FCC PART 15 SUBPART B and C
TEST REPORT

for

REMOTE THERMOSTAT / HUMIDITY CONTROLLER

Model: RFTH-100

Prepared for

ORKA TECHNOLOGY CORPORATION
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DATE: MARCH 12, 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:	Remote Thermostat / Humidity Controller Model: RFTH-100 S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Orka Technology Corporation 6170 West Lake Mead Boulevard, #111 Las Vegas, Nevada 89108
Test Date(s):	March 4 and 9, 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: 50.06 dBuV @ 0.192 MHz (*U = 1.35 dB)
2	Radiated RF Emissions 10 kHz – 4400 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(e). Highest reading in relation to spec limit: 72.15 (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 Remote Thermostat / Humidity Controller, Model: RFTH-100. 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(e) 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

Orka Technology Corporation

Gerald A. Orf	Secretary / Treasurer

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
Ltd.	Limited
Inc.	Incorporated
IR	Infrared
PCB	Printed Circuit Board
AC	Alternating Current

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 Trasnmitter, Model: RFTH-100 (EUT) was connected to an AC adapter via its power port. The EUT was continuously transmitting.

The EUT's antenna is hard wired to the PCB. The EUT transmits for 943.887776 ms with a blanking interval of 37.595190 seconds on a continuous basis.

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 AC Adapter. The cable has a 1/8 inch power connector 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
REMOTE THERMOSTAT / HUMIDITY CONTROLLER (EUT)	ORKA TECHNOLOGY CORPORATION	RFTH-100	N/A	X6Q-RFTH-100
AC ADAPTER	Ktec	KSAA0500100W1US	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 12, 2009	March 12, 2010
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 4400 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(e).

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 Periodic Transmission Test

The EUT was checked to see that time of each transmission did not exceed 1 second and that the time between transmissions was at least 30 times the duration of the transmission but in no case less than 10 seconds.

Plots of the time of the transmission and the time between transmissions are located in Appendix E.

Test Results:

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

8. CONCLUSIONS

The Remote Thermostat / Humidity Controller, Model: RFTH-100 (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(e) 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(e) 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	Remote Thermostat / Humidity Controller Model: RFTH-100 S/N: N/A

No additional models were covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

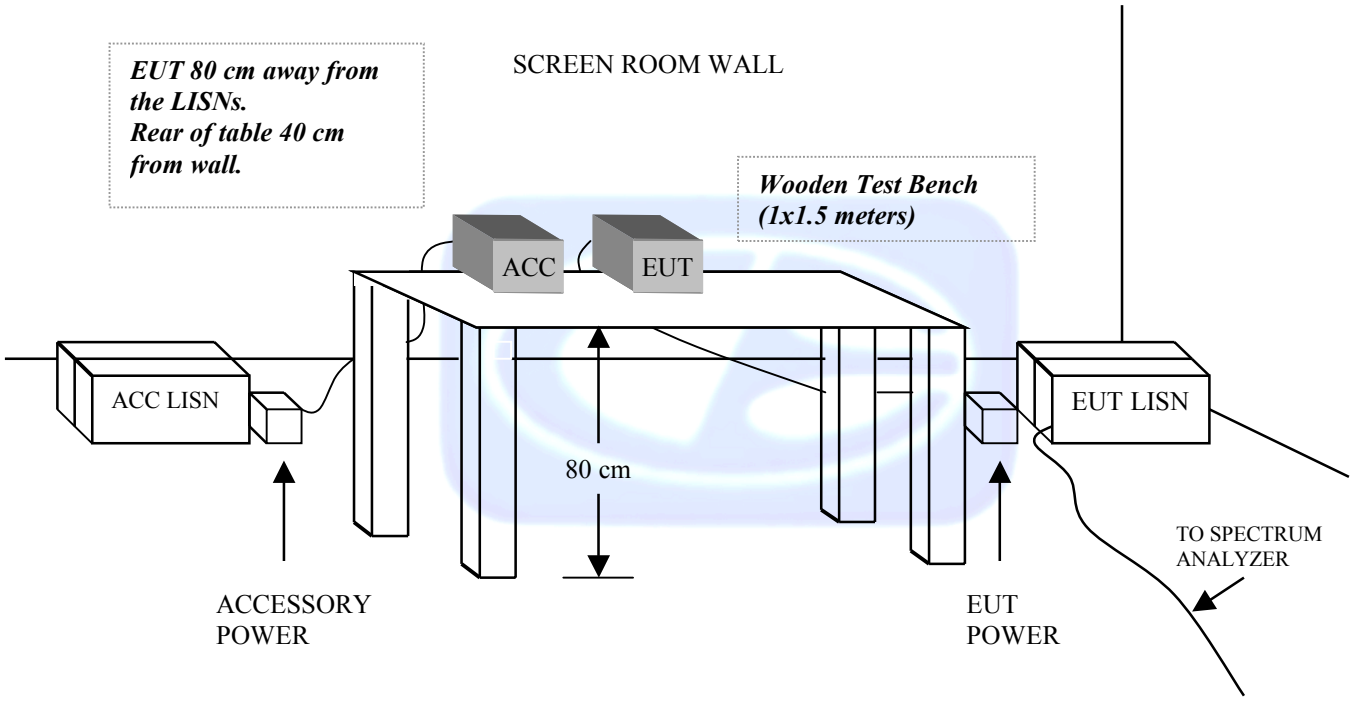
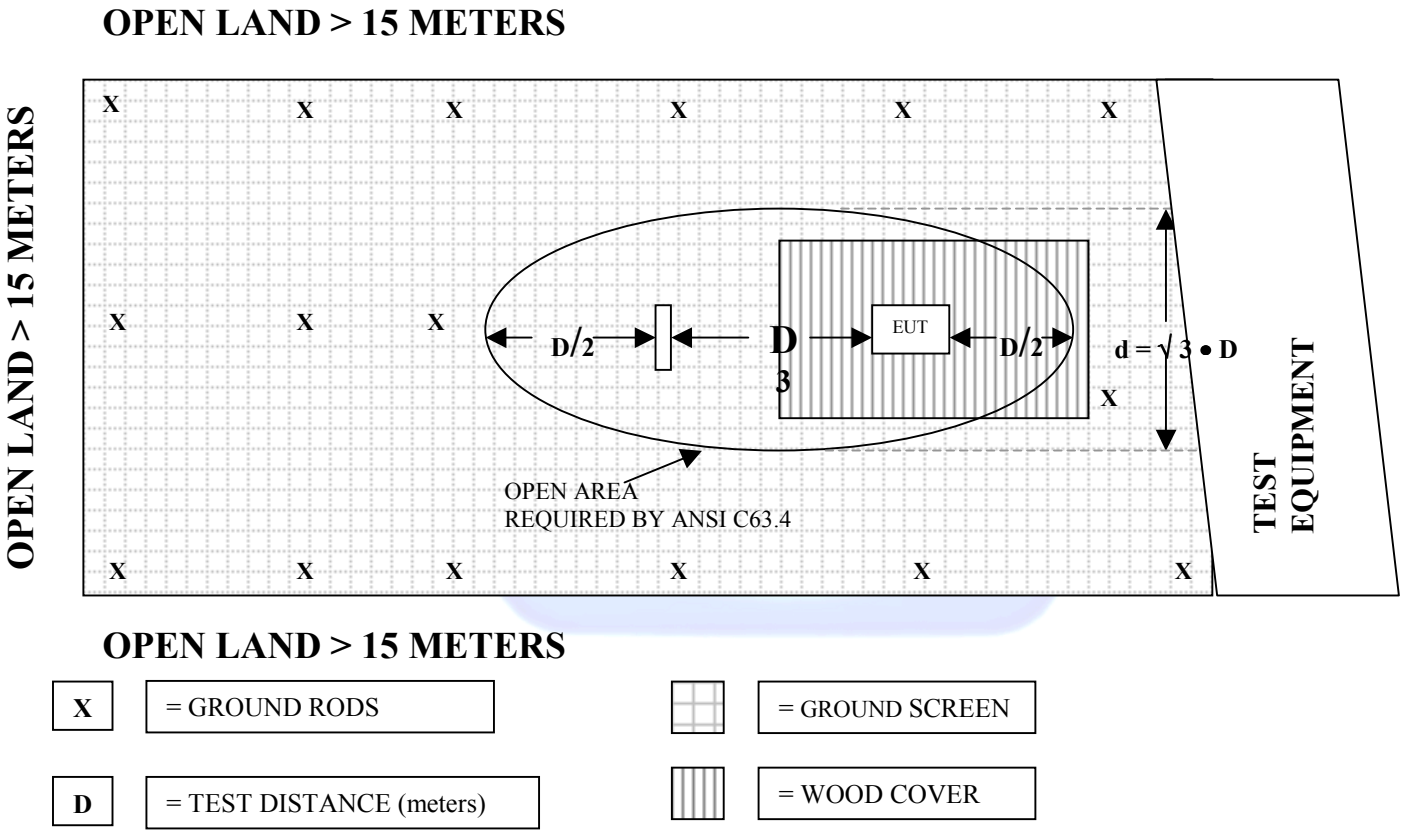


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS



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 12, 2009

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.46	10.0	35.06
1.5	35.36	10.5	34.82
2.0	34.76	11.0	33.12
2.5	34.94	11.5	34.33
3.0	34.59	12.0	34.75
3.5	34.55	12.5	33.94
4.0	34.25	13.0	35.50
4.5	33.89	13.5	34.89
5.0	34.22	14.0	36.56
5.5	34.81	14.5	36.06
6.0	35.74	15.0	36.67
6.5	36.51	15.5	36.84
7.0	36.66	16.0	34.31
7.5	35.72	16.5	35.11
8.0	33.28	17.0	35.35
8.5	33.11	17.5	34.11
9.0	34.71	18.0	33.88
9.5	35.50	18.5	32.20

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

ORKA TECHNOLOGY CORPORATION
REMOTE THERMOSTAT / HUMIDITY CONTROLLER
MODEL: RFTH-100
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

ORKA TECHNOLOGY CORPORATION
REMOTE THERMOSTAT / HUMIDITY CONTROLLER
MODEL: RFTH-100
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

ORKA TECHNOLOGY CORPORATION
REMOTE THERMOSTAT / HUMIDITY CONTROLLER
MODEL: RFTH-100
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

ORKA TECHNOLOGY CORPORATION
REMOTE THERMOSTAT / HUMIDITY CONTROLLER
MODEL: RFTH-100
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 (e)

Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100

Date: 03/04/10
Labs: B and D
Tested By: Kyle Fujimoto

Fundamental and Harmonics
Duty Cycle: 46.503%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	75.1	V	92.32	-17.22	Peak	1	90	
418	68.45	V	72.32	-3.87	Avg	1	90	
836	36.86	V	72.32	-35.46	Peak	1.5	180	
836	30.21	V	52.32	-22.11	Avg	1.5	180	
1254	35.23	V	72.32	-37.09	Peak	1.25	135	
1254	28.58	V	52.32	-23.74	Avg	1.25	135	
1672	38.34	V	74	-35.66	Peak	1.35	165	
1672	31.69	V	54	-22.31	Avg	1.35	165	
2090	38.21	V	72.32	-34.11	Peak	1.25	175	
2090	31.56	V	52.32	-20.76	Avg	1.25	175	
2508	48.54	V	72.32	-23.78	Peak	1.35	185	
2508	41.89	V	52.32	-10.43	Avg	1.35	185	
2926	38.25	V	72.32	-34.07	Peak	1.25	175	
2926	31.6	V	52.32	-20.72	Avg	1.25	175	
3344	45.74	V	72.32	-26.58	Peak	1.35	185	
3344	39.09	V	52.32	-13.23	Avg	1.35	185	
3762	39.88	V	74	-34.12	Peak	1.25	165	
3762	33.23	V	54	-20.77	Avg	1.25	165	
4180	40.02	V	74	-33.98	Peak	1.35	175	
4180	33.37	V	54	-20.63	Avg	1.35	175	

FCC 15.231 (e)

Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100

Date: 03/04/10
Labs: B and D
Tested By: Kyle Fujimoto

Fundamental and Harmonics
Duty Cycle: 46.503%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	78.8	H	92.32	-13.52	Peak	1	180	
418	72.15	H	72.32	-0.17	Avg	1	180	
836	36.56	H	72.32	-35.76	Peak	1	90	
836	29.91	H	52.32	-22.41	Avg	1	90	
1254	38.99	H	72.32	-33.33	Peak	1.25	135	
1254	32.34	H	52.32	-19.98	Avg	1.25	135	
1672	39.41	H	74	-34.59	Peak	1.35	155	
1672	32.76	H	54	-21.24	Avg	1.35	155	
2090	42.67	H	72.32	-29.65	Peak	1.25	165	
2090	36.02	H	52.32	-16.3	Avg	1.25	165	
2508	40.53	H	72.32	-31.79	Peak	1.65	175	
2508	33.88	H	52.32	-18.44	Avg	1.65	175	
2926	38.56	H	72.32	-33.76	Peak	1.75	185	
2926	31.91	H	52.32	-20.41	Avg	1.75	185	
3344	45.86	H	72.32	-26.46	Peak	1.25	135	
3344	39.21	H	52.32	-13.11	Avg	1.25	135	
3762	42.91	H	74	-31.09	Peak	1.35	165	
3762	36.26	H	54	-17.74	Avg	1.35	165	
4180	39.41	H	74	-34.59	Peak	1.75	180	
4180	32.76	H	54	-21.24	Avg	1.75	180	

FCC 15.231 (e)

Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100

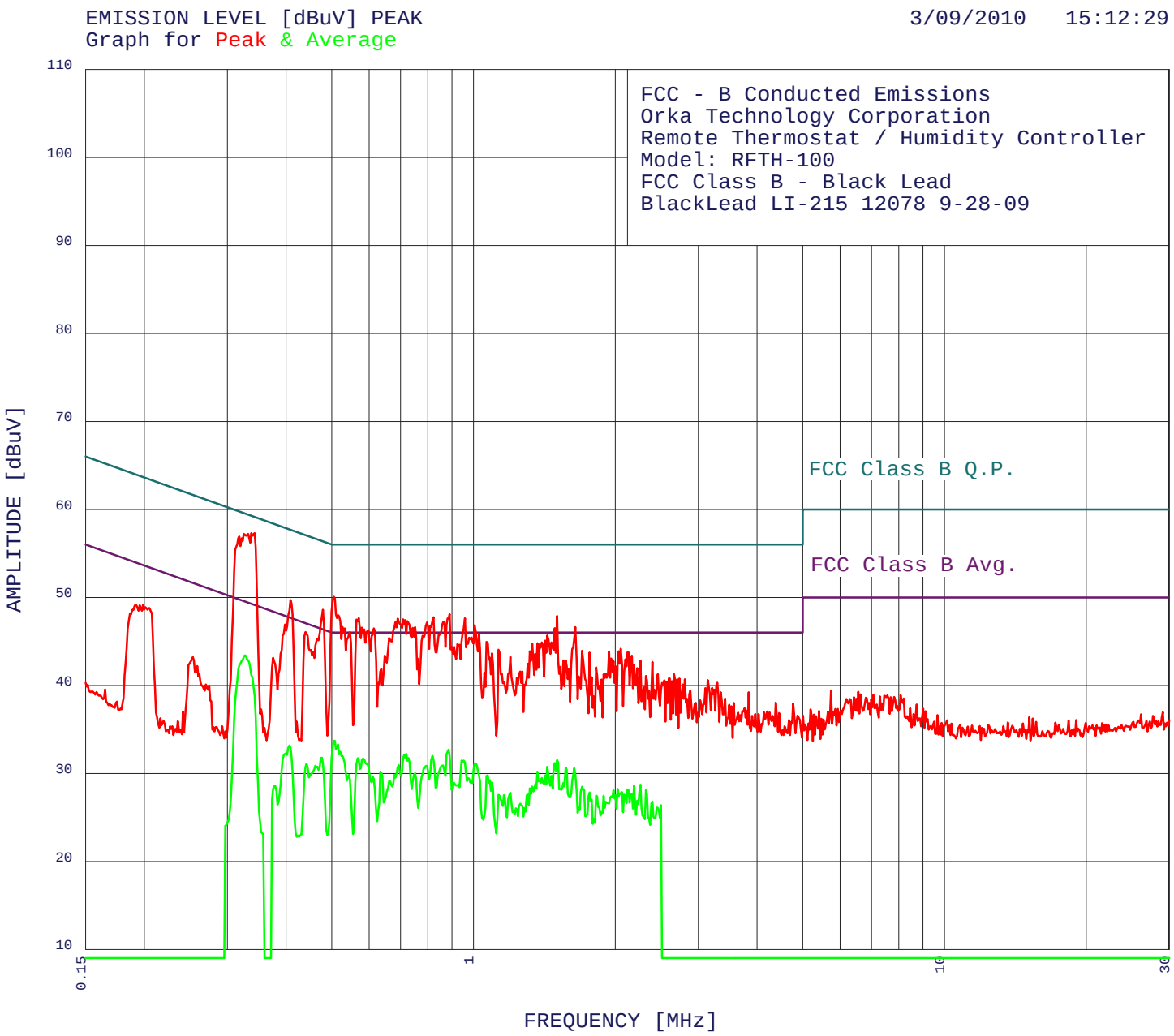
Date: 03/04/10
Labs: B and D
Tested By: Kyle Fujimoto

Digital Portion - 1 GHz to 4400 MHz
Duty Cycle: 46.503%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected
								from the Digital Portion
								from 1 GHz to 4400 MHz
								No Emissions Detected
								from the non-harmonic
								emissions of the Transmitter
								from 1 GHz to 4400 MHz

CONDUCTED EMISSIONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
3/09/2010 15:12:29
FCC - B Conducted Emissions
Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100
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
Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100
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

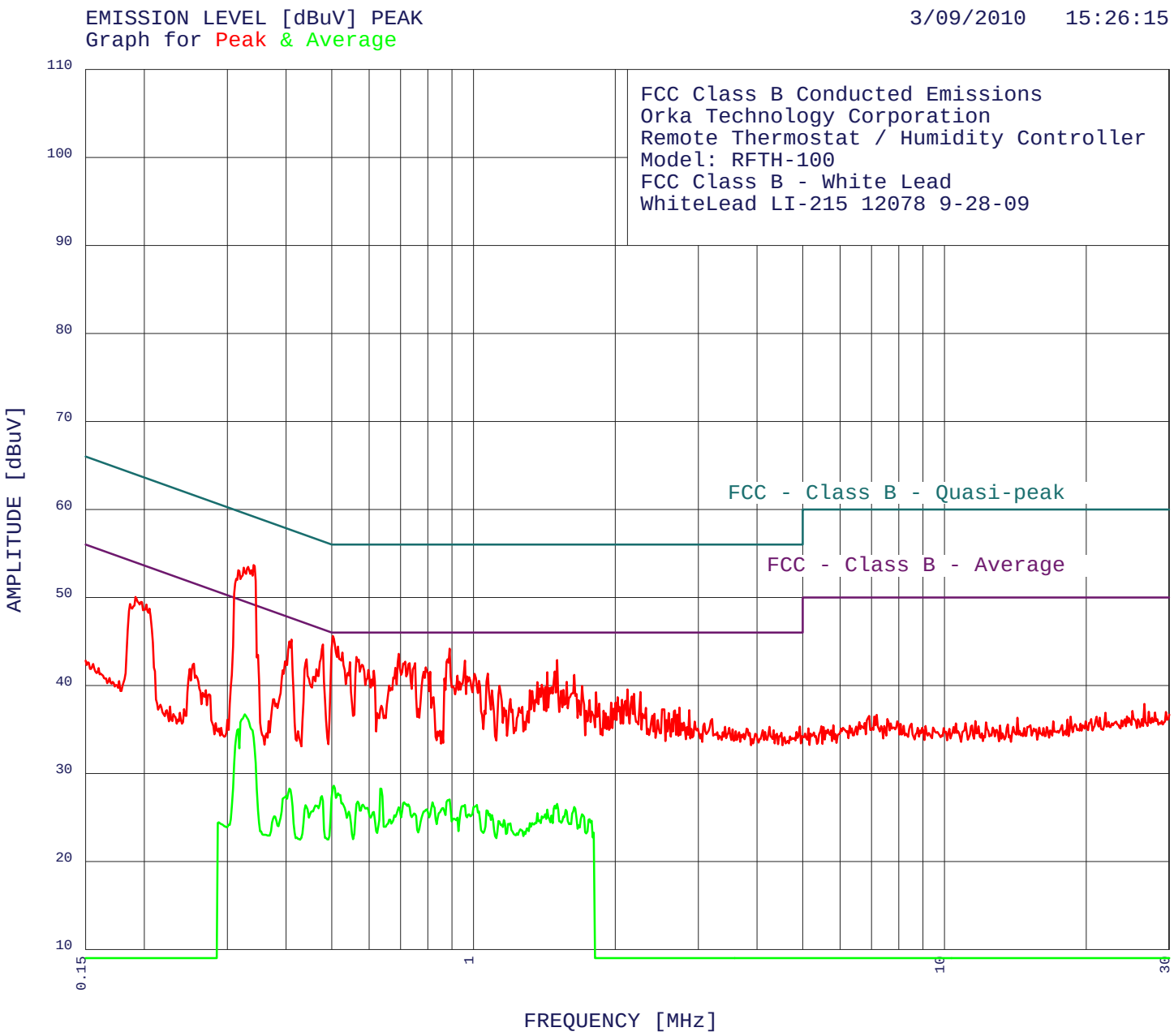
Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.338	57.30	49.26	8.03**
2	0.325	57.21	49.57	7.64**
3	0.318	56.92	49.75	7.18**
4	0.505	50.07	46.00	4.07**
5	0.479	48.60	46.36	2.24**
6	0.890	48.09	46.00	2.09**
7	0.409	49.70	47.68	2.02**
8	1.504	47.90	46.00	1.90**
9	0.822	47.76	46.00	1.76**
10	0.570	47.66	46.00	1.66**
11	0.958	47.62	46.00	1.62**
12	0.690	47.60	46.00	1.60**
13	0.709	47.51	46.00	1.51**
14	0.724	47.31	46.00	1.31**
15	0.867	47.18	46.00	1.18**
16	0.796	47.14	46.00	1.14**
17	1.006	46.83	46.00	0.83**
18	0.527	46.67	46.00	0.67**
19	0.751	46.63	46.00	0.63**
20	1.646	46.62	46.00	0.62**
21	0.580	46.56	46.00	0.56**
22	1.488	46.50	46.00	0.50**
23	0.614	46.47	46.00	0.47**
24	0.598	46.26	46.00	0.26**
25	0.547	46.07	46.00	0.07**
26	1.027	45.84	46.00	-0.16**
27	1.434	45.69	46.00	-0.31**
28	1.419	45.09	46.00	-0.91**
29	0.440	46.05	47.06	-1.01**
30	1.066	44.94	46.00	-1.06**
31	1.397	44.89	46.00	-1.11**
32	1.367	44.78	46.00	-1.22**
33	1.331	44.78	46.00	-1.22**
34	0.924	44.70	46.00	-1.30**
35	2.055	44.17	46.00	-1.83**
36	1.130	44.05	46.00	-1.95**
37	1.699	43.93	46.00	-2.07**
38	1.318	43.88	46.00	-2.12**
39	2.034	43.87	46.00	-2.13**
40	1.939	43.86	46.00	-2.14**
41	2.134	43.77	46.00	-2.23**
42	1.763	43.74	46.00	-2.26**
43	1.094	43.65	46.00	-2.35**
44	1.352	43.58	46.00	-2.42**
45	2.168	43.37	46.00	-2.63**
46	1.197	43.26	46.00	-2.74**
47	1.960	43.06	46.00	-2.94**
48	0.763	43.03	46.00	-2.97**

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

FCC - B Conducted Emissions
Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100
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 : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.327	43.41	49.53	-6.11
2	0.505	33.72	46.00	-12.28
3	0.516	33.30	46.00	-12.70
4	0.885	32.69	46.00	-13.31
5	0.521	32.48	46.00	-13.52
6	0.720	32.23	46.00	-13.77
7	0.713	32.10	46.00	-13.90
8	0.818	31.98	46.00	-14.02
9	0.728	31.75	46.00	-14.25
10	0.567	31.73	46.00	-14.27
11	0.583	31.67	46.00	-14.33
12	1.504	31.51	46.00	-14.49
13	0.953	31.45	46.00	-14.55
14	0.944	31.45	46.00	-14.55
15	0.406	33.17	47.72	-14.55
16	0.476	31.77	46.40	-14.63
17	1.488	31.16	46.00	-14.84
18	0.595	31.13	46.00	-14.87
19	1.011	31.12	46.00	-14.88
20	0.694	30.96	46.00	-15.04
21	0.862	30.91	46.00	-15.09
22	0.796	30.84	46.00	-15.16
23	1.434	30.74	46.00	-15.26
24	1.569	30.67	46.00	-15.33
25	1.637	30.61	46.00	-15.39
26	0.400	32.28	47.86	-15.58
27	0.634	30.20	46.00	-15.80
28	0.461	30.86	46.67	-15.81
29	1.367	30.18	46.00	-15.82
30	0.466	30.75	46.58	-15.82
31	0.442	31.10	47.02	-15.92
32	0.751	30.03	46.00	-15.97
33	0.544	29.83	46.00	-16.17
34	0.679	29.82	46.00	-16.18
35	1.072	29.79	46.00	-16.21
36	1.419	29.77	46.00	-16.23
37	1.464	29.71	46.00	-16.29
38	0.611	29.61	46.00	-16.39
39	1.397	29.48	46.00	-16.52
40	0.974	29.45	46.00	-16.55
41	1.083	29.21	46.00	-16.79
42	1.382	29.18	46.00	-16.82
43	0.662	29.14	46.00	-16.86
44	0.990	29.05	46.00	-16.95
45	1.094	28.99	46.00	-17.01
46	1.552	28.94	46.00	-17.06
47	0.909	28.93	46.00	-17.07
48	1.352	28.79	46.00	-17.21


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
3/09/2010 15:26:15
FCC Class B Conducted Emissions
Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100
FCC Class B - White Lead
WhiteLead LI-215 12078 9-28-09
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]

FCC Class B Conducted Emissions
Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100
FCC Class B - White Lead
WhiteLead LI-215 12078 9-28-09
TEST ENGINEER : Kyle Fujimoto

48 highest peaks above -50.00 dB of EN 55022 - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.341	53.67	49.18	4.49**
2	0.332	53.48	49.39	4.08**
3	0.317	53.09	49.79	3.30**
4	0.502	45.62	46.00	-0.38**
5	0.516	44.42	46.00	-1.58**
6	0.479	44.64	46.36	-1.72**
7	0.890	44.18	46.00	-1.82**
8	0.694	43.60	46.00	-2.40**
9	0.411	45.20	47.63	-2.43**
10	0.564	43.24	46.00	-2.76**
11	1.504	42.89	46.00	-3.11**
12	0.958	42.81	46.00	-3.19**
13	0.716	42.71	46.00	-3.29**
14	0.547	42.63	46.00	-3.37**
15	0.751	42.52	46.00	-3.48**
16	0.731	42.51	46.00	-3.49**
17	0.192	50.06	53.97	-3.91
18	0.792	42.04	46.00	-3.96**
19	0.683	41.99	46.00	-4.01**
20	0.442	42.97	47.02	-4.05**
21	0.598	41.76	46.00	-4.24**
22	0.614	41.66	46.00	-4.34**
23	1.488	41.59	46.00	-4.41**
24	0.809	41.55	46.00	-4.45**
25	1.434	41.48	46.00	-4.52**
26	1.072	41.34	46.00	-4.66**
27	1.006	41.33	46.00	-4.67**
28	1.637	41.21	46.00	-4.79**
29	0.924	41.09	46.00	-4.91**
30	0.969	41.01	46.00	-4.99**
31	0.867	40.77	46.00	-5.23**
32	1.027	40.53	46.00	-5.47**
33	1.577	40.40	46.00	-5.60**
34	1.367	40.37	46.00	-5.63**
35	1.397	40.08	46.00	-5.92**
36	1.136	39.94	46.00	-6.06**
37	1.699	39.91	46.00	-6.09**
38	1.419	39.78	46.00	-6.22**
39	2.123	39.55	46.00	-6.45
40	1.552	39.49	46.00	-6.51**
41	1.318	39.47	46.00	-6.53**
42	1.094	39.44	46.00	-6.56**
43	1.536	39.39	46.00	-6.61**
44	1.331	39.37	46.00	-6.63**
45	2.262	39.26	46.00	-6.74
46	1.820	39.23	46.00	-6.77
47	2.190	39.05	46.00	-6.95
48	2.168	38.75	46.00	-7.25

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

FCC Class B Conducted Emissions
Orka Technology Corporation
Remote Thermostat / Humidity Controller
Model: RFTH-100
FCC Class B - White Lead
WhiteLead LI-215 12078 9-28-09
TEST ENGINEER : Kyle Fujimoto

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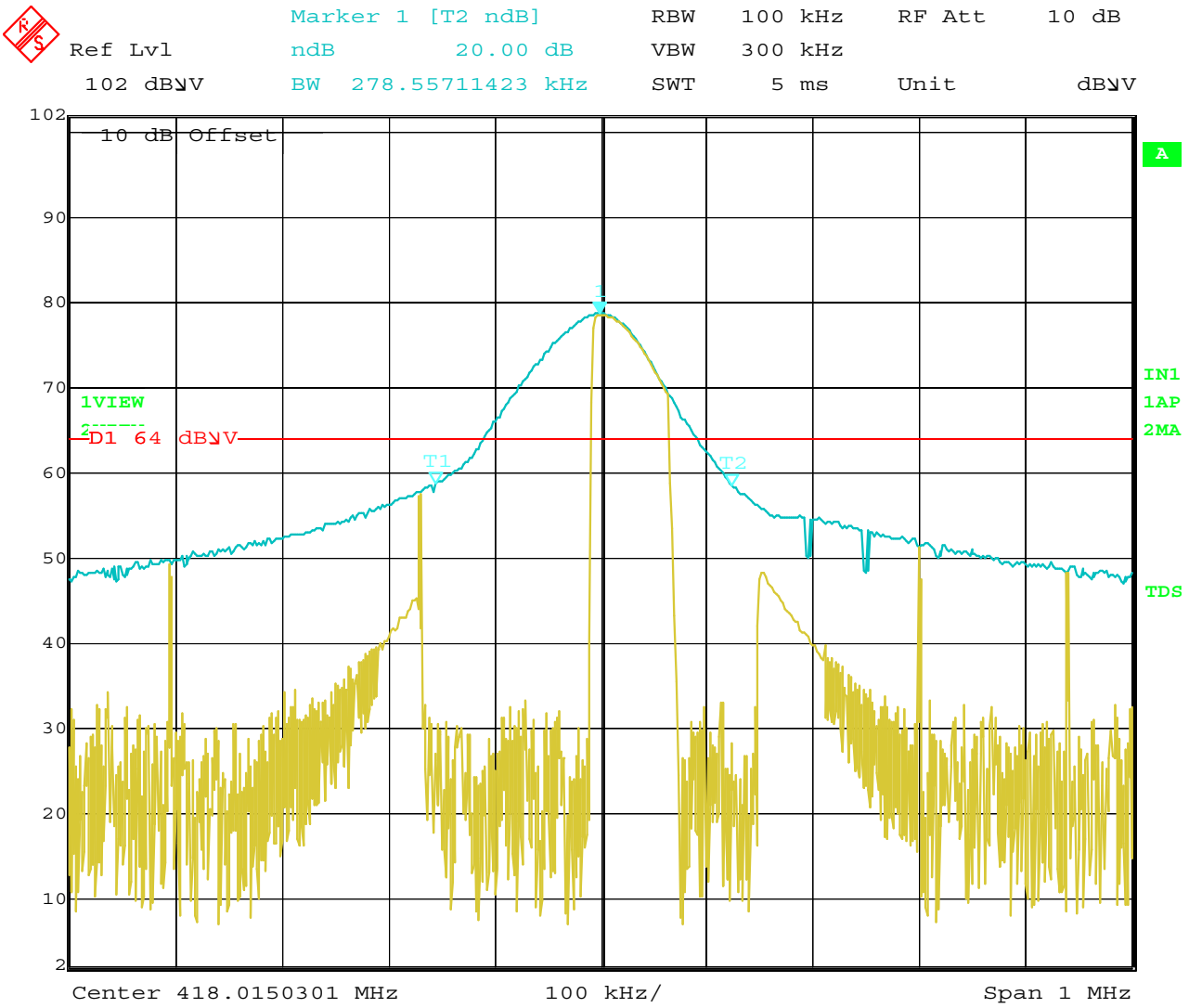
48 highest peaks above -50.00 dB of EN 55022 - Class B - Average limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.327	36.71	49.53	-12.81
2	0.317	35.03	49.79	-14.76
3	0.505	28.59	46.00	-17.41
4	0.634	28.27	46.00	-17.73
5	0.516	27.75	46.00	-18.25
6	0.521	27.53	46.00	-18.47
7	0.890	27.04	46.00	-18.96
8	0.476	27.41	46.40	-19.00
9	0.567	26.80	46.00	-19.20
10	0.713	26.71	46.00	-19.29
11	0.818	26.71	46.00	-19.29
12	0.527	26.64	46.00	-19.36
13	0.406	28.27	47.72	-19.46
14	1.504	26.54	46.00	-19.46
15	0.720	26.52	46.00	-19.48
16	0.728	26.47	46.00	-19.53
17	0.583	26.46	46.00	-19.54
18	1.016	26.43	46.00	-19.57
19	0.958	26.41	46.00	-19.59
20	1.488	26.33	46.00	-19.67
21	0.948	26.30	46.00	-19.70
22	1.637	26.19	46.00	-19.81
23	0.694	26.14	46.00	-19.86
24	0.595	26.09	46.00	-19.91
25	0.862	26.05	46.00	-19.95
26	0.796	25.91	46.00	-20.09
27	1.434	25.89	46.00	-20.11
28	1.569	25.85	46.00	-20.15
29	1.066	25.78	46.00	-20.22
30	0.461	26.36	46.67	-20.30
31	1.027	25.67	46.00	-20.33
32	0.544	25.64	46.00	-20.36
33	0.614	25.61	46.00	-20.39
34	0.400	27.44	47.86	-20.41
35	1.367	25.48	46.00	-20.52
36	0.747	25.44	46.00	-20.56
37	1.083	25.39	46.00	-20.61
38	1.419	25.37	46.00	-20.63
39	0.979	25.37	46.00	-20.63
40	1.699	25.34	46.00	-20.66
41	0.440	26.38	47.06	-20.68
42	1.094	25.27	46.00	-20.73
43	0.679	25.24	46.00	-20.76
44	1.464	25.19	46.00	-20.81
45	1.397	25.13	46.00	-20.87
46	1.552	25.07	46.00	-20.93
47	0.924	24.97	46.00	-21.03
48	0.454	25.72	46.80	-21.08

-20 dB BANDWIDTH

DATA SHEETS

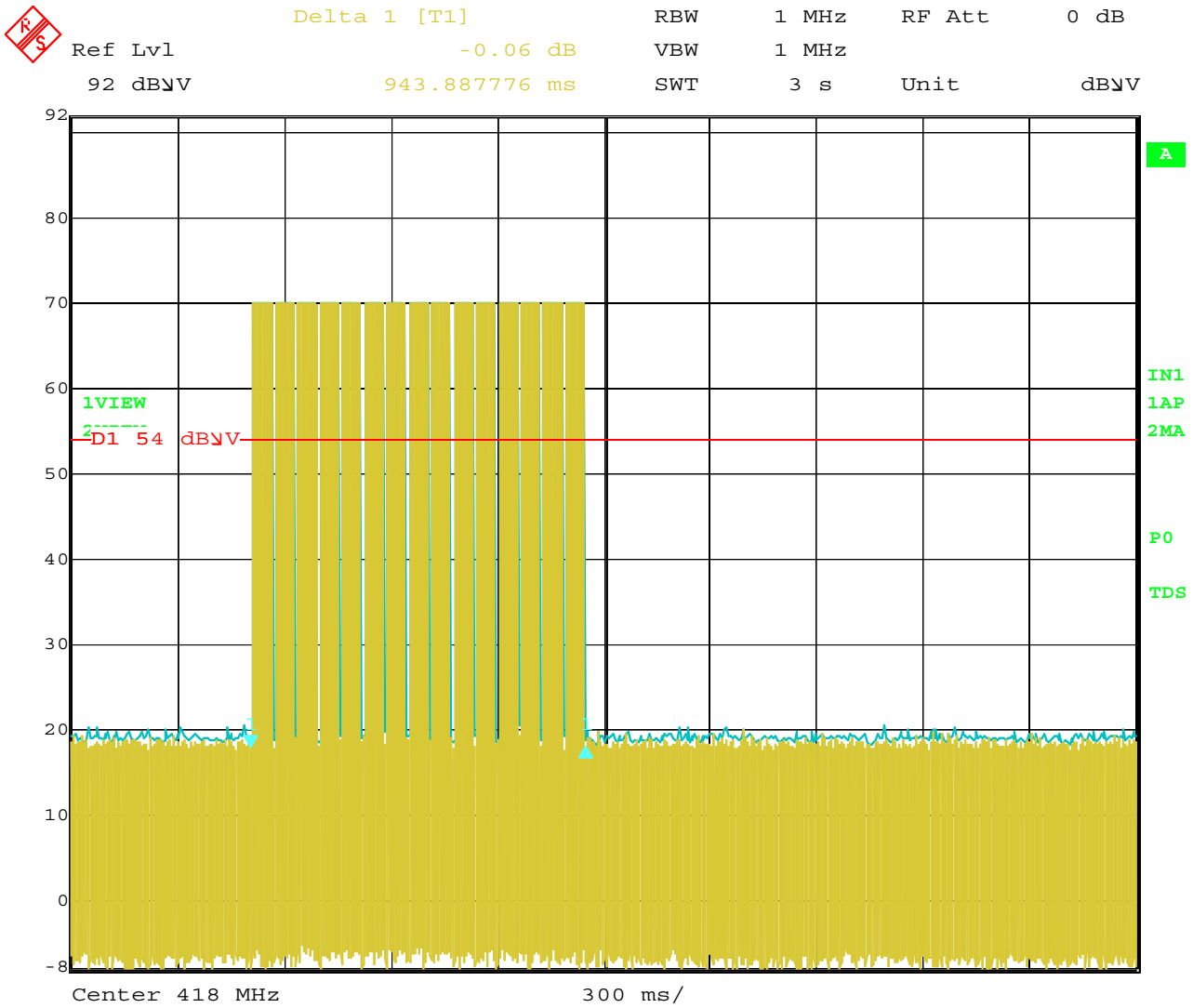


Date: 4.MAR.2010 10:54:13

-20 dB Bandwidth of the Fundamental

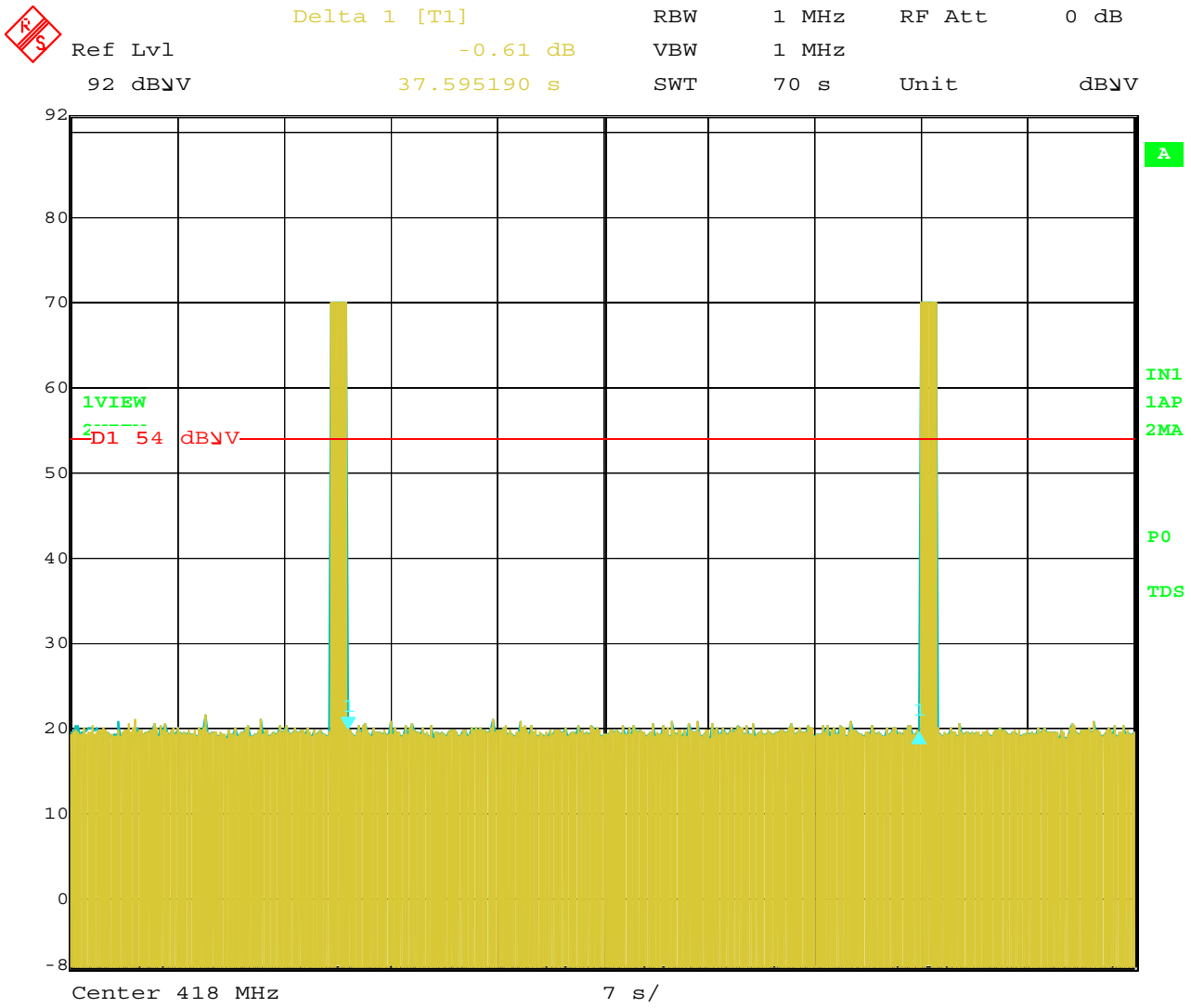
PERIODIC TRANSMISSION TEST

DATA SHEETS



Date: 12.MAR.2010 11:12:37

Total On time of a Single Transmission = 943.887776 ms



Date: 12.MAR.2010 11:11:02

Time between Transmissions = 37.595190 seconds
The minimum time required is 28.32 seconds (30 * 943.887776 ms)