Smartlabs, Inc.

ADDENDUM TO TEST REPORT 93833-4

Keypad with Dimmer
Model: 2334-2

Tested To The Following Standards:

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

Report No.: 93833-4A

Date of issue: January 9, 2012

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.

This report contains a total of 39 pages and may be reproduced in full only. Partial reproduction may only be done with the written consent of CKC Laboratories, Inc.

TABLE OF CONTENTS

ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Smartlabs, Inc.
16542 Millikan Ave
Irvine, CA 92606

Representative: John Lockyer
Customer Reference Number: 12-3JL1113

REPORT PREPARED BY:

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

Project Number: 93833

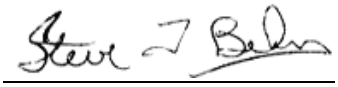
DATE OF EQUIPMENT RECEIPT: December 5, 2012
DATE(S) OF TESTING: December 5, 2012

Revision History

Original: Testing of the Keypad with Dimmer, 2334-2 to FCC 15.209, 15.249 and RSS-210 Issue 8 devices.
Addendum A: To add a peripheral device to "Equipment under Test" section and to add statement in the "Test Conditions / Notes:" section on the 15.207 conducted emissions data sheets.

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.
1120 Fulton Place
Fremont, CA 94539

Site Registration & Accreditation Information

Location	CB #	Taiwan	Canada	FCC	Japan
Fremont	US0082	SL2-IN-E-1148R	3082B-1	958979	A-0149

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C 15.207, 15.249 & 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)(b)	Pass
-20dBc & 99% Occupied Bandwidth	FCC Part 15 Subpart C Section 15.249 / RSS 210 Issue 8	Pass
Bandedge	FCC Part 15 Subpart C	Pass
Field Strength of Harmonics	FCC Part 15 Subpart C Section 15.249(d)	Pass
Field Strength of Spurious Emissions	FCC Part 15 Subpart C Section 15.249(d)	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

Keypad with Dimmer
Manuf: Smartlabs
Model: 2334-2
Serial: None

PERIPHERAL DEVICES

The EUT was tested with the following peripheral devices:

EUT Load
Manuf: Foshan
Model: 25 W Light Bulb
Serial: None

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

Transmitting fundamental frequency
Frequency Range of Measurement= Fundamental
TX= 914.9MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None

Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=120kHz
Voltage of Power: 120V-60Hz (100%)

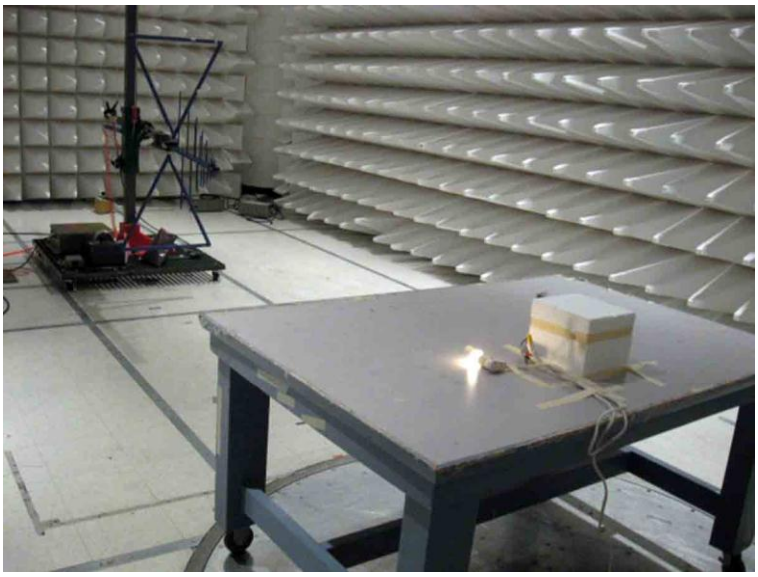
The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in a fixed position. The EUT is set in constant transmit mode
15.31(e) compliance: the supply voltage was varied between 85% and 115% of the nominal rated supply voltage (100vac and 240 Vac), no change in the fundamental signal level was observed.

Engineer Name: Hieu Song Nguyenpham/ Christine Nicklas

Test Equipment

Asset #	Description	Manufacturer	Model	Cal Date	Cal Due
AN01992	Biconilog Antenna	Chase	CBL6111C	12/23/2010	12/23/2012
AN00730	Preamp	HP		1/31/2011	1/31/2013
ANP00880	Cable	Pasternack	RG214U	7/30/2012	7/30/2014
ANP05299	Cable	Pasternack	RG214	3/6/2011	3/6/2013
ANP05440	Cable	Pasternack		3/7/2011	3/7/2013
AN02668	Spectrum Analyzer	Agilent	E4446A	2/23/2011	2/23/2013

Test Setup Photos



15.207 AC Conducted Emissions

Test Data Sheets

Test Location: CKC Laboratories, Inc. • 1120 Fulton Places • Fremont, CA 94539 • (510) 249-1170

Customer: **Smartlabs, Inc.**
Specification: **15.207 AC Mains - Average**
Work Order #: **93833** Date: 12/5/2012
Test Type: **Conducted Emissions** Time: 2:03:30 PM
Equipment: **Keypad with Dimmer** Sequence#: 20
Manufacturer: Smartlabs Tested By: Hieu Song Nguyenpham/ Christine
Model: 2334-2 120V 60Hz
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	23-10-34	4/15/2011	4/15/2013
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05440	Cable		3/7/2011	3/7/2013
T4	AN00493	50uH LISN-L1 (L) Loss W/O European Adapter	3816/NM	3/10/2011	3/10/2013
	AN00493	50uH LISN-L(2) N Loss W/O European Adapter	3816/NM	3/10/2011	3/10/2013
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T5	AN03279	High Pass Filter	HE9615-150K-50-720B	1/3/2012	1/3/2014

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

Function	Manufacturer	Model #	S/N
Keypad with Dimmer*	Smartlabs	2334-2	None

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Conducted Emission FCC 15.207
Frequency Range: 150kHz to 30MHz

Frequency Range of Measurement= Fundamental
TX= 914.9MHz to 915.1Mhz

Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa

Voltage of Power: 120V-60Hz (100%)

The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position.

Note: EUT Load is turned off during testing in order to capture data in accordance with 15.207 representing EUT transmitter functions only.

Ext Attn: 0 dB

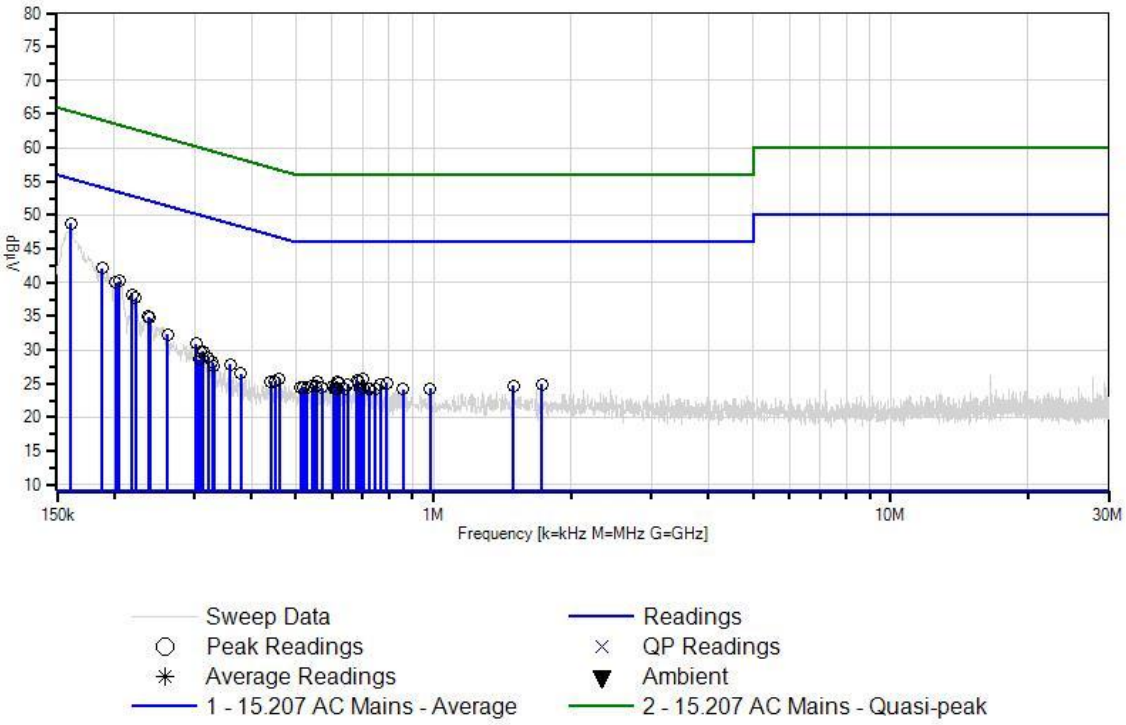
Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	160.908k	36.0	+9.9 +0.7	+0.0	+0.0	+2.2	+0.0	48.8	55.4	-6.6	Black
2	188.542k	29.9	+9.9 +0.3	+0.1	+0.0	+1.9	+0.0	42.1	54.1	-12.0	Black
3	205.268k	28.2	+9.9 +0.3	+0.1	+0.0	+1.7	+0.0	40.2	53.4	-13.2	Black
4	201.632k	28.0	+9.9 +0.3	+0.1	+0.0	+1.7	+0.0	40.0	53.5	-13.5	Black
5	219.085k	26.4	+9.9 +0.3	+0.1	+0.0	+1.5	+0.0	38.2	52.9	-14.7	Black
6	222.721k	26.0	+9.9 +0.2	+0.1	+0.0	+1.5	+0.0	37.7	52.7	-15.0	Black
7	237.992k	23.4	+9.9 +0.2	+0.1	+0.0	+1.3	+0.0	34.9	52.2	-17.3	Black
8	239.446k	23.2	+9.9 +0.2	+0.1	+0.0	+1.3	+0.0	34.7	52.1	-17.4	Black
9	261.990k	21.1	+9.8 +0.2	+0.1	+0.0	+1.1	+0.0	32.3	51.4	-19.1	Black
10	301.986k	19.9	+9.8 +0.1	+0.1	+0.0	+1.0	+0.0	30.9	50.2	-19.3	Black
11	313.621k	18.9	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	29.8	49.9	-20.1	Black

12	309.985k	18.8	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	29.7	50.0	-20.3	Black
13	699.041k	14.9	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.6	46.0	-20.4	Black
14	679.406k	14.8	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.5	46.0	-20.5	Black
15	556.508k	14.6	+9.9 +0.1	+0.1	+0.0	+0.6	+0.0	25.3	46.0	-20.7	Black
16	614.685k	14.7	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	25.3	46.0	-20.7	Black
17	685.224k	14.6	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.3	46.0	-20.7	Black
18	359.435k	17.1	+9.8 +0.1	+0.1	+0.0	+0.8	+0.0	27.9	48.7	-20.8	Black
19	320.893k	17.9	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	28.8	49.7	-20.9	Black
20	620.502k	14.5	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	25.1	46.0	-20.9	Black
21	789.941k	14.6	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.1	46.0	-20.9	Black
22	459.790k	14.9	+9.8 +0.2	+0.1	+0.0	+0.7	+0.0	25.7	46.7	-21.0	Black
23	1.723M	14.3	+9.8 +0.2	+0.1	+0.1	+0.4	+0.0	24.9	46.0	-21.1	Black
24	649.591k	14.1	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.8	46.0	-21.2	Black
25	765.216k	14.3	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	24.8	46.0	-21.2	Black
26	328.165k	17.3	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	28.2	49.5	-21.3	Black
27	552.872k	14.0	+9.9 +0.1	+0.1	+0.0	+0.6	+0.0	24.7	46.0	-21.3	Black
28	1.498M	14.1	+9.8 +0.2	+0.1	+0.1	+0.4	+0.0	24.7	46.0	-21.3	Black
29	542.691k	13.9	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	24.6	46.0	-21.4	Black
30	604.504k	14.0	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.6	46.0	-21.4	Black
31	306.349k	17.7	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	28.6	50.1	-21.5	Black
32	518.693k	13.8	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	24.5	46.0	-21.5	Black
33	512.876k	13.7	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	24.4	46.0	-21.6	Black
34	449.609k	14.5	+9.8 +0.2	+0.1	+0.0	+0.7	+0.0	25.3	46.9	-21.6	Black
35	528.874k	13.7	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	24.4	46.0	-21.6	Black
36	701.222k	13.7	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.4	46.0	-21.6	Black
37	571.052k	13.7	+9.9 +0.1	+0.1	+0.0	+0.6	+0.0	24.4	46.0	-21.6	Black

38	691.768k	13.6	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.3	46.0	-21.7	Black
39	440.882k	14.6	+9.8 +0.1	+0.1	+0.0	+0.7	+0.0	25.3	47.0	-21.7	Black
40	983.523k	13.9	+9.8 +0.1	+0.1	+0.0	+0.4	+0.0	24.3	46.0	-21.7	Black
41	746.309k	13.6	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.3	46.0	-21.7	Black
42	606.685k	13.6	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.2	46.0	-21.8	Black
43	611.776k	13.6	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.2	46.0	-21.8	Black
44	330.347k	16.7	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	27.6	49.4	-21.8	Black
45	379.070k	15.7	+9.8 +0.1	+0.1	+0.0	+0.8	+0.0	26.5	48.3	-21.8	Black
46	616.139k	13.6	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.2	46.0	-21.8	Black
47	724.493k	13.5	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.2	46.0	-21.8	Black
48	857.571k	13.7	+9.8 +0.2	+0.1	+0.0	+0.4	+0.0	24.2	46.0	-21.8	Black
49	636.501k	13.6	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.2	46.0	-21.8	Black
50	721.584k	13.5	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.2	46.0	-21.8	Black

CKC Laboratories, Inc Date: 12/5/2012 Time: 2:03:30 PM Smartlabs, Inc WO#: 93833
Test Lead: Black 120V 60Hz Sequence#: 20



Test Location: CKC Laboratories, Inc. • 1120 Fulton Places • Fremont, CA 94539 • (510) 249-1170

Customer: **Smartlabs, Inc.**
Specification: **15.207 AC Mains - Average**
Work Order #: **93833** Date: 12/5/2012
Test Type: **Conducted Emissions** Time: 2:09:14 PM
Equipment: **Keypad with Dimmer** Sequence#: 21
Manufacturer: Smartlabs Tested By: Hieu Song Nguyenpham/ Christine
Model: 2334-2 120V 60Hz
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	23-10-34	4/15/2011	4/15/2013
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05440	Cable		3/7/2011	3/7/2013
	AN00493	50uH LISN-L1 (L) Loss W/O European Adapter	3816/NM	3/10/2011	3/10/2013
T4	AN00493	50uH LISN-L(2) N Loss W/O European Adapter	3816/NM	3/10/2011	3/10/2013
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T5	AN03279	High Pass Filter	HE9615-150K-50-720B	1/3/2012	1/3/2014

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

Function	Manufacturer	Model #	S/N
Keypad with Dimmer*	Smartlabs	2334-2	None

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Conducted Emission FCC 15.207
Frequency Range: 150kHz to 30MHz

Frequency Range of Measurement= Fundamental
TX= 914.9 MHz to 915.1MHz

Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa

Voltage of Power: 120V-60Hz (100%)

The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position.

Note: EUT Load is turned off during testing in order to capture data in accordance with 15.207 representing EUT transmitter functions only.

Ext Attn: 0 dB

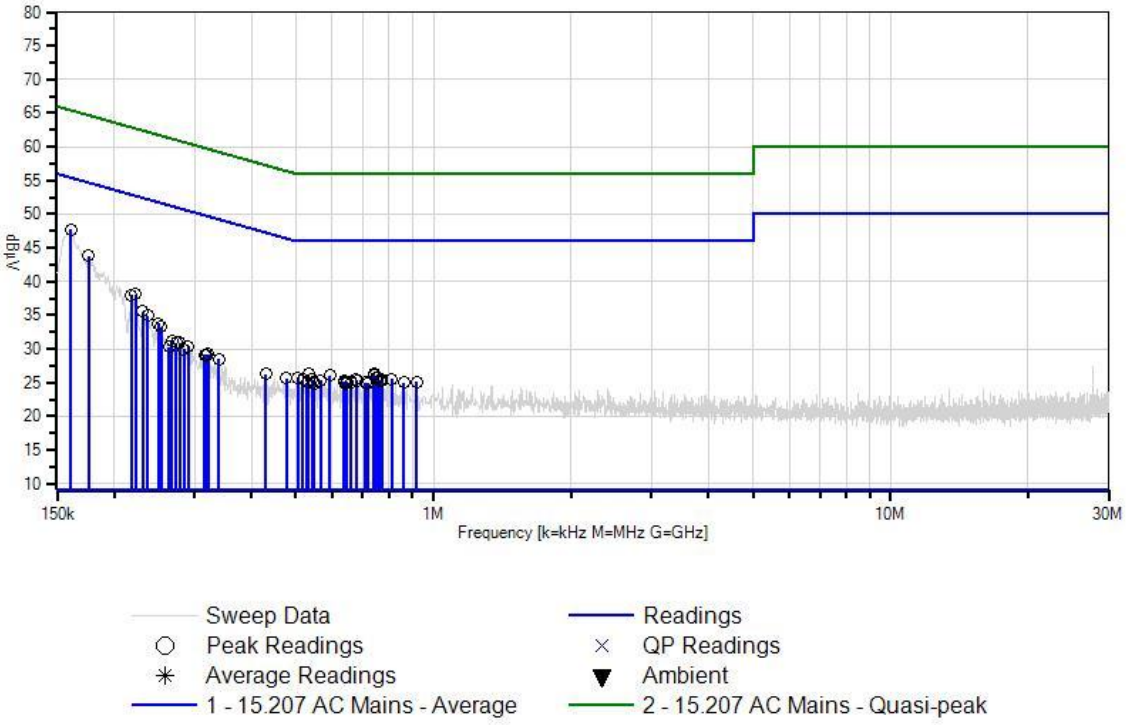
Measurement Data: Reading listed by margin. Test Lead: White

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	160.908k	34.9	+9.9 +0.7	+0.0	+0.0	+2.2	+0.0	47.7	55.4	-7.7	White
2	176.179k	31.4	+9.9 +0.4	+0.1	+0.0	+2.0	+0.0	43.8	54.7	-10.9	White
3	222.721k	26.4	+9.9 +0.2	+0.1	+0.0	+1.5	+0.0	38.1	52.7	-14.6	White
4	218.357k	26.2	+9.9 +0.3	+0.1	+0.0	+1.5	+0.0	38.0	52.9	-14.9	White
5	231.447k	24.0	+9.9 +0.2	+0.1	+0.0	+1.4	+0.0	35.6	52.4	-16.8	White
6	236.538k	23.4	+9.9 +0.2	+0.1	+0.0	+1.3	+0.0	34.9	52.2	-17.3	White
7	250.354k	22.5	+9.8 +0.2	+0.1	+0.0	+1.2	+0.0	33.8	51.7	-17.9	White
8	253.263k	22.0	+9.8 +0.2	+0.1	+0.0	+1.2	+0.0	33.3	51.6	-18.3	White
9	532.510k	15.6	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	26.3	46.0	-19.7	White
10	739.764k	15.6	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	26.3	46.0	-19.7	White
11	741.946k	15.5	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	26.2	46.0	-19.8	White
12	592.868k	15.4	+9.9 +0.1	+0.1	+0.0	+0.6	+0.0	26.1	46.0	-19.9	White
13	267.807k	20.0	+9.8 +0.2	+0.1	+0.0	+1.1	+0.0	31.2	51.2	-20.0	White
14	277.988k	19.9	+9.8 +0.1	+0.1	+0.0	+1.0	+0.0	30.9	50.9	-20.0	White
15	273.625k	19.8	+9.8 +0.1	+0.1	+0.0	+1.1	+0.0	30.9	51.0	-20.1	White
16	291.078k	19.4	+9.8 +0.1	+0.1	+0.0	+1.0	+0.0	30.4	50.5	-20.1	White
17	504.149k	15.0	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	25.7	46.0	-20.3	White
18	752.854k	15.2	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.7	46.0	-20.3	White
19	744.855k	14.9	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.6	46.0	-20.4	White
20	755.035k	15.1	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.6	46.0	-20.4	White
21	321.621k	18.3	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	29.2	49.7	-20.5	White

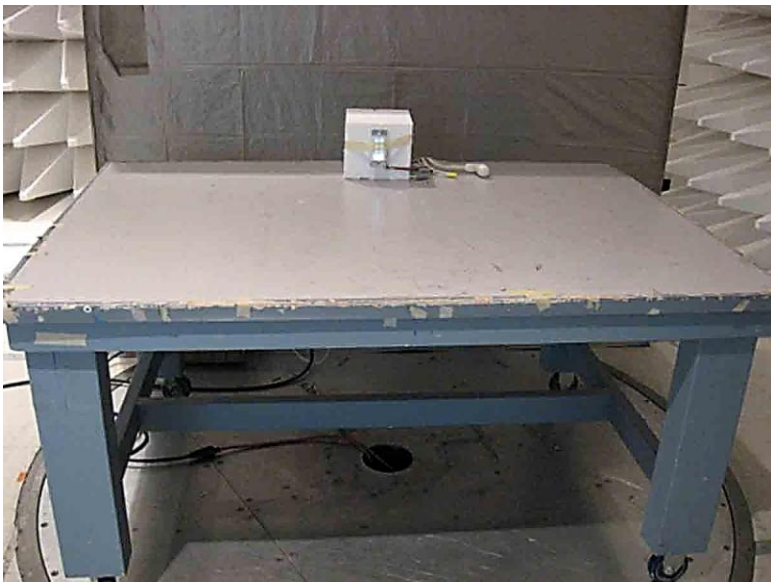
22	770.307k	15.0	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.5	46.0	-20.5	White
23	809.576k	15.0	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.5	46.0	-20.5	White
24	541.964k	14.7	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	25.4	46.0	-20.6	White
25	677.224k	14.7	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.4	46.0	-20.6	White
26	517.966k	14.7	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	25.4	46.0	-20.6	White
27	317.985k	18.2	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	29.1	49.8	-20.7	White
28	315.076k	18.2	+9.8 +0.1	+0.1	+0.0	+0.9	+0.0	29.1	49.8	-20.7	White
29	284.533k	19.0	+9.8 +0.1	+0.1	+0.0	+1.0	+0.0	30.0	50.7	-20.7	White
30	339.074k	17.7	+9.8 +0.1	+0.1	+0.0	+0.8	+0.0	28.5	49.2	-20.7	White
31	771.761k	14.8	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.3	46.0	-20.7	White
32	763.762k	14.8	+9.8 +0.1	+0.1	+0.0	+0.5	+0.0	25.3	46.0	-20.7	White
33	566.689k	14.6	+9.9 +0.1	+0.1	+0.0	+0.6	+0.0	25.3	46.0	-20.7	White
34	477.243k	14.8	+9.8 +0.2	+0.1	+0.0	+0.7	+0.0	25.6	46.4	-20.8	White
35	636.501k	14.6	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	25.2	46.0	-20.8	White
36	680.133k	14.5	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.2	46.0	-20.8	White
37	646.682k	14.5	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	25.1	46.0	-20.9	White
38	919.732k	14.6	+9.8 +0.2	+0.1	+0.0	+0.4	+0.0	25.1	46.0	-20.9	White
39	528.874k	14.3	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	25.0	46.0	-21.0	White
40	543.418k	14.3	+9.8 +0.2	+0.1	+0.0	+0.6	+0.0	25.0	46.0	-21.0	White
41	264.171k	19.1	+9.8 +0.2	+0.1	+0.0	+1.1	+0.0	30.3	51.3	-21.0	White
42	429.247k	15.6	+9.8 +0.1	+0.1	+0.0	+0.7	+0.0	26.3	47.3	-21.0	White
43	710.676k	14.3	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.0	46.0	-21.0	White
44	859.753k	14.5	+9.8 +0.2	+0.1	+0.0	+0.4	+0.0	25.0	46.0	-21.0	White
45	637.955k	14.4	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	25.0	46.0	-21.0	White
46	660.499k	14.3	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	25.0	46.0	-21.0	White
47	640.864k	14.3	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.9	46.0	-21.1	White

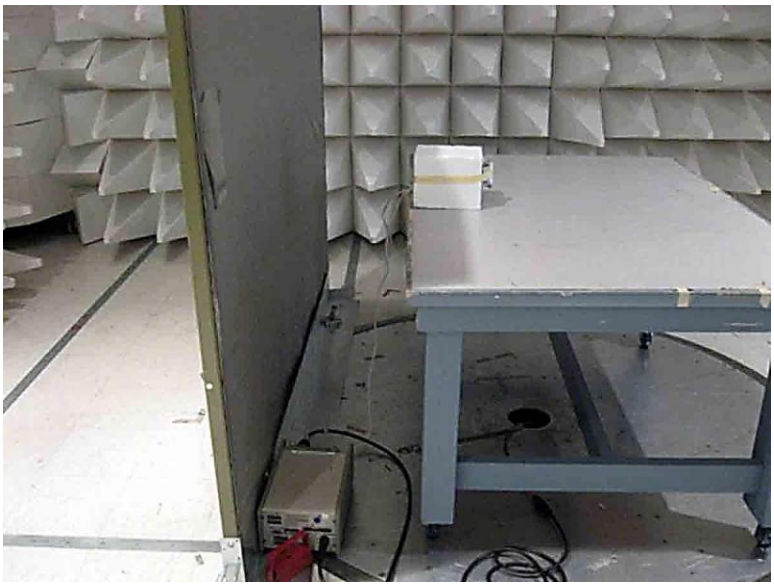
48	643.773k	14.3	+9.9 +0.1	+0.1	+0.0	+0.5	+0.0	24.9	46.0	-21.1	White
49	717.948k	14.2	+9.9 +0.2	+0.1	+0.0	+0.5	+0.0	24.9	46.0	-21.1	White
50	547.782k	14.1	+9.9 +0.1	+0.1	+0.0	+0.6	+0.0	24.8	46.0	-21.2	White

CKC Laboratories, Inc Date: 12/5/2012 Time: 2:09:14 PM Smartlabs, Inc WO#: 93833
Test Lead: White 120V 60Hz Sequence#: 21



Test Setup Photos





15.249(a)(b) RF Power Output

Test Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Places • Fremont, CA 94539 • (510) 249-1170

Customer: **Smartlabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **93833** Date: 12/5/2012
Test Type: **Radiated Scan** Time: 09:07:40
Equipment: **Keypad with Dimmer** Sequence#: 1
Manufacturer: Smartlabs Tested By: Hieu Song Nguyenpham/ Christine Nicklas

Model: 2334-2
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN01992	Biconilog Antenna	CBL6111C	12/23/2010	12/23/2012
T2	AN00730	Preamp		1/31/2011	1/31/2013
T3	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T4	ANP05299	Cable	RG214	3/6/2011	3/6/2013
T5	ANP05440	Cable		3/7/2011	3/7/2013
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013

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

Function	Manufacturer	Model #	S/N
Keypad with Dimmer*	Smartlabs	2334-2	None

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Transmitting fundamental frequency
Frequency Range of Measurement= Fundamental
TX= 914.9 MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=120kHz
Voltage of Power: 120V-60Hz (100%)

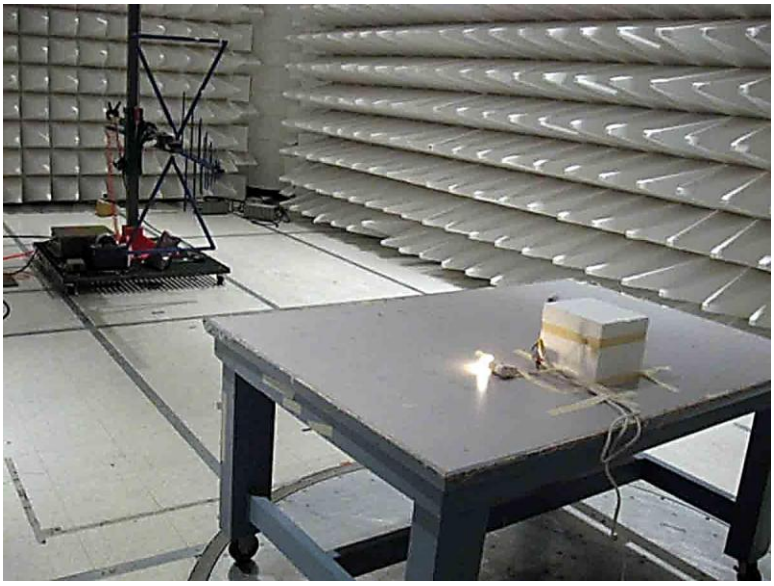
The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position. The EUT is set in constant transmit mode

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	915.073M	74.3	+23.6 +1.9	-27.5	+3.5	+0.2	+0.0	76.0	94.0	-18.0	Vert
2	915.073M	73.1	+23.6 +1.9	-27.5	+3.5	+0.2	+0.0	74.8	94.0	-19.2	Horiz

Test Setup Photos



-20dBc & 99% Occupied Bandwidth

Test Conditions / Setup

Transmitting fundamental frequency
Frequency Range of Measurement= Fundamental
TX= 914.9 MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=120kHz

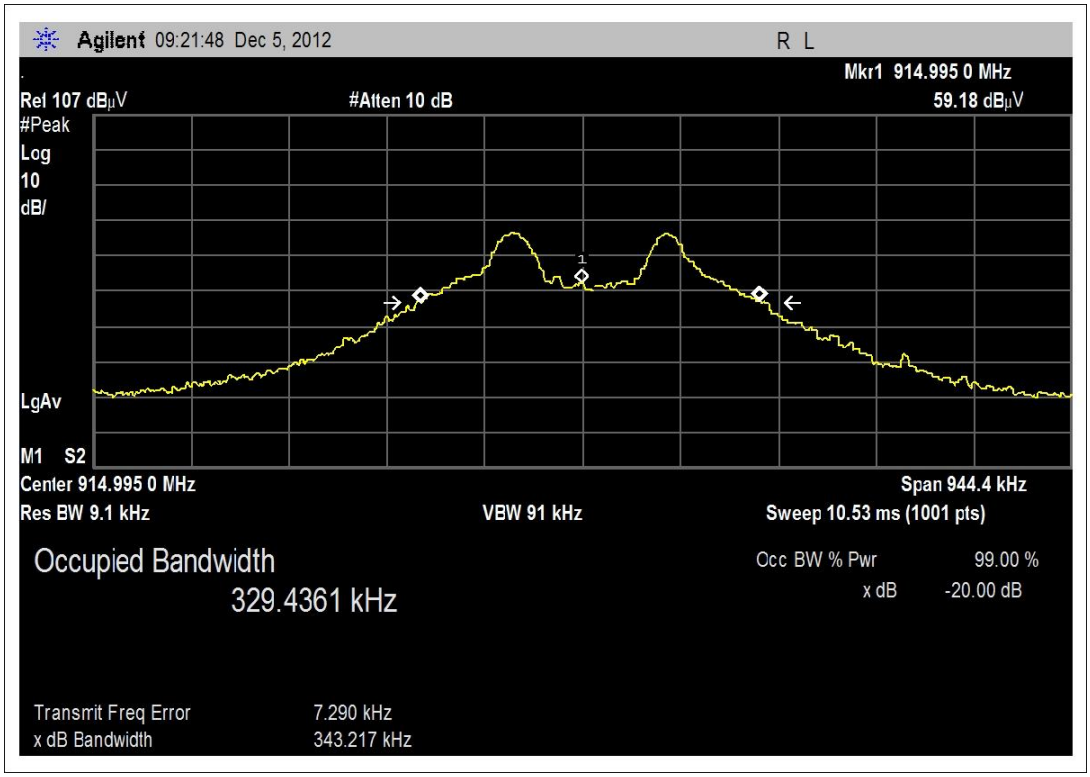
Voltage of Power: 120V-60Hz (100%)

The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position. The EUT is set in constant transmit mode.

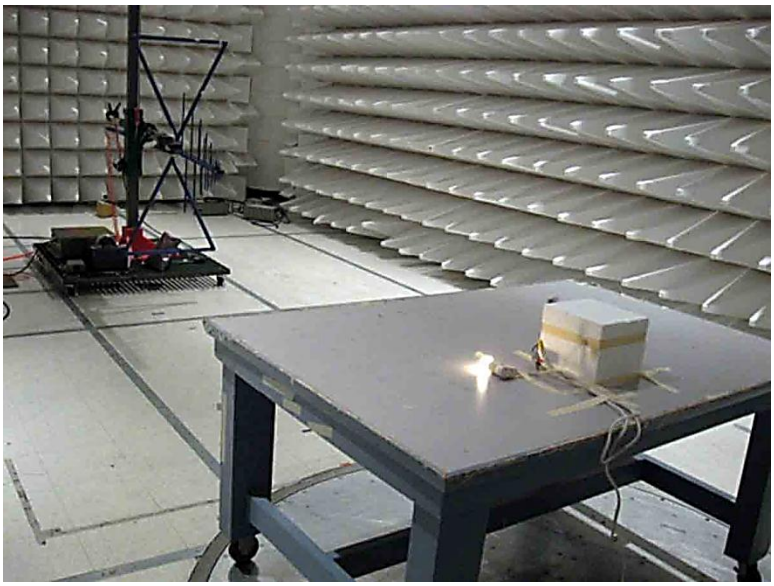
Engineer Name: Hieu Song Nguyenpham / Christine Nicklas

Test Equipment					
Asset #	**Description**	**Manufacturer**	**Model**	**Cal Date**	**Cal Due**
AN01992	Biconilog Antenna	Chase	CBL6111C	12/23/2010	12/23/2012
AN00730	Preamp	HP		1/31/2011	1/31/2013
ANP00880	Cable	Pasternack	RG214U	7/30/2012	7/30/2014
ANP05299	Cable	Pasternack	RG214	3/6/2011	3/6/2013
ANP05440	Cable	Pasternack		3/7/2011	3/7/2013
AN02668	Spectrum Analyzer	Agilent	E4446A	2/23/2011	2/23/2013

Test Plots


Agilent 09:21:48 Dec 5, 2012
R L
Mkr1 914.995 0 MHz
Ref 107 dBµV
#Atten 10 dB
59.18 dBµV
#Peak
Log
10
dB/
LgAv
M1 S2
Center 914.995 0 MHz
Span 944.4 kHz
Res BW 9.1 kHz
VBW 91 kHz
Sweep 10.53 ms (1001 pts)
Occupied Bandwidth
329.4361 kHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error 7.290 kHz
x dB Bandwidth 343.217 kHz

Test Setup Photos



Bandedge

Test Conditions / Setup

Transmitting fundamental frequency
Frequency Range of Measurement= Fundamental
TX= 914.9 MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None

Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=120kHz
Voltage of Power: 120V-60Hz (100%)

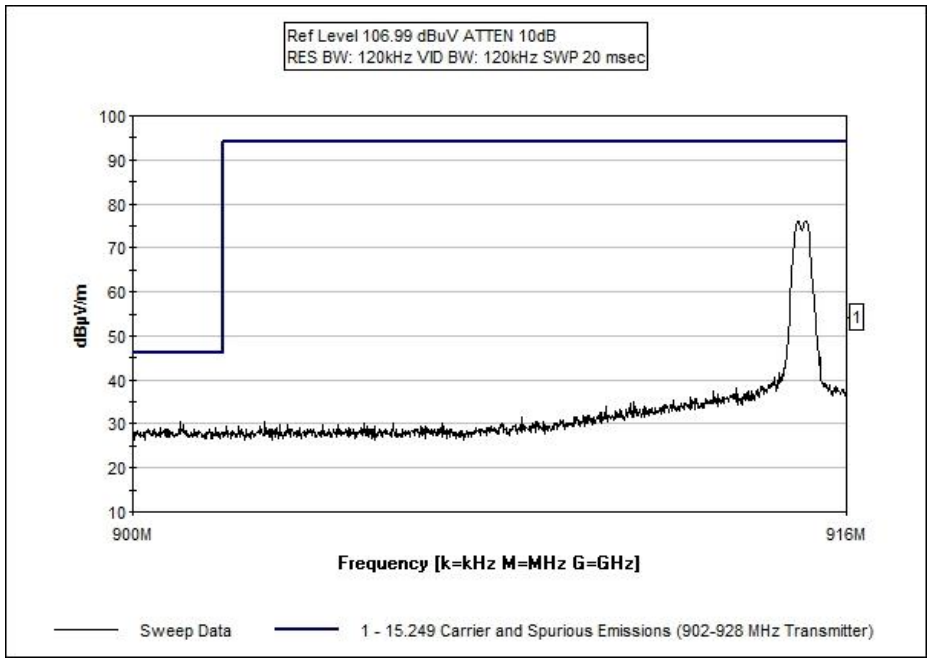
The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position. The EUT is set in constant transmit mode.

Engineer Name: Hieu Song Nguyenpham / Christine Nicklas

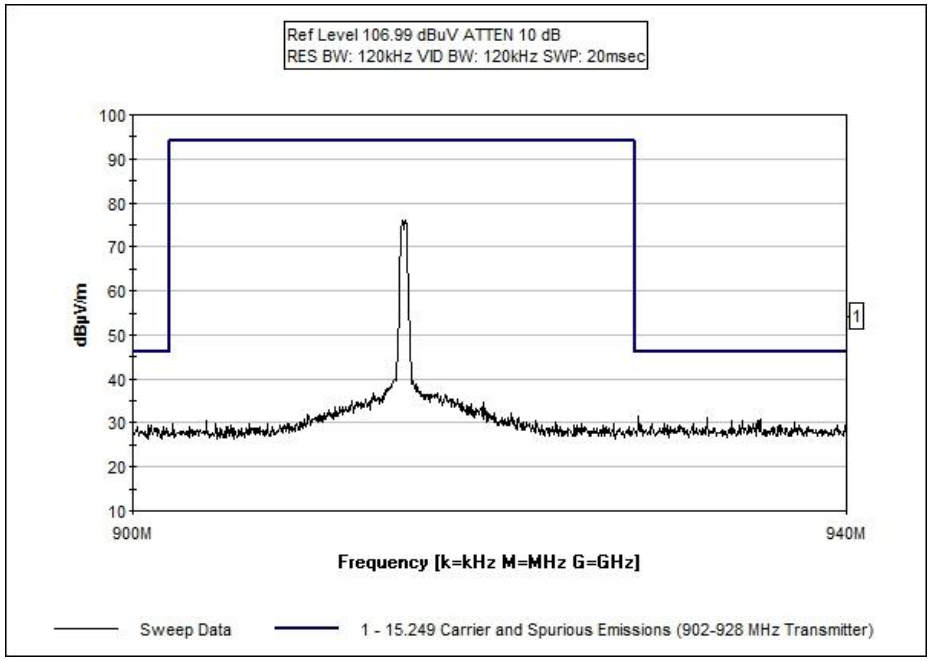
Test Equipment

Asset #	Description	Manufacturer	Model	Cal Date	Cal Due
AN01992	Biconilog Antenna	Chase	CBL6111C	12/23/2010	12/23/2012
AN00730	Preamp	HP		1/31/2011	1/31/2013
ANP00880	Cable	Pasternack	RG214U	7/30/2012	7/30/2014
ANP05299	Cable	Pasternack	RG214	3/6/2011	3/6/2013
ANP05440	Cable	Pasternack		3/7/2011	3/7/2013
AN02668	Spectrum Analyzer	Agilent	E4446A	2/23/2011	2/23/2013

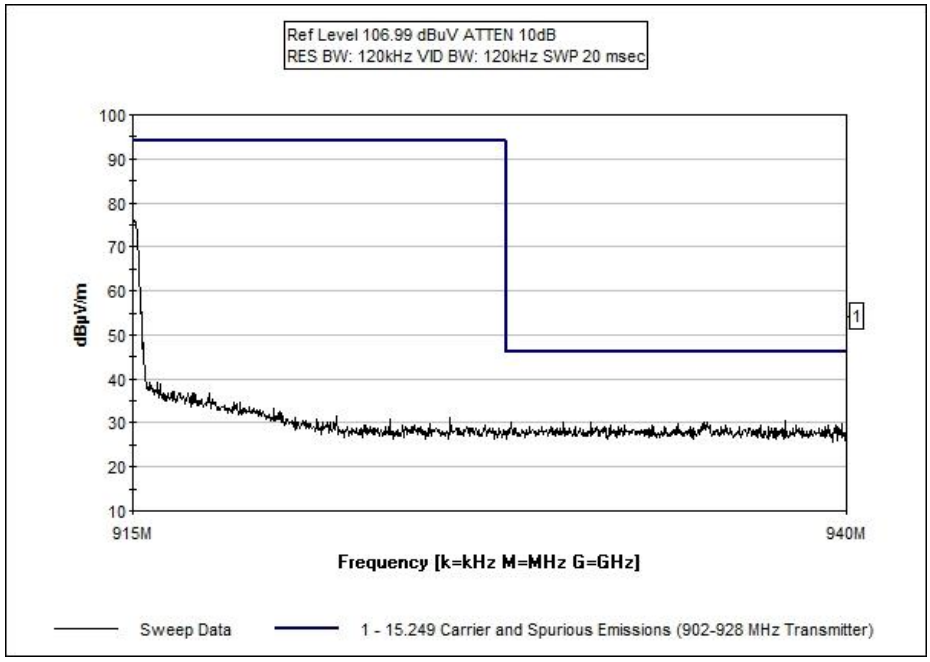
Test Data



Left

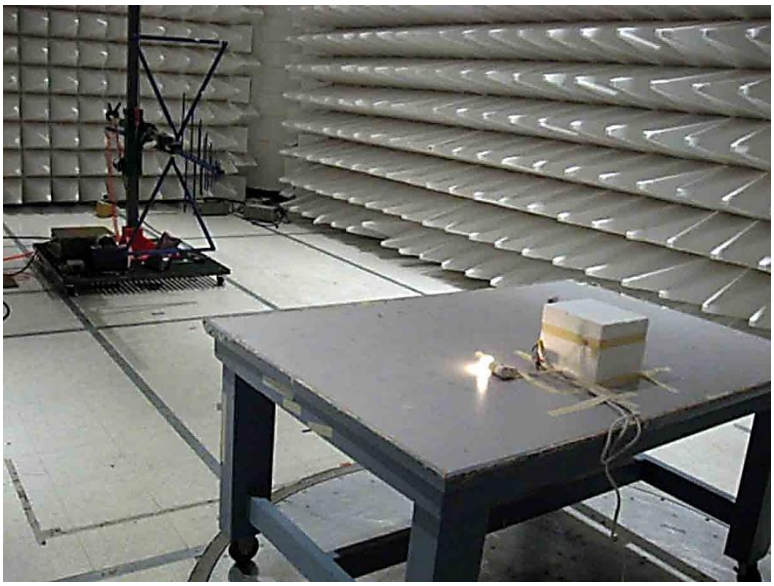


Center


Ref Level 106.99 dBuV ATTEN 10dB
RES BW: 120kHz VID BW: 120kHz SWP 20 msec
100
90
80
70
60
50
40
30
20
10
dBµV/m
915M
940M
Frequency [k=kHz M=MHz G=GHz]
1
Sweep Data
1 - 15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)

Right

Test Setup Photos



15.249(d) Field Strength of Spurious Emissions

Test Data Sheets

Test Location: CKC Laboratories, Inc. • 1120 Fulton Places • Fremont, CA 94539 • (510) 249-1170

Customer: **Smartlabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **93833** Date: 12/5/2012
Test Type: **Radiated Scan** Time: 13:13:59
Equipment: **Keypad with Dimmer** Sequence#: 19
Manufacturer: Smartlabs Tested By: Hieu Song Nguyenpham/ Christine
Model: 2334-2
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T2	ANP05440	Cable		3/7/2011	3/7/2013
T3	AN00432	Loop Antenna	6502	3/31/2011	3/31/2013

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

Function	Manufacturer	Model #	S/N
Keypad with Dimmer*	Smartlabs	2334-2	None

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Harmonic and Spurious Emission for FCC15.249
Frequency Range: 9kHz to 30MHz
Frequency Range of Measurement= Fundamental
TX= 914.9MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=200Hz from 9kHz to 150kHz
RBW=VBW=9Khz from 150kHz to 30MHz

Voltage of Power: 120V-60Hz (100%)

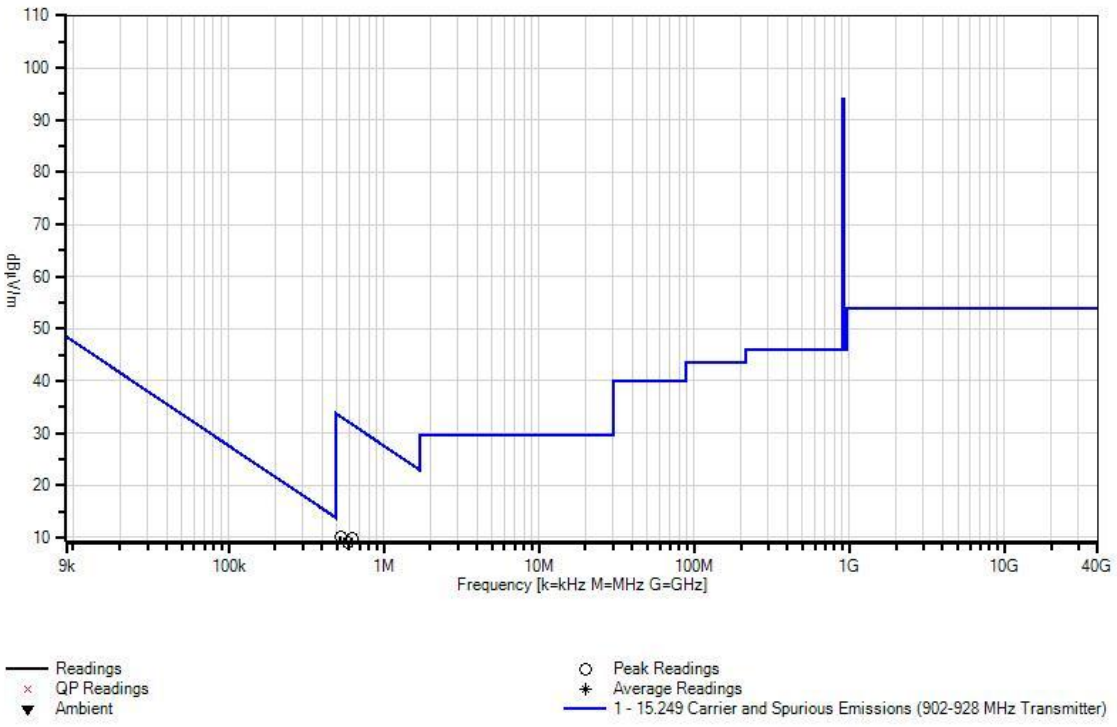
The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position.

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	620.408k	38.4	+0.1	+0.0	+11.3		-40.0	9.8	31.7	-21.9	Paral
2	674.766k	36.8	+0.1	+0.0	+11.5		-40.0	8.4	31.0	-22.6	Paral
3	593.229k	37.7	+0.1	+0.0	+11.3		-40.0	9.1	32.1	-23.0	Paral
4	526.326k	38.9	+0.1	+0.0	+11.2		-40.0	10.2	33.2	-23.0	Perpe
5	883.836k	33.7	+0.1	+0.1	+11.4		-40.0	5.3	28.6	-23.3	Perpe
6	871.292k	33.9	+0.1	+0.1	+11.4		-40.0	5.5	28.8	-23.3	Perpe

CKC Laboratories, Inc Date: 12/5/2012 Time: 13:13:59 Smartlabs, Inc WO#: 93833
Test Distance: 3 Meters Sequence#: 19



Test Location: CKC Laboratories, Inc. • 1120 Fulton Places • Fremont, CA 94539 • (510) 249-1170

Customer: **Smartlabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **93833** Date: 12/5/2012
Test Type: **Radiated Scan** Time: 11:42:23
Equipment: **Keypad with Dimmer** Sequence#: 16
Manufacturer: Smartlabs Tested By: Hieu Song Nguyenpham/ Christine
Model: 2334-2
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN01992	Biconilog Antenna	CBL6111C	12/23/2010	12/23/2012
T2	AN00730	Preamp		1/31/2011	1/31/2013
T3	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T4	ANP05298	Cable	RG217/U	3/7/2011	3/7/2013
T5	ANP05440	Cable		3/7/2011	3/7/2013

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

Function	Manufacturer	Model #	S/N
Keypad with Dimmer*	Smartlabs	2334-2	None

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Harmonic and Spurious Emission for FCC15.249
Frequency Range: 30MHz to 1000MHz
Frequency Range of Measurement= Fundamental
TX= 914.9MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=120kHz
Voltage of Power: 120V-60Hz (100%)

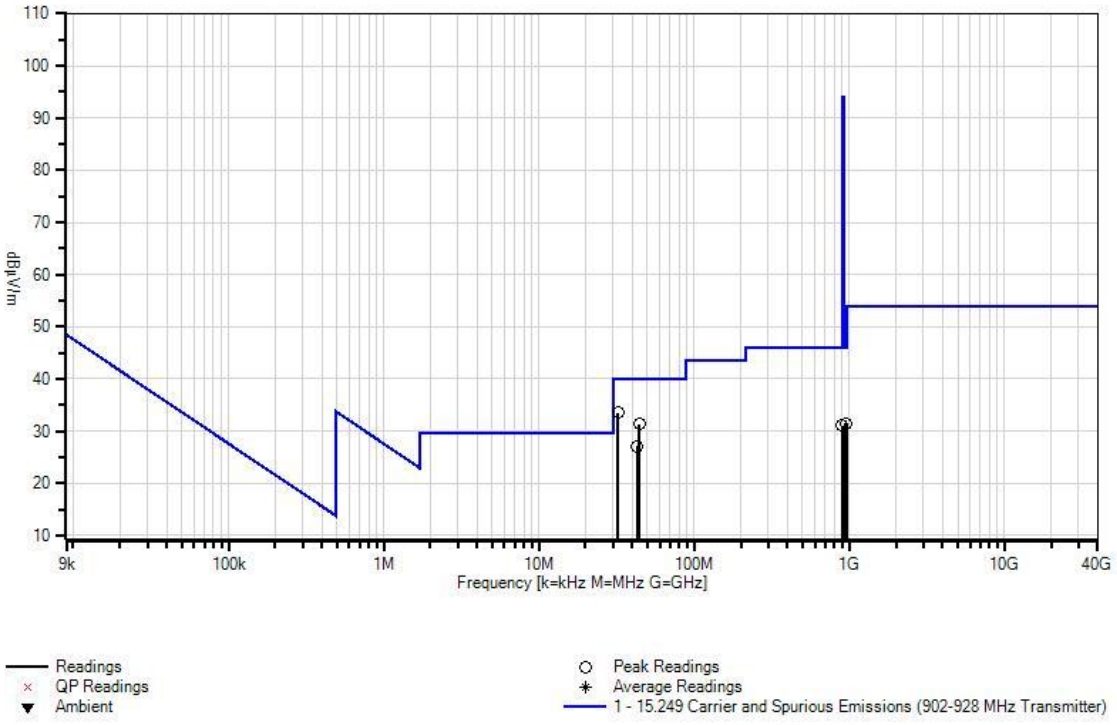
The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position.

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	32.263M	44.0	+16.3 +0.3	-27.6	+0.5	+0.0	+0.0	33.5	40.0	-6.5	Vert
2	44.241M	44.9	+13.1 +0.3	-27.6	+0.6	+0.0	+0.0	31.3	40.0	-8.7	Vert
3	43.110M	39.5	+14.3 +0.3	-27.6	+0.6	+0.0	+0.0	27.1	40.0	-12.9	Vert
4	945.027M	29.4	+24.1 +2.0	-27.7	+3.5	+0.2	+0.0	31.5	46.0	-14.5	Horiz
5	955.421M	29.0	+24.3 +2.0	-27.7	+3.5	+0.2	+0.0	31.3	46.0	-14.7	Horiz
6	896.788M	29.5	+23.3 +1.9	-27.3	+3.4	+0.3	+0.0	31.1	46.0	-14.9	Horiz

CKC Laboratories, Inc Date: 12/5/2012 Time: 11:42:23 Smartlabs, Inc WO#: 93833
Test Distance: 3 Meters Sequence#: 16



Test Location: CKC Laboratories, Inc. • 1120 Fulton Places • Fremont, CA 94539 • (510) 249-1170

Customer: **Smartlabs, Inc.**
Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
Work Order #: **93833** Date: 12/5/2012
Test Type: **Radiated Scan** Time: 10:19:21
Equipment: **Keypad with Dimmer** Sequence#: 7
Manufacturer: Smartlabs Tested By: Hieu Song Nguyenpham/ Christine
Model: 2334-2
S/N: None

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	5/13/2011	5/13/2013
T2	AN02157	Horn Antenna-ANSI C63.5	3115	1/17/2011	1/17/2013
T3	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T4	ANP01210	Cable	FSJ1P-50A-4A	3/15/2011	3/15/2013
T5	ANP05843	Cable	32022-2-29094K-48TC	8/7/2012	8/7/2014

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

Function	Manufacturer	Model #	S/N
Keypad with Dimmer*	Smartlabs	2334-2	None

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

Harmonic and Spurious Emission
Frequency Range: 1000MHz to 10000MHz
Frequency Range of Measurement= Fundamental
TX= 914.9 MHz to 915.1MHz
Frequency Operation: 914.9MHz to 915.1MHz
Software Used: None
Temperature: 20.5°C
Humidity: 55%
Atmospheric Pressure: 101.8kPa
Firmware

RBW=VBW=1MHz

Voltage of Power: 120V-60Hz (100%)

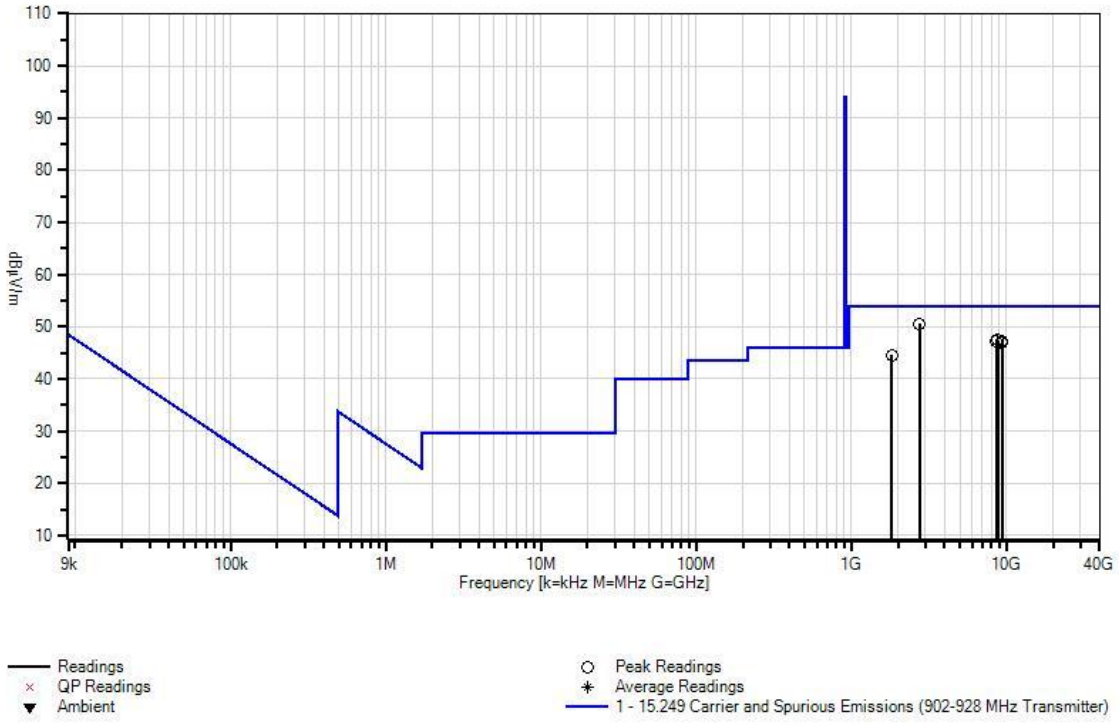
The EUT is a fixed device. The EUT is placed on an 80cm table and at the center of turning table. The EUT is installed in fix position. The EUT is set in constant transmit mode

Ext Attn: 0 dB

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

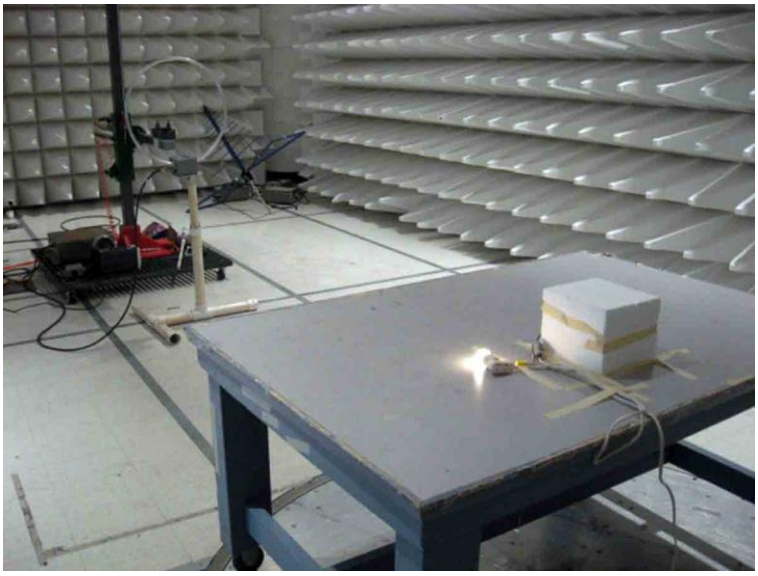
#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2744.680M	75.8	-59.5 +1.0	+29.2	+1.1	+3.0	+0.0	50.6	54.0	-3.4	Horiz
2	8779.484M	56.3	-56.2 +1.5	+37.8	+2.1	+5.9	+0.0	47.4	54.0	-6.6	Vert
3	8576.898M	56.6	-56.7 +1.6	+37.9	+2.1	+5.8	+0.0	47.3	54.0	-6.7	Vert
4	9357.228M	56.3	-57.3 +1.7	+38.1	+2.2	+6.1	+0.0	47.1	54.0	-6.9	Vert
5	9374.736M	56.2	-57.5 +1.7	+38.1	+2.2	+6.2	+0.0	46.9	54.0	-7.1	Horiz
6	1829.879M	74.2	-59.5 +0.8	+25.8	+0.9	+2.4	+0.0	44.6	54.0	-9.4	Horiz

CKC Laboratories, Inc Date: 12/5/2012 Time: 10:19:21 Smartlabs, Inc WO#: 93833
Test Distance: 3 Meters Sequence#: 7



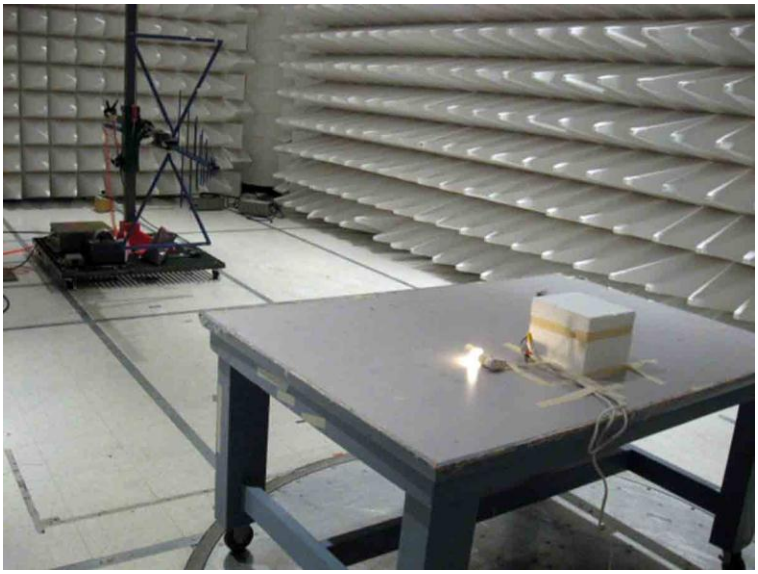
Test Setup Photos

9kHz-30MHz, Front View

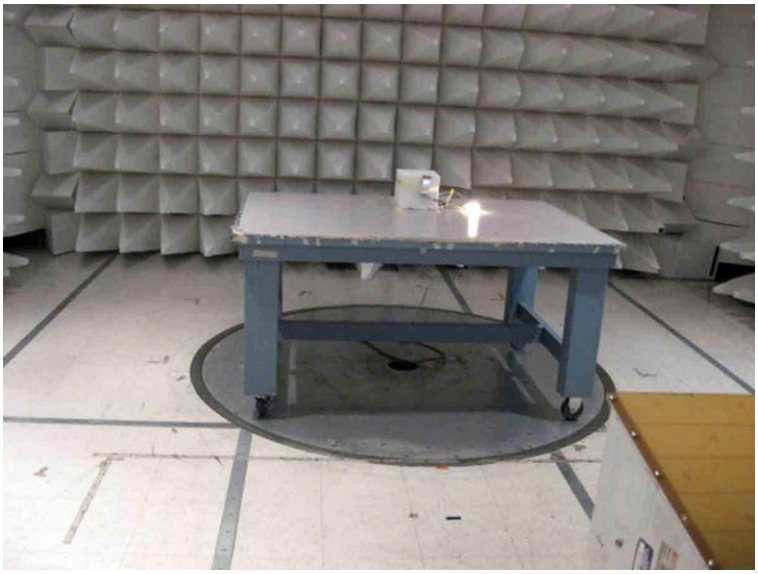


9kHz-30MHz, Back View

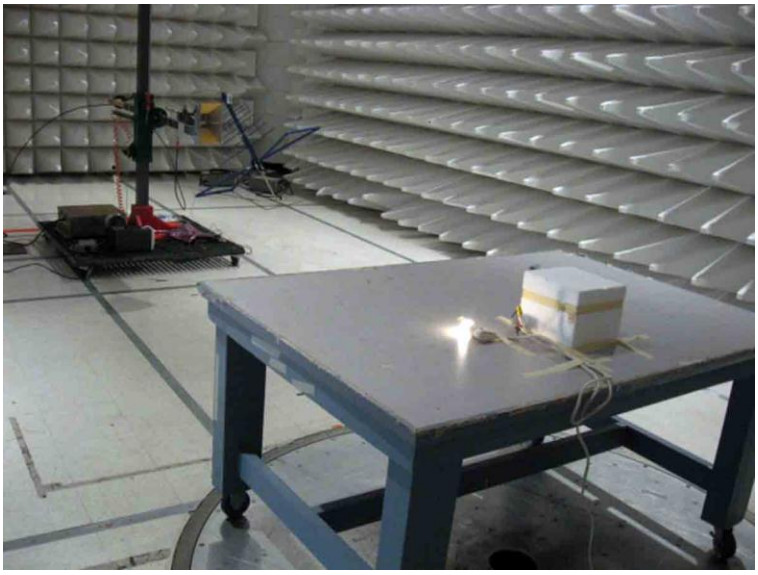
30MHz-1GHz, Front View



30MHz-1GHz, Back View



1-10GHz, Front View



1-10GHz, 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	9 kHz	150 kHz	200 Hz
RADIATED 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.