SmartLabs, Inc.

TEST REPORT FOR

7 Day Thermostat, 4715

Tested To The Following Standards:

FCC Part 15 Subpart C Sections 15.249

Report No.: 91000-3

Date of issue: August 31, 2010

TESTING
CERT #803.01, 803.02, 803.05, 803.06

This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

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Irvine, Ca 92606

Representative: Matthew Carter
Customer Reference Number: 10-3MC0805-01

REPORT PREPARED BY:

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CKC Laboratories, Inc.
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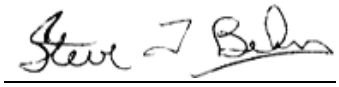
Project Number: 91000

DATE OF EQUIPMENT RECEIPT: August 17, 2010
DATE(S) OF TESTING: August 20, 2010

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.



Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information

Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92823

Site Registration & Accreditation Information

Location	Japan	Canada	FCC
Brea A	R-2945, C-3248 & T-1572	3082D-1	90473

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C Section 15.249

Description	Test Procedure/Method	Results
Carrier and Spurious Emissions	FCC Part 15 Subpart C Section 15.249(a)(b)	Pass

Conditions During Testing

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
None

EQUIPMENT UNDER TEST (EUT)

EQUIPMENT UNDER TEST

7 Day Thermostat
Manuf: SmartLabs, Inc.
Model: 4715
Serial: 11.B5.65

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

FCC PART 15 SUBPART C § 15.249

15.249(a)(b) Carrier and Spurious Emissions

Test Data Sheets

Test Location: CKC Laboratories, Inc • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **SmartLabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-908 MHz Transmitter)**
Work Order #: **91000** Date: 8/20/2010
Test Type: **Radiated Scan** Time: 16:18:35
Equipment: **7 Day Thermostat** Sequence#: 1
Manufacturer: SmartLabs, Inc. Tested By: E. Wong
Model: 4715
S/N: 11.B5.65

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
T4	ANP05050	Cable	RG223/U	4/16/2009	4/16/2011
T5	ANP05198	Cable	8268	1/5/2009	1/5/2011
T6	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T7	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T8	AN02948	Cable	32022-2-2909K-24TC	9/21/2009	9/21/2011
T9	ANP05565	Cable	ANDL-1-PNMN-54	9/4/2008	9/4/2010
T10	AN03169	High Pass Filter	HM1155-11SS	9/14/2009	9/14/2011
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
7 Day Thermostat*	SmartLabs, Inc.	4715	11.B5.65

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam of 10 cm thickness. AC power is obtained from an AC-AC step down power supply. All terminals are connected to sections of unterminated wire.

Freq: 914.9- 915.1 MHz
Single channel, freq: 915MHz

The EUT is set in constant transmit mode, all intended functionalities are exercised.

Radiated signal level of the fundamental frequency component of the emission was measured with the supply voltage varied between 85% and 115% of the nominal rated supply voltage, no change in signal level.

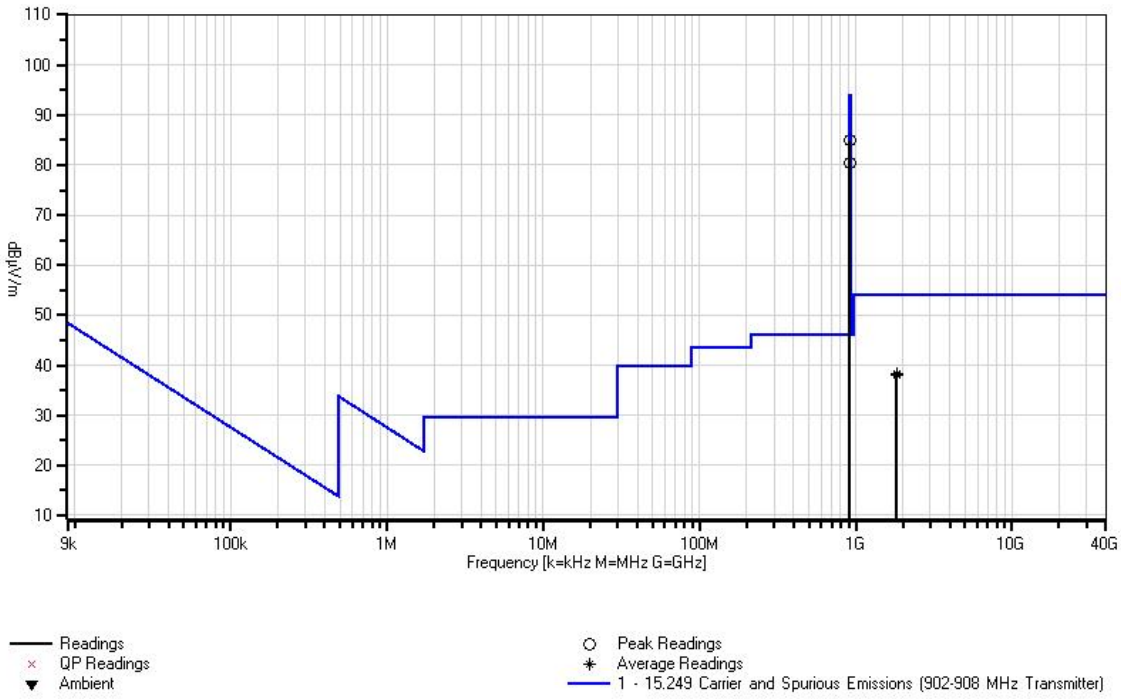
Frequency range of measurement = 9 kHz- 10 GHz.
9 kH -150 kHz; RBW=200 Hz, VBW=200 Hz, 150 kHz-30 MHz; RBW=9 kHz, VBW=9 kHz;30 MHz-1000 MHz; RBW=120 kHz, VBW=120 kHz,1000 MHz-10000 MHz; RBW=1 MHz, VBW=1 MHz.
Temp: 18°C, Relative Humidity: 70%

Ext Attn: 0 dB

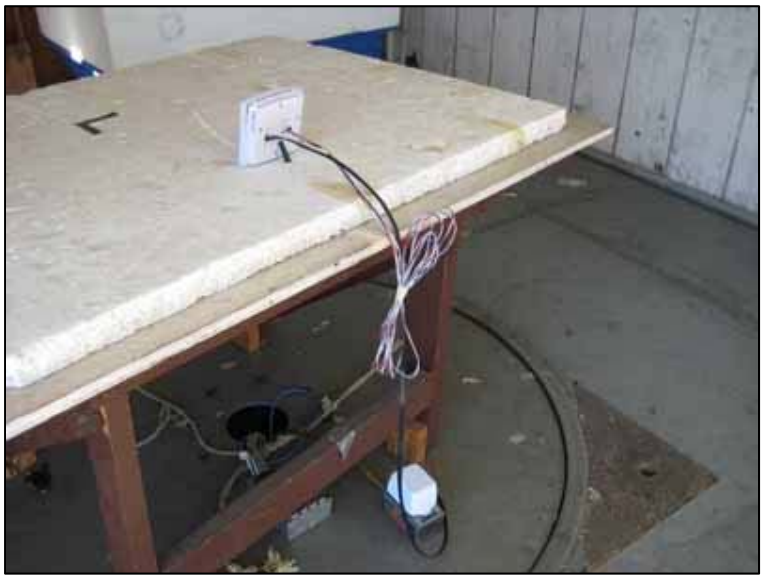
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7	T4 T8	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	915.057M	81.9	+0.0 +5.8 +0.0	-27.1 +0.0 +0.0	+23.6 +0.0	+0.7 +0.0	+0.0	84.9	94.0 Fundamental	-9.1	Vert
2	915.057M	77.4	+0.0 +5.8 +0.0	-27.1 +0.0 +0.0	+23.6 +0.0	+0.7 +0.0	+0.0	80.4	94.0 Fundamental	-13.6	Horiz
3	1829.800M Ave	45.4	+0.0 +0.0 +3.2	+0.0 -38.2 +0.3	+0.0 +27.2	+0.0 +0.4	+0.0	38.3	54.0	-15.7	Vert
^	1829.800M	52.5	+0.0 +0.0 +3.2	+0.0 -38.2 +0.3	+0.0 +27.2	+0.0 +0.4	+0.0	45.4	54.0	-8.6	Vert
5	1829.800M Ave	45.1	+0.0 +0.0 +3.2	+0.0 -38.2 +0.3	+0.0 +27.2	+0.0 +0.4	+0.0	38.0	54.0	-16.0	Horiz
^	1829.800M	51.2	+0.0 +0.0 +3.2	+0.0 -38.2 +0.3	+0.0 +27.2	+0.0 +0.4	+0.0	44.1	54.0	-9.9	Horiz

CKC Laboratories, Inc Date: 8/20/2010 Time: 16:18:35 SmartLabs, Inc. WO#: 91000
15.249 Carrier and Spurious Emissions (902-908 MHz Transmitter) Test Distance: 3 Meters Sequence#: 1 Ext
ATTN: 0 dB



Test Setup Photos



SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

Emissions Test Details

TESTING PARAMETERS

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. The following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the highest readings, this is indicated as a "QP" or an "Ave" on the appropriate rows of the data sheets. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer/receiver readings recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the measuring device called "peak hold," the measuring device had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the quasi-peak detector.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer/receiver. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.