.96



FRONT VIEW

TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – BATTERY POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – BATTERY POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

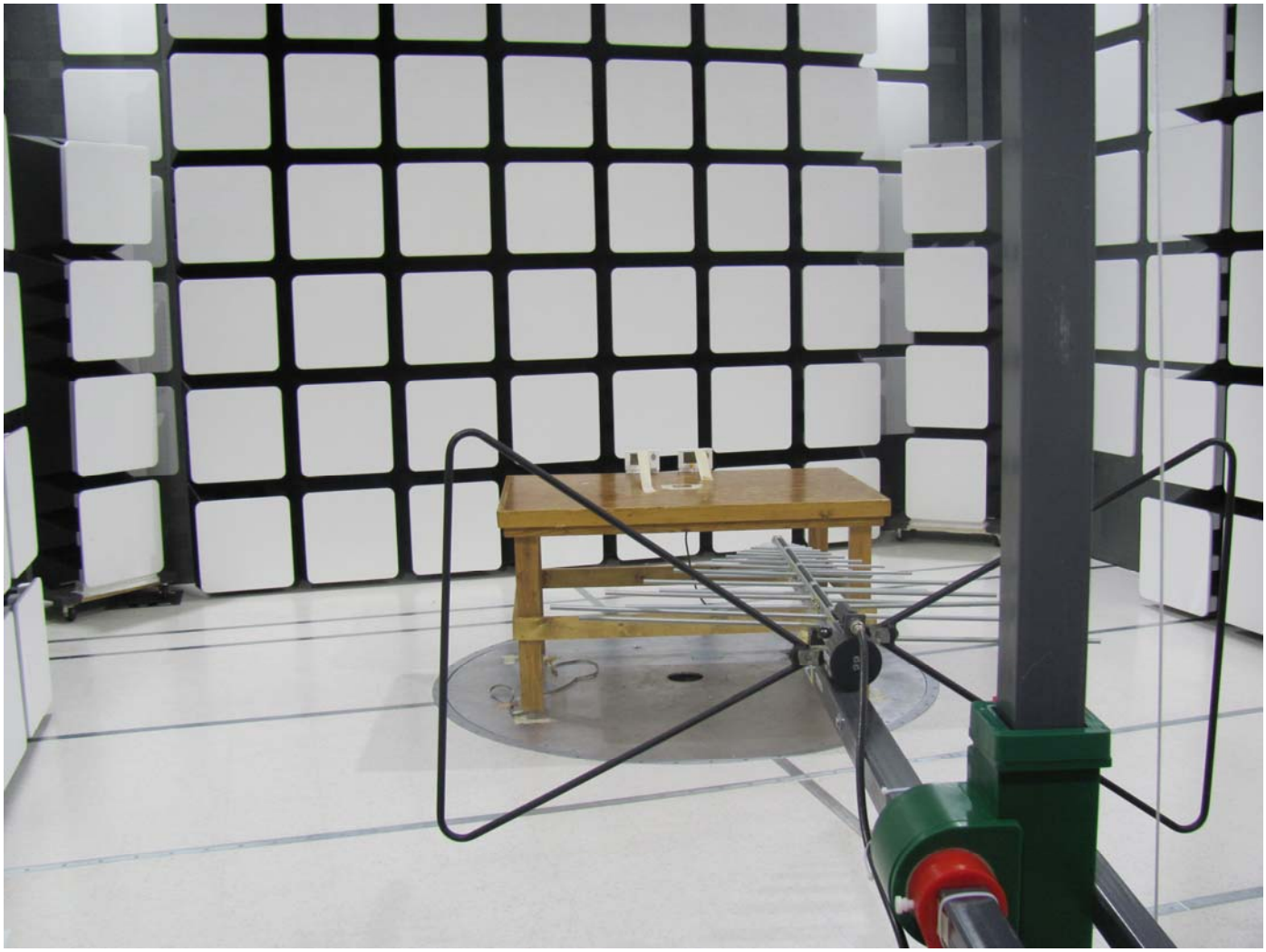
TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz – BATTERY POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

TELKONET, INC
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz – BATTERY POWER

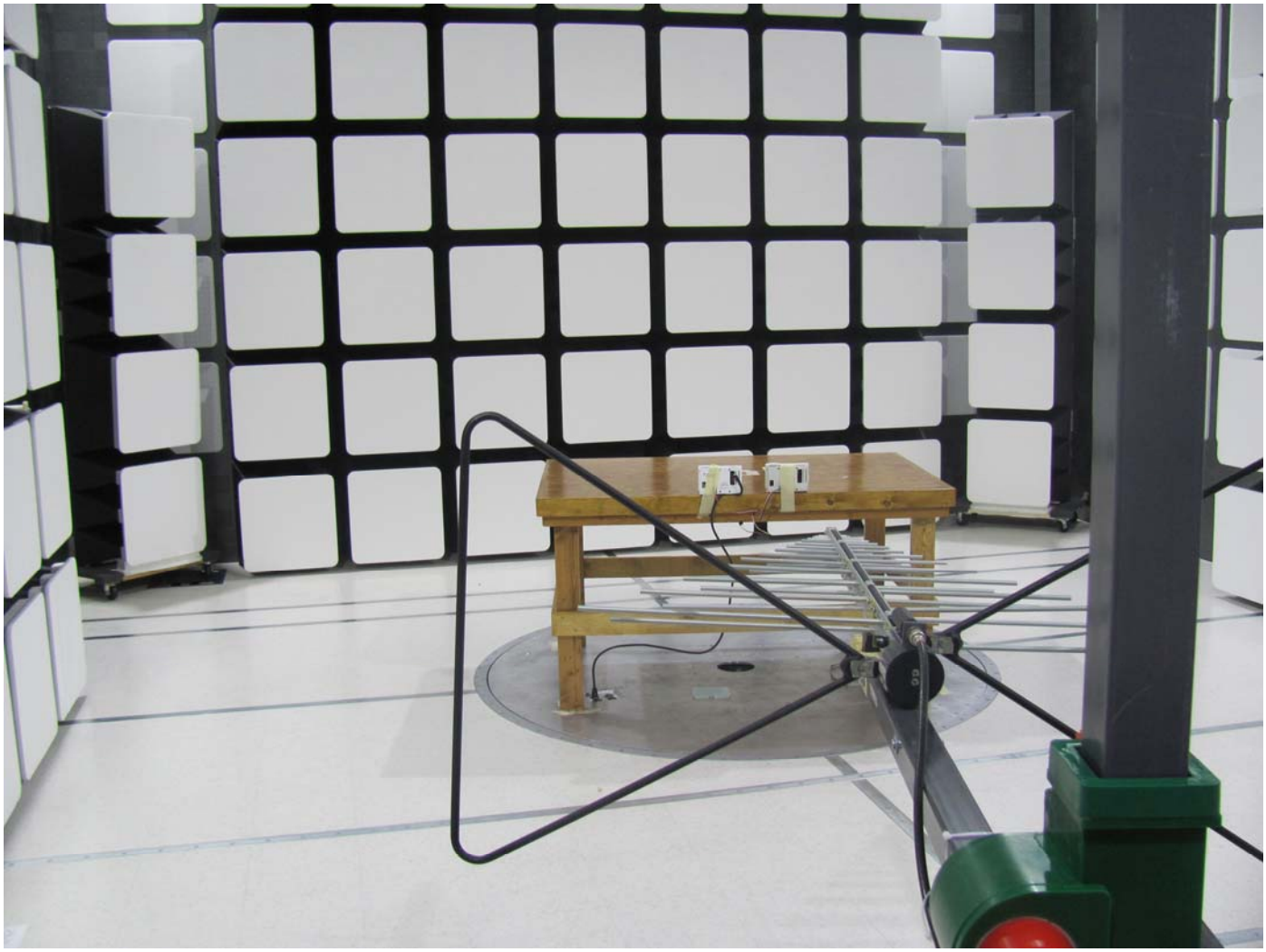
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – THERMOSTAT POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – THERMOSTAT POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz – THERMOSTAT POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

TELKONET, INC
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz – THERMOSTAT POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

TELKONET, INC.
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – CONDUCTED EMISSIONS – THERMOSTAT POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

TELKONET, INC
ECOAIR
MODEL: PST6550
FCC SUBPART B AND C – CONDCUTED EMISSIONS – THERMOSTAT POWER

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Battery Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	93.28	V	114	-20.72	Peak	1.25	155	
2405	73.28	V	94	-20.72	Avg	1.25	155	
4810	50.92	V	74	-23.08	Peak	1.35	145	
4810	30.92	V	54	-23.08	Avg	1.35	145	
7215	54.12	V	74	-19.88	Peak	1.25	165	
7215	34.12	V	54	-19.88	Avg	1.25	165	
9620								**No Emission**
9620								**Detected**
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Battery Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2405	91.05	H	114	-22.95	Peak	1.25	145	
2405	71.05	H	94	-22.95	Avg	1.25	145	
4810	49.19	H	74	-24.81	Peak	1.35	155	
4810	29.19	H	54	-24.81	Avg	1.35	155	
7215	54.99	H	74	-19.01	Peak	1.25	135	
7215	34.99	H	54	-19.01	Avg	1.25	135	
9620								**No Emission**
9620								**Detected**
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Battery Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2440	95.01	V	114	-18.99	Peak	1.25	165	
2440	75.01	V	94	-18.99	Avg	1.25	165	
4880	48.46	V	74	-25.54	Peak	1.25	135	
4880	28.26	V	54	-25.74	Avg	1.25	135	
7320	48.55	V	74	-25.45	Peak	1.35	145	
7320	28.55	V	54	-25.45	Avg	1.35	145	
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

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Battery Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2440	89.85	H	114	-24.15	Peak	1.25	135	
2440	69.85	H	94	-24.15	Avg	1.25	135	
4880	50.37	H	74	-23.63	Peak	1.35	145	
4880	30.37	H	54	-23.63	Avg	1.35	145	
7320	56.75	H	74	-17.25	Peak	1.45	155	
7320	36.75	H	54	-17.25	Avg	1.45	155	
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 15.247

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

High Channel - Battery Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	96.63	V	114	-17.37	Peak	1.25	155	
2480	76.63	V	94	-17.37	Avg	1.25	155	
4960	51.91	V	74	-22.09	Peak	1.35	145	
4960	31.91	V	54	-22.09	Avg	1.35	145	
7440	55.62	V	74	-18.38	Peak	1.25	155	
7440	35.62	V	54	-18.38	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**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

High Channel - Battery Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	89.31	H	114	-24.69	Peak	1.25	115	
2480	69.31	H	94	-24.69	Avg	1.25	115	
4960	53.62	H	74	-20.38	Peak	1.25	115	
4960	33.62	H	54	-20.38	Avg	1.25	115	
7440	52.62	H	74	-21.38	Peak	1.35	165	
7440	32.62	H	54	-21.38	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 and FCC Class B

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014 & 04/29/2014
Labs: B and D
Tested By: Kyle Fujimoto

Radiated Emissions 10 kHz to 30 MHz and 1 GHz to 25 GHz - Battery Power

Axis of EUT	Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic
								Emissions from the
								EUT for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Digital Portion
								of the EUT
								for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic
								Emissions from the
								EUT for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Digital Portion
								of the EUT
								for both the Vertical and
								Horizontal Polarizations.

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Thermostat Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	
2405	96.89	V	114	-17.11	Peak	1.25	225	
2405	76.89	V	94	-17.11	Avg	1.25	225	
4810	48.69	V	74	-25.31	Peak	1.35	145	
4810	28.69	V	54	-25.31	Avg	1.35	145	
7215	48.76	V	74	-25.24	Peak	1.25	135	
7215	28.76	V	54	-25.24	Avg	1.25	135	
9620								**No Emission**
9620								**Detected**
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Thermostat Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	
2405	94.25	H	114	-19.75	Peak	1.25	155	
2405	74.25	H	94	-19.75	Avg	1.25	155	
4810	51.95	H	74	-22.05	Peak	1.35	145	
4810	31.95	H	54	-22.05	Avg	1.35	145	
7215	47.11	H	74	-26.89	Peak	1.25	145	
7215	27.11	H	54	-26.89	Avg	1.25	145	
9620								**No Emission**
9620								**Detected**
12025								**No Emission**
12025								**Detected**
14430								**No Emission**
14430								**Detected**
16835								**No Emission**
16835								**Detected**
19240								**No Emission**
19240								**Detected**
21645								**No Emission**
21645								**Detected**
24050								**No Emission**
24050								**Detected**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Thermostat Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	
2445	95.07	V	114	-18.93	Peak	1.25	0	
2445	75.07	V	94	-18.93	Avg	1.25	0	
4890	49.53	V	74	-24.47	Peak	1.25	0	
4890	29.53	V	54	-24.47	Avg	1.25	0	
7335	48.52	V	74	-25.48	Peak	1.35	125	
7335	28.52	V	54	-25.48	Avg	1.35	125	
9780								**No Emission**
9780								**Detected**
12225								**No Emission**
12225								**Detected**
14670								**No Emission**
14670								**Detected**
17115								**No Emission**
17115								**Detected**
19560								**No Emission**
19560								**Detected**
22005								**No Emission**
22005								**Detected**
24450								**No Emission**
24450								**Detected**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Thermostat Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	
2445	92.92	H	114	-21.08	Peak	1.25	135	
2445	72.92	H	94	-21.08	Avg	1.25	135	
4890	52.74	H	74	-21.26	Peak	1.35	125	
4890	32.74	H	54	-21.26	Avg	1.35	125	
7335	50.24	H	74	-23.76	Peak	1.45	155	
7335	30.24	H	54	-23.76	Avg	1.45	155	
9780								**No Emission**
9780								**Detected**
12225								**No Emission**
12225								**Detected**
14670								**No Emission**
14670								**Detected**
17115								**No Emission**
17115								**Detected**
19560								**No Emission**
19560								**Detected**
22005								**No Emission**
22005								**Detected**
24450								**No Emission**
24450								**Detected**

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

High Channel - Thermostat Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	
2480	95.78	V	114	-18.22	Peak	1.25	225	
2480	75.78	V	94	-18.22	Avg	1.25	225	
4960	51.07	V	74	-22.93	Peak	1.35	135	
4960	31.07	V	54	-22.93	Avg	1.35	135	
7440	48.94	V	74	-25.06	Peak	1.25	145	
7440	28.94	V	54	-25.06	Avg	1.25	145	
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

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

High Channel - Thermostat Power
Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	
2480	93.4	H	114	-20.6	Peak	1.25	180	
2480	73.4	H	94	-20.6	Peak	1.25	180	
4960	54.05	H	74	-19.95	Peak	1.25	0	
4960	34.05	H	54	-19.95	Avg	1.25	0	
7440	49.05	H	74	-24.95	Peak	1.35	125	
7440	29.05	H	54	-24.95	Avg	1.35	125	
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 and FCC Class B

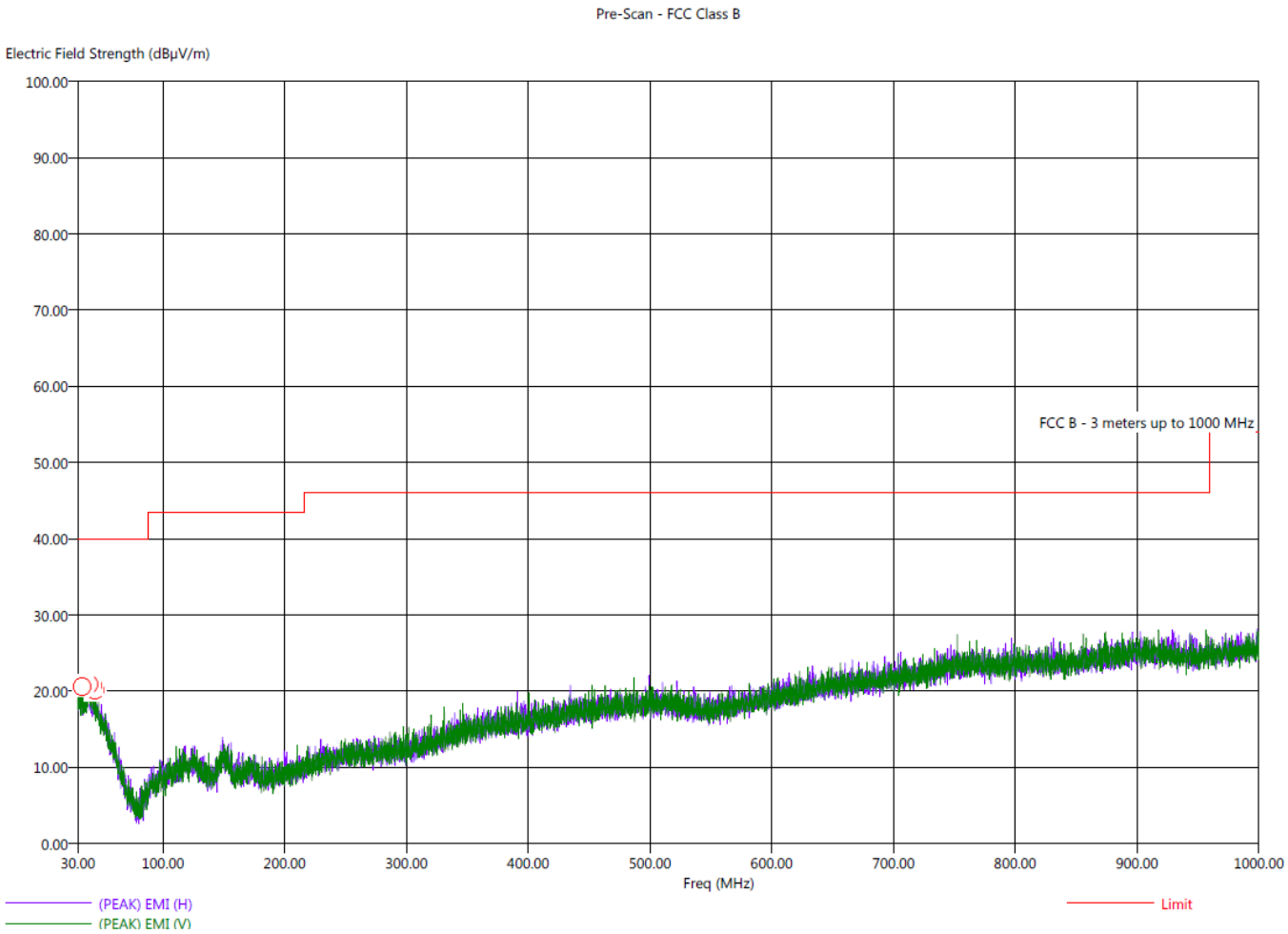
Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014 & 04/29/2014
Labs: B and D
Tested By: Kyle Fujimoto

Radiated Emissions 10 kHz to 30 MHz and 1 GHz to 25 GHz
Thermostat Power

Axis of EUT	Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic
								Emissions from the
								EUT for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Digital Portion
								of the EUT
								for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic
								Emissions from the
								EUT for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Digital Portion
								of the EUT
								for both the Vertical and
								Horizontal Polarizations.

```
Title: Pre-Scan - FCC Class B                                          4/29/2014 9:56:02 AM
File: Agilent - EcoAir - Battery Power - Pre Scan - FCC Class B.set    Sequence: Preliminary Scan
Operator: Kyle Fujimoto
EUT Type: EcoAir
EUT Condition: Continuously Transmitting - Y axis (Worst Case) - Battery Power
Comments: Customer: Telkonet, Inc.
Model: PST6550
```



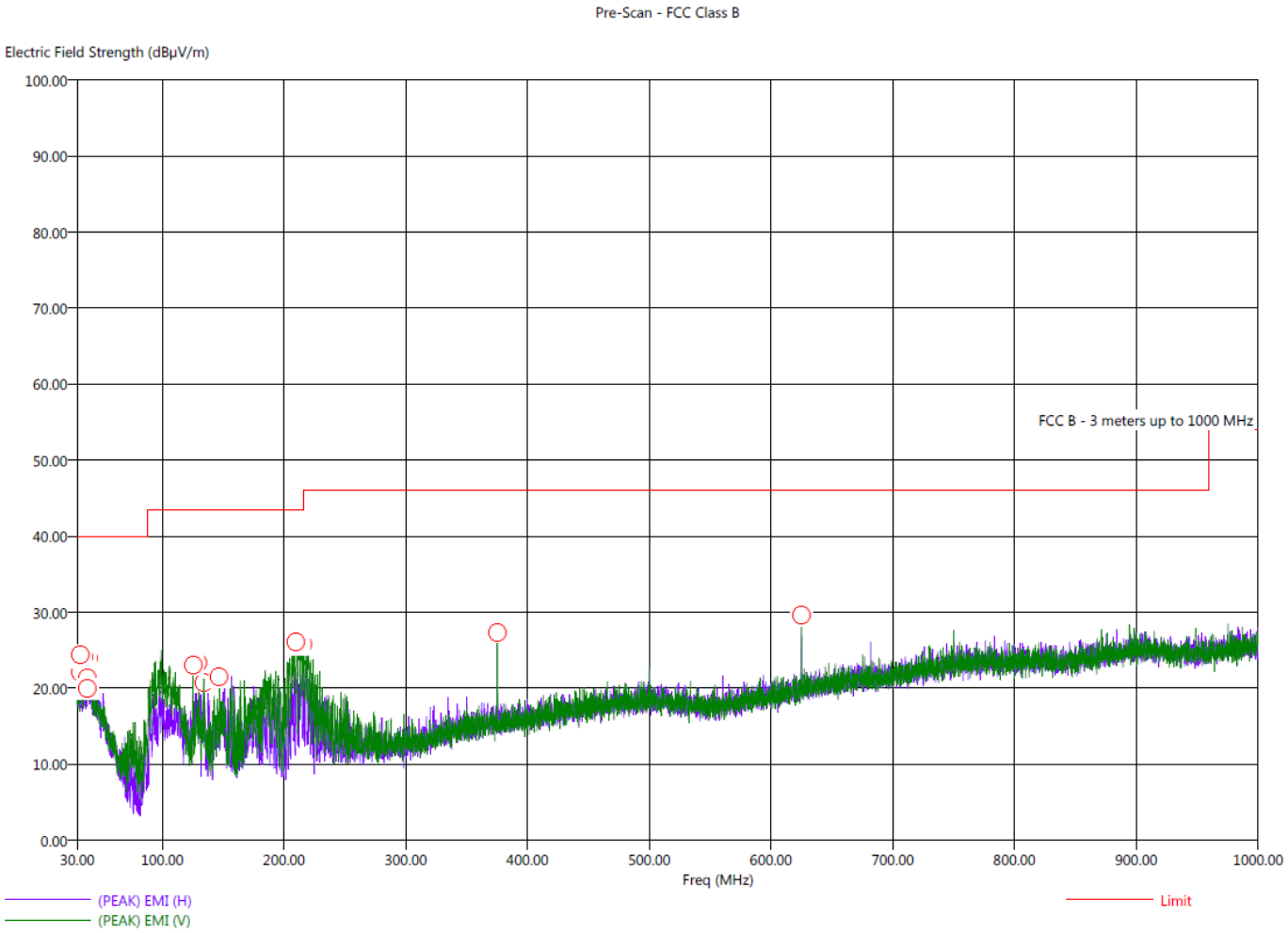
Title: Final Scan - FCC Class B
File: Aqilent - EcoAir - Battery Power - Final Scan - FCC Class B.set
Operator: Kyle Fujimoto
EUT Type: EcoAir
EUT Condition: Continuously Transmitting - Y Axis (Worst Case) - Battery Power
Comments: Customer: Telkonet, Inc.
Model: PST6550

4/29/2014 10:05:30 AM
Sequence: Final Measurements

Final Scan - FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
34.00	V	21.51	16.67	-18.49	-23.33	40.00	19.16	0.38	189.25	344.77
39.40	V	21.91	17.42	-18.09	-22.58	40.00	19.65	0.43	290.25	99.94
40.50	H	21.47	17.25	-18.53	-22.75	40.00	19.61	0.43	111.75	200.11
42.00	V	20.91	16.49	-19.09	-23.51	40.00	19.02	0.44	77.50	100.17
43.90	V	20.50	16.16	-19.50	-23.84	40.00	18.42	0.46	208.00	99.88
44.20	H	21.03	16.04	-18.97	-23.96	40.00	18.21	0.46	199.75	295.64

```
Title: Pre-Scan - FCC Class B                                                    4/29/2014 10:58:06 AM
File: Agilent - EcoAir - Thermostat Power - Pre Scan - FCC Class B.set           Sequence: Preliminary Scan
Operator: Kyle Fujimoto
EUT Type: EcoAir
EUT Condition: Continuously Transmitting - Y axis (Worst Case) - Thermostat Power
Comments: Customer: Telkonet, Inc.
Model: PST6550
```



Title: Final Scan - FCC Class B
File: Agilent - EcoAir - Thermostat Power - Final Scan - FCC Class B.set
Operator: Kyle Fujimoto
EUT Type: EcoAir
EUT Condition: Continuously Transmitting - Y Axis (Worst Case) - Thermostat Power
Comments: Customer: Telkonet, Inc.
Model: PST6550

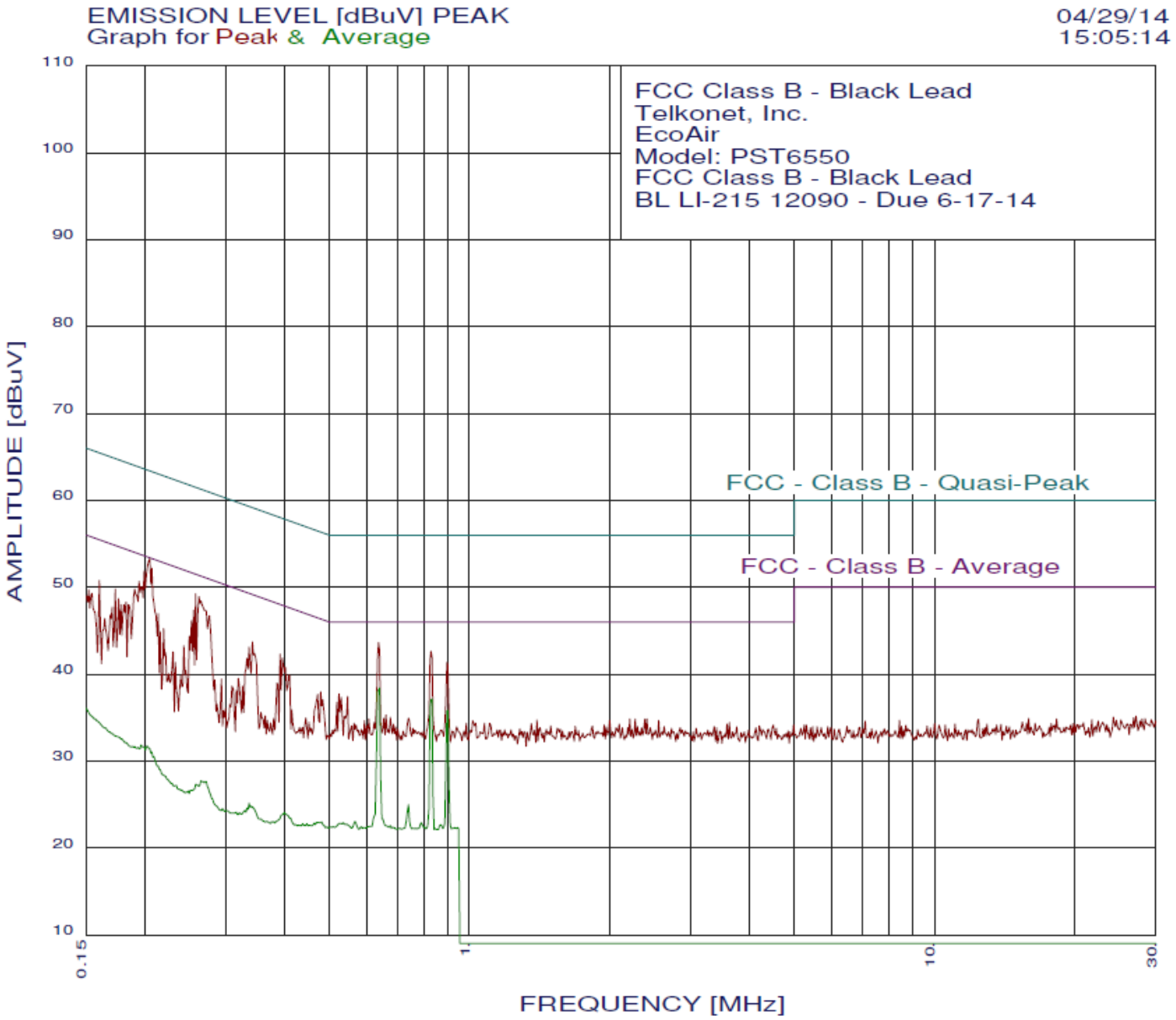
4/29/2014 11:08:32 AM
Sequence: Final Measurements

Final Scan - FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
32.50	H	21.56	16.93	-18.44	-23.07	40.00	19.26	0.37	20.00	323.40
32.80	V	21.38	16.76	-18.62	-23.24	40.00	19.22	0.38	64.25	399.94
35.60	V	24.68	19.41	-15.32	-20.59	40.00	19.19	0.40	22.00	104.05
36.80	V	23.37	18.66	-16.63	-21.34	40.00	19.30	0.41	292.75	113.19
38.60	V	25.56	20.98	-14.44	-19.02	40.00	19.57	0.42	35.50	101.61
38.80	V	24.62	19.34	-15.38	-20.66	40.00	19.55	0.42	155.25	170.08
39.00	V	25.65	21.23	-14.35	-18.77	40.00	19.60	0.42	359.75	100.00
39.20	V	26.02	21.10	-13.98	-18.90	40.00	19.61	0.42	3.75	101.79
39.60	V	25.71	21.44	-14.29	-18.56	40.00	19.63	0.43	42.00	102.92
125.00	V	22.06	17.20	-21.44	-26.30	43.50	10.60	0.80	207.50	120.05
129.60	H	18.65	13.51	-24.85	-29.99	43.50	9.99	0.82	20.50	194.02
133.80	H	15.79	10.79	-27.71	-32.71	43.50	9.41	0.84	29.50	152.53
146.90	V	27.51	22.29	-15.99	-21.21	43.50	10.44	0.89	205.50	106.68
210.00	V	26.75	24.55	-16.75	-18.95	43.50	9.61	1.05	104.75	104.11
211.50	V	26.55	24.01	-16.95	-19.49	43.50	9.68	1.06	97.50	99.94
215.00	V	26.61	24.14	-16.89	-19.36	43.50	9.84	1.08	112.50	101.73
375.00	V	29.87	28.88	-16.13	-17.12	46.00	14.72	1.53	340.25	137.37
625.00	V	31.65	30.25	-14.35	-15.75	46.00	18.41	2.10	325.50	101.79

CONDUCTED EMISSIONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
04/29/14
15:05:14
FCC Class B - Black Lead
Telkonet, Inc.
EcoAir
Model: PST6550
FCC Class B - Black Lead
BL LI-215 12090 - Due 6-17-14
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

04/29/14 15:05:14

FCC Class B - Black Lead
Telkonet, Inc.
EcoAir
Model: PST6550
FCC Class B - Black Lead
BL LI-215 12090 - Due 6-17-14
Test Engineer : Kyle Fujimoto

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45 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.205	53.28	53.40	-0.12**
2	0.207	52.18	53.31	-1.13**
3	0.200	51.88	53.62	-1.74**
4	0.258	49.23	51.51	-2.28**
5	0.637	43.63	46.00	-2.37**
6	0.262	48.93	51.38	-2.45**
7	0.195	50.68	53.84	-3.16**
8	0.826	42.64	46.00	-3.36**
9	0.276	46.72	50.94	-4.21**
10	0.190	49.78	54.01	-4.23**
11	0.255	47.33	51.60	-4.26**
12	0.895	41.34	46.00	-4.66**
13	0.160	50.79	55.47	-4.68**
14	0.173	49.79	54.81	-5.02**
15	0.341	43.70	49.18	-5.48**
16	0.252	46.13	51.68	-5.55**
17	0.391	42.28	48.03	-5.76**
18	0.176	48.69	54.68	-5.99**
19	0.396	41.88	47.95	-6.07**
20	0.214	46.97	53.05	-6.08**
21	0.183	48.28	54.37	-6.09**
22	0.336	43.10	49.31	-6.21**
23	0.152	49.69	55.91	-6.22**
24	0.184	47.98	54.28	-6.30**
25	0.154	49.29	55.78	-6.49**
26	0.178	47.98	54.59	-6.60**
27	0.170	47.69	54.94	-7.25**
28	0.250	44.34	51.77	-7.43**
29	0.220	45.26	52.83	-7.56**
30	0.332	41.80	49.39	-7.59**
31	0.409	39.87	47.68	-7.80**
32	0.216	44.87	52.96	-8.09**
33	0.524	37.73	46.00	-8.27**
34	0.479	37.95	46.36	-8.41**
35	0.547	37.43	46.00	-8.57**
36	0.530	37.33	46.00	-8.67**
37	0.243	43.24	52.00	-8.75**
38	0.471	37.65	46.49	-8.84**
39	0.164	46.39	55.25	-8.86**
40	0.385	38.98	48.16	-9.18**
41	0.518	36.74	46.00	-9.26**
42	0.230	42.55	52.43	-9.88**
43	0.318	39.50	49.75	-10.25**
44	0.662	35.32	46.00	-10.68**
45	0.325	38.60	49.57	-10.97**

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

04/29/14 15:05:14

FCC Class B - Black Lead
Telkonet, Inc.
EcoAir
Model: PST6550
FCC Class B - Black Lead
BL LI-215 12090 - Due 6-17-14
Test Engineer : Kyle Fujimoto

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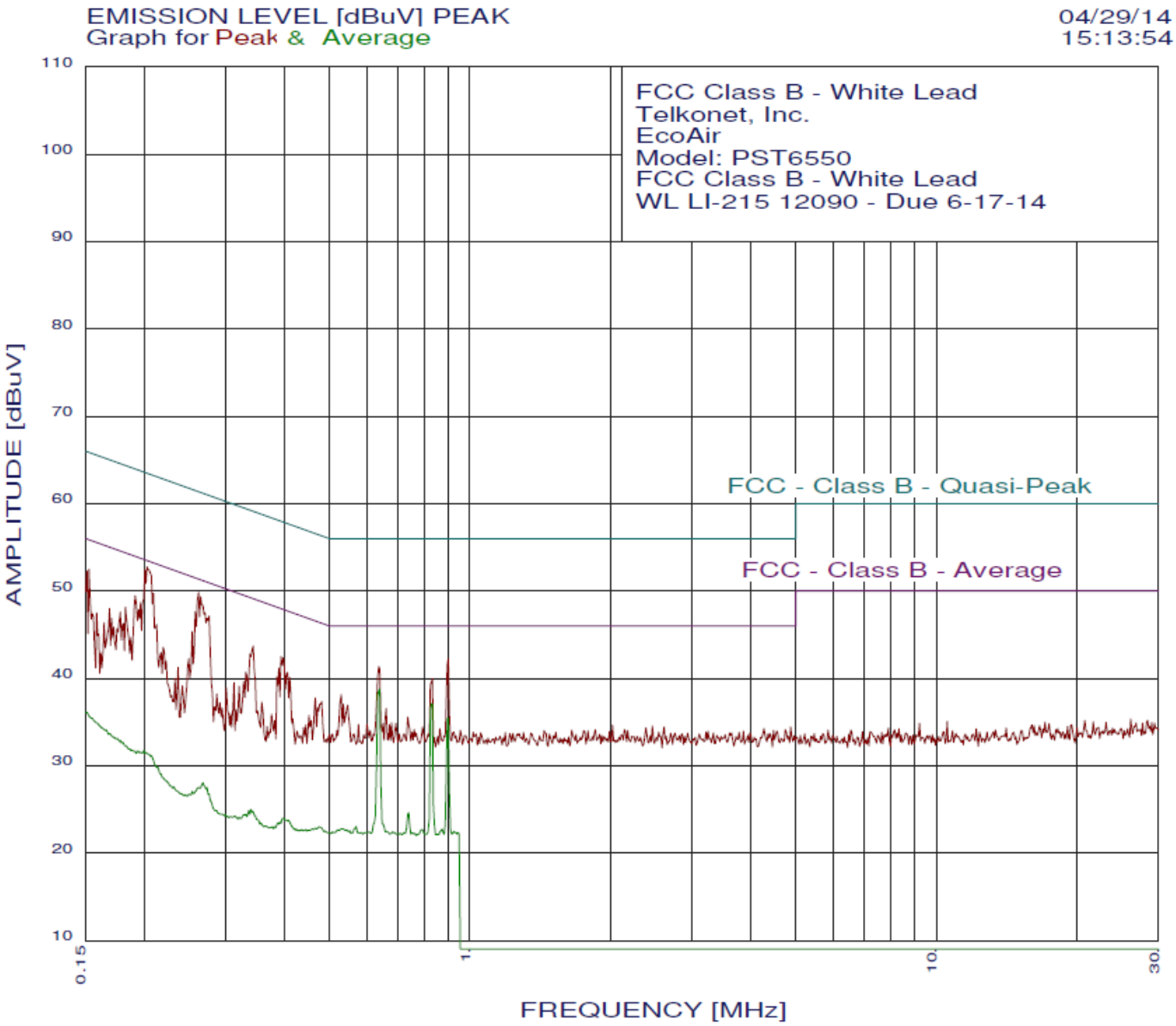
45 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.641	38.39	46.00	-7.61
2	0.831	37.14	46.00	-8.86
3	0.895	35.78	46.00	-10.22
4	0.739	24.94	46.00	-21.06
5	0.165	33.81	55.20	-21.39
6	0.170	33.16	54.94	-21.78
7	0.202	31.69	53.53	-21.84
8	0.175	32.82	54.72	-21.90
9	0.197	31.84	53.75	-21.91
10	0.179	32.53	54.54	-22.01
11	0.183	32.14	54.37	-22.23
12	0.207	31.05	53.31	-22.26
13	0.194	31.55	53.88	-22.33
14	0.190	31.67	54.01	-22.34
15	0.188	31.67	54.10	-22.43
16	0.210	30.50	53.23	-22.72
17	0.567	23.04	46.00	-22.96
18	0.788	22.90	46.00	-23.10
19	0.535	22.89	46.00	-23.11
20	0.524	22.81	46.00	-23.19
21	0.544	22.74	46.00	-23.26
22	0.481	22.99	46.32	-23.33
23	0.867	22.67	46.00	-23.33
24	0.676	22.57	46.00	-23.43
25	0.270	27.64	51.11	-23.47
26	0.611	22.50	46.00	-23.50
27	0.265	27.73	51.29	-23.56
28	0.267	27.64	51.20	-23.56
29	0.801	22.43	46.00	-23.57
30	0.502	22.43	46.00	-23.57
31	0.508	22.43	46.00	-23.57
32	0.586	22.42	46.00	-23.58
33	0.683	22.41	46.00	-23.59
34	0.469	22.91	46.53	-23.62
35	0.214	29.43	53.05	-23.62
36	0.929	22.34	46.00	-23.66
37	0.944	22.34	46.00	-23.66
38	0.494	22.43	46.09	-23.66
39	0.592	22.33	46.00	-23.67
40	0.690	22.32	46.00	-23.68
41	0.759	22.26	46.00	-23.74
42	0.767	22.26	46.00	-23.74
43	0.844	22.26	46.00	-23.74
44	0.709	22.25	46.00	-23.75
45	0.400	24.08	47.86	-23.77


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
04/29/14
15:13:54
FCC Class B - White Lead
Telkonet, Inc.
EcoAir
Model: PST6550
FCC Class B - White Lead
WL LI-215 12090 - Due 6-17-14
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

04/29/14 15:13:54

FCC Class B - White Lead
Telkonet, Inc.
EcoAir
Model: PST6550
FCC Class B - White Lead
WL LI-215 12090 - Due 6-17-14
Test Engineer : Kyle Fujimoto

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45 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.203	52.76	53.49	-0.73**
2	0.201	52.46	53.58	-1.12**
3	0.262	49.84	51.38	-1.54**
4	0.265	49.33	51.29	-1.95**
5	0.152	52.49	55.86	-3.38**
6	0.210	49.76	53.23	-3.47**
7	0.151	52.29	55.95	-3.67**
8	0.899	42.23	46.00	-3.77**
9	0.258	47.64	51.51	-3.87**
10	0.192	49.46	53.97	-4.51**
11	0.637	41.33	46.00	-4.67**
12	0.197	48.66	53.75	-5.09**
13	0.343	43.69	49.13	-5.45**
14	0.393	42.47	47.99	-5.52**
15	0.831	39.93	46.00	-6.07**
16	0.183	48.16	54.37	-6.21**
17	0.254	45.34	51.64	-6.30**
18	0.389	41.18	48.08	-6.90**
19	0.178	47.57	54.59	-7.02**
20	0.169	47.98	55.03	-7.05**
21	0.404	40.67	47.77	-7.09**
22	0.411	40.07	47.63	-7.56**
23	0.530	38.13	46.00	-7.87**
24	0.385	40.18	48.16	-7.99**
25	0.170	46.88	54.94	-8.06**
26	0.158	47.49	55.56	-8.07**
27	0.181	46.27	54.46	-8.19**
28	0.331	40.69	49.44	-8.74**
29	0.466	37.75	46.58	-8.83**
30	0.164	46.38	55.25	-8.87**
31	0.535	37.03	46.00	-8.97**
32	0.481	37.35	46.32	-8.97**
33	0.172	45.87	54.86	-8.98**
34	0.547	36.93	46.00	-9.07**
35	0.220	43.55	52.83	-9.27**
36	0.662	36.53	46.00	-9.47**
37	0.187	44.66	54.15	-9.49**
38	0.250	42.24	51.77	-9.53**
39	0.327	39.60	49.53	-9.93**
40	0.217	42.95	52.91	-9.96**
41	0.312	39.50	49.92	-10.42**
42	0.735	35.53	46.00	-10.47**
43	0.320	39.10	49.71	-10.61**
44	0.237	41.25	52.21	-10.96**
45	0.679	34.93	46.00	-11.07**

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

04/29/14 15:13:54

FCC Class B - White Lead
Telkonet, Inc.
EcoAir
Model: PST6550
FCC Class B - White Lead
WL LI-215 12090 - Due 6-17-14
Test Engineer : Kyle Fujimoto

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

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.641	38.78	46.00	-7.22
2	0.826	37.07	46.00	-8.93
3	0.899	35.45	46.00	-10.55
4	0.155	35.47	55.73	-20.26
5	0.166	34.09	55.16	-21.07
6	0.169	33.69	55.03	-21.34
7	0.739	24.63	46.00	-21.37
8	0.175	33.14	54.72	-21.58
9	0.173	33.22	54.81	-21.59
10	0.178	32.90	54.59	-21.69
11	0.180	32.73	54.50	-21.77
12	0.200	31.73	53.62	-21.89
13	0.202	31.53	53.53	-22.00
14	0.207	31.15	53.31	-22.16
15	0.194	31.70	53.88	-22.18
16	0.197	31.53	53.75	-22.22
17	0.186	31.93	54.19	-22.26
18	0.188	31.79	54.10	-22.31
19	0.570	23.04	46.00	-22.96
20	0.267	28.04	51.20	-23.16
21	0.214	29.85	53.05	-23.20
22	0.530	22.74	46.00	-23.26
23	0.872	22.74	46.00	-23.26
24	0.521	22.66	46.00	-23.34
25	0.544	22.66	46.00	-23.34
26	0.788	22.66	46.00	-23.34
27	0.552	22.58	46.00	-23.42
28	0.474	22.99	46.45	-23.46
29	0.662	22.50	46.00	-23.50
30	0.924	22.50	46.00	-23.50
31	0.273	27.49	51.02	-23.53
32	0.508	22.43	46.00	-23.57
33	0.608	22.42	46.00	-23.58
34	0.683	22.42	46.00	-23.58
35	0.583	22.33	46.00	-23.67
36	0.724	22.33	46.00	-23.67
37	0.751	22.33	46.00	-23.67
38	0.944	22.33	46.00	-23.67
39	0.489	22.51	46.18	-23.67
40	0.466	22.83	46.58	-23.75
41	0.701	22.25	46.00	-23.75
42	0.709	22.25	46.00	-23.75
43	0.763	22.25	46.00	-23.75
44	0.263	27.50	51.33	-23.83
45	0.853	22.17	46.00	-23.83

BAND EDGES

DATA SHEETS

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Vertical Polarization - Battery Power

Worst Case Axis of EUT	Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
Y-Axis	2405	93.28	V	114	-20.72	Peak	1.25	155	**Fundamental of**
Y-Axis	2405	73.28	V	94	-20.72	Avg	1.25	155	**Low Channel @ 3 Meters**
Y-Axis	2400	45.56	V	74	-28.44	Peak	1.25	155	**Band Edge of**
Y-Axis	2400	25.56	V	54	-28.44	Avg	1.25	155	**Low Channel @ 3 Meters**
Y-Axis	2480	96.63	V	114	-17.37	Peak	1.25	155	**Fundamental of**
Y-Axis	2480	76.63	V	94	-17.37	Avg	1.25	155	**High Channel @ 3 Meters**
Y-Axis	2483.5	60.85	V	74	-13.15	Peak	1.25	155	**Band Edge of**
Y-Axis	2483.5	40.85	V	54	-13.15	Avg	1.25	155	**High Channel @ 3 Meters**

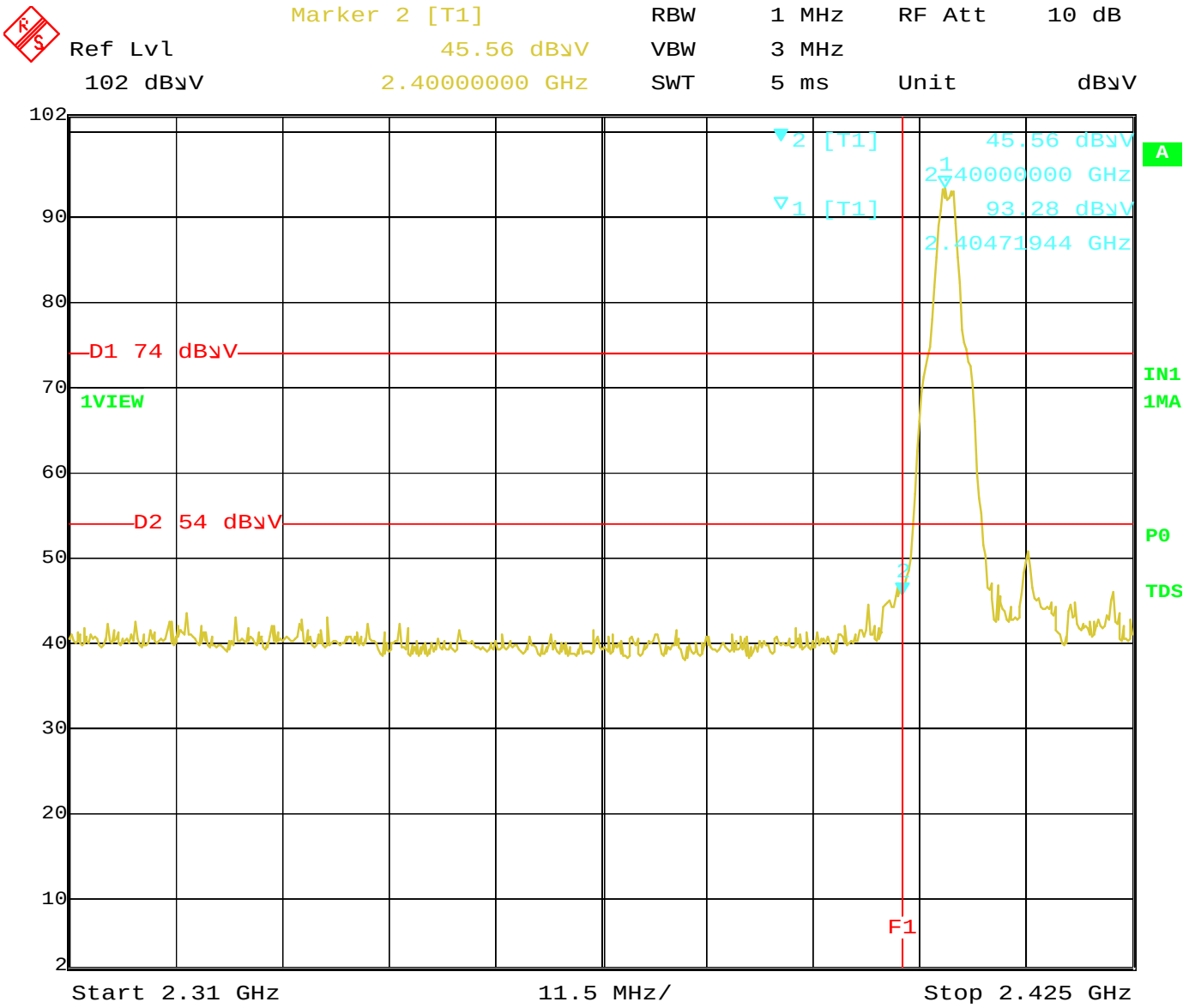
FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/23/2014
Lab: B
Tested By: Kyle Fujimoto

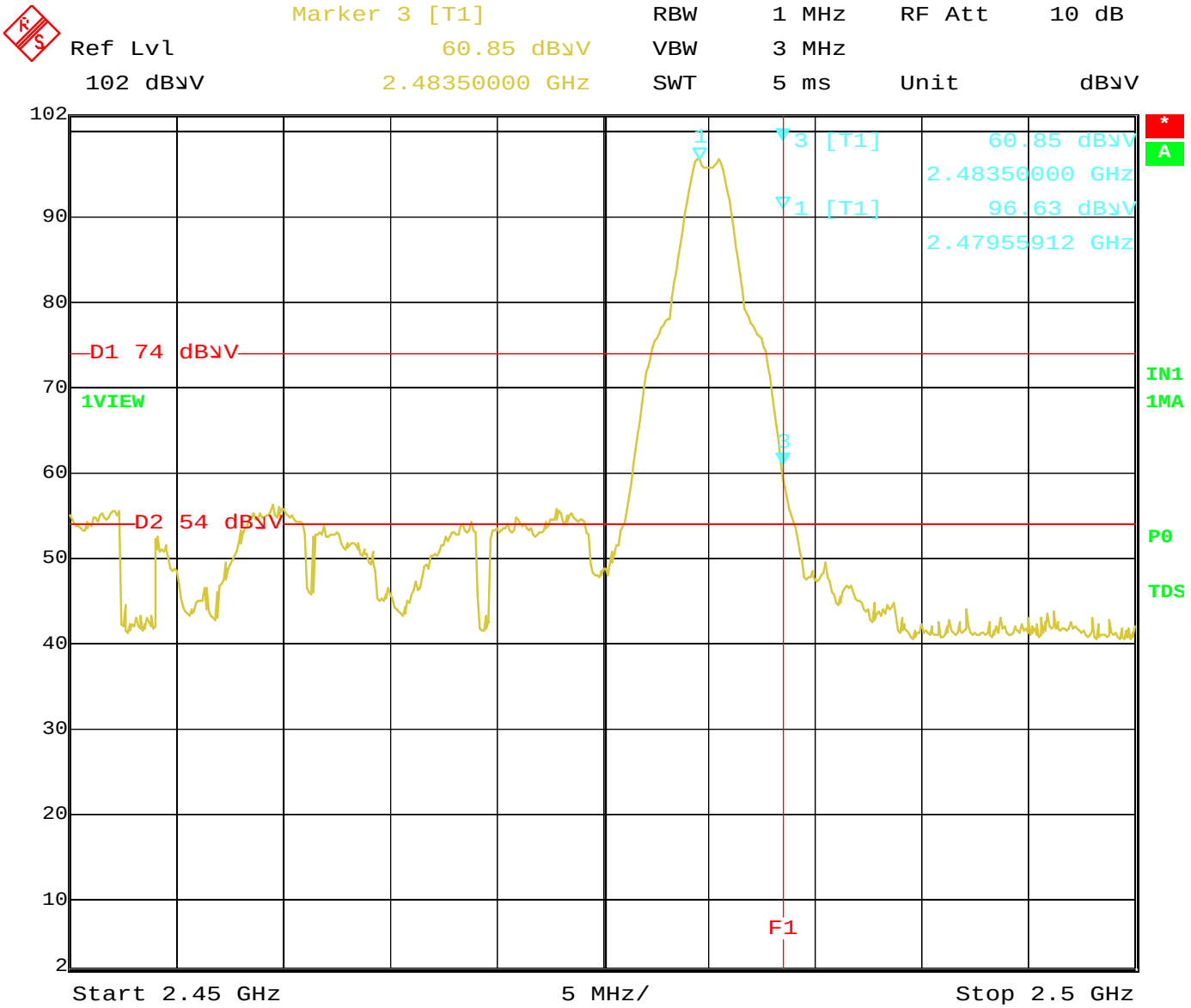
Band Edges - Horizontal Polarization - Battery Power

Worst Case Axis of EUT	Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
Y-Axis	2405	91.11	H	114	-22.89	Peak	1.25	145	**Fundamental of**
Y-Axis	2405	71.11	H	94	-22.89	Avg	1.25	145	**Low Channel @ 3 Meters**
Y-Axis	2400	44.82	H	74	-29.18	Peak	1.25	225	**Band Edge of**
Y-Axis	2400	24.82	H	54	-29.18	Avg	1.25	225	**Low Channel @ 3 Meters**
Y-Axis	2480	89.31	H	114	-24.69	Peak	1.25	115	**Fundamental of**
Y-Axis	2480	69.31	H	94	-24.69	Peak	1.25	115	**High Channel @ 3 Meters**
Y-Axis	2483.5	52.72	H	74	-21.28	Peak	1.25	115	**Band Edge of**
Y-Axis	2483.5	32.72	H	54	-21.28	Avg	1.25	115	**High Channel @ 3 Meters**



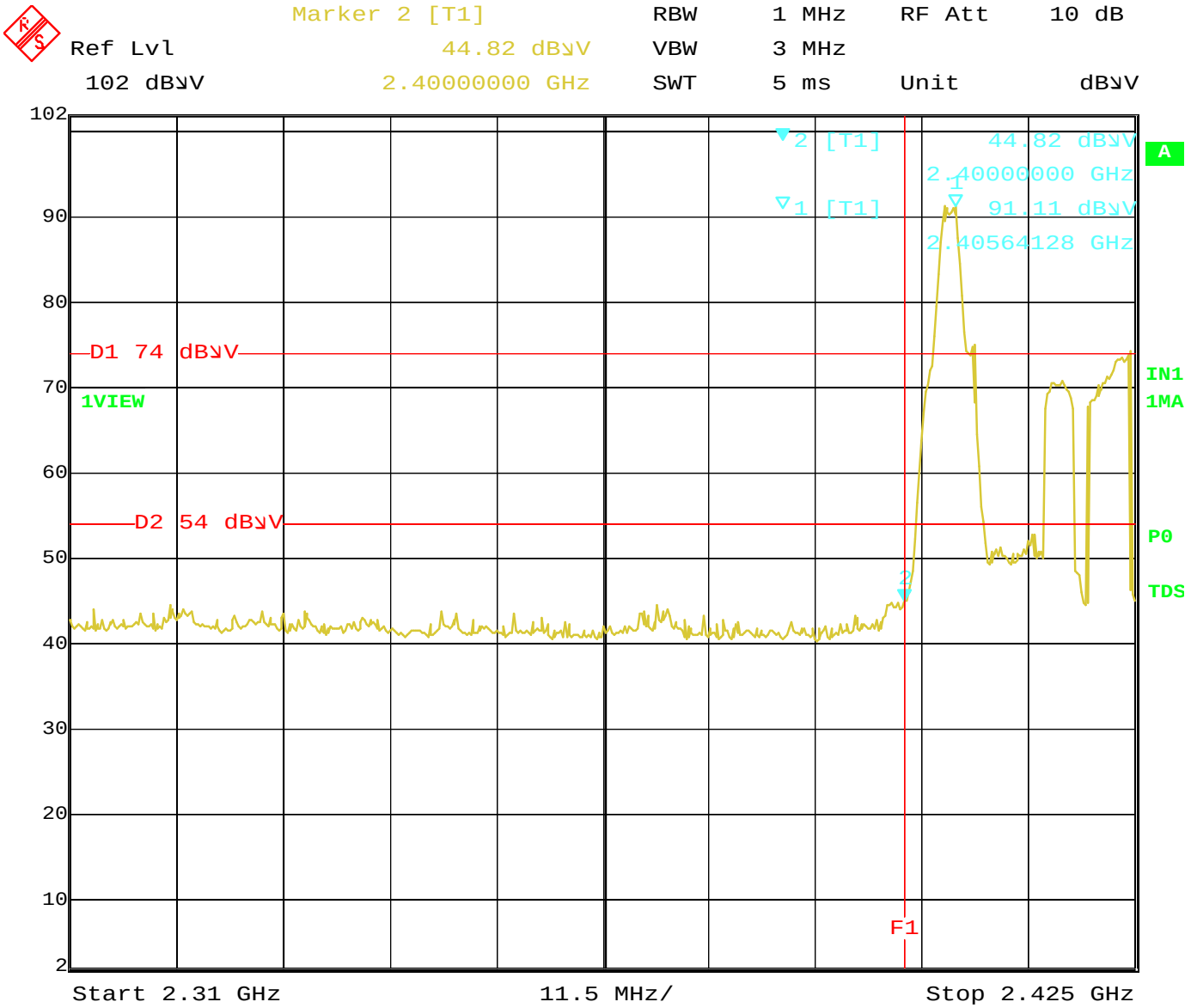
Date: 23.APR.2014 15:37:56

Band Edge – Low Channel – Vertical Polarization – Battery Power



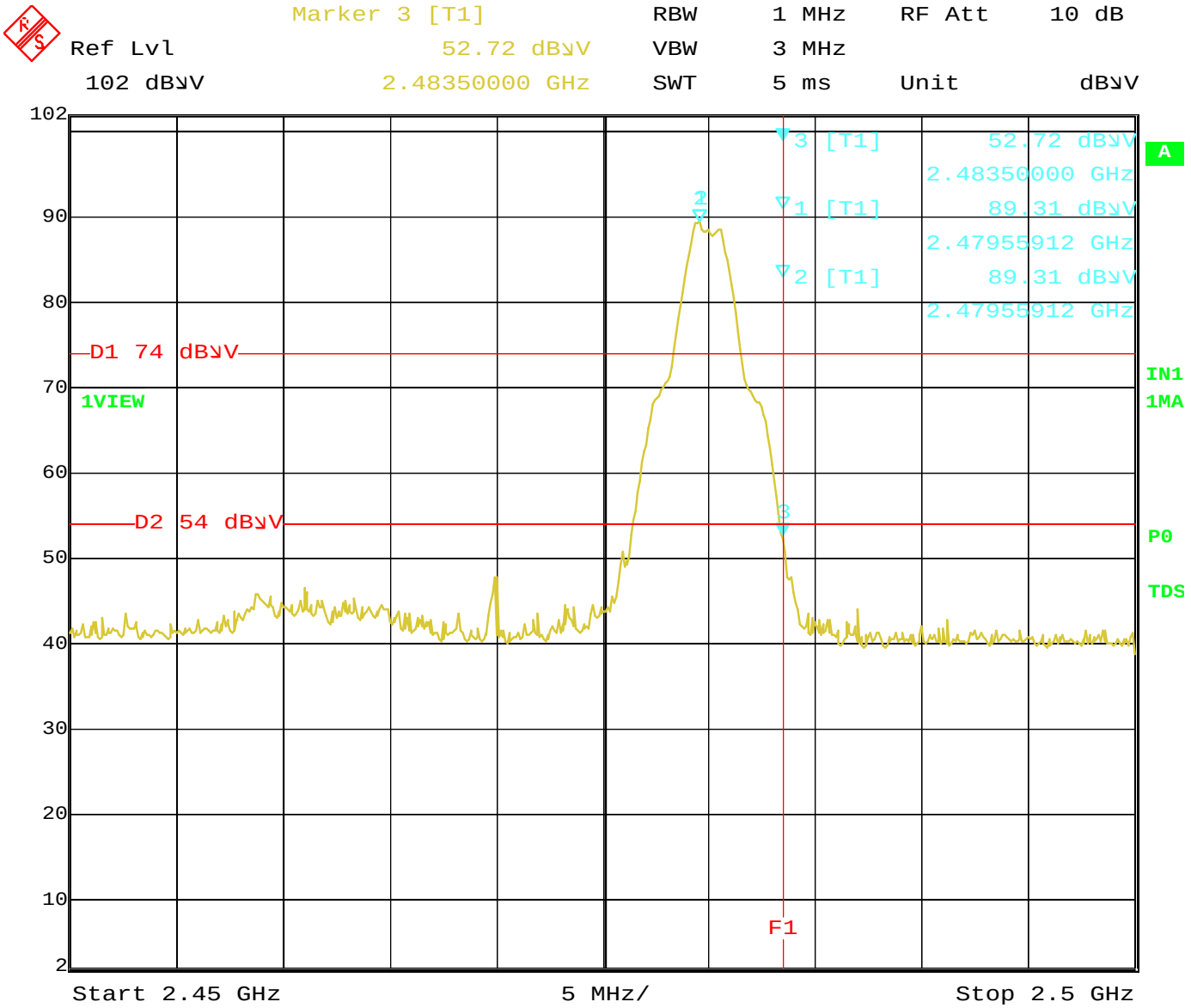
Date: 23.APR.2014 15:15:11

Band Edge – High Channel – Vertical Polarization – Battery Power



Date: 23.APR.2014 15:32:50

Band Edge – Low Channel – Horizontal Polarization – Battery Power



Date: 23.APR.2014 15:24:25

Band Edge – High Channel – Horizontal Polarization – Battery Power

FCC 15.249

Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Vertical Polarization - Thermostat Power

Worst Case Axis of EUT	Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
Y-Axis	2405	96.89	V	114	-17.11	Peak	1.25	225	**Fundamental of**
Y-Axis	2405	76.89	V	94	-17.11	Avg	1.25	225	**Low Channel @ 3 Meters**
Y-Axis	2400	49.84	V	74	-24.16	Peak	1.25	225	**Band Edge of**
Y-Axis	2400	29.84	V	54	-24.16	Avg	1.25	225	**Low Channel @ 3 Meters**
Y-Axis	2480	95.78	V	114	-18.22	Peak	1.25	225	**Fundamental of**
Y-Axis	2480	75.78	V	94	-18.22	Avg	1.25	225	**High Channel @ 3 Meters**
Y-Axis	2483.5	61.04	V	74	-12.96	Peak	1.25	225	**Band Edge of**
Y-Axis	2483.5	41.04	V	54	-12.96	Avg	1.25	225	**High Channel @ 3 Meters**

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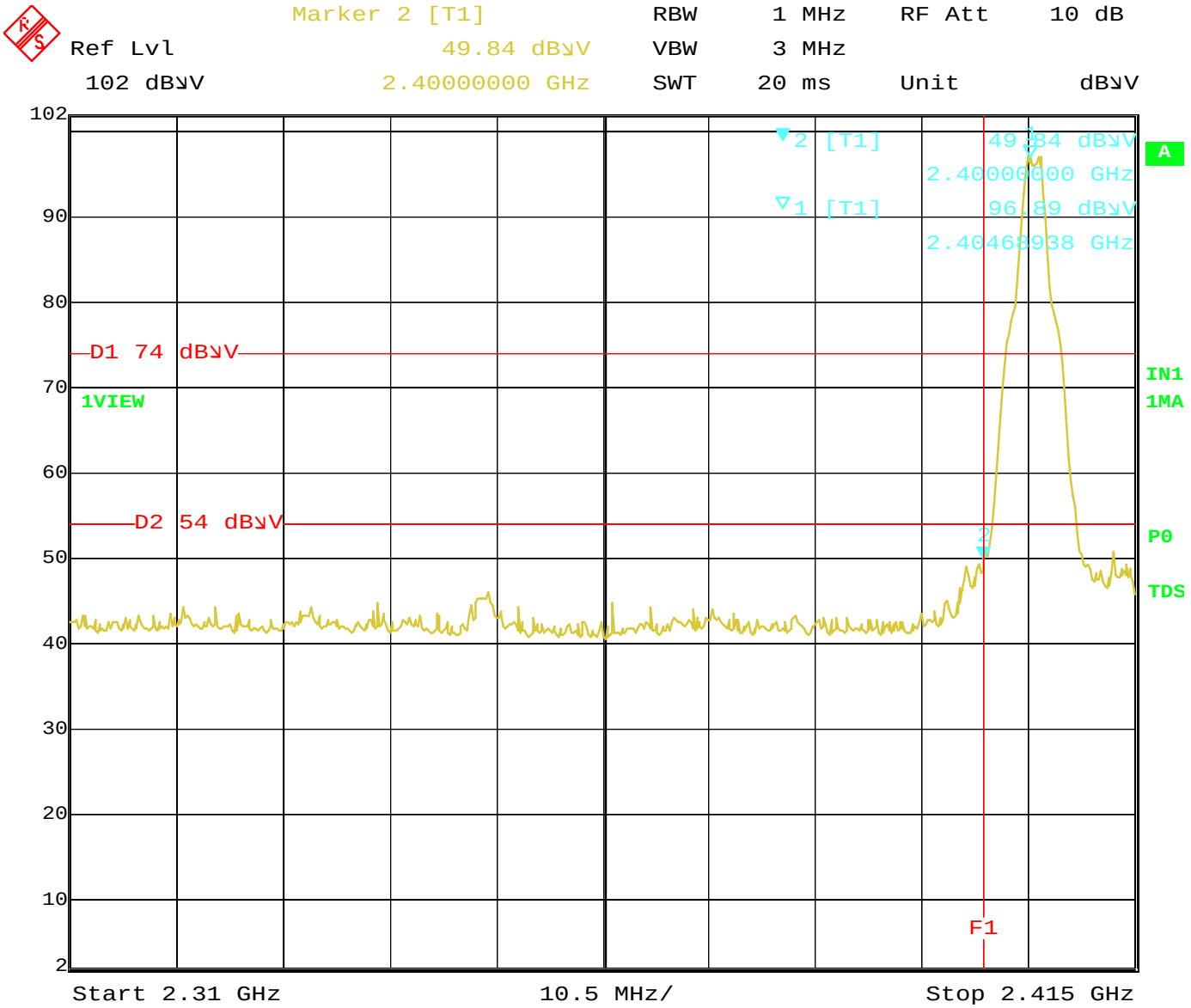
Telkonet, Inc.
EcoAir
Model: PST6550

Date: 04/28/2014
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Horizontal Polarization - Thermostat Power

Worst Case Axis of EUT	Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
Y-Axis	2405	94.25	H	114	-19.75	Peak	1.25	155	**Fundamental of**
Y-Axis	2405	74.25	H	94	-19.75	Avg	1.25	155	**Low Channel @ 3 Meters**
Y-Axis	2400	46.89	H	74	-27.11	Peak	1.25	155	**Band Edge of**
Y-Axis	2400	26.89	H	54	-27.11	Avg	1.25	155	**Low Channel @ 3 Meters**
Y-Axis	2480	93.4	H	114	-20.6	Peak	1.25	180	**Fundamental of**
Y-Axis	2480	73.4	H	94	-20.6	Peak	1.25	180	**High Channel @ 3 Meters**
Y-Axis	2483.5	59.04	H	74	-14.96	Peak	1.25	180	**Band Edge of**
Y-Axis	2483.5	39.04	H	54	-14.96	Avg	1.25	180	**High Channel @ 3 Meters**



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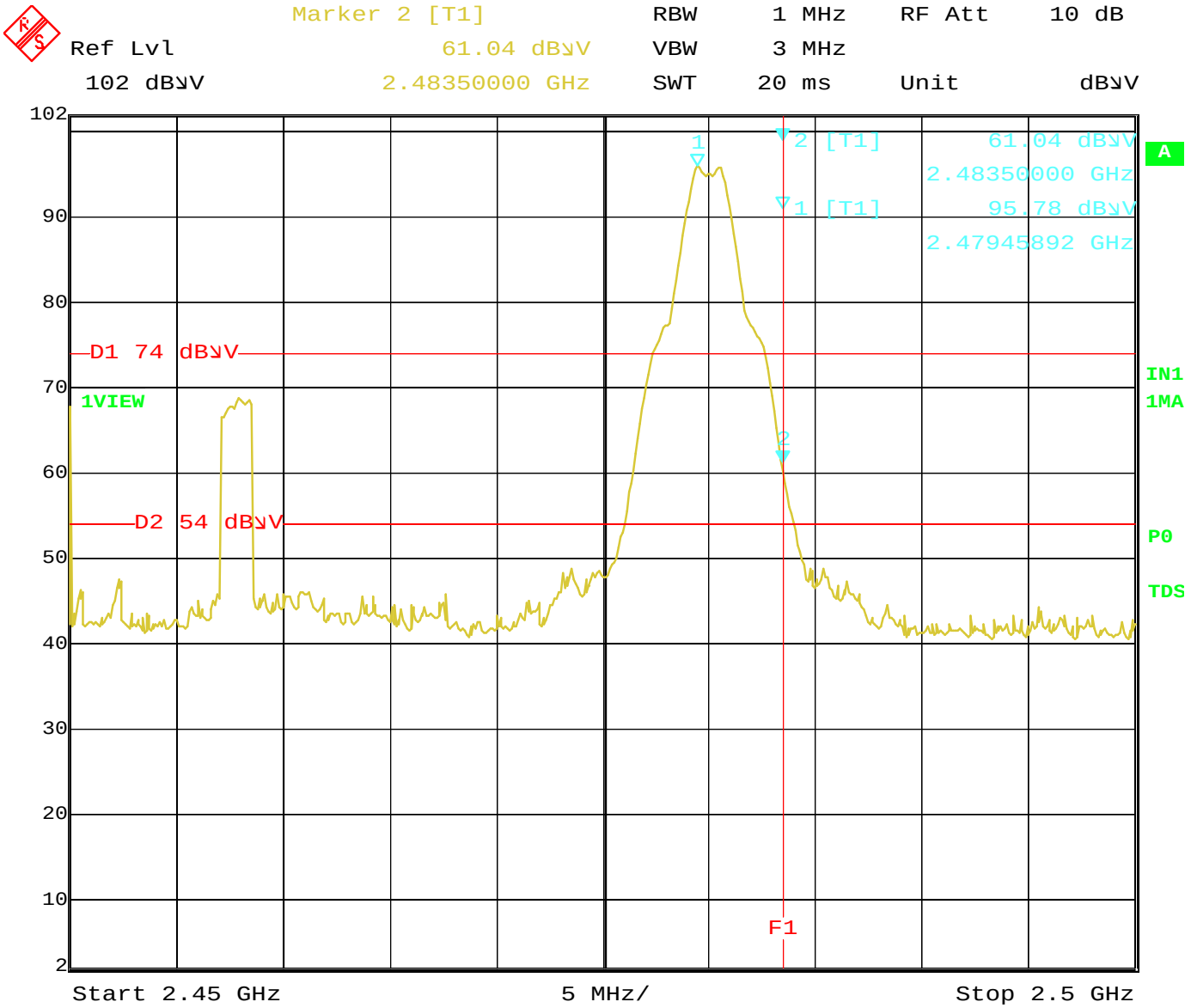
Band Edge – Low Channel – Vertical Polarization – Thermostat Power



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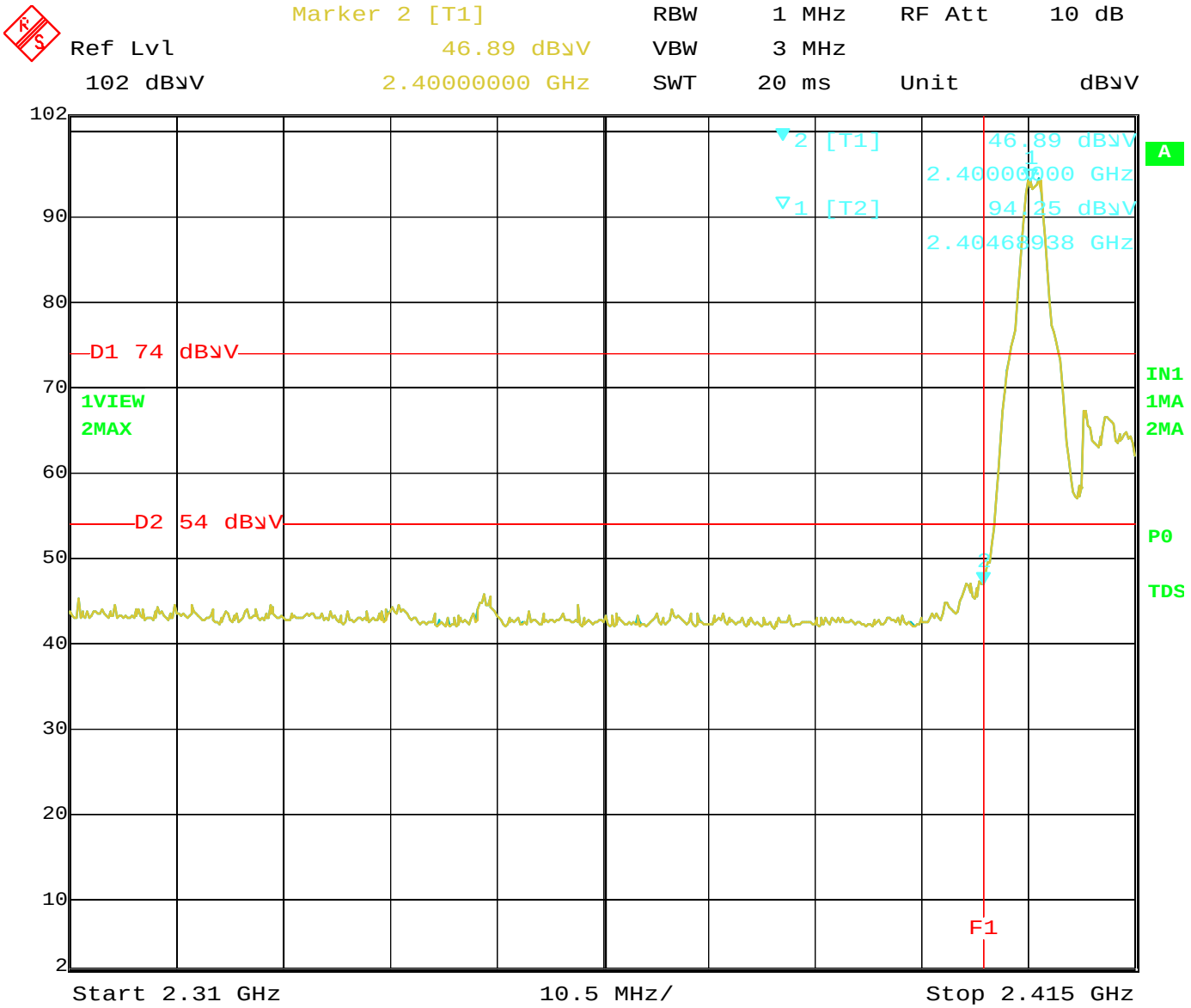
Band Edge – High Channel – Vertical Polarization – Thermostat Power



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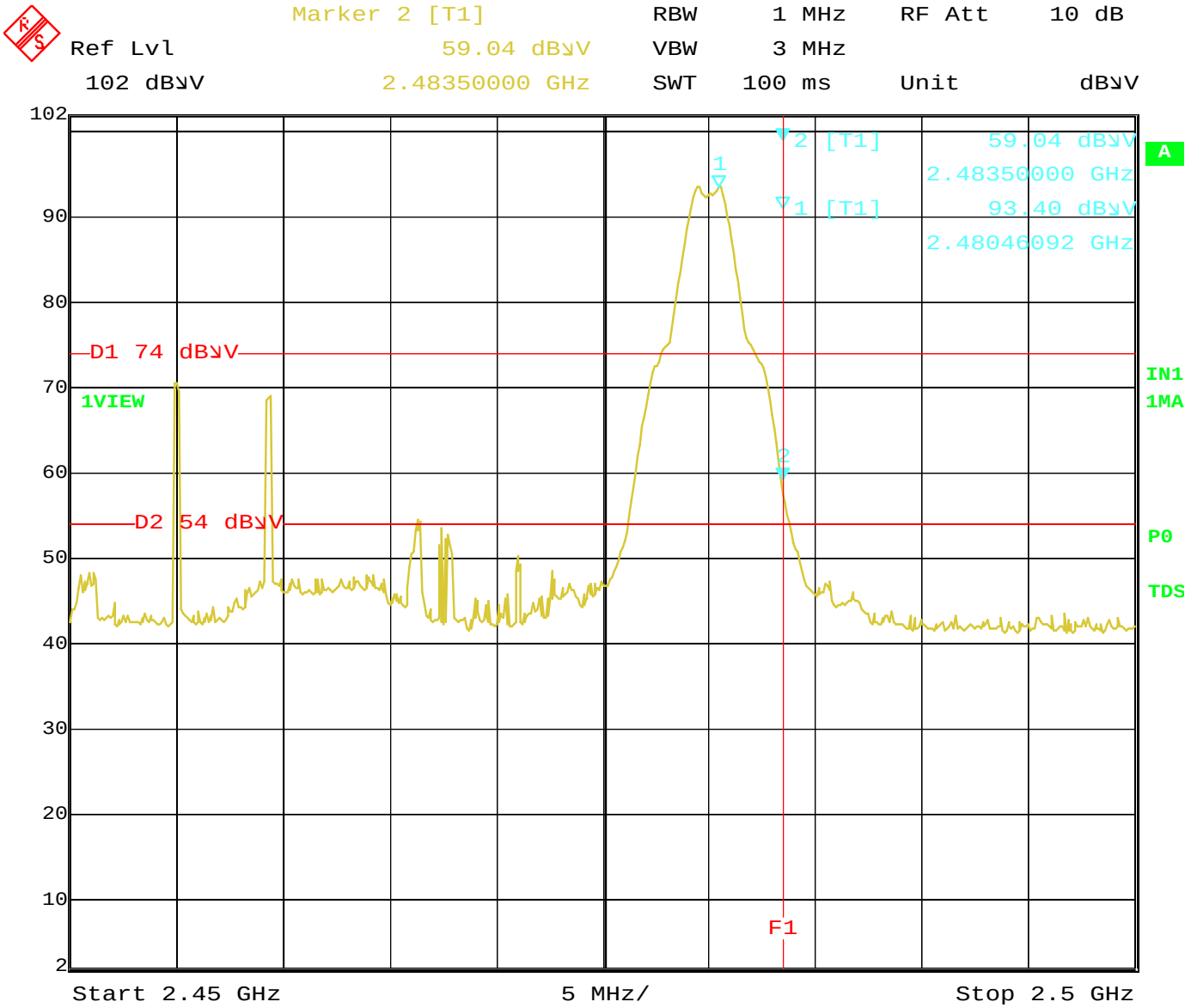
Band Edge – Low Channel – Horizontal Polarization – Thermostat Power



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Band Edge – High Channel – Horizontal Polarization – Thermostat Power