FCC PART 15 SUBPART B and C
TEST REPORT

for

TEMPERATURE ALARM BASE UNIT WITH WIRELESS TRANSMITTER

Model: TA44T

Prepared for

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DATE: MARCH 15, 2010

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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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 endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	Temperature Alarm Base Unit with Wireless Transmitter Model: TA44T S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Sealed Unit Parts Company, Inc. 2230 Landmark Place Allenwood, New Jersey 08720
Test Date(s):	March 15, 2010
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B
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 – 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.207 Highest reading in relation to spec limit: 42.23 dBuV @ 0.532 MHz (*U = 1.35 dB)
2	Radiated RF Emissions 10 kHz – 4180 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 15.231 Highest reading in relation to spec limit: 79.01 (Avg) dBuV @ 418 MHz (*U = 4.22 dB)

*U = Expanded Uncertainty with a coverage factor of k=2

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Temperature Alarm Base Unit with Wireless Transmitter, Model: TA44T. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.231 for the transmitter portion.

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.

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

Sealed Unit Parts Company, Inc.

Alexander Brodetsky Senior VP, Engineering

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Lab Manager, Brea Division

2.4 Date Test Sample was Received

The test sample was received prior to the date of testing.

2.5 Disposition of the Test Sample

The test sample has not yet been returned as of the date of this report.

2.6 Abbreviations and Acronyms

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

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Inc.	Incorporated
PCB	Printed Circuit Board
AC	Alternating Current
VP	Vice President
Tx	Transmitter

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2003	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 – EMI

The Temperature Alarm Base Unit with Wireless Transmitter, Model: TA44T (EUT) was connected to a temperature sensor, a 12 volt AC Adapter, and a 24 volt AC Adapter (via a 240 ohm resistor). The EUT was continuously transmitting.

The EUT's antenna is directly screwed on to the PCB. The EUT transmits for 490.981964 ms when activated before shutting off. The EUT is activated when the temperature of the temperature sensor increases to the temperature set for the alarm condition.

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 2-meter unshielded cable connecting the EUT to the temperature sensor. The cable is hard wired into pins 1 and 2 of J1 at the EUT end and is hard wired into the temperature sensor. The cable was bundled to a length of 1 meter.

Cable 2 This is a 2-meter unshielded cable connecting the EUT to the 12 volt AC Adapter. The cable is hard wired into pins 3 and 4 of J1 at the EUT end and is hard wired into the AC Adapter.

Cable 3 This is a 2-meter unshielded cable connecting the EUT to the 24 AC Adapter. The cable is hard wired into pins 5 (through a 240 ohm resistor) and 6 of J1 at the EUT end and is hard wired into the AC Adapter.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
TEMPERATURE ALARM BASE UNIT WITH WIRELESS TRANSMITTER (EUT)	SEALED UNIT PARTS COMPANY, INC.	TA44T	N/A	X74TA44T001
AC ADAPTER (FOR EUT)	SUPCO	YHD1200200U-22	N/A	N/A
AC ADAPTER	N/A	11269 REV 1	N/A	N/A
240 OHM RESISTOR	N/A	N/A	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	September 16, 2009	Sept. 16, 2010
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	September 16, 2009	Sept. 16, 2010
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	September 17, 2009	Sept. 17, 2010
EMI Receiver	Rohde & Schwarz	ESIB40	100194	September 17, 2008	Sept. 17, 2010
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Biconical Antenna	Com Power	AB-900	15250	February 16, 2010	Feb. 16, 2011
Log Periodic Antenna	Com Power	AL-100	16060	June 15, 2009	June 15, 2010
Preamplifier	Com-Power	PA-102	1017	January 6, 2010	Jan. 6, 2011
Loop Antenna	Com-Power	AL-130	17089	September 29, 2008	Sept. 29, 2010
Horn Antenna	Com-Power	AH-118	071175	June 27, 2008	June 27, 2010
Microwave Preamplifier	Com Power	PA-122	181921	March 10, 2010	March 10, 2011
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
LISN	Com Power	LI-215	12078	September 28, 2009	Sept. 28, 2010
LISN	Com Power	LI-215	12082	September 28, 2009	Sept. 28, 2010
Transient Limiter	Com Power	252A910	1	September 28, 2009	Sept. 28, 2010

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 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.

6.3 Facility Environmental Characteristics

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

7. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Conducted Emissions Test

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

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

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

Test Results:

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

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The measurement receiver was used as a measuring meter. A preamplifier was used to increase the sensitivity of the instrument. The measurement receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the measurement receiver records the highest measured reading over all the sweeps.

The readings were averaged by a "duty cycle correction factor", derived from 20 log (dwell time / one pulse train with blanking interval). The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	TRANSDUCER	EFFECTIVE MEASUREMENT BANDWIDTH
9 kHz to 150 kHz	Active Loop Antenna	200 Hz
150 kHz to 30 MHz	Active Loop Antenna	9 kHz
30 MHz to 300 MHz	Biconical Antenna	120 kHz
300 MHz to 1000 MHz	Log Periodic Antenna	120 kHz
1000 MHz to 4180 MHz	Horn Antenna	1 MHz

The final data was taken with a frequency span of 1 MHz for frequencies below 1000 MHz. For frequencies above 1000 MHz, the final data was taken with a frequency span of 10 MHz. The frequency span was reduced during the preliminary investigations as deemed necessary to distinguish between emissions from the EUT and any ambient signals.

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

Radiated Emissions (Spurious and Harmonics) Test (Continued)

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

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.231.

7.2 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231(c).

7.3 Transmission Test

The EUT was checked to see that the time of transmission did not exceed 5 seconds when the EUT was activated.

A plot of the time of the transmission when the EUT was activated is located in Appendix E.

Test Results:

The EUT complies with the maximum on time described in CFR Title 47, Part 15, Subpart C, section 15.231 (a)(2). The EUT ceases to transmit within 5 seconds of being activated.

8. CONCLUSIONS

The Temperature Alarm Base Unit with Wireless Transmitter, Model: TA44T (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 15.231 for the transmitter portion.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 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 COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	Temperature Alarm Base Unit with Wireless Transmitter Model: TA44T S/N: N/A

No additional models were covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

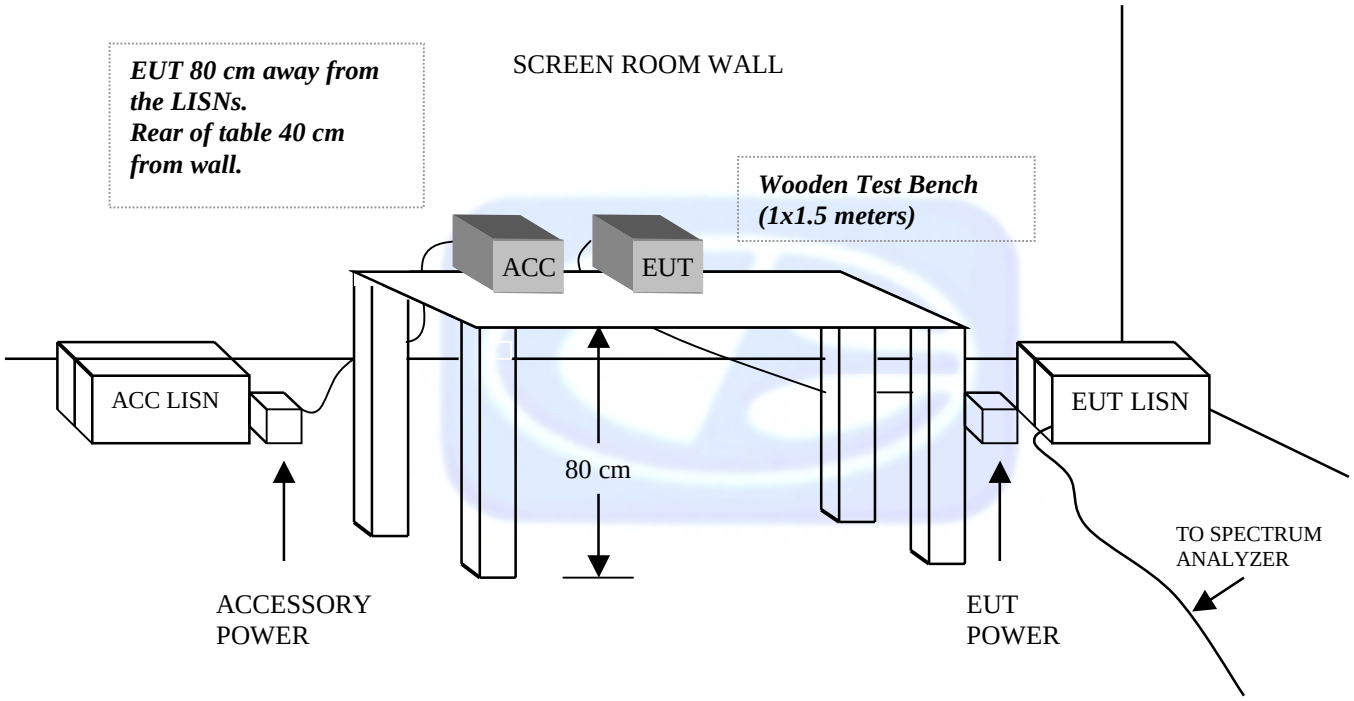
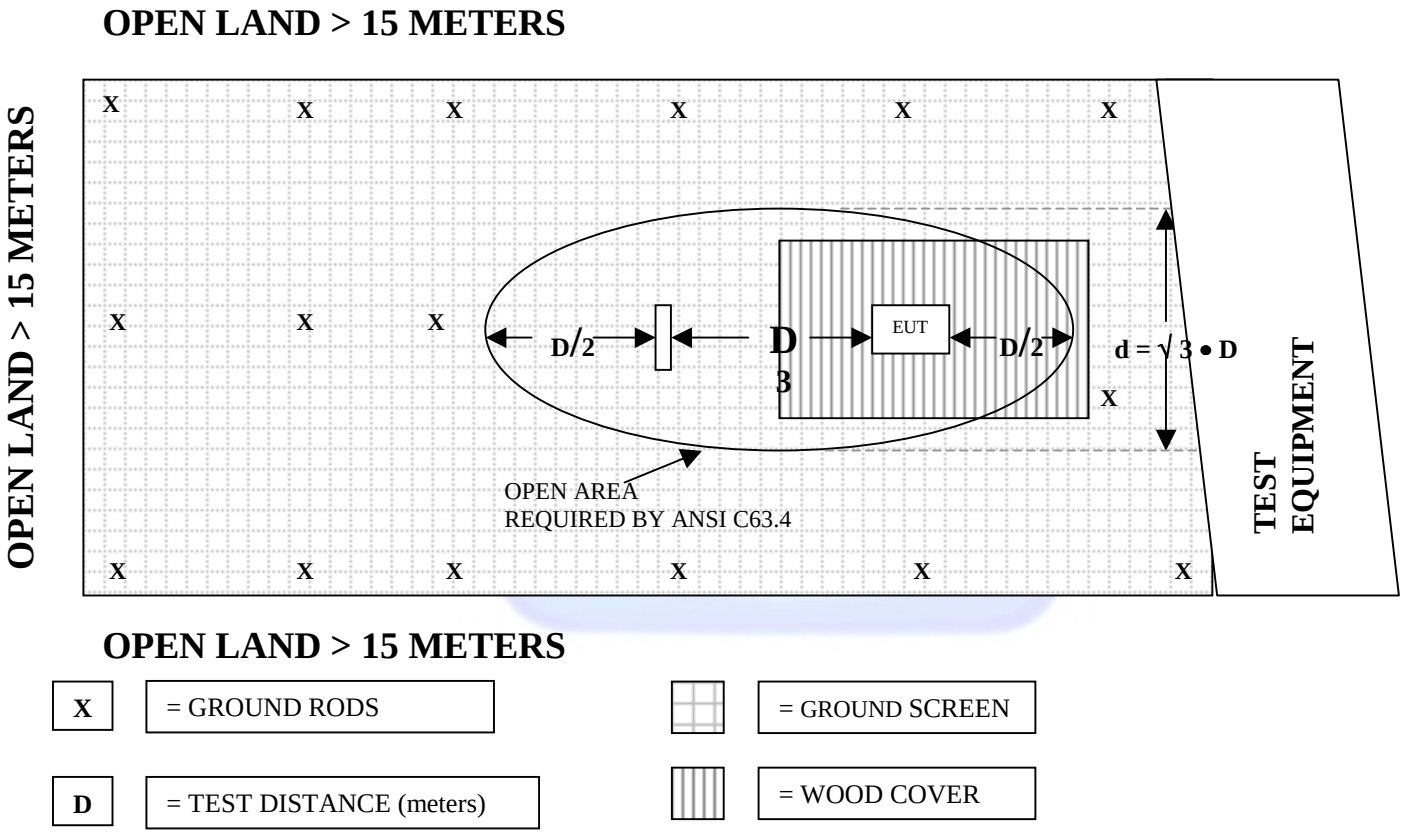


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: FEBRUARY 16, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.5	100	11.1
35	10.4	120	13.1
40	10.3	140	12.2
45	9.8	160	13.6
50	10.6	180	15.9
60	9.5	200	16.4
70	8.4	250	15.1
80	5.5	275	17.7
90	7.3	300	19.5

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JUNE 15, 2009

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	14.2	700	20.1
400	15.9	800	21.2
500	17.1	900	21.3
600	18.8	1000	22.3

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.5	10.0	39.4
1.5	25.4	10.5	39.7
2.0	28.3	11.0	39.0
2.5	28.9	11.5	40.0
3.0	29.7	12.0	39.7
3.5	30.8	12.5	41.7
4.0	31.4	13.0	42.7
4.5	32.6	13.5	41.2
5.0	33.7	14.0	41.6
5.5	34.4	14.5	43.2
6.0	34.7	15.0	42.3
6.5	35.4	15.5	39.3
7.0	37.0	16.0	41.7
7.5	37.4	16.5	39.6
8.0	37.6	17.0	43.0
8.5	37.6	17.5	47.1
9.0	38.5	18.0	46.2
9.5	38.6		

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 6, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
20	38.0	300	38.2
30	38.3	350	38.1
40	38.4	400	38.5
50	38.2	450	38.0
60	38.2	500	37.9
70	38.3	550	38.2
80	38.1	600	38.2
90	38.2	650	37.7
100	38.3	700	38.3
125	38.2	750	38.3
150	38.3	800	37.4
175	38.3	850	37.5
200	38.1	900	37.6
225	38.2	950	37.4
250	38.3	1000	37.3
275	38.2		

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: MARCH 10, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	35.53	10.0	34.78
1.5	34.92	10.5	34.36
2.0	34.63	11.0	33.14
2.5	34.42	11.5	34.42
3.0	34.40	12.0	34.24
3.5	34.36	12.5	34.95
4.0	34.11	13.0	34.62
4.5	33.61	13.5	35.24
5.0	33.83	14.0	35.40
5.5	34.53	14.5	36.66
6.0	35.09	15.0	35.98
6.5	35.58	15.5	35.94
7.0	36.50	16.0	35.80
7.5	34.83	16.5	34.98
8.0	34.08	17.0	35.00
8.5	33.57	17.5	34.25
9.0	34.68	18.0	33.51
9.5	35.84	18.5	32.88

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 29, 2008

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.57	9.93
0.01	-42.06	9.44
0.02	-42.43	9.07
0.05	-42.50	9.00
0.07	-42.10	9.40
0.1	-42.03	9.47
0.2	-44.50	7.00
0.3	-41.93	9.57
0.5	-41.90	9.60
0.7	-41.73	9.77
1	-41.23	10.27
2	-40.90	10.60
3	-41.20	10.30
4	-41.30	10.20
5	-40.70	10.80
10	-41.10	10.40
15	-42.17	9.33
20	-42.00	9.50
25	-42.20	9.30
30	-43.10	8.40

FRONT VIEW

SEALED UNIT PARTS COMPANY, INC.
TEMPERATURE ALARM BASE UNIT WITH WIRELESS TRANSMITTER
MODEL: TA44T
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

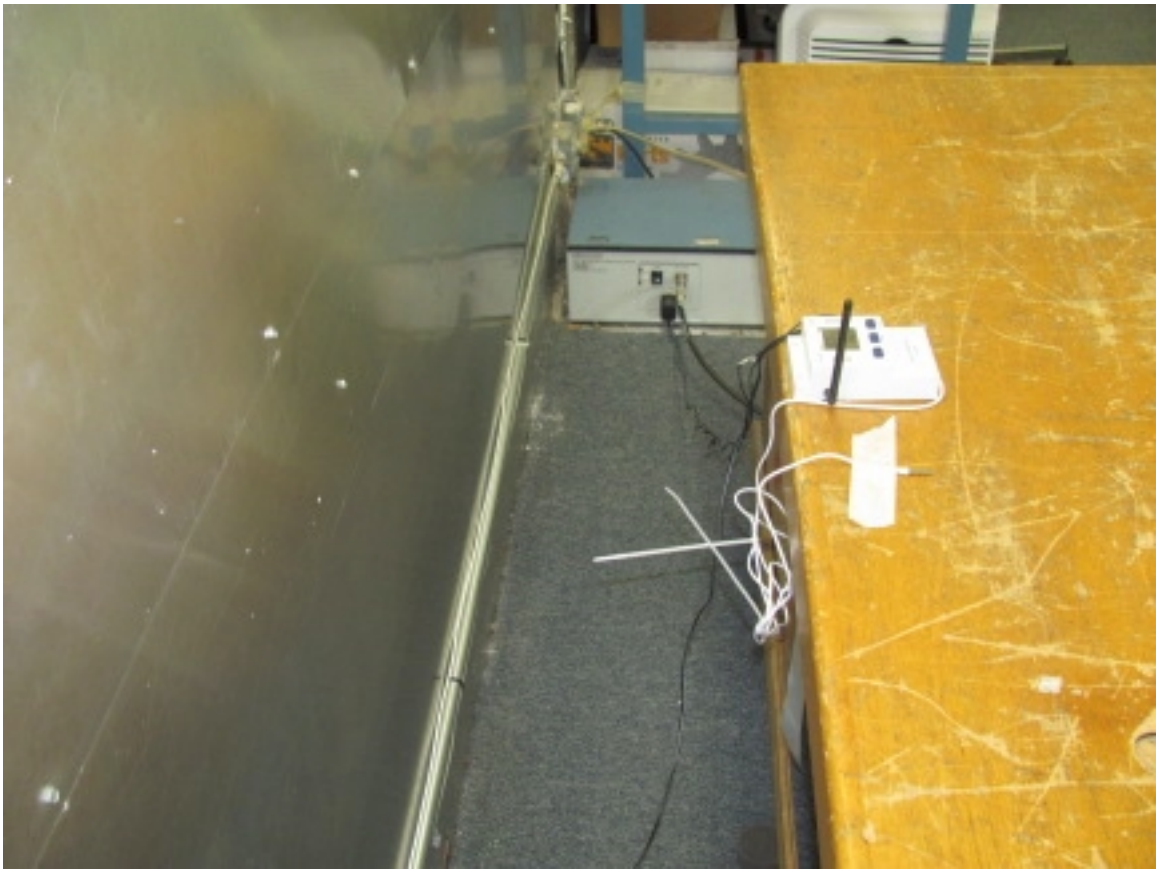
SEALED UNIT PARTS COMPANY, INC.
TEMPERATURE ALARM BASE UNIT WITH WIRELESS TRANSMITTER
MODEL: TA44T
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

SEALED UNIT PARTS COMPANY, INC.
TEMPERATURE ALARM BASE UNIT WITH WIRELESS TRANSMITTER
MODEL: TA44T
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

SEALED UNIT PARTS COMPANY, INC.
TEMPERATURE ALARM BASE UNIT WITH WIRELESS TRANSMITTER
MODEL: TA44T
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISISONS

DATA SHEETS

FCC 15.231

Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T

Date: 03/15/10
Lab: B
Tested By: Kyle Fujimoto

X-Axis - Duty Cycle: 44.574%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	86.01	V	100.28	-14.27	Peak	1.35	90	
418	79.01	V	80.28	-1.27	Avg	1.35	90	
836	36.36	V	80.28	-43.92	Peak	1.35	150	
836	29.36	V	60.28	-30.92	Avg	1.35	150	
1254	38.64	V	74	-35.36	Peak	1.35	225	
1254	31.64	V	54	-22.36	Avg	1.35	225	
1672	40.74	V	74	-33.26	Peak	1.36	250	
1672	33.74	V	54	-20.26	Avg	1.36	250	
2090	40.34	V	80.28	-39.94	Peak	1.58	225	
2090	33.34	V	60.28	-26.94	Avg	1.58	225	
2508	39.54	V	80.28	-40.74	Peak	1.69	135	
2508	32.54	V	60.28	-27.74	Avg	1.69	135	
2926	40.01	V	80.28	-40.27	Peak	1.58	150	
2926	33.01	V	60.28	-27.27	Avg	1.58	150	
3344	38.81	V	80.28	-41.47	Peak	1.58	150	
3344	31.81	V	60.28	-28.47	Avg	1.58	150	
3762	38.81	V	74	-35.19	Peak	1.25	175	
3762	31.81	V	54	-22.19	Avg	1.25	175	
4180	40.17	V	74	-33.83	Peak	1.35	150	
4180	33.17	V	54	-20.83	Avg	1.35	150	

FCC 15.231

Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T

Date: 03/15/10
Lab: B
Tested By: Kyle Fujimoto

X-Axis - Duty Cycle: 44.574%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	86	H	100.28	-14.28	Peak	1.35	90	
418	79	H	80.28	-1.28	Avg	1.35	90	
836	43.46	H	80.28	-36.82	Peak	1.35	150	
836	36.46	H	60.28	-23.82	Avg	1.35	150	
1254	40.07	H	74	-33.93	Peak	1.35	225	
1254	33.07	H	54	-20.93	Avg	1.35	225	
1672	39.18	H	74	-34.82	Peak	1.36	250	
1672	32.18	H	54	-21.82	Avg	1.36	250	
2090	41.04	H	80.28	-39.24	Peak	1.58	225	
2090	34.04	H	60.28	-26.24	Avg	1.58	225	
2508	39.84	H	80.28	-40.44	Peak	1.69	135	
2508	32.84	H	60.28	-27.44	Avg	1.69	135	
2926	41.04	H	80.28	-39.24	Peak	1.58	150	
2926	34.04	H	60.28	-26.24	Avg	1.58	150	
3344	39.55	H	80.28	-40.73	Peak	1.58	150	
3344	32.55	H	60.28	-27.73	Avg	1.58	150	
3762	39.21	H	74	-34.79	Peak	1.25	175	
3762	32.21	H	54	-21.79	Avg	1.25	175	
4180	40.24	H	74	-33.76	Peak	1.35	150	
4180	33.24	H	54	-20.76	Avg	1.35	150	

FCC 15.231

Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T

Date: 03/15/10
Lab: B
Tested By: Kyle Fujimoto

Y-Axis - Duty Cycle: 44.574%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	86	V	100.28	-14.28	Peak	1.35	90	
418	79	V	80.28	-1.28	Avg	1.35	90	
836	43.96	V	80.28	-36.32	Peak	1.25	90	
836	36.96	V	60.28	-23.32	Avg	1.25	90	
1254	41.21	V	74	-32.79	Peak	1.35	150	
1254	34.21	V	54	-19.79	Avg	1.35	150	
1672	40.06	V	74	-33.94	Peak	1.58	150	
1672	33.06	V	54	-20.94	Avg	1.58	150	
2090	39.44	V	80.28	-40.84	Peak	1.58	165	
2090	32.44	V	60.28	-27.84	Avg	1.58	165	
2508	39.91	V	80.28	-40.37	Peak	1.58	150	
2508	32.91	V	60.28	-27.37	Avg	1.58	150	
2926	39.36	V	80.28	-40.92	Peak	1.95	150	
2926	32.36	V	60.28	-27.92	Avg	1.95	150	
3344	40.17	V	80.28	-40.11	Peak	1.25	150	
3344	33.17	V	60.28	-27.11	Avg	1.25	150	
3762	40.61	V	74	-33.39	Peak	1.58	150	
3762	33.61	V	54	-20.39	Avg	1.58	150	
4180	38.25	V	74	-35.75	Peak	1.35	150	
4180	31.25	V	54	-22.75	Avg	135	150	

FCC 15.231

Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T

Date: 03/15/10
Lab: B
Tested By: Kyle Fujimoto

Y-Axis - Duty Cycle: 44.574%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	79.4	H	100.28	-20.88	Peak	1.35	90	
418	72.4	H	80.28	-7.88	Avg	1.35	90	
836	36.16	H	80.28	-44.12	Peak	1.25	90	
836	29.16	H	60.28	-31.12	Avg	1.25	90	
1254	39.66	H	74	-34.34	Peak	1.35	150	
1254	32.66	H	54	-21.34	Avg	1.35	150	
1672	39.76	H	74	-34.24	Peak	1.58	150	
1672	32.76	H	54	-21.24	Avg	1.58	150	
2090	42.86	H	80.28	-37.42	Peak	1.58	165	
2090	35.86	H	60.28	-24.42	Avg	1.58	165	
2508	40.56	H	80.28	-39.72	Peak	1.58	150	
2508	33.56	H	60.28	-26.72	Avg	1.58	150	
2926	37.98	H	80.28	-42.3	Peak	1.95	150	
2926	30.98	H	60.28	-29.3	Avg	1.95	150	
3344	39.41	H	80.28	-40.87	Peak	1.25	150	
3344	32.41	H	60.28	-27.87	Avg	1.25	150	
3762	39.81	H	74	-34.19	Peak	1.58	150	
3762	32.81	H	54	-21.19	Avg	1.58	150	
4180	39.24	H	74	-34.76	Peak	1.35	150	
4180	32.24	H	54	-21.76	Avg	135	150	

FCC Class B

Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T

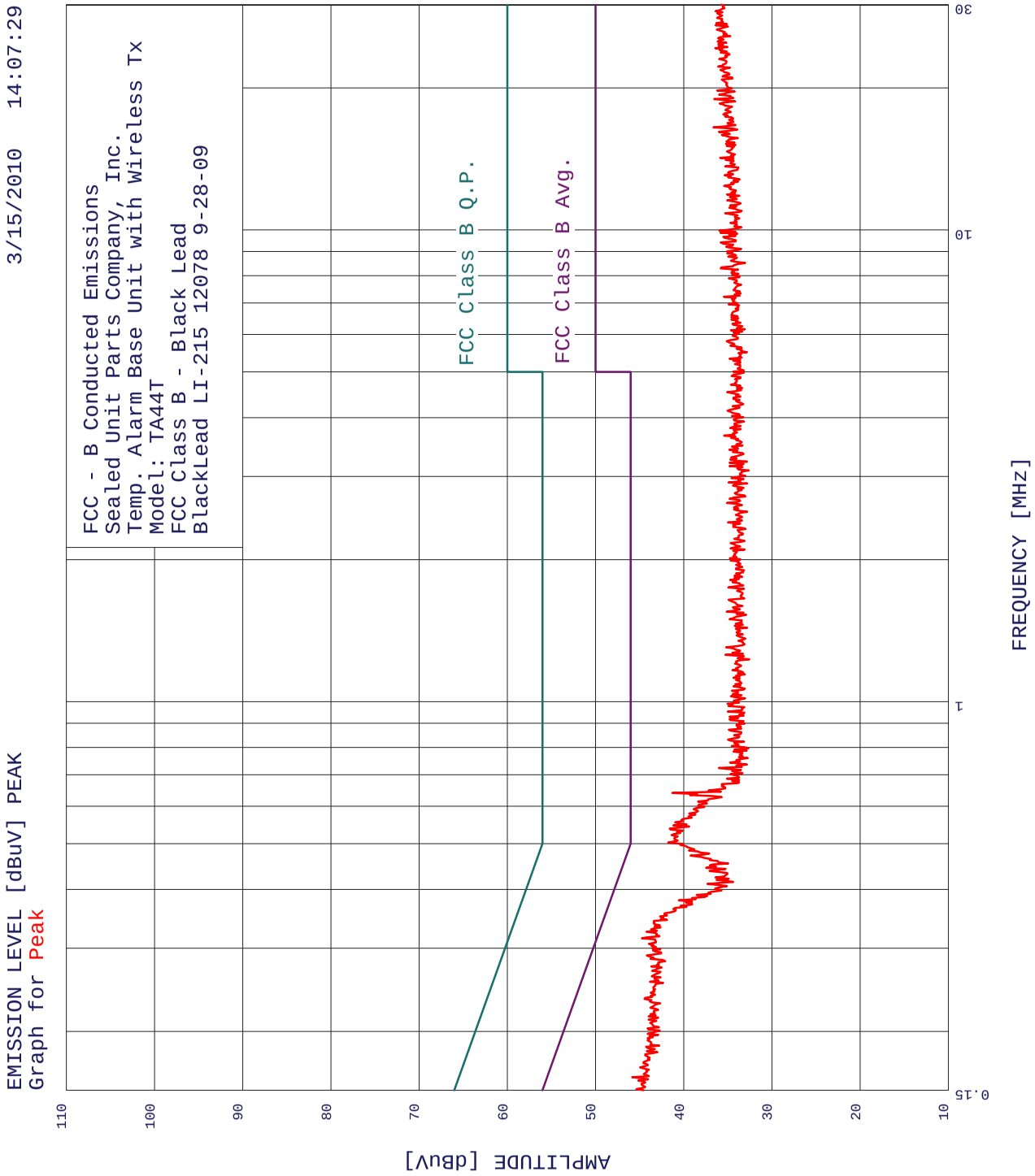
Date: 03/15/10
Lab: B
Tested By: Kyle Fujimoto

X-Axis (Worst Case) - Duty Cycle: 44.574% - Spurious Emissions 10 kHz to 4.18 GHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
409.364	29.07	H	46	-16.93	Peak	1.35	90	Restricted Band to left of
								410 MHz
409.364	23.68	V	46	-22.32	Peak	1.35	90	Restricted Band to left of
								410 MHz
								There were no other
								emissions detected from
								the EUT in both Vertical
								and Horizontal Polarizations.

CONDUCTED EMISSIONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
3/15/2010 14:07:29
FCC - B Conducted Emissions
Sealed Unit Parts Company, Inc.
Temp. Alarm Base Unit with Wireless Tx
Model: TA44T
FCC Class B - Black Lead
BlackLead LI-215 12078 9-28-09
FCC Class B Q.P.
FCC Class B Avg.
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

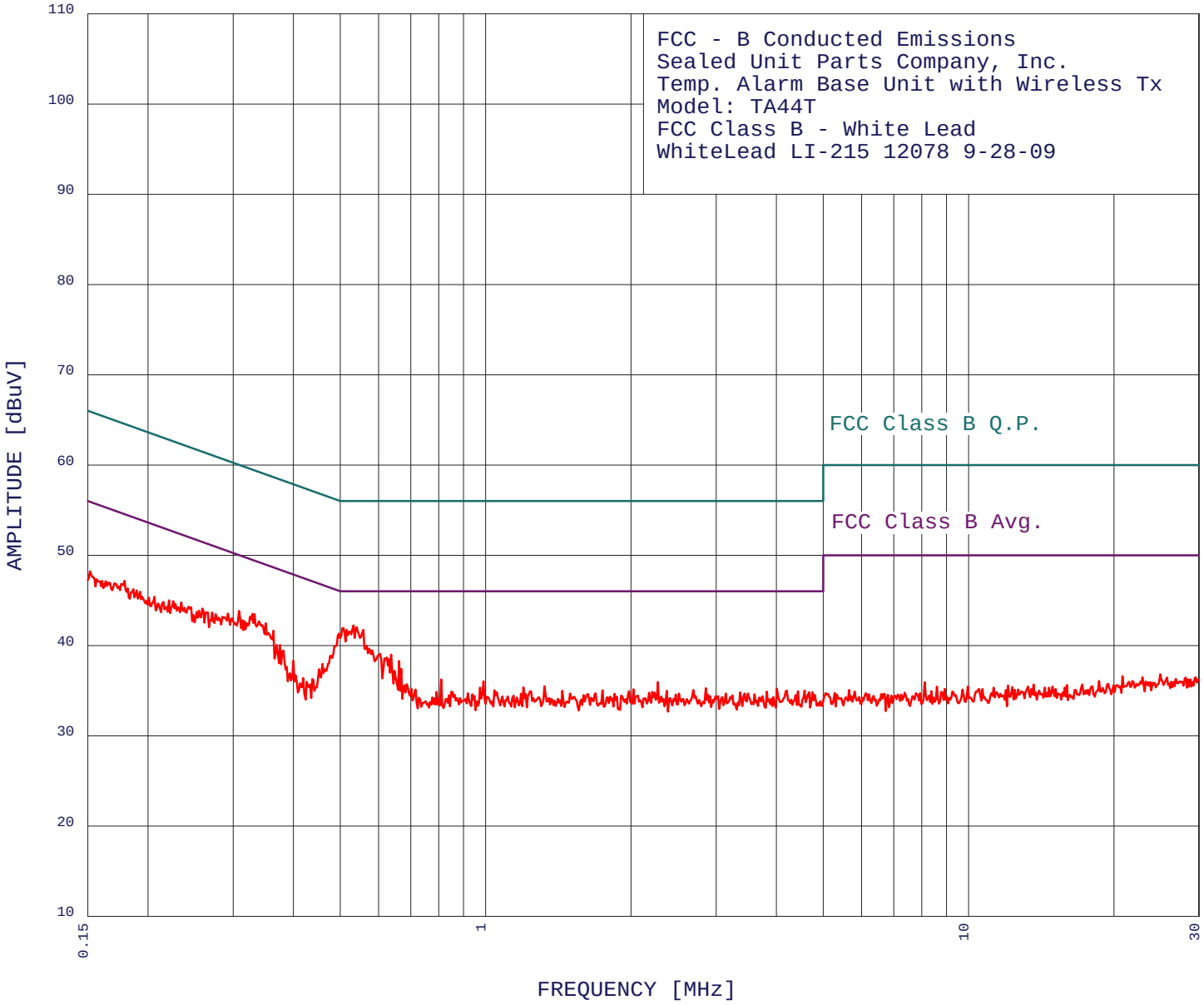
FCC - B Conducted Emissions
Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T
FCC Class B - Black Lead
BlackLead LI-215 12078 9-28-09
TEST ENGINEER : Kyle Fujimoto

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

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.502	41.77	46.00	-4.23
2	0.538	41.57	46.00	-4.43
3	0.641	41.28	46.00	-4.72
4	0.547	41.17	46.00	-4.83
5	0.555	40.97	46.00	-5.03
6	0.315	44.73	49.84	-5.11
7	0.325	44.21	49.57	-5.36
8	0.290	44.17	50.54	-6.37
9	0.471	39.21	46.49	-7.28
10	0.275	43.69	50.98	-7.29
11	0.614	38.37	46.00	-7.63
12	0.379	40.54	48.29	-7.76
13	0.255	43.81	51.60	-7.78
14	0.234	44.44	52.30	-7.85
15	0.648	37.18	46.00	-8.82
16	0.215	43.97	53.00	-9.03
17	0.212	43.98	53.14	-9.16
18	0.203	44.09	53.49	-9.40
19	0.445	37.45	46.98	-9.53
20	0.389	38.52	48.08	-9.55
21	0.198	44.09	53.71	-9.62
22	0.160	45.83	55.47	-9.64
23	0.194	44.08	53.88	-9.80
24	0.185	44.27	54.24	-9.97
25	0.724	36.01	46.00	-9.99
26	0.438	37.06	47.11	-10.05
27	0.168	44.94	55.07	-10.13
28	0.411	37.29	47.63	-10.34
29	3.663	35.42	46.00	-10.58
30	1.256	35.27	46.00	-10.73
31	1.304	35.17	46.00	-10.83
32	1.552	35.11	46.00	-10.89
33	0.686	35.10	46.00	-10.90
34	2.637	35.09	46.00	-10.91
35	4.528	35.05	46.00	-10.95
36	4.137	35.04	46.00	-10.96
37	0.990	35.03	46.00	-10.97
38	0.953	35.01	46.00	-10.99
39	0.424	36.37	47.37	-11.00
40	2.397	34.98	46.00	-11.02
41	0.831	34.96	46.00	-11.04
42	1.745	34.93	46.00	-11.07
43	1.646	34.92	46.00	-11.08
44	2.916	34.90	46.00	-11.10
45	0.872	34.88	46.00	-11.12
46	0.419	36.28	47.46	-11.18
47	3.419	34.81	46.00	-11.19
48	3.209	34.81	46.00	-11.19

EMISSION LEVEL [dBuV] PEAK
Graph for Peak

3/15/2010 14:13:18



FCC - B Conducted Emissions
Sealed Unit Parts Company, Inc.
Temperature Alarm Base Unit with Wireless Transmitter
Model: TA44T
FCC Class B - White Lead
WhiteLead LI-215 12078 9-28-09
TEST ENGINEER : Kyle Fujimoto

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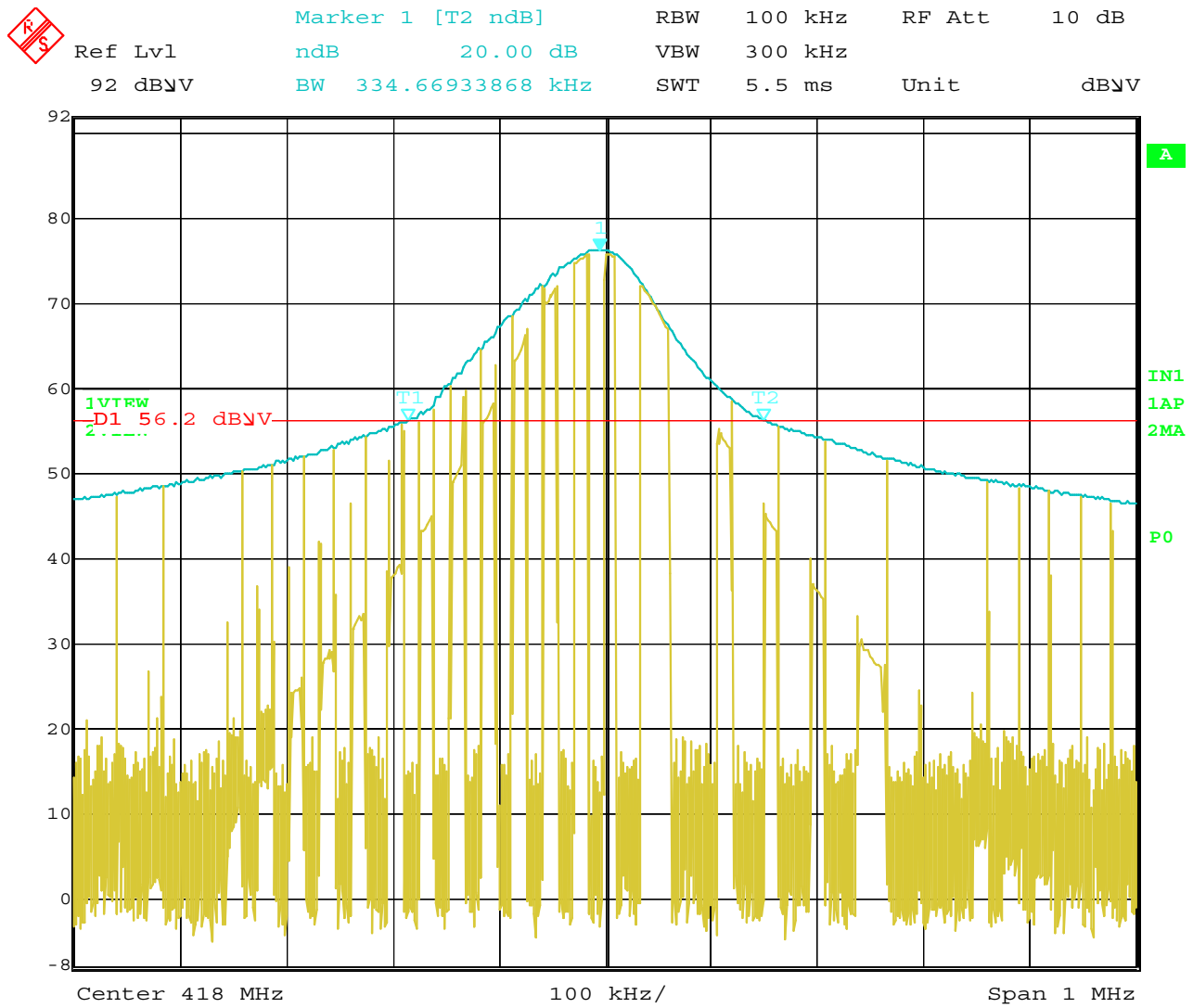
49 highest peaks above -50.00 dB of FCC Class B Avg. limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.532	42.23	46.00	-3.77
2	0.541	42.03	46.00	-3.97
3	0.508	41.92	46.00	-4.08
4	0.329	43.48	49.48	-6.00
5	0.309	43.83	50.01	-6.18
6	0.350	42.46	48.95	-6.49
7	0.293	43.53	50.45	-6.92
8	0.637	38.97	46.00	-7.03
9	0.624	38.67	46.00	-7.33
10	0.179	47.16	54.54	-7.38
11	0.259	44.08	51.47	-7.38
12	0.272	43.64	51.07	-7.43
13	0.234	44.76	52.30	-7.54
14	0.265	43.67	51.29	-7.61
15	0.226	44.92	52.61	-7.69
16	0.662	38.28	46.00	-7.72
17	0.221	45.01	52.78	-7.77
18	0.186	46.24	54.19	-7.95
19	0.206	45.40	53.35	-7.96
20	0.215	44.83	53.00	-8.18
21	0.375	40.04	48.38	-8.35
22	0.369	40.04	48.52	-8.48
23	0.669	37.39	46.00	-8.61
24	0.459	37.95	46.71	-8.76
25	0.381	39.43	48.25	-8.82
26	0.648	37.18	46.00	-8.82
27	0.400	38.31	47.86	-9.54
28	0.809	36.25	46.00	-9.75
29	0.990	36.02	46.00	-9.98
30	2.274	35.96	46.00	-10.04
31	0.686	35.69	46.00	-10.31
32	1.325	35.47	46.00	-10.53
33	1.197	35.35	46.00	-10.65
34	0.974	35.32	46.00	-10.68
35	2.855	35.27	46.00	-10.73
36	4.008	35.20	46.00	-10.80
37	0.438	36.28	47.11	-10.83
38	2.023	35.15	46.00	-10.85
39	0.716	35.11	46.00	-10.89
40	2.693	35.07	46.00	-10.93
41	1.043	35.03	46.00	-10.97
42	1.745	35.02	46.00	-10.98
43	4.576	35.01	46.00	-10.99
44	4.204	35.00	46.00	-11.00
45	1.441	34.98	46.00	-11.02
46	2.371	34.96	46.00	-11.04
47	1.236	34.96	46.00	-11.04
48	1.981	34.95	46.00	-11.05
49	0.419	36.39	47.46	-11.07

-20 dB BANDWIDTH

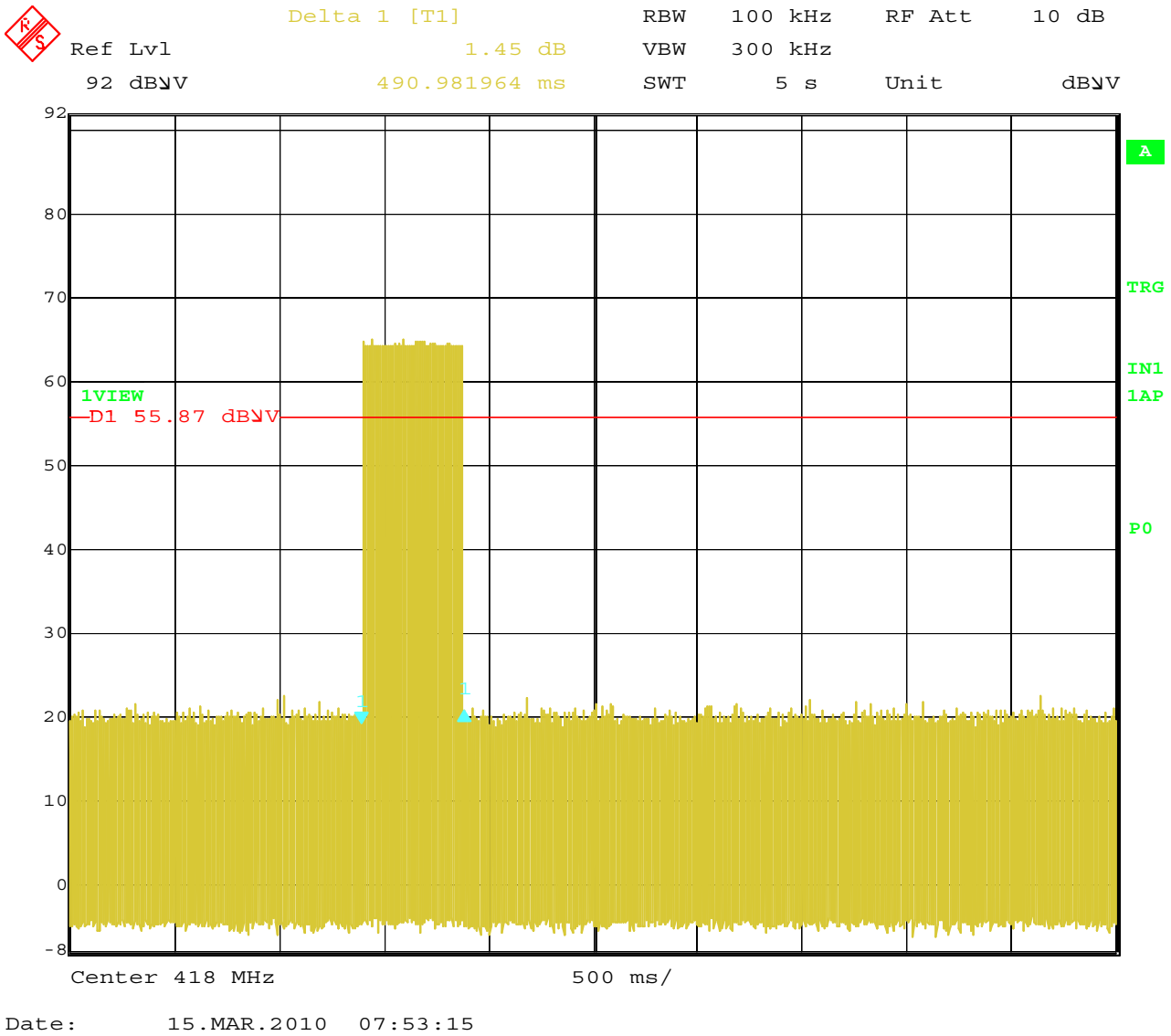
DATA SHEETS



Bandwidth 20 dB of the Fundamental

TRANSMISSION TEST

DATA SHEETS



Time of One Transmission = 490.981964 ms. This transmission only occurs once.