SmartLabs, Inc.

ADDENDUM TO TEST REPORT 92438-3

In-Line 0-10VDC Dimmer or Dual-Switch, 2475DA2

Tested To The Following Standards:

FCC Part 15 Subpart C Sections 15.207, 15.249
and
RSS 210 ISSUE 8

Report No.: 92438-3A

Date of issue: December 15, 2011

ACCREDITED
Testing Certificates:
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.

Testing the Future
CKC LABORATORIES, INC.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

SmartLabs, Inc.
16542 Millikan Ave
Irvine, CA 92606

Representative: John Lockyer
Customer Reference Number: 11-3JL1013-01

REPORT PREPARED BY:

Dianne Dudley
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 92348

DATE OF EQUIPMENT RECEIPT: October 27, 2011
DATE(S) OF TESTING: October 27, 2011- December 6, 2011

Revision History

Original: To perform the testing of the In-Line 0-10VDC Dimmer or Dual-Switch, 2475DA2 with the requirements for FCC Part 15 Subpart C Sections 15.207, 15.249 and RSS 210 Issue 8 devices.
Addendum A: To include testing performed of the In-Line 0-10VDC Dimmer or Dual-Switch, 2475DA2 with optional sensor and a section of dedicated cable length installed with the requirements for FCC Part 15 Subpart C Sections 15.249(a) and 15.249(d).
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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	CB #	Japan	Canada	FCC
Brea A	US0060	R-2945, C-3248 & T-1572	3082D-1	90473

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C 15.207, 15.249 and RSS 210 Issue 8

Description	Test Procedure/Method	Results
Voltage Variation	FCC Part 15 Subpart C Section 15.31(e)	Pass
Conducted Emissions	FCC Part 15 Subpart C Section 15.207 / ANSI C63.4 (2003)	Pass
RF Power Output	FCC Part 15 Subpart C Section 15.249 (a)	Pass
Field Strength of Harmonics / Field Strength of Spurious Emissions	FCC Part 15 Subpart C Section 15.249(a) & 15.249(d) / ANSI C63.4 (2003)	Pass
-20dBc Occupied Bandwidth	FCC Part 15 Subpart C Section 15.249	Pass
Occupied Bandwidth	FCC Part 15 Subpart C Section 15.249	Pass
Bandedge	FCC Part 15 Subpart C	Pass
99 % Bandwidth	RSS 210 Issue 8	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

In-Line 0-10VDC Dimmer or Dual-Switch
Manuf: SmartLabs, Inc.
Model: 2475DA2
Serial: 148B8C

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Dimmable Programmed Start Electronic Ballast
Manuf: Phillips
Model: IZT-132-SC
Serial: NA

Florescent Light
Manuf: Ecolux
Model: SP35
Serial: F17T8-SP35-ECO

FCC PART 15 SUBPART C

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR 15C requirements for Unlicensed Radio Frequency Devices, Subpart C - Intentional Radiators.

15.31(e) Voltage Variations

Test Conditions / Setup

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

15.31(e) compliance: the supply voltage was varied between 85% and 115% of the nominal rated supply voltage (120- 230Vac), no change in the Fundamental signal level was observed.

Frequency range of measurement = 30 MHz- 1GHz
RBW=120 kHz, VBW=120 kHz

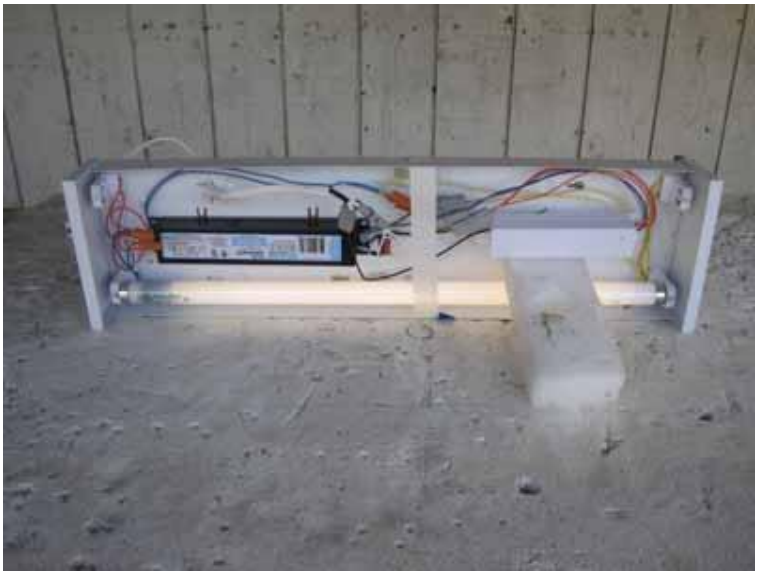
18°C, 22% Relative Humidity

Engineer Name: D. Nguyen

Test Equipment

Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due
AN00309	Preamp	8447D	HP	5/7/2010	5/7/2012
AN01995	Biconilog Antenna	CBL6111C	Chase	3/8/2010	3/8/2012
ANP05050	Cable	RG223/U	Pasternack	3/21/2011	3/21/2013
ANP05198	Cable	8268	Belden	12/21/2010	12/21/2012
AN02672	Spectrum Analyzer	E4446A	Agilent	8/9/2010	8/9/2012

Test Setup Photos



15.31(e) X Axis

15.31(e) Y Axis

15.31(e) Z Axis

15.31(e) BACK VIEW

15.207 AC Conducted Emissions

Test Data Sheets

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer:	**SmartLabs, Inc.**		
Specification:	**15.207 AC Mains - Average**		
Work Order #:	**92348**	Date:	10/27/2011
Test Type:	**Conducted Emissions**	Time:	15:43:59
Equipment:	**In-Line 0-10VDC Dimmer or Dual-Switch**	Sequence#:	11
Manufacturer:	SmartLabs, Inc.	Tested By:	Don Nguyen
Model:	2475DA2		120V 60Hz
S/N:	148B8C		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN02610	High Pass Filter	HE9615-150K-50-720B	11/16/2009	11/16/2011
T2	ANP04358	Cable	RG142	5/7/2010	5/7/2012
T3	ANP06084	Attenuator	SA18N10W-06	12/8/2010	12/8/2012
T4	AN00847.1	50uH LISN-Line 1 (dB)	3816/2NM	12/21/2010	12/21/2012
	AN00847.1	50uH LISN-Line 2 (dB)	3816/2NM	12/21/2010	12/21/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane.
Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz
Frequency range of measurement = 150kHz-30 MHz
RBW=VBW=9kHz
18°C, 22% Relative Humidity

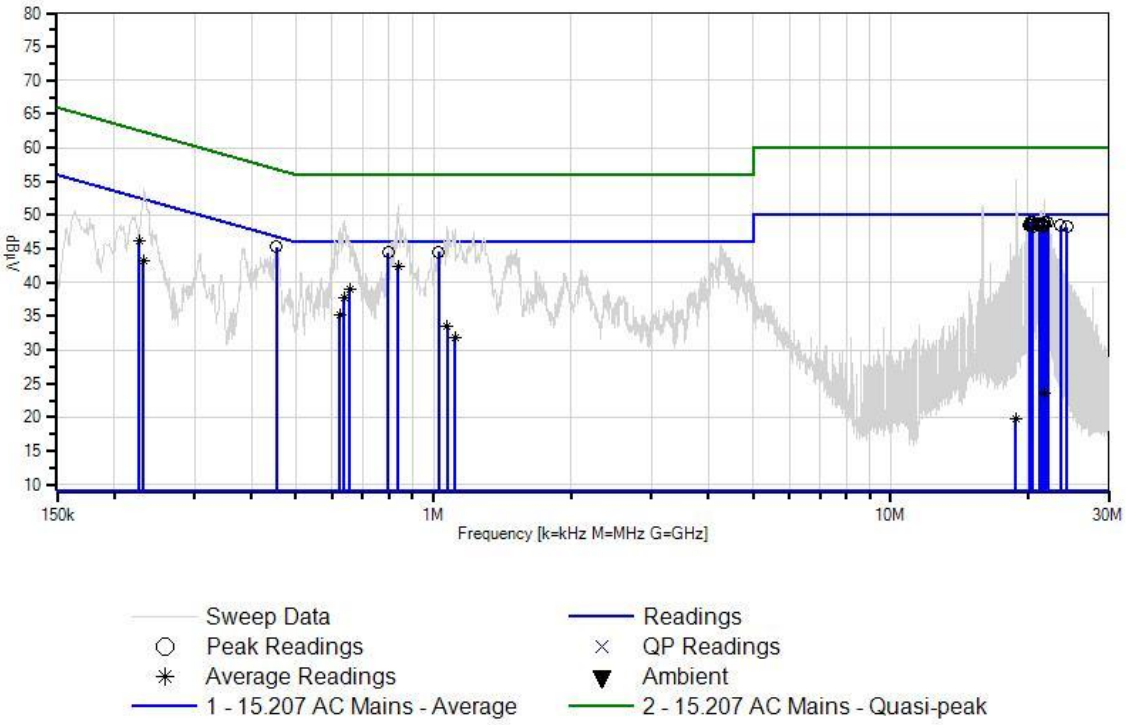
Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Lead: L1

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	20.481M	41.4	+0.2	+0.4	+5.9	+1.1	+0.0	49.0	50.0	-1.0	L1
2	20.274M	41.4	+0.2	+0.4	+5.9	+1.1	+0.0	49.0	50.0	-1.0	L1
3	22.112M	41.2	+0.2	+0.4	+5.9	+1.3	+0.0	49.0	50.0	-1.0	L1
4	21.670M	41.2	+0.2	+0.4	+5.9	+1.3	+0.0	49.0	50.0	-1.0	L1
5	21.148M	41.0	+0.2	+0.4	+5.9	+1.2	+0.0	48.7	50.0	-1.3	L1
6	21.400M	41.0	+0.2	+0.4	+5.9	+1.2	+0.0	48.7	50.0	-1.3	L1
7	20.148M	41.0	+0.2	+0.4	+5.9	+1.1	+0.0	48.6	50.0	-1.4	L1
8	21.797M	40.8	+0.2	+0.4	+5.9	+1.3	+0.0	48.6	50.0	-1.4	L1
9	20.355M	40.9	+0.2	+0.4	+5.9	+1.1	+0.0	48.5	50.0	-1.5	L1
10	21.526M	40.8	+0.2	+0.4	+5.9	+1.2	+0.0	48.5	50.0	-1.5	L1
11	23.511M	40.5	+0.2	+0.4	+5.9	+1.5	+0.0	48.5	50.0	-1.5	L1
12	1.026M	38.4	+0.2	+0.1	+5.8	+0.0	+0.0	44.5	46.0	-1.5	L1
13	453.244k	39.2	+0.3	+0.1	+5.7	+0.0	+0.0	45.3	46.8	-1.5	L1
14	20.229M	40.9	+0.2	+0.4	+5.9	+1.1	+0.0	48.5	50.0	-1.5	L1
15	20.310M	40.9	+0.2	+0.4	+5.9	+1.1	+0.0	48.5	50.0	-1.5	L1
16	20.256M	40.9	+0.2	+0.4	+5.9	+1.1	+0.0	48.5	50.0	-1.5	L1
17	796.485k	38.3	+0.2	+0.1	+5.8	+0.0	+0.0	44.4	46.0	-1.6	L1
18	21.544M	40.7	+0.2	+0.4	+5.9	+1.2	+0.0	48.4	50.0	-1.6	L1
19	24.292M	40.3	+0.2	+0.4	+5.9	+1.5	+0.0	48.3	50.0	-1.7	L1
20	20.454M	40.6	+0.2	+0.4	+5.9	+1.1	+0.0	48.2	50.0	-1.8	L1
21	836.481k Ave	36.2	+0.2	+0.1	+5.8	+0.0	+0.0	42.3	46.0	-3.7	L1
^	836.481k	45.1	+0.2	+0.1	+5.8	+0.0	+0.0	51.2	46.0	+5.2	L1
23	227.292k Ave	39.9	+0.3	+0.1	+5.8	+0.0	+0.0	46.1	52.5	-6.4	L1
24	656.279k Ave	32.8	+0.3	+0.1	+5.8	+0.0	+0.0	39.0	46.0	-7.0	L1

25 Ave	636.500k	31.5	+0.3	+0.1	+5.8	+0.0	+0.0	37.7	46.0	-8.3	L1
^	636.500k	43.0	+0.3	+0.1	+5.8	+0.0	+0.0	49.2	46.0	+3.2	L1
27 Ave	232.173k	37.0	+0.3	+0.1	+5.8	+0.0	+0.0	43.2	52.4	-9.2	L1
^	232.173k	47.7	+0.3	+0.1	+5.8	+0.0	+0.0	53.9	52.4	+1.5	L1
29 Ave	622.683k	28.9	+0.3	+0.1	+5.8	+0.0	+0.0	35.1	46.0	-10.9	L1
^	622.683k	41.9	+0.3	+0.1	+5.8	+0.0	+0.0	48.1	46.0	+2.1	L1
31 Ave	1.073M	27.4	+0.2	+0.1	+5.8	+0.0	+0.0	33.5	46.0	-12.5	L1
^	1.073M	42.4	+0.2	+0.1	+5.8	+0.0	+0.0	48.5	46.0	+2.5	L1
33 Ave	1.115M	25.8	+0.2	+0.1	+5.8	+0.0	+0.0	31.9	46.0	-14.1	L1
^	1.115M	41.8	+0.2	+0.1	+5.8	+0.0	+0.0	47.9	46.0	+1.9	L1
35 Ave	21.743M	15.8	+0.2	+0.4	+5.9	+1.3	+0.0	23.6	50.0	-26.4	L1
^	21.743M	44.6	+0.2	+0.4	+5.9	+1.3	+0.0	52.4	50.0	+2.4	L1
37 Ave	18.815M	12.2	+0.2	+0.4	+5.9	+1.0	+0.0	19.7	50.0	-30.3	L1
^	18.815M	47.9	+0.2	+0.4	+5.9	+1.0	+0.0	55.4	50.0	+5.4	L1

CKC Laboratories Date: 10/27/2011 Time: 15:43:59 SmartLabs, Inc. WO#: 92348
15.207 AC Mains - Average Test Lead: L1 120V 60Hz Sequence#: 11 Ext ATTN: 0 dB



Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **SmartLabs, Inc.**
Specification: **15.207 AC Mains - Average**
Work Order #: **92348** Date: 10/27/2011
Test Type: **Conducted Emissions** Time: 15:52:19
Equipment: **In-Line 0-10VDC Dimmer or Dual-Switch** Sequence#: 12
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: 2475DA2 120V 60Hz
S/N: 148B8C

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN02610	High Pass Filter	HE9615-150K-50-720B	11/16/2009	11/16/2011
T2	ANP04358	Cable	RG142	5/7/2010	5/7/2012
T3	ANP06084	Attenuator	SA18N10W-06	12/8/2010	12/8/2012
	AN00847.1	50uH LISN-Line 1 (dB)	3816/2NM	12/21/2010	12/21/2012
T4	AN00847.1	50uH LISN-Line 2 (dB)	3816/2NM	12/21/2010	12/21/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane.
Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

Frequency range of measurement = 150kHz-30 MHz
RBW=VBW=9kHz
18°C, 22% Relative Humidity

Ext Attn: 0 dB

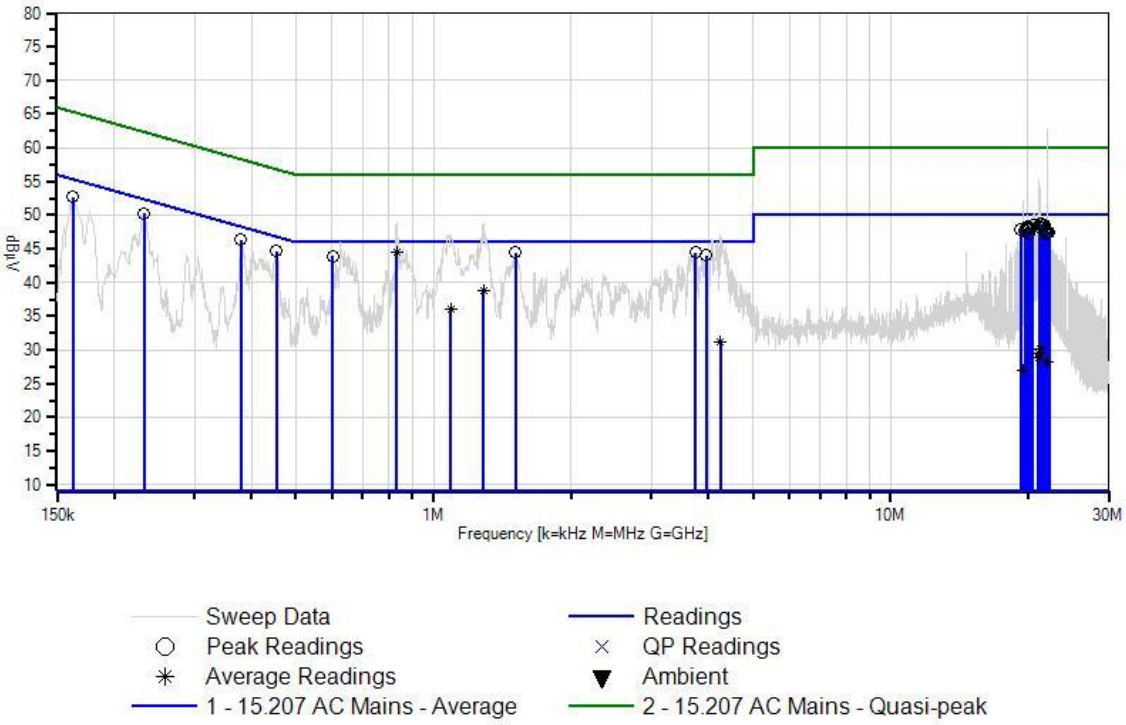
Measurement Data: Reading listed by margin. Test Lead: L2

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	21.238M	41.0	+0.2	+0.4	+5.9	+1.3	+0.0	48.8	50.0	-1.2	L2
2	21.373M	40.9	+0.2	+0.4	+5.9	+1.3	+0.0	48.7	50.0	-1.3	L2
3	21.499M	40.7	+0.2	+0.4	+5.9	+1.4	+0.0	48.6	50.0	-1.4	L2

4	830.464k Ave	38.4	+0.2	+0.1	+5.8	+0.0	+0.0	44.5	46.0	-1.5	L2
5	20.508M	40.8	+0.2	+0.4	+5.9	+1.2	+0.0	48.5	50.0	-1.5	L2
6	21.779M	40.6	+0.2	+0.4	+5.9	+1.4	+0.0	48.5	50.0	-1.5	L2
7	830.665k Ave	38.4	+0.2	+0.1	+5.8	+0.0	+0.0	44.5	46.0	-1.5	L2
^	830.665k	43.0	+0.2	+0.1	+5.8	+0.0	+0.0	49.1	46.0	+3.1	L2
9	1.511M	38.3	+0.1	+0.1	+5.8	+0.1	+0.0	44.4	46.0	-1.6	L2
10	21.175M	40.6	+0.2	+0.4	+5.9	+1.3	+0.0	48.4	50.0	-1.6	L2
11	3.748M	38.2	+0.1	+0.2	+5.8	+0.1	+0.0	44.4	46.0	-1.6	L2
12	19.896M	40.6	+0.2	+0.4	+5.9	+1.2	+0.0	48.3	50.0	-1.7	L2
13	20.058M	40.4	+0.2	+0.4	+5.9	+1.2	+0.0	48.1	50.0	-1.9	L2
14	21.562M	40.2	+0.2	+0.4	+5.9	+1.4	+0.0	48.1	50.0	-1.9	L2
15	19.797M	40.4	+0.2	+0.4	+5.9	+1.2	+0.0	48.1	50.0	-1.9	L2
16	3.956M	37.8	+0.1	+0.2	+5.8	+0.1	+0.0	44.0	46.0	-2.0	L2
17	20.148M	40.3	+0.2	+0.4	+5.9	+1.2	+0.0	48.0	50.0	-2.0	L2
18	379.070k	40.2	+0.3	+0.1	+5.7	+0.0	+0.0	46.3	48.3	-2.0	L2
19	232.901k	44.1	+0.3	+0.1	+5.8	+0.0	+0.0	50.3	52.3	-2.0	L2
20	600.868k	37.7	+0.3	+0.1	+5.8	+0.0	+0.0	43.9	46.0	-2.1	L2
21	452.518k	38.6	+0.3	+0.1	+5.7	+0.0	+0.0	44.7	46.8	-2.1	L2
22	21.950M	40.0	+0.2	+0.4	+5.9	+1.4	+0.0	47.9	50.0	-2.1	L2
23	19.283M	40.2	+0.2	+0.4	+5.9	+1.2	+0.0	47.9	50.0	-2.1	L2
24	19.878M	40.1	+0.2	+0.4	+5.9	+1.2	+0.0	47.8	50.0	-2.2	L2
25	19.670M	40.0	+0.2	+0.4	+5.9	+1.2	+0.0	47.7	50.0	-2.3	L2
26	22.202M	39.6	+0.2	+0.4	+5.9	+1.4	+0.0	47.5	50.0	-2.5	L2
27	162.363k	46.4	+0.4	+0.1	+5.8	+0.0	+0.0	52.7	55.3	-2.6	L2
28	22.058M	39.5	+0.2	+0.4	+5.9	+1.4	+0.0	47.4	50.0	-2.6	L2
29	20.112M	39.6	+0.2	+0.4	+5.9	+1.2	+0.0	47.3	50.0	-2.7	L2

30	21.932M	39.4	+0.2	+0.4	+5.9	+1.4	+0.0	47.3	50.0	-2.7	L2
31	1.285M Ave	32.5	+0.2	+0.1	+5.8	+0.1	+0.0	38.7	46.0	-7.3	L2
^	1.285M	42.5	+0.2	+0.1	+5.8	+0.1	+0.0	48.7	46.0	+2.7	L2
33	1.090M Ave	29.9	+0.2	+0.1	+5.8	+0.0	+0.0	36.0	46.0	-10.0	L2
^	1.090M	41.0	+0.2	+0.1	+5.8	+0.0	+0.0	47.1	46.0	+1.1	L2
35	4.241M Ave	24.9	+0.1	+0.2	+5.8	+0.2	+0.0	31.2	46.0	-14.8	L2
^	4.241M	40.7	+0.1	+0.2	+5.8	+0.2	+0.0	47.0	46.0	+1.0	L2
37	21.202M Ave	22.3	+0.2	+0.4	+5.9	+1.3	+0.0	30.1	50.0	-19.9	L2
^	21.202M	46.3	+0.2	+0.4	+5.9	+1.3	+0.0	54.1	50.0	+4.1	L2
39	21.049M Ave	21.8	+0.2	+0.4	+5.9	+1.3	+0.0	29.6	50.0	-20.4	L2
^	21.049M	43.2	+0.2	+0.4	+5.9	+1.3	+0.0	51.0	50.0	+1.0	L2
41	21.112M Ave	21.1	+0.2	+0.4	+5.9	+1.3	+0.0	28.9	50.0	-21.1	L2
^	21.112M	47.4	+0.2	+0.4	+5.9	+1.3	+0.0	55.2	50.0	+5.2	L2
43	22.022M Ave	20.3	+0.2	+0.4	+5.9	+1.4	+0.0	28.2	50.0	-21.8	L2
^	22.022M	55.1	+0.2	+0.4	+5.9	+1.4	+0.0	63.0	50.0	+13.0	L2
45	19.571M Ave	19.2	+0.2	+0.4	+5.9	+1.2	+0.0	26.9	50.0	-23.1	L2
^	19.571M	44.6	+0.2	+0.4	+5.9	+1.2	+0.0	52.3	50.0	+2.3	L2

CKC Laboratories Date: 10/27/2011 Time: 15:52:19 SmartLabs, Inc. WO#: 92348
15.207 AC Mains - Average Test Lead: L2 120V 60Hz Sequence#: 12 Ext ATTN: 0 dB



Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer:	**SmartLabs, Inc.**		
Specification:	**15.207 AC Mains - Average**		
Work Order #:	**92348**	Date:	10/27/2011
Test Type:	**Conducted Emissions**	Time:	16:09:41
Equipment:	**In-Line 0-10VDC Dimmer or Dual-Switch**	Sequence#:	14
Manufacturer:	SmartLabs, Inc.	Tested By:	Don Nguyen
Model:	2475DA2		230V 50Hz
S/N:	148B8C		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN02610	High Pass Filter	HE9615-150K-50-720B	11/16/2009	11/16/2011
T2	ANP04358	Cable	RG142	5/7/2010	5/7/2012
T3	ANP06084	Attenuator	SA18N10W-06	12/8/2010	12/8/2012
T4	AN00847.1	50uH LISN-Line 1 (dB)	3816/2NM	12/21/2010	12/21/2012
	AN00847.1	50uH LISN-Line 2 (dB)	3816/2NM	12/21/2010	12/21/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

Frequency range of measurement = 150kHz-30 MHz
RBW=VBW=9kHz
18°C, 22% Relative Humidity

Ext Attn: 0 dB

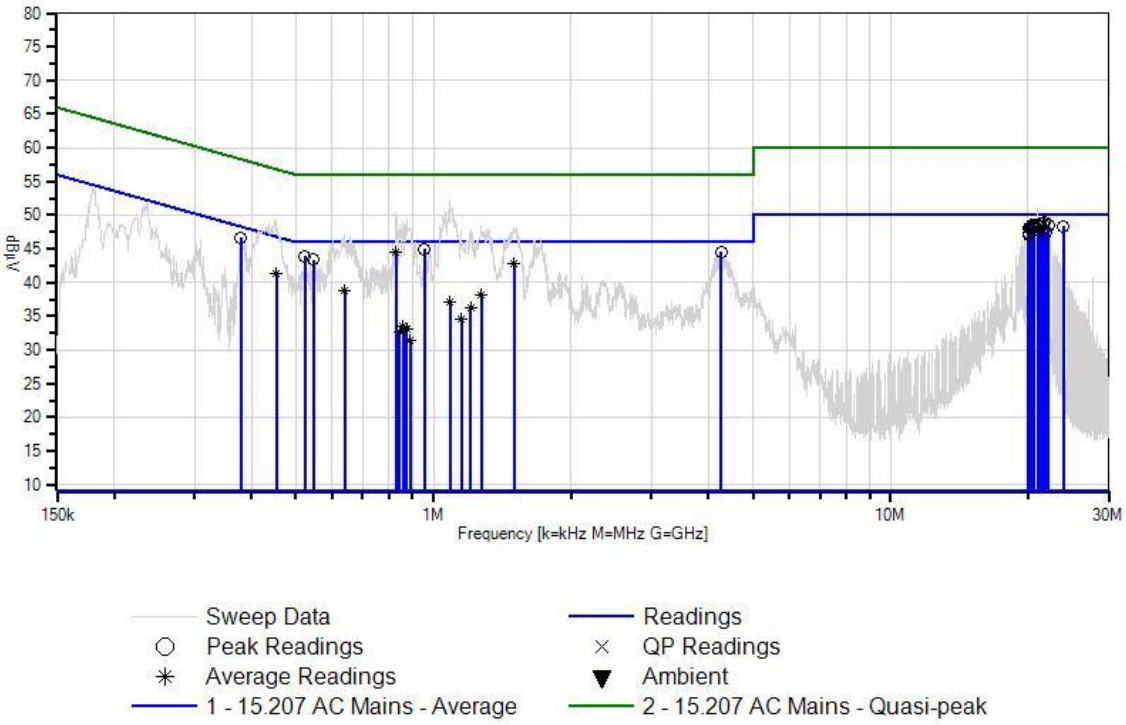
Measurement Data: Reading listed by margin. Test Lead: L1

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	953.754k	38.9	+0.2	+0.1	+5.8	+0.0	+0.0	45.0	46.0	-1.0	L1
2	21.670M	41.1	+0.2	+0.4	+5.9	+1.3	+0.0	48.9	50.0	-1.1	L1
3	21.337M	41.0	+0.2	+0.4	+5.9	+1.2	+0.0	48.7	50.0	-1.3	L1

4	21.616M	40.9	+0.2	+0.4	+5.9	+1.3	+0.0	48.7	50.0	-1.3	L1
5	21.049M	40.9	+0.2	+0.4	+5.9	+1.2	+0.0	48.6	50.0	-1.4	L1
6	20.661M	41.0	+0.2	+0.4	+5.9	+1.1	+0.0	48.6	50.0	-1.4	L1
7	20.346M	41.0	+0.2	+0.4	+5.9	+1.1	+0.0	48.6	50.0	-1.4	L1
8	22.121M	40.8	+0.2	+0.4	+5.9	+1.3	+0.0	48.6	50.0	-1.4	L1
9	21.175M	40.9	+0.2	+0.4	+5.9	+1.2	+0.0	48.6	50.0	-1.4	L1
10	4.258M	38.3	+0.1	+0.2	+5.8	+0.1	+0.0	44.5	46.0	-1.5	L1
11	379.070k	40.6	+0.3	+0.1	+5.7	+0.0	+0.0	46.7	48.3	-1.6	L1
12	23.915M	40.4	+0.2	+0.4	+5.9	+1.5	+0.0	48.4	50.0	-1.6	L1
13	828.483k Ave	38.3	+0.2	+0.1	+5.8	+0.0	+0.0	44.4	46.0	-1.6	L1
^	828.483k	44.4	+0.2	+0.1	+5.8	+0.0	+0.0	50.5	46.0	+4.5	L1
15	20.454M	40.7	+0.2	+0.4	+5.9	+1.1	+0.0	48.3	50.0	-1.7	L1
16	20.436M	40.6	+0.2	+0.4	+5.9	+1.1	+0.0	48.2	50.0	-1.8	L1
17	21.094M	40.5	+0.2	+0.4	+5.9	+1.2	+0.0	48.2	50.0	-1.8	L1
18	21.202M	40.5	+0.2	+0.4	+5.9	+1.2	+0.0	48.2	50.0	-1.8	L1
19	20.076M	40.5	+0.2	+0.4	+5.9	+1.1	+0.0	48.1	50.0	-1.9	L1
20	20.535M	40.5	+0.2	+0.4	+5.9	+1.1	+0.0	48.1	50.0	-1.9	L1
21	20.202M	40.4	+0.2	+0.4	+5.9	+1.1	+0.0	48.0	50.0	-2.0	L1
22	523.784k	37.8	+0.3	+0.1	+5.7	+0.0	+0.0	43.9	46.0	-2.1	L1
23	21.076M	39.9	+0.2	+0.4	+5.9	+1.2	+0.0	47.6	50.0	-2.4	L1
24	21.896M	39.7	+0.2	+0.4	+5.9	+1.3	+0.0	47.5	50.0	-2.5	L1
25	545.600k	37.2	+0.3	+0.1	+5.8	+0.0	+0.0	43.4	46.0	-2.6	L1
26	20.049M	39.7	+0.2	+0.4	+5.9	+1.1	+0.0	47.3	50.0	-2.7	L1
27	20.121M	39.4	+0.2	+0.4	+5.9	+1.1	+0.0	47.0	50.0	-3.0	L1
28	1.502M Ave	36.8	+0.1	+0.1	+5.8	+0.0	+0.0	42.8	46.0	-3.2	L1
^	1.502M	42.2	+0.1	+0.1	+5.8	+0.0	+0.0	48.2	46.0	+2.2	L1

30 Ave	452.518k	35.3	+0.3	+0.1	+5.7	+0.0	+0.0	41.4	46.8	-5.4	L1
^	452.518k	43.3	+0.3	+0.1	+5.7	+0.0	+0.0	49.4	46.8	+2.6	L1
32 Ave	638.682k	32.6	+0.3	+0.1	+5.8	+0.0	+0.0	38.8	46.0	-7.2	L1
^	638.682k	40.9	+0.3	+0.1	+5.8	+0.0	+0.0	47.1	46.0	+1.1	L1
34 Ave	1.273M	32.0	+0.2	+0.1	+5.8	+0.0	+0.0	38.1	46.0	-7.9	L1
^	1.273M	42.5	+0.2	+0.1	+5.8	+0.0	+0.0	48.6	46.0	+2.6	L1
36 Ave	1.086M	30.9	+0.2	+0.1	+5.8	+0.0	+0.0	37.0	46.0	-9.0	L1
^	1.086M	46.1	+0.2	+0.1	+5.8	+0.0	+0.0	52.2	46.0	+6.2	L1
38 Ave	1.205M	30.1	+0.2	+0.1	+5.8	+0.0	+0.0	36.2	46.0	-9.8	L1
^	1.205M	41.8	+0.2	+0.1	+5.8	+0.0	+0.0	47.9	46.0	+1.9	L1
40 Ave	1.149M	28.4	+0.2	+0.1	+5.8	+0.0	+0.0	34.5	46.0	-11.5	L1
^	1.149M	41.6	+0.2	+0.1	+5.8	+0.0	+0.0	47.7	46.0	+1.7	L1
42 Ave	856.844k	27.5	+0.2	+0.1	+5.8	+0.0	+0.0	33.6	46.0	-12.4	L1
^	856.844k	43.0	+0.2	+0.1	+5.8	+0.0	+0.0	49.1	46.0	+3.1	L1
44 Ave	873.570k	27.0	+0.2	+0.1	+5.8	+0.0	+0.0	33.1	46.0	-12.9	L1
^	873.570k	43.3	+0.2	+0.1	+5.8	+0.0	+0.0	49.4	46.0	+3.4	L1
46 Ave	842.300k	26.5	+0.2	+0.1	+5.8	+0.0	+0.0	32.6	46.0	-13.4	L1
^	842.300k	42.5	+0.2	+0.1	+5.8	+0.0	+0.0	48.6	46.0	+2.6	L1
48 Ave	889.963k	25.4	+0.2	+0.1	+5.8	+0.0	+0.0	31.5	46.0	-14.5	L1
^	889.963k	42.0	+0.2	+0.1	+5.8	+0.0	+0.0	48.1	46.0	+2.1	L1

CKC Laboratories Date: 10/27/2011 Time: 16:09:41 SmartLabs, Inc. WO#: 92348
15.207 AC Mains - Average Test Lead: L1 230V 50Hz Sequence#: 14 Ext ATTN: 0 dB



Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **SmartLabs, Inc.**
Specification: **15.207 AC Mains - Average**
Work Order #: **92348** Date: 10/27/2011
Test Type: **Conducted Emissions** Time: 16:01:33
Equipment: **In-Line 0-10VDC Dimmer or Dual-Switch** Sequence#: 13
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: 2475DA2 230V 50Hz
S/N: 148B8C

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN02610	High Pass Filter	HE9615-150K-50-720B	11/16/2009	11/16/2011
T2	ANP04358	Cable	RG142	5/7/2010	5/7/2012
T3	ANP06084	Attenuator	SA18N10W-06	12/8/2010	12/8/2012
	AN00847.1	50uH LISN-Line 1 (dB)	3816/2NM	12/21/2010	12/21/2012
T4	AN00847.1	50uH LISN-Line 2 (dB)	3816/2NM	12/21/2010	12/21/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

Frequency range of measurement = 150kHz-30 MHz
RBW=VBW=9kHz
18°C, 22% Relative Humidity

Ext Attn: 0 dB

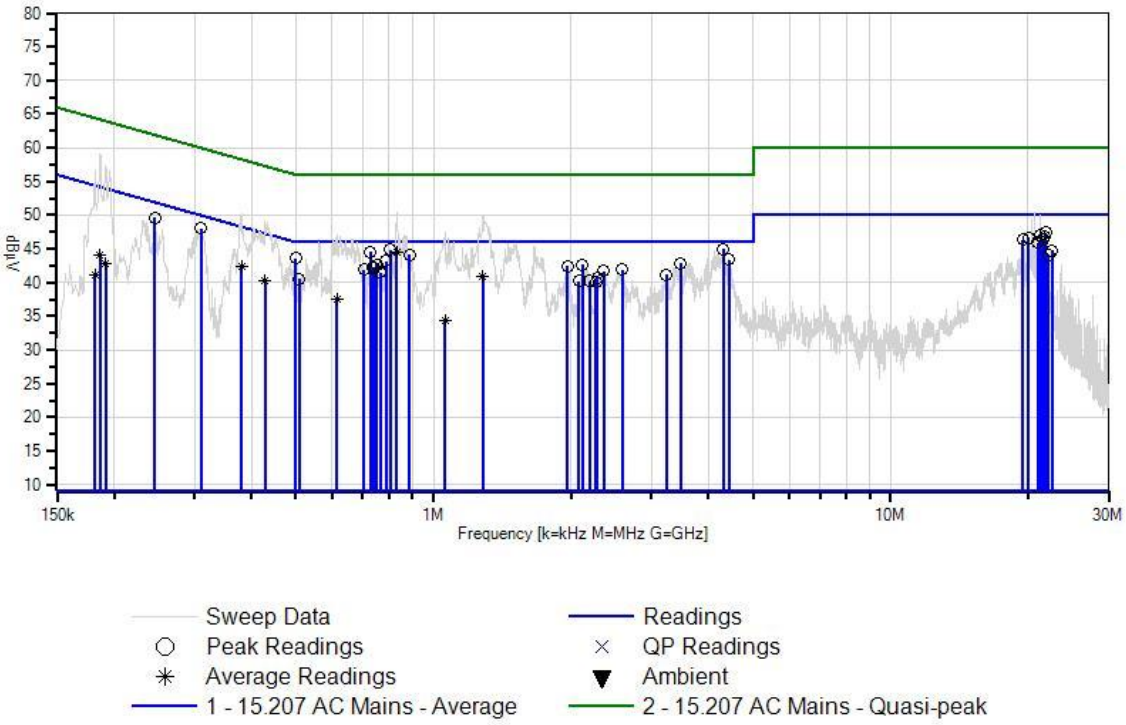
Measurement Data: Reading listed by margin. Test Lead: L2

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	4.309M	38.7	+0.1	+0.2	+5.8	+0.2	+0.0	45.0	46.0	-1.0	L2
2	803.031k	38.8	+0.2	+0.1	+5.8	+0.0	+0.0	44.9	46.0	-1.1	L2
3	830.665k Ave	38.5	+0.2	+0.1	+5.8	+0.0	+0.0	44.6	46.0	-1.4	L2

4 Ave	830.264k	38.4	+0.2	+0.1	+5.8	+0.0	+0.0	44.5	46.0	-1.5	L2
^	830.665k	44.3	+0.2	+0.1	+5.8	+0.0	+0.0	50.4	46.0	+4.4	L2
6	726.674k	38.4	+0.2	+0.1	+5.8	+0.0	+0.0	44.5	46.0	-1.5	L2
7	885.710k	38.0	+0.2	+0.1	+5.8	+0.0	+0.0	44.1	46.0	-1.9	L2
8	309.985k	41.9	+0.3	+0.1	+5.7	+0.0	+0.0	48.0	50.0	-2.0	L2
9	245.991k	43.4	+0.3	+0.1	+5.8	+0.0	+0.0	49.6	51.9	-2.3	L2
10	499.059k	37.5	+0.3	+0.1	+5.7	+0.0	+0.0	43.6	46.0	-2.4	L2
11	21.824M	39.5	+0.2	+0.4	+5.9	+1.4	+0.0	47.4	50.0	-2.6	L2
12	4.428M	37.1	+0.1	+0.2	+5.8	+0.2	+0.0	43.4	46.0	-2.6	L2
13	788.487k	37.1	+0.2	+0.1	+5.8	+0.0	+0.0	43.2	46.0	-2.8	L2
14	21.292M	39.3	+0.2	+0.4	+5.9	+1.3	+0.0	47.1	50.0	-2.9	L2
15	3.476M	36.7	+0.1	+0.2	+5.8	+0.1	+0.0	42.9	46.0	-3.1	L2
16	21.788M	38.9	+0.2	+0.4	+5.9	+1.4	+0.0	46.8	50.0	-3.2	L2
17	20.049M	39.0	+0.2	+0.4	+5.9	+1.2	+0.0	46.7	50.0	-3.3	L2
18	2.115M	36.5	+0.1	+0.1	+5.8	+0.1	+0.0	42.6	46.0	-3.4	L2
19	750.672k	36.5	+0.2	+0.1	+5.8	+0.0	+0.0	42.6	46.0	-3.4	L2
20	21.634M	38.6	+0.2	+0.4	+5.9	+1.4	+0.0	46.5	50.0	-3.5	L2
21	19.454M	38.7	+0.2	+0.4	+5.9	+1.2	+0.0	46.4	50.0	-3.6	L2
22	1.966M	36.3	+0.1	+0.1	+5.8	+0.1	+0.0	42.4	46.0	-3.6	L2
23	744.127k	36.1	+0.2	+0.1	+5.8	+0.0	+0.0	42.2	46.0	-3.8	L2
24	739.037k	36.1	+0.2	+0.1	+5.8	+0.0	+0.0	42.2	46.0	-3.8	L2
25	704.858k	35.7	+0.3	+0.1	+5.8	+0.0	+0.0	41.9	46.0	-4.1	L2
26	21.031M	38.1	+0.2	+0.4	+5.9	+1.3	+0.0	45.9	50.0	-4.1	L2
27	2.591M	35.7	+0.1	+0.2	+5.8	+0.1	+0.0	41.9	46.0	-4.1	L2
28	2.357M	35.5	+0.1	+0.2	+5.8	+0.1	+0.0	41.7	46.0	-4.3	L2
29	764.489k	35.4	+0.2	+0.1	+5.8	+0.0	+0.0	41.5	46.0	-4.5	L2

30	3.229M	35.0	+0.1	+0.2	+5.8	+0.1	+0.0	41.2	46.0	-4.8	L2
31	1.281M Ave	34.7	+0.2	+0.1	+5.8	+0.1	+0.0	40.9	46.0	-5.1	L2
^	1.281M	43.9	+0.2	+0.1	+5.8	+0.1	+0.0	50.1	46.0	+4.1	L2
33	22.580M	36.8	+0.2	+0.4	+5.9	+1.5	+0.0	44.8	50.0	-5.2	L2
34	2.285M	34.5	+0.1	+0.2	+5.8	+0.1	+0.0	40.7	46.0	-5.3	L2
35	508.513k	34.4	+0.3	+0.1	+5.7	+0.0	+0.0	40.5	46.0	-5.5	L2
36	2.196M	34.1	+0.1	+0.1	+5.8	+0.1	+0.0	40.2	46.0	-5.8	L2
37	2.081M	34.1	+0.1	+0.1	+5.8	+0.1	+0.0	40.2	46.0	-5.8	L2
38	2.268M	33.9	+0.1	+0.2	+5.8	+0.1	+0.0	40.1	46.0	-5.9	L2
39	22.121M	36.1	+0.2	+0.4	+5.9	+1.4	+0.0	44.0	50.0	-6.0	L2
40	380.524k Ave	36.2	+0.3	+0.1	+5.7	+0.0	+0.0	42.3	48.3	-6.0	L2
^	380.524k	44.1	+0.3	+0.1	+5.7	+0.0	+0.0	50.2	48.3	+1.9	L2
42	428.520k Ave	34.1	+0.3	+0.1	+5.7	+0.0	+0.0	40.2	47.3	-7.1	L2
^	428.520k	43.2	+0.3	+0.1	+5.7	+0.0	+0.0	49.3	47.3	+2.0	L2
44	613.957k Ave	31.4	+0.3	+0.1	+5.8	+0.0	+0.0	37.6	46.0	-8.4	L2
^	613.957k	40.9	+0.3	+0.1	+5.8	+0.0	+0.0	47.1	46.0	+1.1	L2
46	186.360k Ave	37.9	+0.2	+0.1	+5.8	+0.0	+0.0	44.0	54.2	-10.2	L2
47	191.451k Ave	36.7	+0.2	+0.1	+5.8	+0.0	+0.0	42.8	54.0	-11.2	L2
^	191.451k	51.4	+0.2	+0.1	+5.8	+0.0	+0.0	57.5	54.0	+3.5	L2
^	195.814k	50.4	+0.3	+0.1	+5.8	+0.0	+0.0	56.6	53.8	+2.8	L2
50	1.060M Ave	28.2	+0.2	+0.1	+5.8	+0.0	+0.0	34.3	46.0	-11.7	L2
^	1.060M	41.5	+0.2	+0.1	+5.8	+0.0	+0.0	47.6	46.0	+1.6	L2
52	181.997k Ave	35.1	+0.2	+0.1	+5.8	+0.0	+0.0	41.2	54.4	-13.2	L2
^	186.360k	53.0	+0.2	+0.1	+5.8	+0.0	+0.0	59.1	54.2	+4.9	L2
^	181.997k	50.5	+0.2	+0.1	+5.8	+0.0	+0.0	56.6	54.4	+2.2	L2

CKC Laboratories Date: 10/27/2011 Time: 16:01:33 SmartLabs, Inc. WO#: 92348
15.207 AC Mains - Average Test Lead: L2 230V 50Hz Sequence#: 13 Ext ATTN: 0 dB



Test Setup Photos

15.249(a) RF Power Output

Test Data

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer:	**SmartLabs, Inc.**		
Specification:	**15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**		
Work Order #:	**92348**	Date:	10/27/2011
Test Type:	**Maximized Emissions**	Time:	08:56:55
Equipment:	**In-Line 0-10VDC Dimmer or Dual-Switch**	Sequence#:	10
Manufacturer:	SmartLabs, Inc.	Tested By:	Don Nguyen
Model:	2475DA2		
S/N:	148B8C		

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T2	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
T3	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T4	ANP05198	Cable	8268	12/21/2010	12/21/2012
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

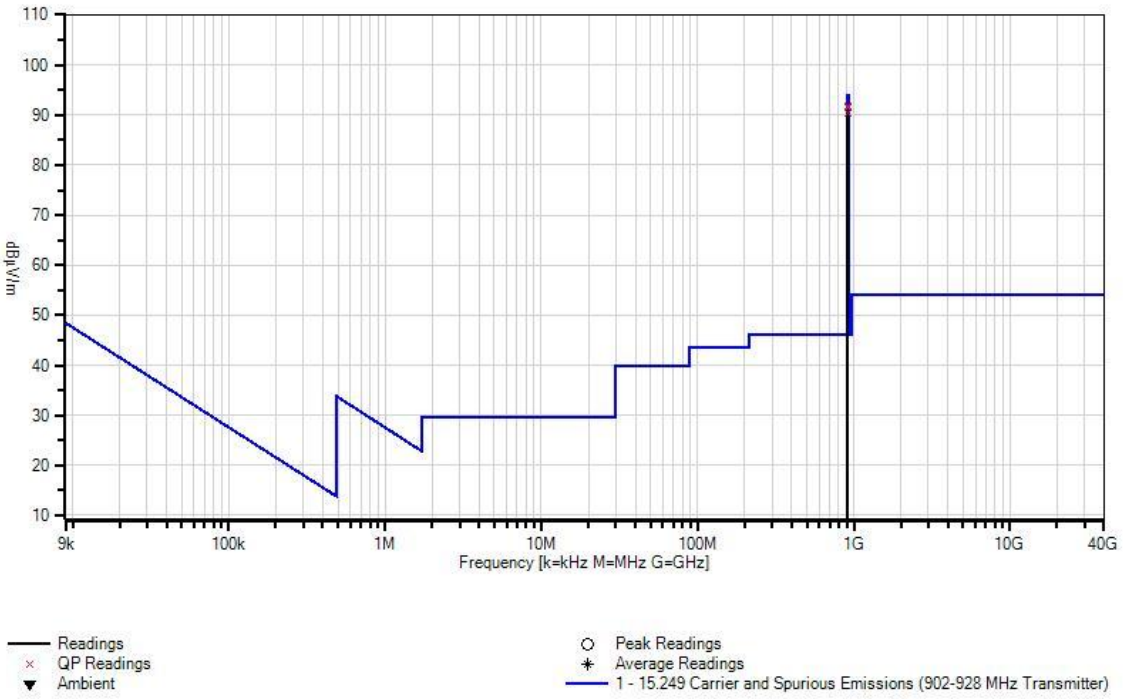
18°C, 22% Relative Humidity

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	914.933M QP	88.9	-27.1	+23.6	+0.5	+5.8	+0.0	91.7	94.0 Y-axis	-2.3	Horiz
2	915.086M QP	88.9	-27.1	+23.6	+0.5	+5.8	+0.0	91.7	94.0 Y-axis	-2.3	Horiz
3	915.085M QP	88.8	-27.1	+23.6	+0.5	+5.8	+0.0	91.6	94.0 X axis	-2.4	Horiz
^	915.085M	89.1	-27.1	+23.6	+0.5	+5.8	+0.0	91.9	94.0 X axis	-2.1	Horiz
^	915.086M	89.1	-27.1	+23.6	+0.5	+5.8	+0.0	91.9	94.0 Y-axis	-2.1	Horiz
^	915.083M	80.5	-27.1	+23.6	+0.5	+5.8	+0.0	83.3	94.0 Z axis	-10.7	Horiz
7	914.921M QP	88.6	-27.1	+23.6	+0.5	+5.8	+0.0	91.4	94.0 X axis	-2.6	Horiz
^	914.933M	89.0	-27.1	+23.6	+0.5	+5.8	+0.0	91.8	94.0 Y-axis	-2.2	Horiz
^	914.921M	88.9	-27.1	+23.6	+0.5	+5.8	+0.0	91.7	94.0 X axis	-2.3	Horiz
^	914.933M	80.5	-27.1	+23.6	+0.5	+5.8	+0.0	83.3	94.0 Z axis	-10.7	Horiz
11	915.085M QP	87.7	-27.1	+23.6	+0.5	+5.8	+0.0	90.5	94.0 X axis	-3.5	Vert
^	915.085M	88.5	-27.1	+23.6	+0.5	+5.8	+0.0	91.3	94.0 X axis	-2.7	Vert
^	915.085M	84.5	-27.1	+23.6	+0.5	+5.8	+0.0	87.3	94.0 Y-axis	-6.7	Vert
^	915.085M	84.0	-27.1	+23.6	+0.5	+5.8	+0.0	86.8	94.0 Z axis	-7.2	Vert
15	914.932M QP	87.6	-27.1	+23.6	+0.5	+5.8	+0.0	90.4	94.0 X axis	-3.6	Vert
^	914.932M	88.0	-27.1	+23.6	+0.5	+5.8	+0.0	90.8	94.0 X axis	-3.2	Vert
^	914.935M	84.8	-27.1	+23.6	+0.5	+5.8	+0.0	87.6	94.0 Y-axis	-6.4	Vert
^	914.935M	83.1	-27.1	+23.6	+0.5	+5.8	+0.0	85.9	94.0 Z axis	-8.1	Vert

CKC Laboratories Date: 10/27/2011 Time: 08:56:55 SmartLabs, Inc. WO#: 92348
15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter) Test Distance: 3 Meters Sequence#: 10 Ext
ATTN: 0 dB



Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **SmartLabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **92348** Date: 12/6/2011
Test Type: **Maximized Emissions** Time: 17:57:32
Equipment: **In-Line 0-10VDC Dimmer or Dual-Switch** Sequence#: 13
Manufacturer: SmartLabs, Inc. Tested By: E. Wong
Model: 2475DA2
S/N: 148B8C

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T2	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
T3	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T4	ANP05198	Cable	8268	12/21/2010	12/21/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam, total height is 0.8 meter from the ground plane. Connected to the EUT is a light bulb and a Sensor with a section of dedicated wire length attached.
Continuous transmit
914.92MHz-915.08MHz

Frequency range of measurement =Fundamental.
30 MHz-1000 MHz; RBW=120 kHz, VBW=120 kHz
18°C, 22%

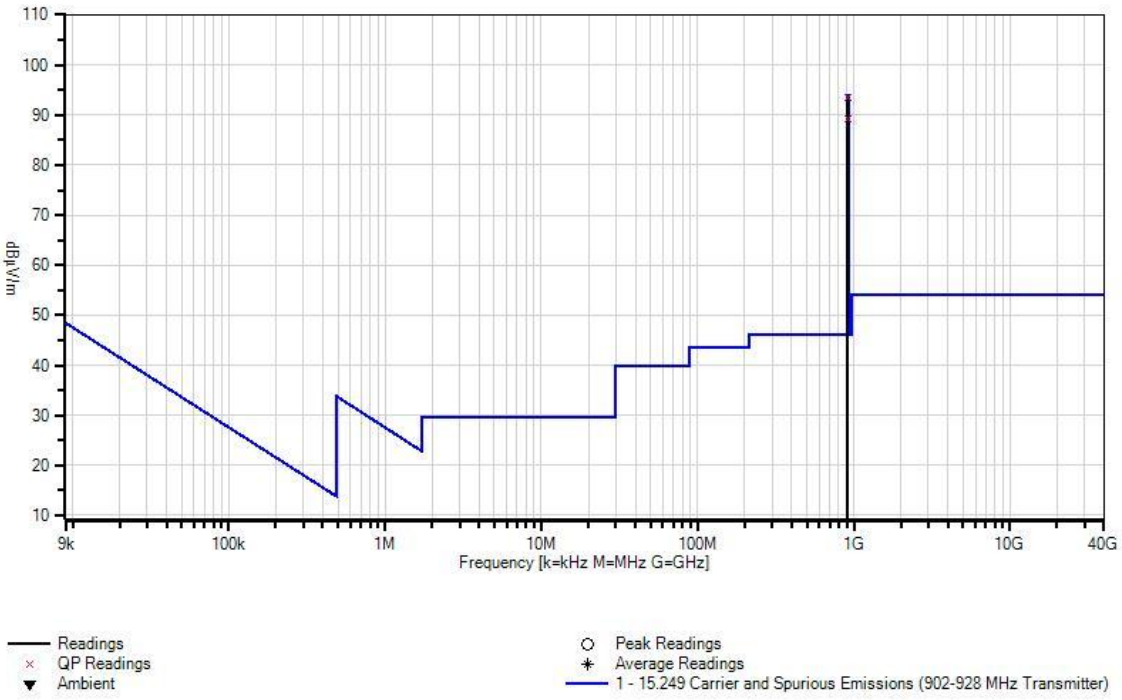
Ext Attn: 0 dB

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

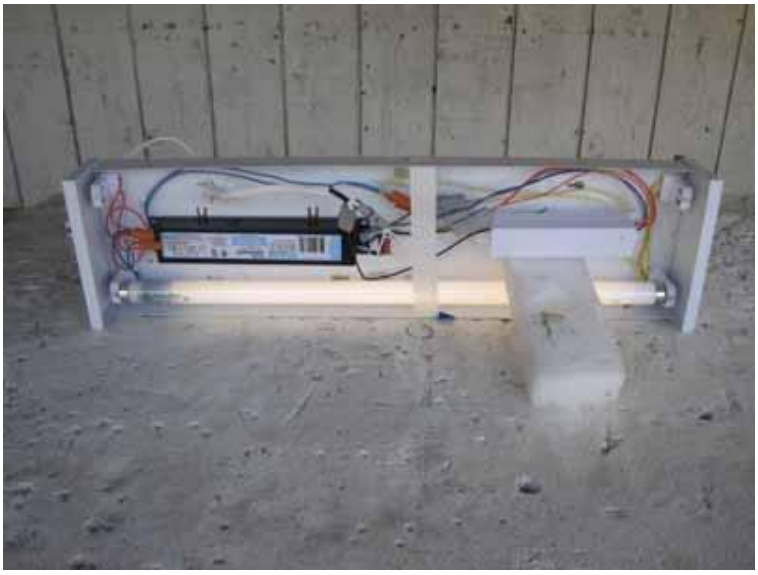
#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	915.078M	90.6	-27.1	+23.6	+0.5	+5.8	+0.0	93.4	94.0	-0.6	Horiz
	QP		+0.0						Z		
^	915.078M	90.8	-27.1	+23.6	+0.5	+5.8	+0.0	93.6	94.0	-0.4	Horiz
			+0.0						Z		
^	915.075M	83.4	-27.1	+23.6	+0.5	+5.8	+0.0	86.2	94.0	-7.8	Horiz
			+0.0						X		
^	915.075M	81.4	-27.1	+23.6	+0.5	+5.8	+0.0	84.2	94.0	-9.8	Horiz
			+0.0						Y		

5 QP	915.087M	86.5	-27.1 +0.0	+23.6	+0.5	+5.8	+0.0	89.3 Z	94.0	-4.7	Vert
^	915.087M	86.7	-27.1 +0.0	+23.6	+0.5	+5.8	+0.0	89.5 Z	94.0	-4.5	Vert
^	915.075M	83.3	-27.1 +0.0	+23.6	+0.5	+5.8	+0.0	86.1 Y	94.0	-7.9	Vert
^	915.075M	82.8	-27.1 +0.0	+23.6	+0.5	+5.8	+0.0	85.6 X	94.0	-8.4	Vert

CKC Laboratories Date: 12/6/2011 Time: 17:57:32 SmartLabs, Inc. WO#: 92348
15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter) Test Distance: 3 Meters Sequence#: 13 Ext
ATTN: 0 dB



Test Setup Photos



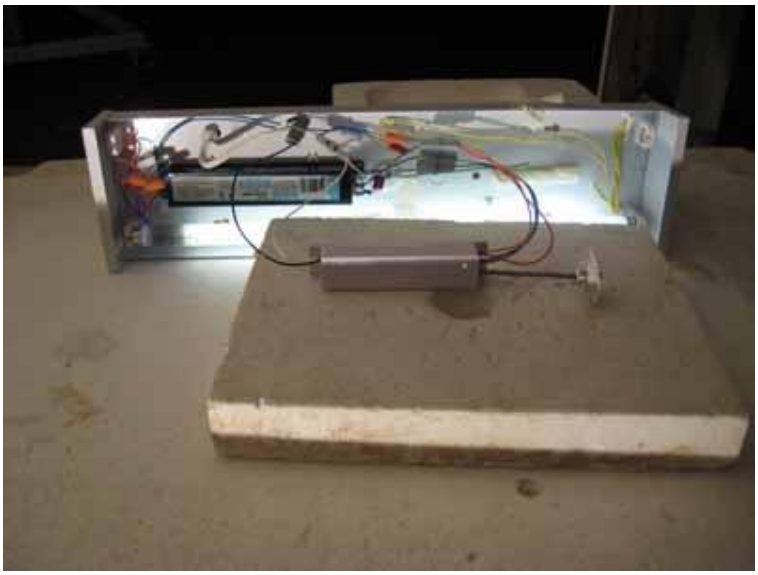
15.249(a) X AXIS

15.249(a) Y AXIS

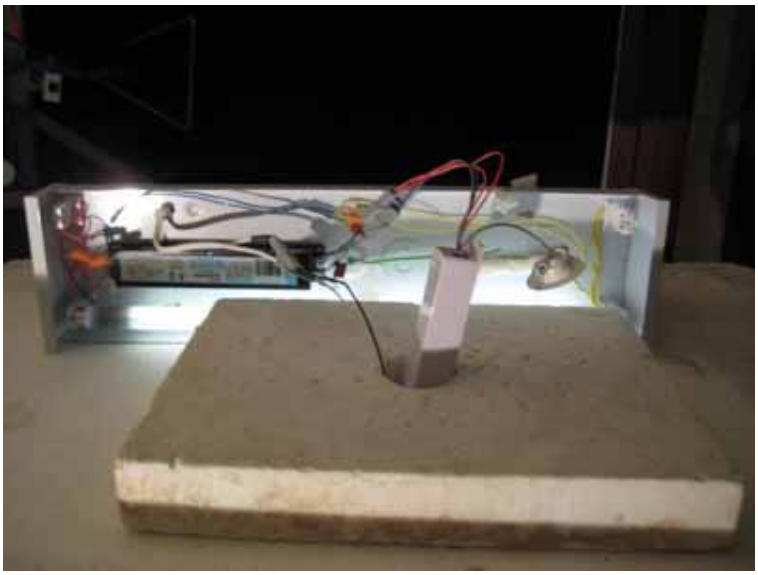
15.249(a) Z AXIS

15.249(a) BACK VIEW

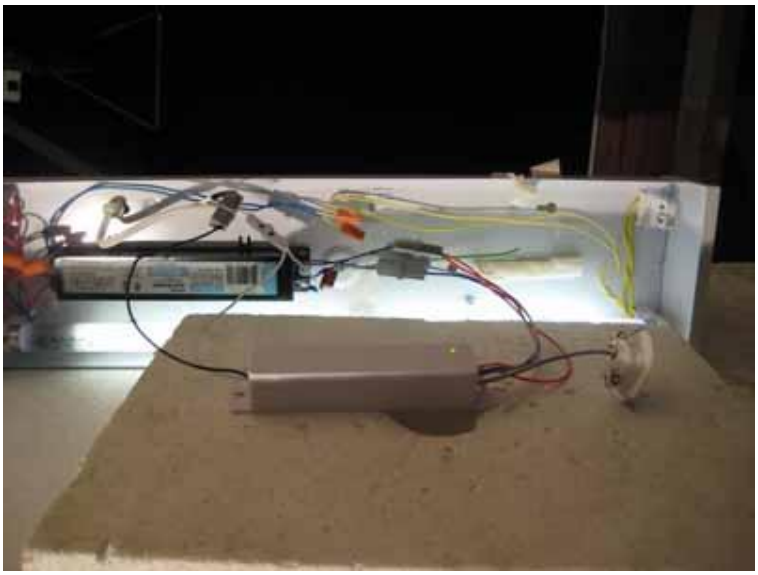
Tested: December 6, 2011



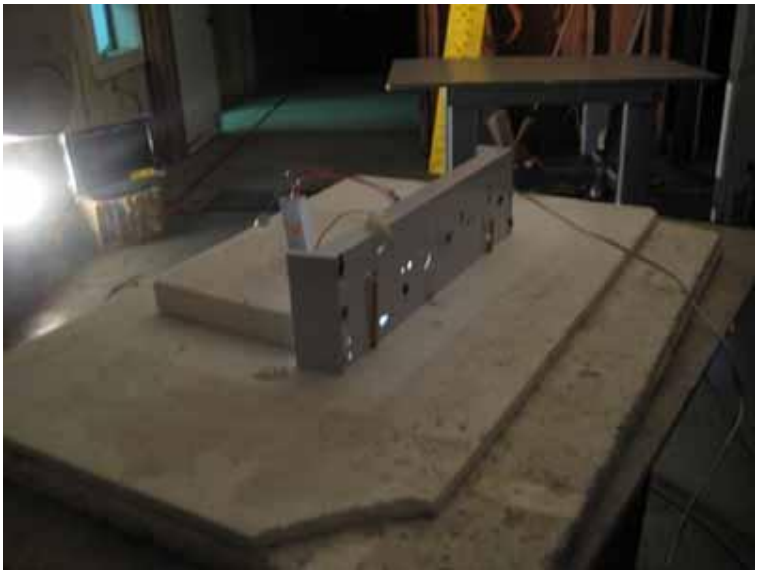
15.249(a) X AXIS



15.249(a) Y AXIS



15.249(a) Z AXIS



15.249(a) BACK VIEW

15.249(a) Field Strength of Harmonics / 15.249(d) Field Strength of Spurious Emissions

Test Data

Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **SmartLabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **92348** Date: 10/27/2011
Test Type: **Maximized Emissions** Time: 13:55:50
Equipment: **In-Line 0-10VDC Dimmer or Dual-Switch** Sequence#: 11
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: 2475DA2
S/N: 148B8C

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T2	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
T3	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T4	ANP05198	Cable	8268	12/21/2010	12/21/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T7	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T8	AN03239	Cable	32022-2-29094K-24TC	8/30/2011	8/30/2013
T9	ANP05421	Cable	Sucoflex 104A	2/12/2010	2/12/2012
T10	ANP05563	Cable	ANDL-1-PNMN-48	9/3/2010	9/3/2012
T11	AN03169	High Pass Filter	HM1155-11SS	9/22/2011	9/22/2013
T12	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

The EUT is placed on the wooden table lined with Styrofoam; total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

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-10,000 MHz; RBW=1 MHz, VBW=1 MHz.

18°C, 22% Relative Humidity

Ext Attn: 0 dB

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

#	Freq	Rdng	T1 T5 T9	T2 T6 T10	T3 T7 T11	T4 T8 T12	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1830.050M	59.5	+0.0	+0.0	+0.0	+0.0	+0.0	52.9	54.0	-1.1	Horiz
	QP		+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
2	1829.947M	59.5	+0.0	+0.0	+0.0	+0.0	+0.0	52.9	54.0	-1.1	Horiz
	QP		+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
^	1829.947M	60.7	+0.0	+0.0	+0.0	+0.0	+0.0	54.1	54.0	+0.1	Horiz
			+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
^	1829.917M	56.0	+0.0	+0.0	+0.0	+0.0	+0.0	49.4	54.0	-4.6	Horiz
			+0.0	-38.2	+27.2	+0.3			Z axis		
			+1.0	+2.7	+0.4	+0.0					
5	1830.050M	59.5	+0.0	+0.0	+0.0	+0.0	+0.0	52.9	54.0	-1.1	Horiz
	QP		+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
6	1830.197M	59.4	+0.0	+0.0	+0.0	+0.0	+0.0	52.8	54.0	-1.2	Horiz
			+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					
7	1829.697M	59.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
	QP		+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
8	1829.790M	58.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.1	54.0	-1.9	Horiz
	QP		+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					
^	1829.790M	59.6	+0.0	+0.0	+0.0	+0.0	+0.0	53.0	54.0	-1.0	Horiz
			+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					
^	1829.883M	59.3	+0.0	+0.0	+0.0	+0.0	+0.0	52.7	54.0	-1.3	Horiz
			+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					
11	1830.060M	58.6	+0.0	+0.0	+0.0	+0.0	+0.0	52.0	54.0	-2.0	Horiz
	QP		+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					

^	1830.050M	60.6	+0.0	+0.0	+0.0	+0.0	+0.0	54.0	54.0	+0.0	Horiz
			+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
13	1829.950M	58.3	+0.0	+0.0	+0.0	+0.0	+0.0	51.7	54.0	-2.3	Vert
	QP		+0.0	-38.2	+27.2	+0.3			Z axis		
			+1.0	+2.7	+0.4	+0.0					
^	1829.950M	59.0	+0.0	+0.0	+0.0	+0.0	+0.0	52.4	54.0	-1.6	Vert
			+0.0	-38.2	+27.2	+0.3			Z axis		
			+1.0	+2.7	+0.4	+0.0					
15	1830.225M	57.8	+0.0	+0.0	+0.0	+0.0	+0.0	51.2	54.0	-2.8	Vert
			+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					
16	1829.825M	57.7	+0.0	+0.0	+0.0	+0.0	+0.0	51.1	54.0	-2.9	Vert
			+0.0	-38.2	+27.2	+0.3			Y-axis		
			+1.0	+2.7	+0.4	+0.0					
17	1829.775M	57.3	+0.0	+0.0	+0.0	+0.0	+0.0	50.7	54.0	-3.3	Vert
			+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
18	1830.275M	57.2	+0.0	+0.0	+0.0	+0.0	+0.0	50.6	54.0	-3.4	Vert
			+0.0	-38.2	+27.2	+0.3			X-axis		
			+1.0	+2.7	+0.4	+0.0					
19	129.800M	53.3	-27.8	+11.9	+0.2	+1.9	+0.0	39.5	43.5	-4.0	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
20	164.920M	52.9	-27.8	+10.2	+0.2	+2.2	+0.0	37.7	43.5	-5.8	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
21	9150.000M	35.7	+0.0	+0.0	+0.0	+0.0	+0.0	47.3	54.0	-6.7	Horiz
			+0.0	-35.4	+36.7	+0.7			X-axis		
			+2.7	+6.7	+0.2	+0.0					
22	160.800M	51.5	-27.7	+10.6	+0.1	+2.2	+0.0	36.7	43.5	-6.8	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
23	9150.067M	35.5	+0.0	+0.0	+0.0	+0.0	+0.0	47.1	54.0	-6.9	Horiz
			+0.0	-35.4	+36.7	+0.7			Z axis		
			+2.7	+6.7	+0.2	+0.0					
24	9150.000M	35.5	+0.0	+0.0	+0.0	+0.0	+0.0	47.1	54.0	-6.9	Vert
			+0.0	-35.4	+36.7	+0.7			Z axis		
			+2.7	+6.7	+0.2	+0.0					
25	945.078M	35.7	-27.1	+24.0	+0.5	+5.9	+0.0	39.0	46.0	-7.0	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
26	944.928M	35.6	-27.1	+24.0	+0.5	+5.9	+0.0	38.9	46.0	-7.1	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
27	127.700M	49.4	-27.8	+12.0	+0.2	+1.9	+0.0	35.7	43.5	-7.8	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
28	9150.000M	34.6	+0.0	+0.0	+0.0	+0.0	+0.0	46.2	54.0	-7.8	Vert
			+0.0	-35.4	+36.7	+0.7			X-axis		
			+2.7	+6.7	+0.2	+0.0					

29	9149.927M	34.6	+0.0 +0.0 +2.7	+0.0 -35.4 +6.7	+0.0 +36.7 +0.2	+0.0 +0.7 +0.0	+0.0	46.2	54.0 Y-axis	-7.8	Horiz
30	161.920M	50.4	-27.7 +0.0 +0.0	+10.5 +0.0 +0.0	+0.1 +0.0 +0.0	+2.2 +0.0 +0.0	+0.0	35.5	43.5 Y-axis	-8.0	Vert
31	944.927M	34.5	-27.1 +0.0 +0.0	+24.0 +0.0 +0.0	+0.5 +0.0 +0.0	+5.9 +0.0 +0.0	+0.0	37.8	46.0 Y-axis	-8.2	Vert
32	945.088M	34.5	-27.1 +0.0 +0.0	+24.0 +0.0 +0.0	+0.5 +0.0 +0.0	+5.9 +0.0 +0.0	+0.0	37.8	46.0 Z-axis	-8.2	Vert
33	945.087M	34.4	-27.1 +0.0 +0.0	+24.0 +0.0 +0.0	+0.5 +0.0 +0.0	+5.9 +0.0 +0.0	+0.0	37.7	46.0 Y-axis	-8.3	Vert
34	944.928M	34.4	-27.1 +0.0 +0.0	+24.0 +0.0 +0.0	+0.5 +0.0 +0.0	+5.9 +0.0 +0.0	+0.0	37.7	46.0 Z-axis	-8.3	Vert
35	8235.067M	35.9	+0.0 +0.0 +2.5	+0.0 -36.4 +6.2	+0.0 +36.6 +0.2	+0.0 +0.7 +0.0	+0.0	45.7	54.0 Z axis	-8.3	Horiz
36	69.420M	52.1	-27.9 +0.0 +0.0	+5.9 +0.0 +0.0	+0.1 +0.0 +0.0	+1.4 +0.0 +0.0	+0.0	31.6	40.0 Y-axis	-8.4	Vert
37	182.420M	51.3	-27.8 +0.0 +0.0	+9.0 +0.0 +0.0	+0.2 +0.0 +0.0	+2.4 +0.0 +0.0	+0.0	35.1	43.5 X-axis	-8.4	Horiz
38	170.800M	50.6	-27.8 +0.0 +0.0	+9.6 +0.0 +0.0	+0.2 +0.0 +0.0	+2.3 +0.0 +0.0	+0.0	34.9	43.5 Z-axis	-8.6	Horiz
39	8235.000M	35.4	+0.0 +0.0 +2.5	+0.0 -36.4 +6.2	+0.0 +36.6 +0.2	+0.0 +0.7 +0.0	+0.0	45.2	54.0 Z axis	-8.8	Vert
40	33.420M	40.9	-27.8 +0.0 +0.0	+17.0 +0.0 +0.0	+0.1 +0.0 +0.0	+0.9 +0.0 +0.0	+0.0	31.1	40.0 Y-axis	-8.9	Vert
41	8235.000M	35.3	+0.0 +0.0 +2.5	+0.0 -36.4 +6.2	+0.0 +36.6 +0.2	+0.0 +0.7 +0.0	+0.0	45.1	54.0 X-axis	-8.9	Horiz
42	194.800M	50.5	-27.7 +0.0 +0.0	+9.0 +0.0 +0.0	+0.2 +0.0 +0.0	+2.5 +0.0 +0.0	+0.0	34.5	43.5 Z-axis	-9.0	Horiz
43	9149.975M	33.4	+0.0 +0.0 +2.7	+0.0 -35.4 +6.7	+0.0 +36.7 +0.2	+0.0 +0.7 +0.0	+0.0	45.0	54.0 Y-axis	-9.0	Vert
44	8235.000M	35.0	+0.0 +0.0 +2.5	+0.0 -36.4 +6.2	+0.0 +36.6 +0.2	+0.0 +0.7 +0.0	+0.0	44.8	54.0 X-axis	-9.2	Vert
45	6405.000M	37.4	+0.0 +0.0 +2.2	+0.0 -36.5 +5.5	+0.0 +35.2 +0.3	+0.0 +0.6 +0.0	+0.0	44.7	54.0 Z axis	-9.3	Vert

46	7320.000M	36.5	+0.0	+0.0	+0.0	+0.0	+0.0	44.6	54.0	-9.4	Vert
			+0.0	-36.7	+35.9	+0.6			Z axis		
			+2.3	+5.8	+0.2	+0.0					
47	944.928M	33.3	-27.1	+24.0	+0.5	+5.9	+0.0	36.6	46.0	-9.4	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
48	155.620M	48.5	-27.7	+11.0	+0.1	+2.1	+0.0	34.0	43.5	-9.5	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
49	6405.000M	37.1	+0.0	+0.0	+0.0	+0.0	+0.0	44.4	54.0	-9.6	Horiz
			+0.0	-36.5	+35.2	+0.6			X-axis		
			+2.2	+5.5	+0.3	+0.0					
50	7320.067M	36.2	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	-36.7	+35.9	+0.6			Z axis		
			+2.3	+5.8	+0.2	+0.0					
51	6405.067M	36.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.1	54.0	-9.9	Horiz
			+0.0	-36.5	+35.2	+0.6			Z axis		
			+2.2	+5.5	+0.3	+0.0					
52	8234.975M	34.2	+0.0	+0.0	+0.0	+0.0	+0.0	44.0	54.0	-10.0	Vert
			+0.0	-36.4	+36.6	+0.7			Y-axis		
			+2.5	+6.2	+0.2	+0.0					
53	141.800M	47.6	-27.7	+11.5	+0.1	+2.0	+0.0	33.5	43.5	-10.0	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
54	7319.975M	35.8	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	-36.7	+35.9	+0.6			Y-axis		
			+2.3	+5.8	+0.2	+0.0					
55	86.570M	47.3	-27.8	+8.6	+0.1	+1.6	+0.0	29.8	40.0	-10.2	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
56	945.078M	32.4	-27.1	+24.0	+0.5	+5.9	+0.0	35.7	46.0	-10.3	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
57	2745.327M	46.8	+0.0	+0.0	+0.0	+0.0	+0.0	43.7	54.0	-10.3	Horiz
			+0.0	-37.8	+29.3	+0.4			Y-axis		
			+1.4	+3.3	+0.3	+0.0					
58	2744.827M	46.7	+0.0	+0.0	+0.0	+0.0	+0.0	43.6	54.0	-10.4	Horiz
			+0.0	-37.8	+29.3	+0.4			Y-axis		
			+1.4	+3.3	+0.3	+0.0					
59	8234.927M	33.6	+0.0	+0.0	+0.0	+0.0	+0.0	43.4	54.0	-10.6	Horiz
			+0.0	-36.4	+36.6	+0.7			Y-axis		
			+2.5	+6.2	+0.2	+0.0					
60	2744.725M	46.4	+0.0	+0.0	+0.0	+0.0	+0.0	43.3	54.0	-10.7	Vert
			+0.0	-37.8	+29.3	+0.4			Y-axis		
			+1.4	+3.3	+0.3	+0.0					
61	93.980M	49.3	-27.8	+9.5	+0.1	+1.6	+0.0	32.7	43.5	-10.8	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
62	2745.050M	46.2	+0.0	+0.0	+0.0	+0.0	+0.0	43.1	54.0	-10.9	Vert
			+0.0	-37.8	+29.3	+0.4			Z axis		
			+1.4	+3.3	+0.3	+0.0					

63	36.770M	40.5	-27.8	+15.2	+0.1	+1.0	+0.0	29.0	40.0	-11.0	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
64	2745.325M	46.1	+0.0	+0.0	+0.0	+0.0	+0.0	43.0	54.0	-11.0	Horiz
			+0.0	-37.8	+29.3	+0.4			X-axis		
			+1.4	+3.3	+0.3	+0.0					
65	33.570M	38.6	-27.8	+17.0	+0.1	+0.9	+0.0	28.8	40.0	-11.2	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
66	164.710M	47.5	-27.8	+10.2	+0.2	+2.2	+0.0	32.3	43.5	-11.2	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
67	2744.700M	45.6	+0.0	+0.0	+0.0	+0.0	+0.0	42.5	54.0	-11.5	Horiz
			+0.0	-37.8	+29.3	+0.4			X-axis		
			+1.4	+3.3	+0.3	+0.0					
68	7319.927M	34.4	+0.0	+0.0	+0.0	+0.0	+0.0	42.5	54.0	-11.5	Horiz
			+0.0	-36.7	+35.9	+0.6			Y-axis		
			+2.3	+5.8	+0.2	+0.0					
69	5490.067M	37.2	+0.0	+0.0	+0.0	+0.0	+0.0	42.5	54.0	-11.5	Horiz
			+0.0	-36.9	+34.4	+0.6			Z axis		
			+2.0	+5.0	+0.2	+0.0					
70	7320.000M	34.4	+0.0	+0.0	+0.0	+0.0	+0.0	42.5	54.0	-11.5	Horiz
			+0.0	-36.7	+35.9	+0.6			X-axis		
			+2.3	+5.8	+0.2	+0.0					
71	5490.000M	37.1	+0.0	+0.0	+0.0	+0.0	+0.0	42.4	54.0	-11.6	Horiz
			+0.0	-36.9	+34.4	+0.6			X-axis		
			+2.0	+5.0	+0.2	+0.0					
72	2745.350M	45.5	+0.0	+0.0	+0.0	+0.0	+0.0	42.4	54.0	-11.6	Vert
			+0.0	-37.8	+29.3	+0.4			Y-axis		
			+1.4	+3.3	+0.3	+0.0					
73	6404.975M	35.0	+0.0	+0.0	+0.0	+0.0	+0.0	42.3	54.0	-11.7	Vert
			+0.0	-36.5	+35.2	+0.6			Y-axis		
			+2.2	+5.5	+0.3	+0.0					
74	5490.000M	36.9	+0.0	+0.0	+0.0	+0.0	+0.0	42.2	54.0	-11.8	Vert
			+0.0	-36.9	+34.4	+0.6			Z axis		
			+2.0	+5.0	+0.2	+0.0					
75	30.663M	36.6	-27.8	+18.3	+0.1	+0.9	+0.0	28.1	40.0	-11.9	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
76	7320.000M	34.0	+0.0	+0.0	+0.0	+0.0	+0.0	42.1	54.0	-11.9	Vert
			+0.0	-36.7	+35.9	+0.6			X-axis		
			+2.3	+5.8	+0.2	+0.0					
77	2745.317M	45.1	+0.0	+0.0	+0.0	+0.0	+0.0	42.0	54.0	-12.0	Horiz
			+0.0	-37.8	+29.3	+0.4			Z axis		
			+1.4	+3.3	+0.3	+0.0					
78	6405.000M	34.7	+0.0	+0.0	+0.0	+0.0	+0.0	42.0	54.0	-12.0	Vert
			+0.0	-36.5	+35.2	+0.6			X-axis		
			+2.2	+5.5	+0.3	+0.0					
79	89.420M	48.5	-27.8	+9.0	+0.1	+1.6	+0.0	31.4	43.5	-12.1	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					

80	74.920M	47.3	-27.8	+6.8	+0.1	+1.5	+0.0	27.9	40.0	-12.1	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
81	2744.792M	44.9	+0.0	+0.0	+0.0	+0.0	+0.0	41.8	54.0	-12.2	Horiz
			+0.0	-37.8	+29.3	+0.4			Z axis		
			+1.4	+3.3	+0.3	+0.0					
82	131.420M	45.0	-27.8	+11.9	+0.2	+2.0	+0.0	31.3	43.5	-12.2	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
83	52.770M	47.0	-27.9	+7.3	+0.1	+1.2	+0.0	27.7	40.0	-12.3	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
84	6404.927M	34.3	+0.0	+0.0	+0.0	+0.0	+0.0	41.6	54.0	-12.4	Horiz
			+0.0	-36.5	+35.2	+0.6			Y-axis		
			+2.2	+5.5	+0.3	+0.0					
85	5490.000M	36.1	+0.0	+0.0	+0.0	+0.0	+0.0	41.4	54.0	-12.6	Vert
			+0.0	-36.9	+34.4	+0.6			X-axis		
			+2.0	+5.0	+0.2	+0.0					
86	5489.927M	36.1	+0.0	+0.0	+0.0	+0.0	+0.0	41.4	54.0	-12.6	Horiz
			+0.0	-36.9	+34.4	+0.6			Y-axis		
			+2.0	+5.0	+0.2	+0.0					
87	4575.000M	38.9	+0.0	+0.0	+0.0	+0.0	+0.0	41.3	54.0	-12.7	Horiz
			+0.0	-37.2	+32.5	+0.5			X-axis		
			+1.9	+4.4	+0.3	+0.0					
88	4575.000M	38.7	+0.0	+0.0	+0.0	+0.0	+0.0	41.1	54.0	-12.9	Vert
			+0.0	-37.2	+32.5	+0.5			Z axis		
			+1.9	+4.4	+0.3	+0.0					
89	5489.975M	35.8	+0.0	+0.0	+0.0	+0.0	+0.0	41.1	54.0	-12.9	Vert
			+0.0	-36.9	+34.4	+0.6			Y-axis		
			+2.0	+5.0	+0.2	+0.0					
90	221.800M	47.2	-27.8	+10.7	+0.2	+2.6	+0.0	32.9	46.0	-13.1	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
91	163.840M	45.3	-27.8	+10.3	+0.2	+2.2	+0.0	30.2	43.5	-13.3	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
92	4574.975M	38.2	+0.0	+0.0	+0.0	+0.0	+0.0	40.6	54.0	-13.4	Vert
			+0.0	-37.2	+32.5	+0.5			Y-axis		
			+1.9	+4.4	+0.3	+0.0					
93	206.700M	45.3	-27.7	+9.6	+0.2	+2.5	+0.0	29.9	43.5	-13.6	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
94	4575.067M	38.0	+0.0	+0.0	+0.0	+0.0	+0.0	40.4	54.0	-13.6	Horiz
			+0.0	-37.2	+32.5	+0.5			Z axis		
			+1.9	+4.4	+0.3	+0.0					
95	4575.000M	37.7	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Vert
			+0.0	-37.2	+32.5	+0.5			X-axis		
			+1.9	+4.4	+0.3	+0.0					
96	183.940M	45.6	-27.8	+9.0	+0.2	+2.4	+0.0	29.4	43.5	-14.1	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					

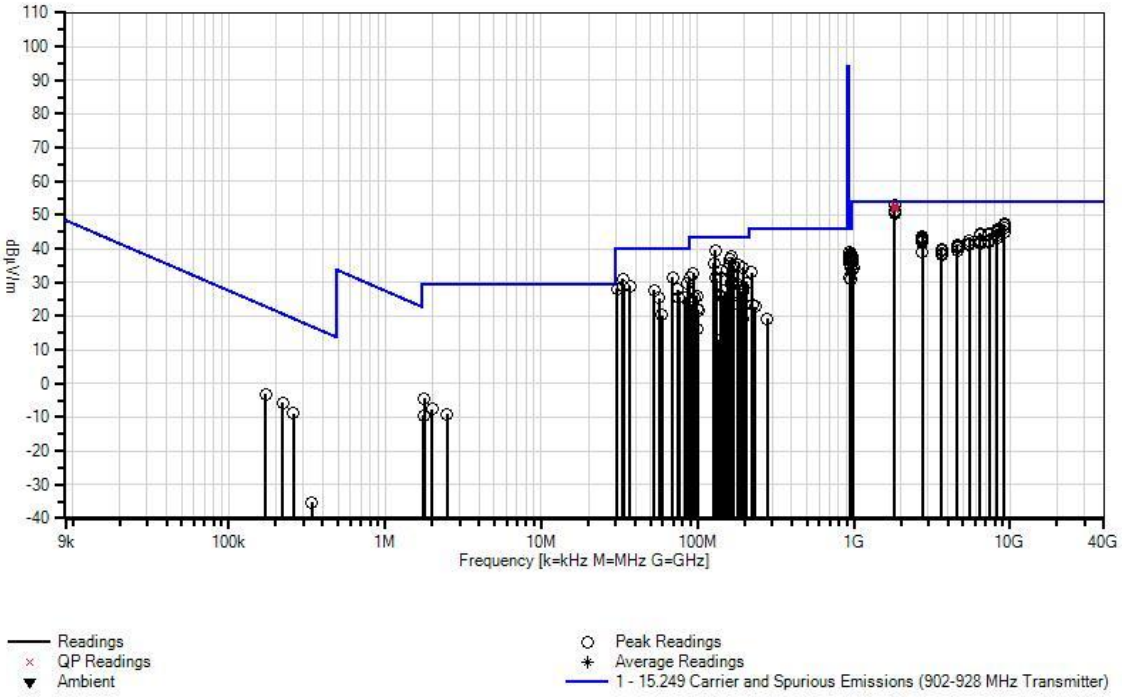
97	164.620M	44.6	-27.8	+10.2	+0.2	+2.2	+0.0	29.4	43.5	-14.1	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
98	3659.975M	39.5	+0.0	+0.0	+0.0	+0.0	+0.0	39.9	54.0	-14.1	Vert
			+0.0	-37.4	+31.3	+0.4			Y-axis		
			+1.7	+4.1	+0.3	+0.0					
99	76.070M	44.9	-27.8	+7.0	+0.1	+1.5	+0.0	25.7	40.0	-14.3	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
100	3660.000M	39.2	+0.0	+0.0	+0.0	+0.0	+0.0	39.6	54.0	-14.4	Vert
			+0.0	-37.4	+31.3	+0.4			Z axis		
			+1.7	+4.1	+0.3	+0.0					
101	82.970M	43.7	-27.8	+8.1	+0.1	+1.5	+0.0	25.6	40.0	-14.4	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
102	3659.927M	39.1	+0.0	+0.0	+0.0	+0.0	+0.0	39.5	54.0	-14.5	Horiz
			+0.0	-37.4	+31.3	+0.4			Y-axis		
			+1.7	+4.1	+0.3	+0.0					
103	194.910M	45.0	-27.7	+9.0	+0.2	+2.5	+0.0	29.0	43.5	-14.5	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
104	945.096M	28.1	-27.1	+24.0	+0.5	+5.9	+0.0	31.4	46.0	-14.6	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
105	4574.927M	37.0	+0.0	+0.0	+0.0	+0.0	+0.0	39.4	54.0	-14.6	Horiz
			+0.0	-37.2	+32.5	+0.5			Y-axis		
			+1.9	+4.4	+0.3	+0.0					
106	3660.067M	39.0	+0.0	+0.0	+0.0	+0.0	+0.0	39.4	54.0	-14.6	Horiz
			+0.0	-37.4	+31.3	+0.4			Z axis		
			+1.7	+4.1	+0.3	+0.0					
107	56.942M	45.6	-27.9	+6.3	+0.1	+1.3	+0.0	25.4	40.0	-14.6	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
108	2744.700M	42.2	+0.0	+0.0	+0.0	+0.0	+0.0	39.1	54.0	-14.9	Vert
			+0.0	-37.8	+29.3	+0.4			X-axis		
			+1.4	+3.3	+0.3	+0.0					
109	952.192M	27.7	-27.1	+24.1	+0.5	+5.9	+0.0	31.1	46.0	-14.9	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
110	2745.000M	42.1	+0.0	+0.0	+0.0	+0.0	+0.0	39.0	54.0	-15.0	Vert
			+0.0	-37.8	+29.3	+0.4			X-axis		
			+1.4	+3.3	+0.3	+0.0					
111	2745.000M	42.0	+0.0	+0.0	+0.0	+0.0	+0.0	38.9	54.0	-15.1	Horiz
			+0.0	-37.8	+29.3	+0.4			X-axis		
			+1.4	+3.3	+0.3	+0.0					
112	3660.000M	38.2	+0.0	+0.0	+0.0	+0.0	+0.0	38.6	54.0	-15.4	Horiz
			+0.0	-37.4	+31.3	+0.4			X-axis		
			+1.7	+4.1	+0.3	+0.0					
113	965.088M	34.9	-27.2	+24.3	+0.5	+6.0	+0.0	38.5	54.0	-15.5	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					

114	3660.000M	37.8	+0.0	+0.0	+0.0	+0.0	+0.0	38.2	54.0	-15.8	Vert
			+0.0	-37.4	+31.3	+0.4			X-axis		
			+1.7	+4.1	+0.3	+0.0					
115	964.968M	34.6	-27.2	+24.3	+0.5	+6.0	+0.0	38.2	54.0	-15.8	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
116	149.140M	41.7	-27.7	+11.3	+0.1	+2.1	+0.0	27.5	43.5	-16.0	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
117	965.088M	34.3	-27.2	+24.3	+0.5	+6.0	+0.0	37.9	54.0	-16.1	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
118	975.088M	33.7	-27.2	+24.4	+0.6	+6.1	+0.0	37.6	54.0	-16.4	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
119	964.928M	34.0	-27.2	+24.3	+0.5	+6.0	+0.0	37.6	54.0	-16.4	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
120	193.620M	43.1	-27.7	+9.0	+0.2	+2.5	+0.0	27.1	43.5	-16.4	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
121	974.928M	33.5	-27.2	+24.4	+0.6	+6.1	+0.0	37.4	54.0	-16.6	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
122	183.120M	43.1	-27.8	+9.0	+0.2	+2.4	+0.0	26.9	43.5	-16.6	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
123	975.074M	33.2	-27.2	+24.4	+0.6	+6.1	+0.0	37.1	54.0	-16.9	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
124	142.920M	40.2	-27.7	+11.5	+0.1	+2.0	+0.0	26.1	43.5	-17.4	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
125	99.380M	42.1	-27.8	+10.0	+0.1	+1.7	+0.0	26.1	43.5	-17.4	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
126	140.940M	40.1	-27.7	+11.6	+0.1	+2.0	+0.0	26.1	43.5	-17.4	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
127	964.938M	32.9	-27.2	+24.3	+0.5	+6.0	+0.0	36.5	54.0	-17.5	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
128	974.929M	32.6	-27.2	+24.4	+0.6	+6.1	+0.0	36.5	54.0	-17.5	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
129	965.088M	32.8	-27.2	+24.3	+0.5	+6.0	+0.0	36.4	54.0	-17.6	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
130	974.948M	32.0	-27.2	+24.4	+0.6	+6.1	+0.0	35.9	54.0	-18.1	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					

131	149.620M	39.6	-27.7	+11.3	+0.1	+2.1	+0.0	25.4	43.5	-18.1	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
132	94.942M	41.7	-27.8	+9.6	+0.1	+1.7	+0.0	25.3	43.5	-18.2	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
133	965.098M	31.1	-27.2	+24.3	+0.5	+6.0	+0.0	34.7	54.0	-19.3	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
134	58.970M	41.0	-27.9	+5.9	+0.1	+1.3	+0.0	20.4	40.0	-19.6	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
135	964.938M	30.8	-27.2	+24.3	+0.5	+6.0	+0.0	34.4	54.0	-19.6	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
136	994.938M	30.2	-27.3	+24.7	+0.6	+6.2	+0.0	34.4	54.0	-19.6	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
137	995.108M	30.0	-27.3	+24.7	+0.6	+6.2	+0.0	34.2	54.0	-19.8	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
138	91.942M	40.4	-27.8	+9.3	+0.1	+1.6	+0.0	23.6	43.5	-19.9	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
139	975.088M	30.0	-27.2	+24.4	+0.6	+6.1	+0.0	33.9	54.0	-20.1	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
140	974.938M	29.9	-27.2	+24.4	+0.6	+6.1	+0.0	33.8	54.0	-20.2	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
141	181.340M	39.4	-27.8	+9.0	+0.2	+2.4	+0.0	23.2	43.5	-20.3	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
142	99.292M	38.1	-27.8	+10.0	+0.1	+1.7	+0.0	22.1	43.5	-21.4	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
143	100.592M	37.7	-27.8	+10.1	+0.1	+1.7	+0.0	21.8	43.5	-21.7	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
144	223.140M	37.5	-27.8	+10.8	+0.2	+2.6	+0.0	23.3	46.0	-22.7	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
145	234.240M	36.1	-27.8	+11.6	+0.2	+2.7	+0.0	22.8	46.0	-23.2	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
146	195.740M	35.1	-27.7	+9.0	+0.2	+2.5	+0.0	19.1	43.5	-24.4	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
147	90.392M	34.6	-27.8	+9.1	+0.1	+1.6	+0.0	17.6	43.5	-25.9	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					

148	172.800k	68.3	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +8.6	-80.0	-3.1	22.8 X-axis	-25.9	Perpe
149	221.820k	65.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.1 +0.0 +8.5	-80.0	-5.7	20.7 Y-axis	-26.4	Perpe
150	280.740M	30.7	-27.7 +0.0 +0.0	+13.1 +0.0 +0.0	+0.3 +0.0 +0.0	+2.9 +0.0 +0.0	+0.0	19.3	46.0 X-axis	-26.7	Vert
151	99.230M	32.3	-27.8 +0.0 +0.0	+10.0 +0.0 +0.0	+0.1 +0.0 +0.0	+1.7 +0.0 +0.0	+0.0	16.3	43.5 Y-axis	-27.2	Horiz
152	258.280k	62.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.1 +0.0 +8.4	-80.0	-8.9	19.4 Y-axis	-28.3	Perpe
153	138.742M	26.9	-27.7 +0.0 +0.0	+11.6 +0.0 +0.0	+0.1 +0.0 +0.0	+2.0 +0.0 +0.0	+0.0	12.9	43.5 X-axis	-30.6	Horiz
154	1.785M	26.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.2 +0.0 +8.8	-40.0	-4.3	29.5 Z-axis	-33.8	Perpe
155	2.005M	23.5	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.2 +0.0 +8.8	-40.0	-7.5	29.5 Y-axis	-37.0	Paral
156	2.502M	21.9	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.2 +0.0 +8.8	-40.0	-9.1	29.5 Y-axis	-38.6	Paral
157	1.758M	21.6	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.2 +0.0 +8.8	-40.0	-9.4	29.5 Z-axis	-38.9	Paral
158	338.800k	36.2	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.1 +0.0 +8.5	-80.0	-35.2	17.0 X-axis	-52.2	Paral

CKC Laboratories Date: 10/27/2011 Time: 13:55:50 SmartLabs, Inc. WO#: 92348
15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter) Test Distance: 3 Meters Sequence#: 11 Ext
ATTN: 0 dB



Test Location: CKC Laboratories • 110 Olinda Place • Brea, CA 92823 • 714-993-6112

Customer: **SmartLabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **92348** Date: 12/6/2011
Test Type: **Maximized Emissions** Time: 17:27:55
Equipment: **In-Line 0-10VDC Dimmer or Dual-Switch** Sequence#: 12
Manufacturer: SmartLabs, Inc. Tested By: E. Wong
Model: 2475DA2
S/N: 148B8C

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN00309	Preamp	8447D	5/7/2010	5/7/2012
	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
	ANP05198	Cable	8268	12/21/2010	12/21/2012
T1	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T2	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T3	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T4	AN03239	Cable	32022-2-29094K-24TC	8/30/2011	8/30/2013
T5	ANP05421	Cable	Sucoflex 104A	2/12/2010	2/12/2012
T6	ANP05563	Cable	ANDL-1-PNMN-48	9/3/2010	9/3/2012
T7	AN03169	High Pass Filter	HM1155-11SS	9/22/2011	9/22/2013
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012

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

Function	Manufacturer	Model #	S/N
In-Line 0-10VDC Dimmer or Dual-Switch*	SmartLabs, Inc.	2475DA2	148B8C

Support Devices:

Function	Manufacturer	Model #	S/N
Dimmable Programmed Start Electronic Ballast	Phillips	IZT-132-SC	NA
Florescent Light	Ecolux	SP35	F17T8-SP35-ECO

Test Conditions / Notes:

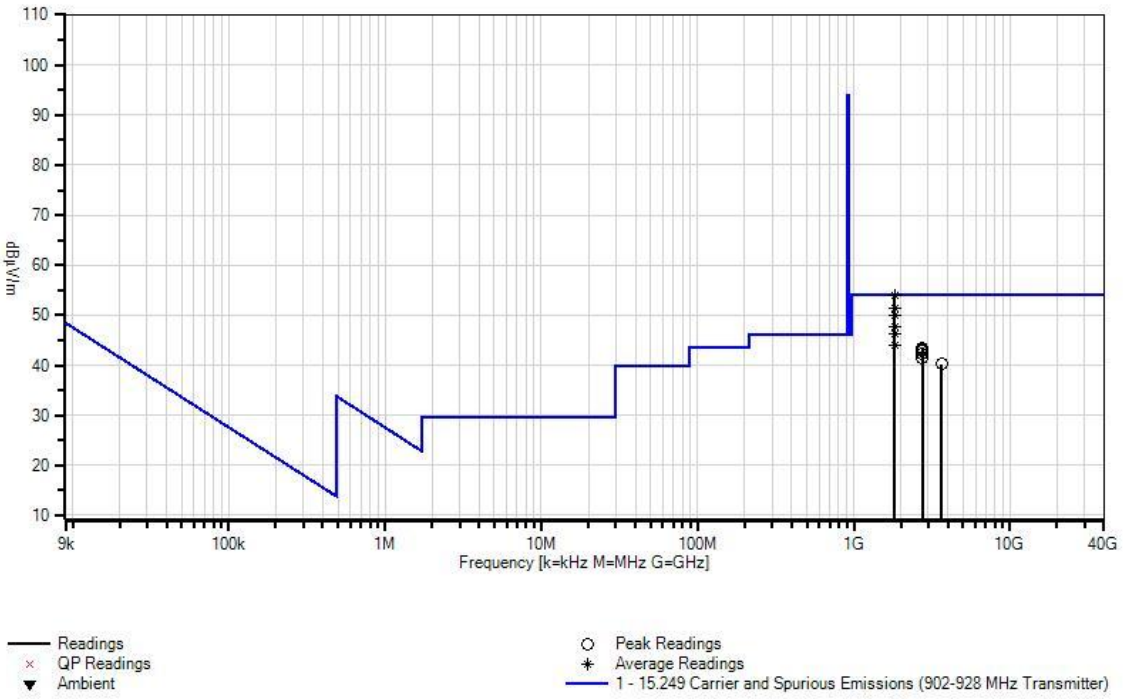
The EUT is placed on the wooden table lined with Styrofoam, total height is 0.8 meter from the ground plane. Connected to the EUT is a light bulb and a Sensor with a section of dedicated wire length attached.
Continuous transmit
914.92MHz-915.08MHz
Frequency range of measurement = 9 kHz- 10 GHz.
9 kH -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-10,000 MHz; RBW=1 MHz, VBW=1 MHz.
18°C, 22%
Maximized 10 worse frequency of the original test data . All harmonics are checked.

Ext Attn: 0 dB

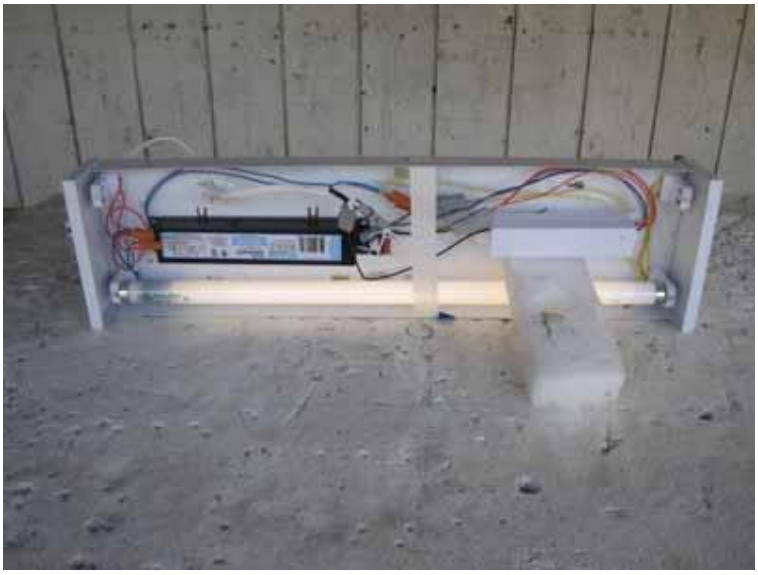
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1829.800M	60.5	+0.0	-38.2	+27.2	+0.3	+0.0	53.9	54.0	-0.1	Horiz
	Ave		+1.0	+2.7	+0.4				Z		
^	1829.800M	63.0	+0.0	-38.2	+27.2	+0.3	+0.0	56.4	54.0	+2.4	Horiz
			+1.0	+2.7	+0.4				Z		
3	1830.150M	58.0	+0.0	-38.2	+27.2	+0.3	+0.0	51.4	54.0	-2.6	Horiz
	Ave		+1.0	+2.7	+0.4				Y		
4	1829.947M	56.5	+0.0	-38.2	+27.2	+0.3	+0.0	49.9	54.0	-4.1	Vert
	Ave		+1.0	+2.7	+0.4				X		
^	1829.947M	58.6	+0.0	-38.2	+27.2	+0.3	+0.0	52.0	54.0	-2.0	Vert
			+1.0	+2.7	+0.4				X		
6	1830.092M	54.2	+0.0	-38.2	+27.2	+0.3	+0.0	47.6	54.0	-6.4	Vert
	Ave		+1.0	+2.7	+0.4				Y		
^	1830.092M	56.7	+0.0	-38.2	+27.2	+0.3	+0.0	50.1	54.0	-3.9	Vert
			+1.0	+2.7	+0.4				Y		
8	1830.217M	52.8	+0.0	-38.2	+27.2	+0.3	+0.0	46.2	54.0	-7.8	Horiz
	Ave		+1.0	+2.7	+0.4				X		
^	1830.150M	60.2	+0.0	-38.2	+27.2	+0.3	+0.0	53.6	54.0	-0.4	Horiz
			+1.0	+2.7	+0.4				Y		
^	1830.217M	56.3	+0.0	-38.2	+27.2	+0.3	+0.0	49.7	54.0	-4.3	Horiz
			+1.0	+2.7	+0.4				X		
11	1830.259M	50.5	+0.0	-38.2	+27.2	+0.3	+0.0	43.9	54.0	-10.1	Vert
	Ave		+1.0	+2.7	+0.4				Z		
^	1830.259M	54.5	+0.0	-38.2	+27.2	+0.3	+0.0	47.9	54.0	-6.1	Vert
			+1.0	+2.7	+0.4				Z		
13	2745.010M	46.4	+0.0	-37.8	+29.3	+0.4	+0.0	43.3	54.0	-10.7	Vert
			+1.4	+3.3	+0.3				X		
14	2745.010M	46.1	+0.0	-37.8	+29.3	+0.4	+0.0	43.0	54.0	-11.0	Horiz
			+1.4	+3.3	+0.3				X		
15	2745.010M	46.0	+0.0	-37.8	+29.3	+0.4	+0.0	42.9	54.0	-11.1	Vert
			+1.4	+3.3	+0.3				Y		
16	2745.010M	45.5	+0.0	-37.8	+29.3	+0.4	+0.0	42.4	54.0	-11.6	Horiz
			+1.4	+3.3	+0.3				Y		
17	2745.010M	45.5	+0.0	-37.8	+29.3	+0.4	+0.0	42.4	54.0	-11.6	Horiz
			+1.4	+3.3	+0.3				Z		
18	2745.010M	44.6	+0.0	-37.8	+29.3	+0.4	+0.0	41.5	54.0	-12.5	Vert
			+1.4	+3.3	+0.3				Z		
19	3660.180M	39.8	+0.0	-37.4	+31.3	+0.4	+0.0	40.2	54.0	-13.8	Horiz
			+1.7	+4.1	+0.3				Z		

CKC Laboratories Date: 12/6/2011 Time: 17:27:55 SmartLabs, Inc. WO#: 92348
15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter) Test Distance: 3 Meters Sequence#: 12 Ext
ATTN: 0 dB



Test Setup Photos



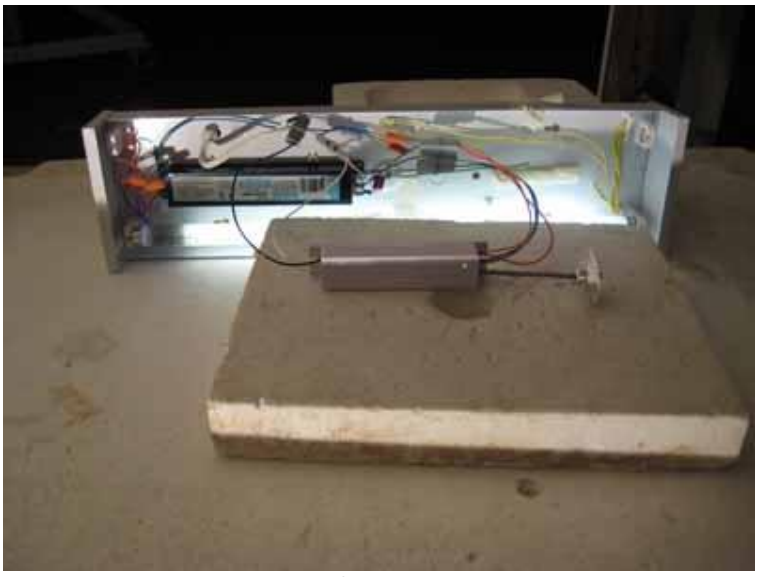
15.249(a) / 15.249(d) X AXIS

15.249(a) / 15.249(d) Y AXIS

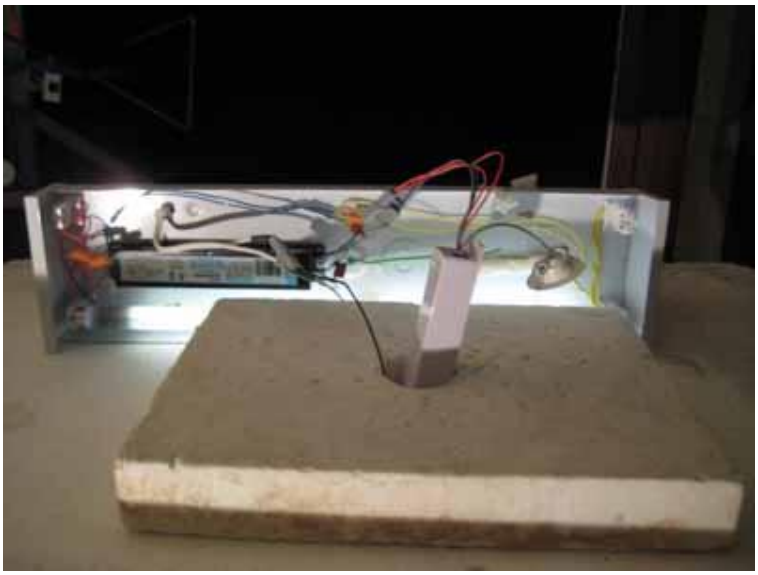
15.249(a) / 15.249(d) Z AXIS

15.249(a) / 15.249(d) BACK VIEW

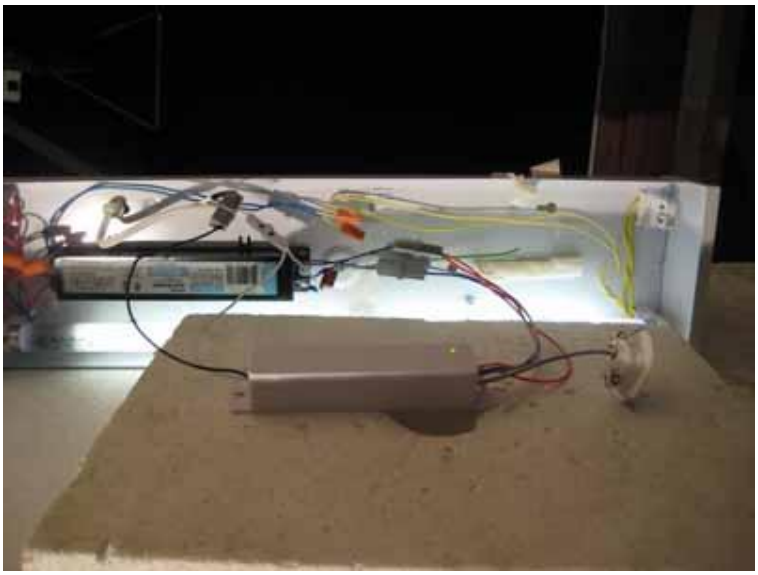
Tested December 6, 2011



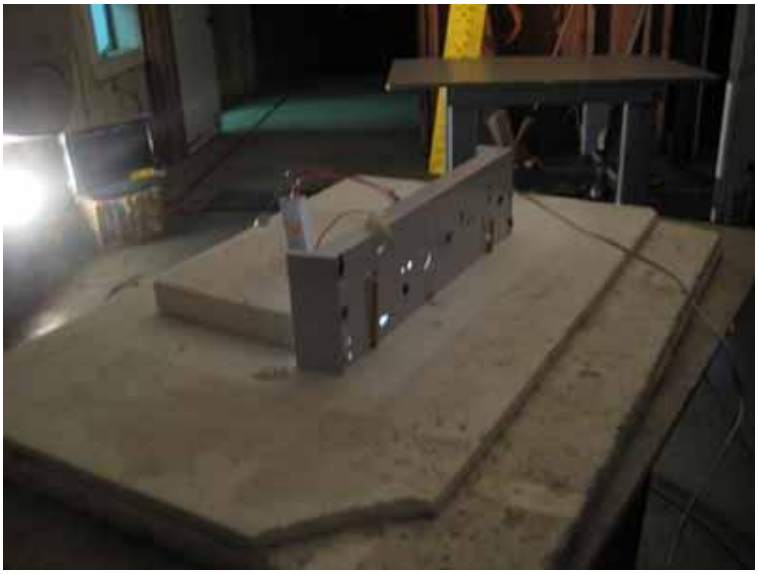
15.249(a) / 15.249(d) X AXIS



15.249(a) / 15.249(d) Y AXIS



15.249(a) / 15.249(d) Z AXIS



15.249(a) / 15.249(d) BACK VIEW

-20dBc Occupied Bandwidth

Test Conditions / Setup

The EUT is placed on the wooden table lined with Styrofoam, total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

15.31(e) compliance: the supply voltage was varied between 85% and 115% of the nominal rated supply voltage (120- 230Vac), no change in the Fundamental signal level was observed.

Frequency range of measurement = 30 MHz- 1GHz
RBW=120 kHz, VBW=120 kHz

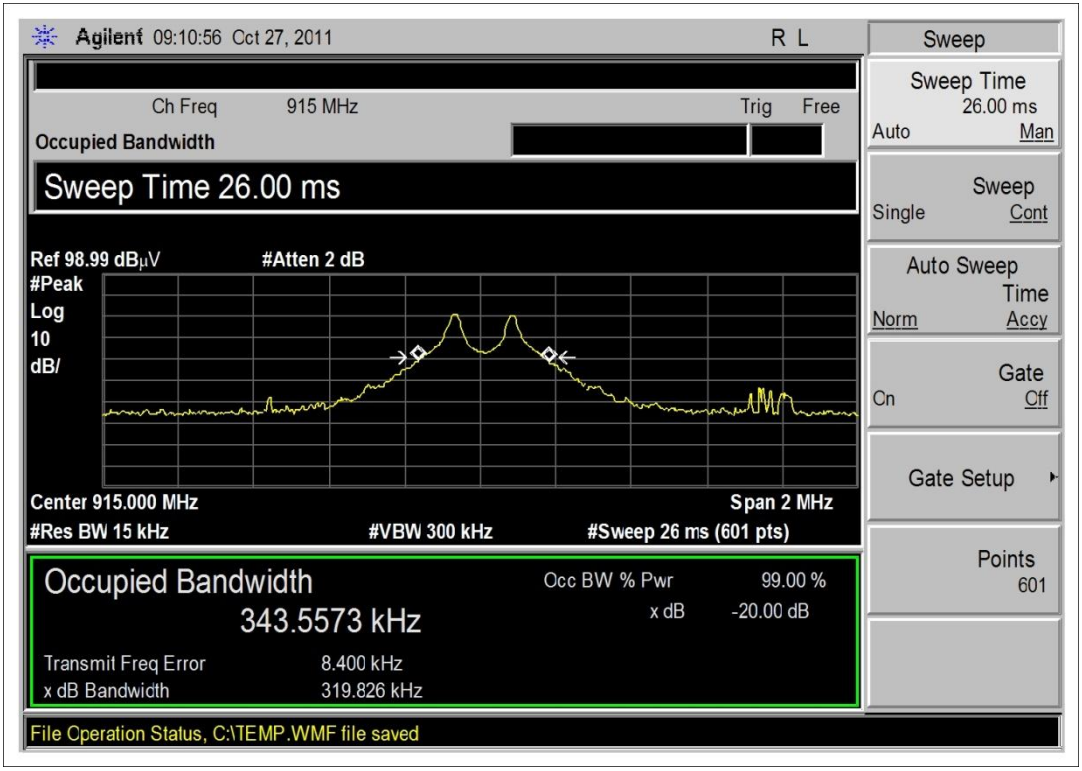
18°C, 22% Relative Humidity

Engineer Name: D. Nguyen

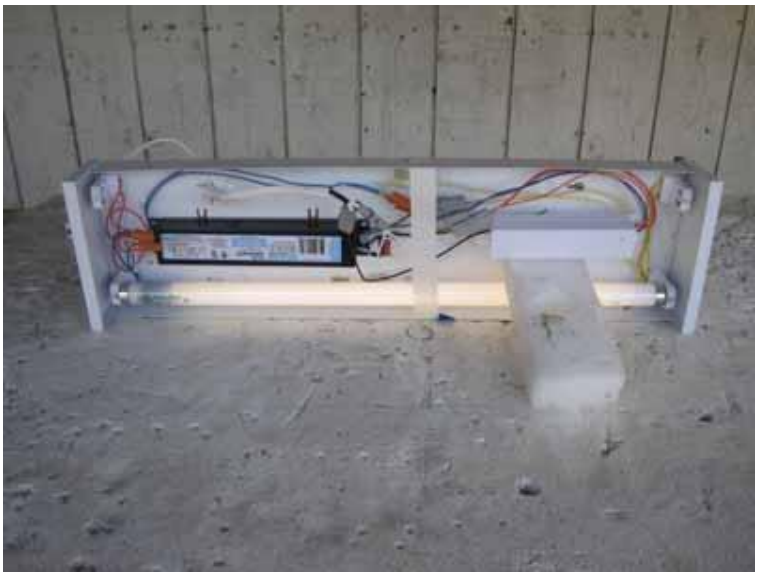
Test Equipment

Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due
AN00309	Preamp	8447D	HP	5/7/2010	5/7/2012
AN01995	Biconilog Antenna	CBL6111C	Chase	3/8/2010	3/8/2012
ANP05050	Cable	RG223/U	Pasternack	3/21/2011	3/21/2013
ANP05198	Cable	8268	Belden	12/21/2010	12/21/2012
AN02672	Spectrum Analyzer	E4446A	Agilent	8/9/2010	8/9/2012

Test Plot


Agilent 09:10:56 Oct 27, 2011
R L
Sweep
Ch Freq 915 MHz
Trig Free
Occupied Bandwidth
Sweep Time 26.00 ms
Sweep Time
26.00 ms
Auto Man
Sweep
Single Cont
Auto Sweep Time
Norm Accy
Gate
On Off
Gate Setup
Points
601
Ref 98.99 dBµV
#Atten 2 dB
#Peak
Log
10
dB/
Center 915.000 MHz
Span 2 MHz
#Res BW 15 kHz
#VBW 300 kHz
#Sweep 26 ms (601 pts)
Occupied Bandwidth
343.5573 kHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error 8.400 kHz
x dB Bandwidth 319.826 kHz
File Operation Status, C:\TEMP.WMF file saved

Test Setup Photos



-20dBc OBW X AXIS

-20dBc OBW Y AXIS

-20dBc OBW X AXIS

-20dBc OBW BACK VIEW

Bandedge

Test Conditions / Setup

The EUT is placed on the wooden table lined with Styrofoam, total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

15.31(e) compliance: the supply voltage was varied between 85% and 115% of the nominal rated supply voltage (120- 230Vac), no change in the Fundamental signal level was observed.

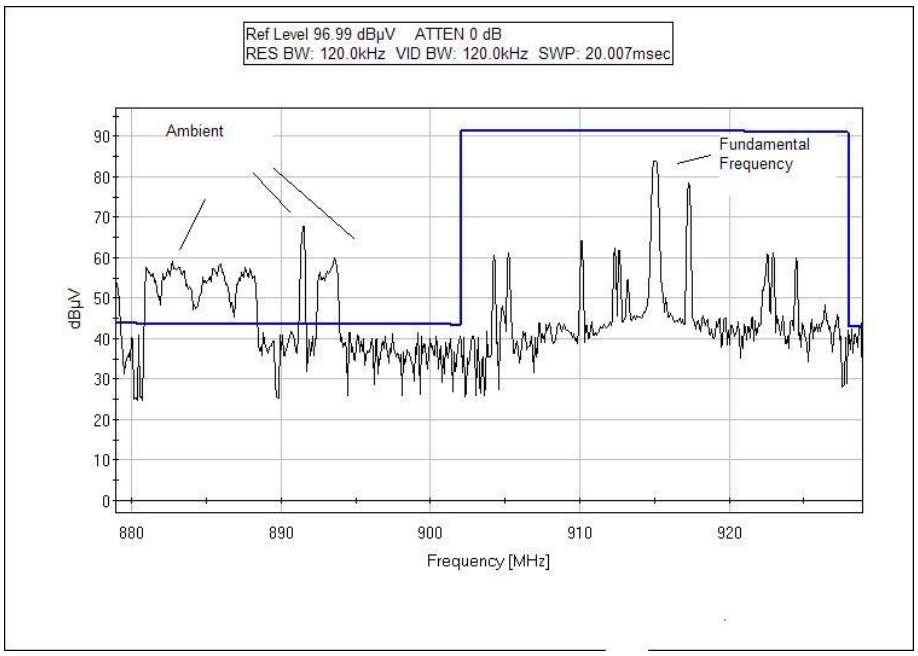
Frequency range of measurement = 30 MHz- 1GHz
RBW=120 kHz, VBW=120 kHz

18°C, 22% Relative Humidity

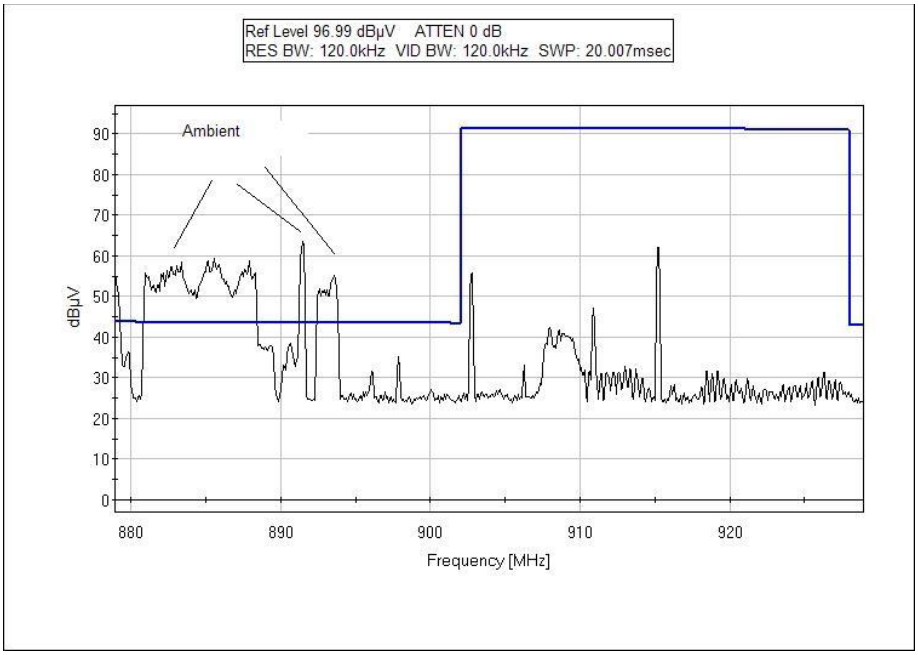
Engineer Name: D. Nguyen

Test Equipment					
Asset/Serial #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
AN00309	Preamp	8447D	HP	5/7/2010	5/7/2012
AN01995	Biconilog Antenna	CBL6111C	Chase	3/8/2010	3/8/2012
ANP05050	Cable	RG223/U	Pasternack	3/21/2011	3/21/2013
ANP05198	Cable	8268	Belden	12/21/2010	12/21/2012
AN02672	Spectrum Analyzer	E4446A	Agilent	8/9/2010	8/9/2012

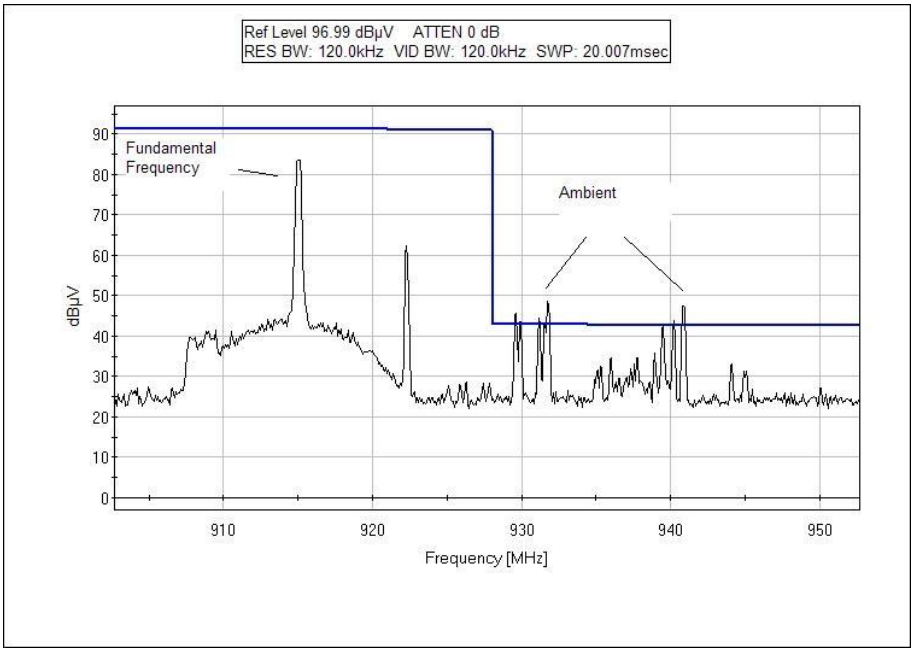
Test Data



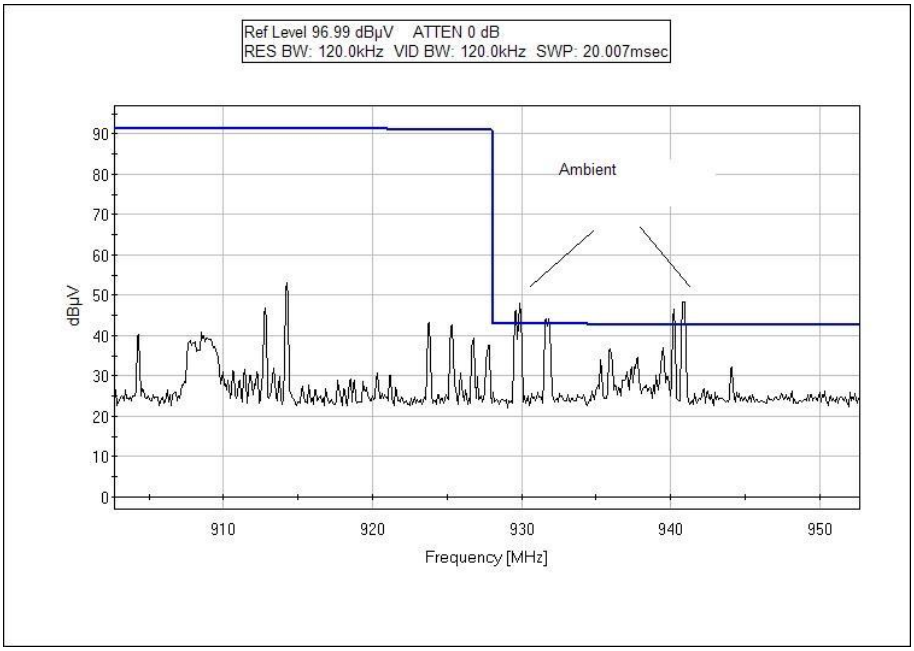
LEFT Tx ON



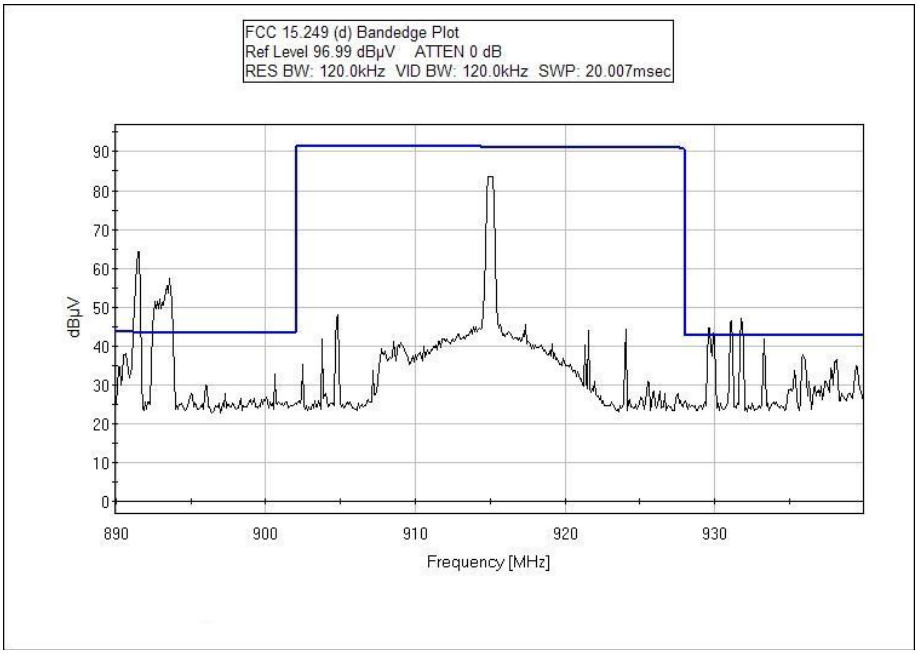
LEFT Tx OFF



RIGHT Tx ON

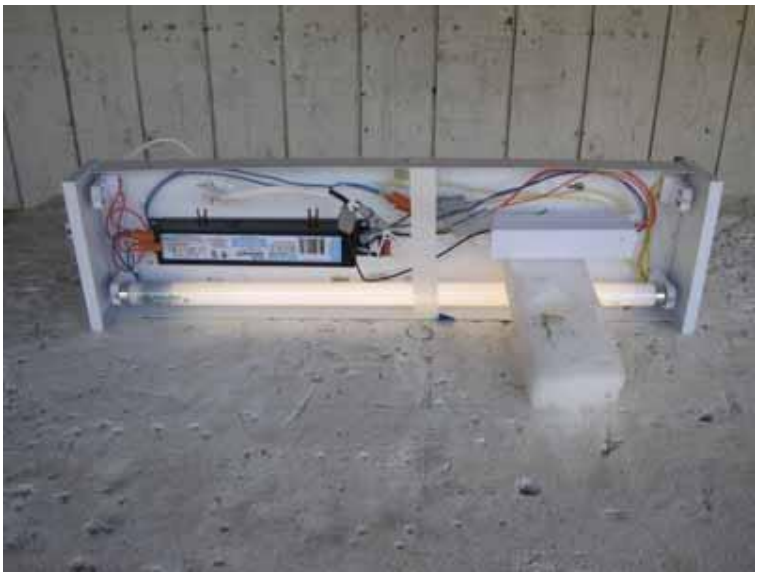


RIGHT Tx OFF


FCC 15.249 (d) Bandedge Plot
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 120.0kHz VID BW: 120.0kHz SWP: 20.007msec
dBµV
90
80
70
60
50
40
30
20
10
0
890
900
910
920
930
Frequency [MHz]

CENTER

Test Setup Photos



FCC BANDEDGE X AXIS

FCC BANDEDGE Y AXIS

FCC BANDEDGE Z AXIS

FCC BANDEDGE BACK VIEW

RSS-210

99 % Bandwidth

Test Conditions / Setup

The EUT is placed on the wooden table lined with Styrofoam, total height is 1.5 meter from the ground plane. Connected to the EUT is a light bulb.
Continuous transmit
914.92MHz-915.08MHz

15.31(e) compliance: the supply voltage was varied between 85% and 115% of the nominal rated supply voltage (120- 230Vac), no change in the Fundamental signal level was observed.

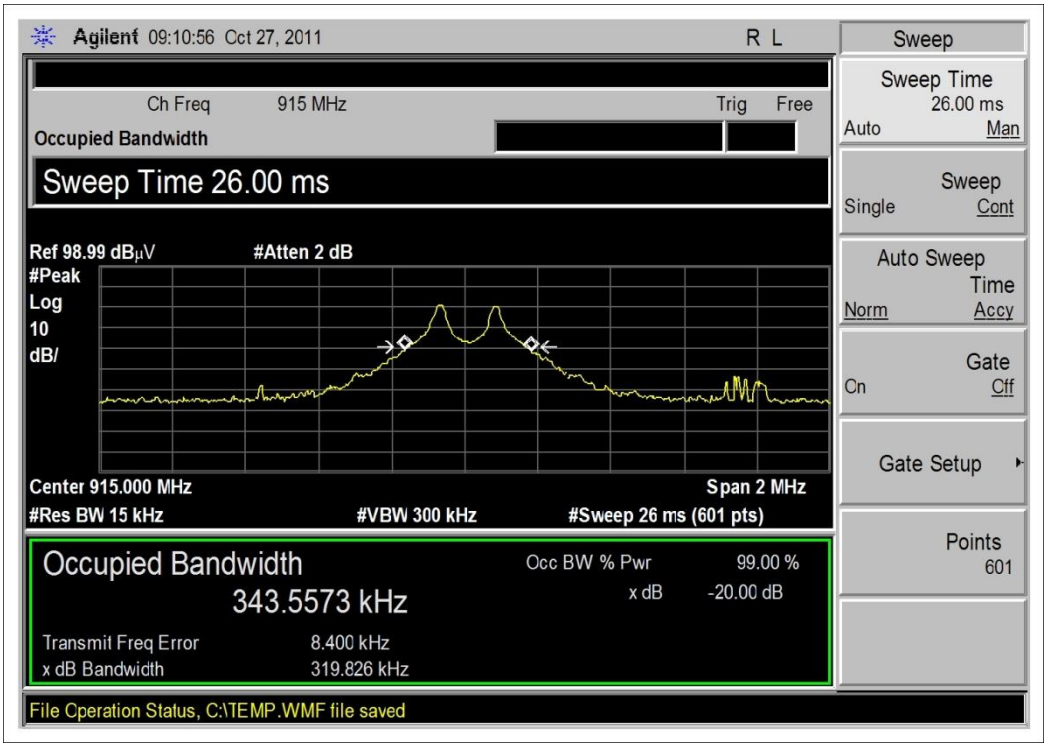
Frequency range of measurement = 30 MHz- 1GHz
RBW=120 kHz, VBW=120 kHz

18°C, 22% Relative Humidity

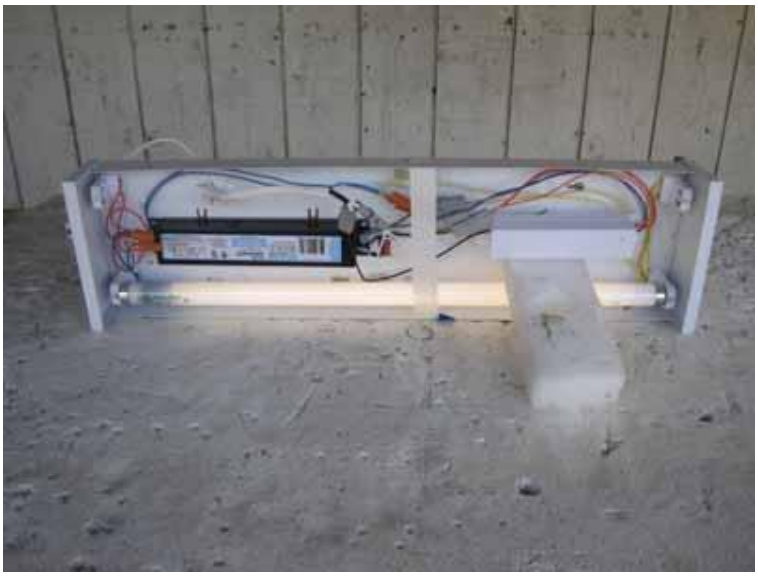
Engineer Name: D. Nguyen

Test Equipment					
Asset/Serial #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
AN00309	Preamp	8447D	HP	5/7/2010	5/7/2012
AN01995	Biconilog Antenna	CBL6111C	Chase	3/8/2010	3/8/2012
ANP05050	Cable	RG223/U	Pasternack	3/21/2011	3/21/2013
ANP05198	Cable	8268	Belden	12/21/2010	12/21/2012
AN02672	Spectrum Analyzer	E4446A	Agilent	8/9/2010	8/9/2012

Test Data


Agilent 09:10:56 Cct 27, 2011
R L
Sweep
Sweep Time
26.00 ms
Auto Man
Ch Freq 915 MHz
Trig Free
Occupied Bandwidth
Sweep Time 26.00 ms
Sweep
Single Cont
Ref 98.99 dBµV
#Atten 2 dB
#Peak
Log
10
dB/
Auto Sweep Time
Norm Accy
Gate
Cn Off
Gate Setup
Center 915.000 MHz
Span 2 MHz
#Res BW 15 kHz
#VBW 300 kHz
#Sweep 26 ms (601 pts)
Points
601
Occupied Bandwidth
343.5573 kHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error 8.400 kHz
x dB Bandwidth 319.826 kHz
File Operation Status, C:\TEMP.WMF file saved

Test Setup Photos



RSS 210 X AXIS

RSS 210 X AXIS

RSS 210 Z AXIS

RSS 210 BACK VIEW

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

Unless otherwise indicated, the following configuration parameters are used for equipment setup: 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. Unless otherwise specified, 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.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

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 "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. 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 or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent 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

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. 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.