SmartLabs, Inc.

TEST REPORT FOR

Inline Dual Load Module, FanLinc™ #2475F

Tested To The Following Standards:

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

Report No.: 92499-4

Date of issue: November 18, 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: Chris Sy-Santos
Customer Reference Number: 11-3CS1103-01

REPORT PREPARED BY:

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

Project Number: 92499

DATE OF EQUIPMENT RECEIPT: November 11, 2011
DATE(S) OF TESTING: November 11, 2011

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

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
-20dBc Occupied Bandwidth	FCC Part 15 Subpart C Section 15.249	Pass
Bandedge	FCC	Pass
Radiated Spurious Emissions	FCC Part 15 Subpart C Section 15.249(d)	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

Inline Dual Load Module
Manuf: SmartLabs, Inc.
Model: FanLinc™ #2475F
Serial: 14.8C.4A

PERIPHERAL DEVICES

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

Suspended Ceiling Fan
Manuf: Hunter
Model: 28683-530
Serial: NA

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 support suspended ceiling fan.
Continuous transmit
914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
Frequency range of measurement = 30MHz - 1GHz.
30 MHz-1000 MHz; RBW=120 kHz, VBW=120 kHz

Temperature: 17°C, Relative Humidity: 20%

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

Engineer Name: Don 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

X AXIS FRONT VIEW

X AXIS BACK VIEW

Y AXIS FRONT VIEW

Y AXIS BACK VIEW

Z AXIS FRONT VIEW

Z AXIS 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 #: **92499** Date: 11/11/2011
Test Type: **Conducted Emissions** Time: 11:37:20
Equipment: **Inline Dual Load Module** Sequence#: 13
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: FanLinc™ #2475F 120V 60Hz
S/N: 14.8C.4A

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP06085	Attenuator	SA18N10W-09	12/8/2010	12/8/2012
T2	ANP01910	Cable	RG-142	3/19/2010	3/19/2012
T3	AN02343	High Pass Filter	HE9615-150K-50-720B	1/4/2011	1/4/2013
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T4	AN00848.1	50uH LISN-Line 1 (dB)	3816/2nm	3/22/2011	3/22/2013
	AN00848.1	50uH LISN-Line 2 (dB)	3816/2nm	3/22/2011	3/22/2013

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

Function	Manufacturer	Model #	S/N
Inline Dual Load Module*	SmartLabs, Inc.	FanLinc™ #2475F	14.8C.4A

Support Devices:

Function	Manufacturer	Model #	S/N
Suspended Ceiling Fan	Hunter	28683-530	NA

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 support suspended ceiling fan.
Continuous transmit
914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
Frequency range of measurement = 150kHz-30MHz
150 kHz-30 MHz; RBW=9 kHz, VBW=9 kHz

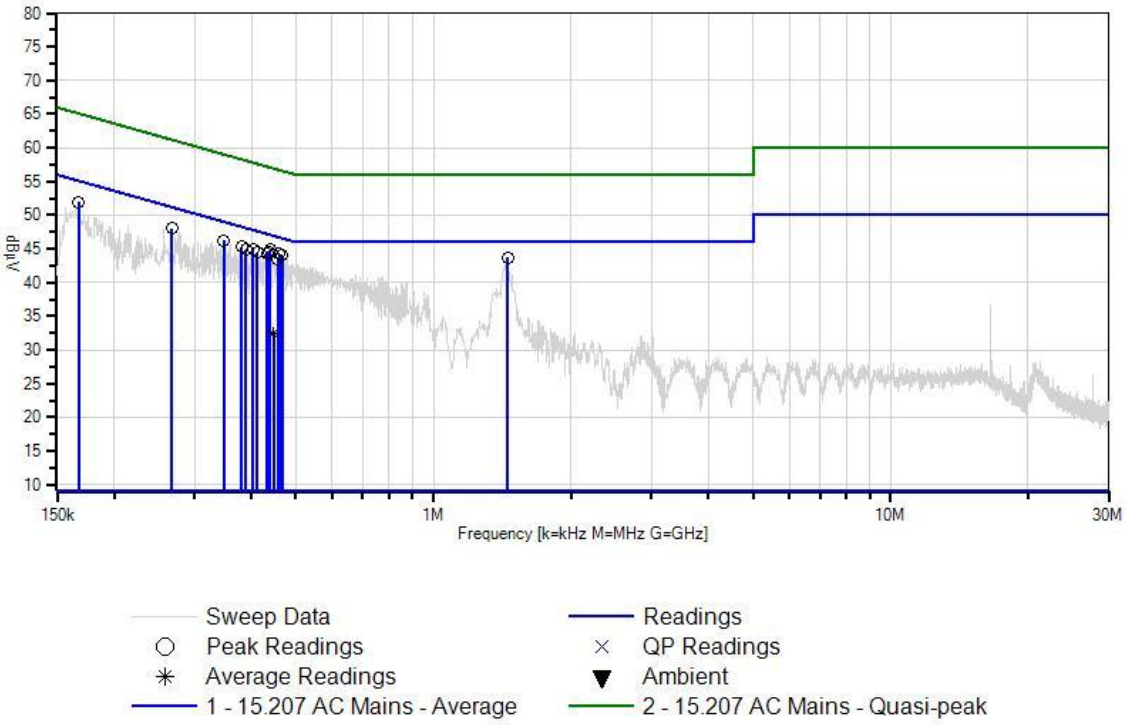
17°C, 20% Relative Humidity

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	438.701k	38.7	+5.7	+0.1	+0.3	+0.1	+0.0	44.9	47.1	-2.2	L1
2	1.451M	37.6	+5.7	+0.1	+0.2	+0.1	+0.0	43.7	46.0	-2.3	L1
3	459.790k	38.0	+5.7	+0.1	+0.3	+0.1	+0.0	44.2	46.7	-2.5	L1
4	435.792k	38.3	+5.7	+0.1	+0.3	+0.1	+0.0	44.5	47.1	-2.6	L1
5	466.335k	37.8	+5.7	+0.1	+0.3	+0.1	+0.0	44.0	46.6	-2.6	L1
6	347.800k	40.1	+5.7	+0.1	+0.2	+0.1	+0.0	46.2	49.0	-2.8	L1
7	432.156k	38.1	+5.7	+0.1	+0.3	+0.1	+0.0	44.3	47.2	-2.9	L1
8	402.340k	38.7	+5.7	+0.1	+0.3	+0.1	+0.0	44.9	47.8	-2.9	L1
9	380.524k	39.2	+5.7	+0.1	+0.2	+0.1	+0.0	45.3	48.3	-3.0	L1
10	267.807k	41.9	+5.7	+0.1	+0.2	+0.1	+0.0	48.0	51.2	-3.2	L1
11	167.453k	45.6	+5.7	+0.1	+0.4	+0.1	+0.0	51.9	55.1	-3.2	L1
12	411.067k	38.2	+5.7	+0.1	+0.3	+0.1	+0.0	44.4	47.6	-3.2	L1
13	388.524k	38.8	+5.7	+0.1	+0.2	+0.1	+0.0	44.9	48.1	-3.2	L1
14	456.881k	37.2	+5.7	+0.1	+0.3	+0.1	+0.0	43.4	46.7	-3.3	L1
15	446.700k	26.2	+5.7	+0.1	+0.3	+0.1	+0.0	32.4	46.9	-14.5	L1
	Ave										
^	446.700k	38.9	+5.7	+0.1	+0.3	+0.1	+0.0	45.1	46.9	-1.8	L1

CKC Laboratories Date: 11/11/2011 Time: 11:37:20 SmartLabs, Inc. WO#: 92499
15.207 AC Mains - Average Test Lead: L1 120V 60Hz Sequence#: 13 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 #: **92499** Date: 11/11/2011
Test Type: **Conducted Emissions** Time: 11:41:12
Equipment: **Inline Dual Load Module** Sequence#: 14
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: FanLinc™ #2475F 120V 60Hz
S/N: 14.8C.4A

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP06085	Attenuator	SA18N10W-09	12/8/2010	12/8/2012
T2	ANP01910	Cable	RG-142	3/19/2010	3/19/2012
T3	AN02343	High Pass Filter	HE9615-150K-50-720B	1/4/2011	1/4/2013
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
	AN00848.1	50uH LISN-Line 1 (dB)	3816/2nm	3/22/2011	3/22/2013
T4	AN00848.1	50uH LISN-Line 2 (dB)	3816/2nm	3/22/2011	3/22/2013

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

Function	Manufacturer	Model #	S/N
Inline Dual Load Module*	SmartLabs, Inc.	FanLinc™ #2475F	14.8C.4A

Support Devices:

Function	Manufacturer	Model #	S/N
Suspended Ceiling Fan	Hunter	28683-530	NA

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 support suspended ceiling fan.
Continuous transmit
914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
Frequency range of measurement = 150kHz-30MHz
150 kHz-30 MHz; RBW=9 kHz, VBW=9 kHz

17°C, 20% Relative Humidity

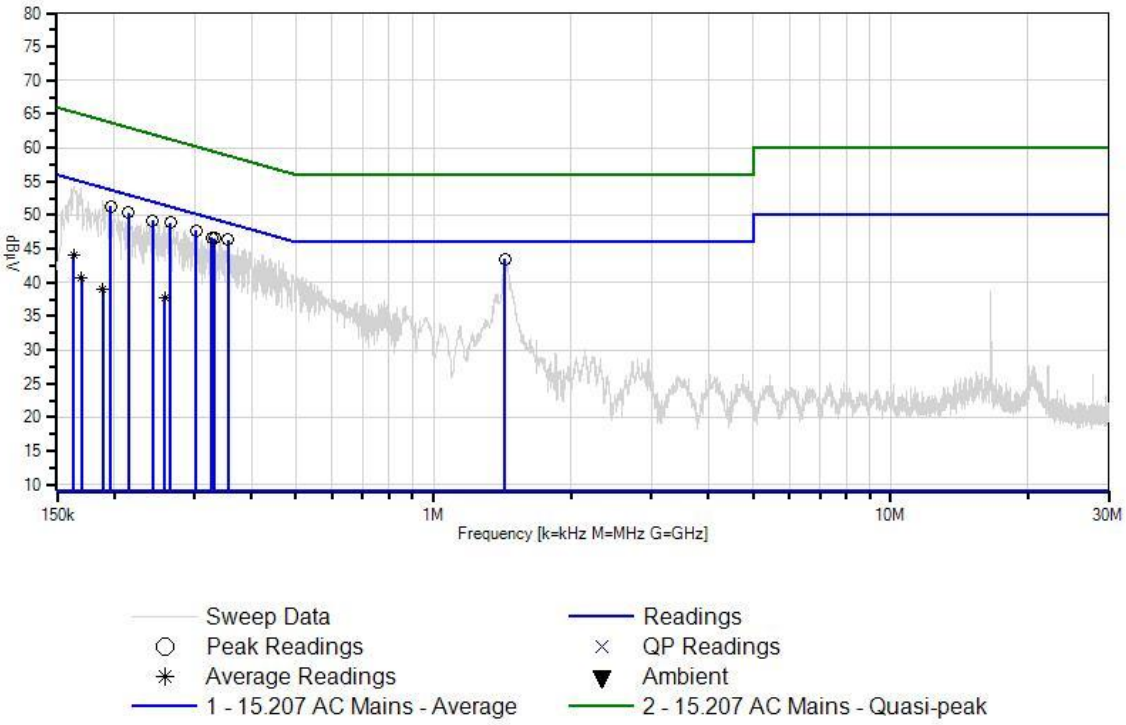
Ext Attn: 0 dB

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	265.626k	42.7	+5.7	+0.1	+0.2	+0.2	+0.0	48.9	51.3	-2.4	L2
2	355.799k	40.1	+5.7	+0.1	+0.2	+0.2	+0.0	46.3	48.8	-2.5	L2
3	1.430M	37.3	+5.7	+0.1	+0.2	+0.2	+0.0	43.5	46.0	-2.5	L2
4	301.986k	41.5	+5.7	+0.1	+0.2	+0.2	+0.0	47.7	50.2	-2.5	L2

5	196.541k	45.2	+5.7	+0.1	+0.1	+0.2	+0.0	51.3	53.8	-2.5	L2
6	214.721k	44.3	+5.7	+0.1	+0.1	+0.2	+0.0	50.4	53.0	-2.6	L2
7	243.082k	43.1	+5.7	+0.1	+0.1	+0.2	+0.0	49.2	52.0	-2.8	L2
8	327.438k	40.5	+5.7	+0.1	+0.2	+0.2	+0.0	46.7	49.5	-2.8	L2
9	331.802k	40.4	+5.7	+0.1	+0.2	+0.2	+0.0	46.6	49.4	-2.8	L2
10	163.090k Ave	37.6	+5.7	+0.1	+0.5	+0.2	+0.0	44.1	55.3	-11.2	L2
^	163.090k	47.7	+5.7	+0.1	+0.5	+0.2	+0.0	54.2	55.3	-1.1	L2
^	160.908k	47.5	+5.7	+0.1	+0.5	+0.2	+0.0	54.0	55.4	-1.4	L2
13	258.354k Ave	31.6	+5.7	+0.1	+0.2	+0.2	+0.0	37.8	51.5	-13.7	L2
^	258.354k	43.5	+5.7	+0.1	+0.2	+0.2	+0.0	49.7	51.5	-1.8	L2
15	169.635k Ave	34.2	+5.7	+0.1	+0.4	+0.2	+0.0	40.6	55.0	-14.4	L2
^	169.635k	47.6	+5.7	+0.1	+0.4	+0.2	+0.0	54.0	55.0	-1.0	L2
17	189.269k Ave	32.9	+5.7	+0.1	+0.2	+0.2	+0.0	39.1	54.1	-15.0	L2
^	189.269k	46.1	+5.7	+0.1	+0.2	+0.2	+0.0	52.3	54.1	-1.8	L2
^	192.905k	45.6	+5.7	+0.1	+0.2	+0.2	+0.0	51.8	53.9	-2.1	L2

CKC Laboratories Date: 11/11/2011 Time: 11:41:12 SmartLabs, Inc. WO#: 92499
15.207 AC Mains - Average Test Lead: L2 120V 60Hz Sequence#: 14 Ext ATTN: 0 dB



Test Setup Photos

15.249(a) RF Power Output

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 #: **92499** Date: 11/11/2011
Test Type: **Maximized Emissions** Time: 08:41:57
Equipment: **Inline Dual Load Module** Sequence#: 11
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: FanLinc™ #2475F
S/N: 14.8C.4A

***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
Inline Dual Load Module*	SmartLabs, Inc.	FanLinc™ #2475F	14.8C.4A

Support Devices:

Function	Manufacturer	Model #	S/N
Suspended Ceiling Fan	Hunter	28683-530	NA

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 support suspended ceiling fan.
Continuous transmit
914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
Frequency range of measurement = 30MHz - 1GHz.
30 MHz-1000 MHz; RBW=120 kHz, VBW=120 kHz

17°C, 20% 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	915.066M	79.8	-27.1	+23.6	+0.5	+5.8	+0.0	82.6	94.0 X-axis	-11.4	Horiz
2	914.921M	79.8	-27.1	+23.6	+0.5	+5.8	+0.0	82.6	94.0 X-axis	-11.4	Horiz
3	914.922M	79.6	-27.1	+23.6	+0.5	+5.8	+0.0	82.4	94.0 Y- axis	-11.6	Vert
4	915.072M	79.6	-27.1	+23.6	+0.5	+5.8	+0.0	82.4	94.0 Y- axis	-11.6	Vert

5	914.926M	79.1	-27.1	+23.6	+0.5	+5.8	+0.0	81.9	94.0 Z-axis	-12.1	Horiz
6	915.072M	77.7	-27.1	+23.6	+0.5	+5.8	+0.0	80.5	94.0 Z-axis	-13.5	Horiz
7	914.923M	72.7	-27.1	+23.6	+0.5	+5.8	+0.0	75.5	94.0 Y- axis	-18.5	Horiz
8	914.927M	72.7	-27.1	+23.6	+0.5	+5.8	+0.0	75.5	94.0 Z-axis	-18.5	Vert
9	915.068M	72.6	-27.1	+23.6	+0.5	+5.8	+0.0	75.4	94.0 Y- axis	-18.6	Horiz
10	915.077M	72.6	-27.1	+23.6	+0.5	+5.8	+0.0	75.4	94.0 Z-axis	-18.6	Vert
11	915.068M	71.6	-27.1	+23.6	+0.5	+5.8	+0.0	74.4	94.0 X-axis	-19.6	Vert
12	914.928M	71.5	-27.1	+23.6	+0.5	+5.8	+0.0	74.3	94.0 X-axis	-19.7	Vert

Test Setup Photos

X AXIS FRONT VIEW

X AXIS BACK VIEW

Y AXIS FRONT VIEW

Y AXIS BACK VIEW

Z AXIS FRONT VIEW

Z AXIS BACK VIEW

-20dBc Occupied Bandwidth

Test Conditions / Setup

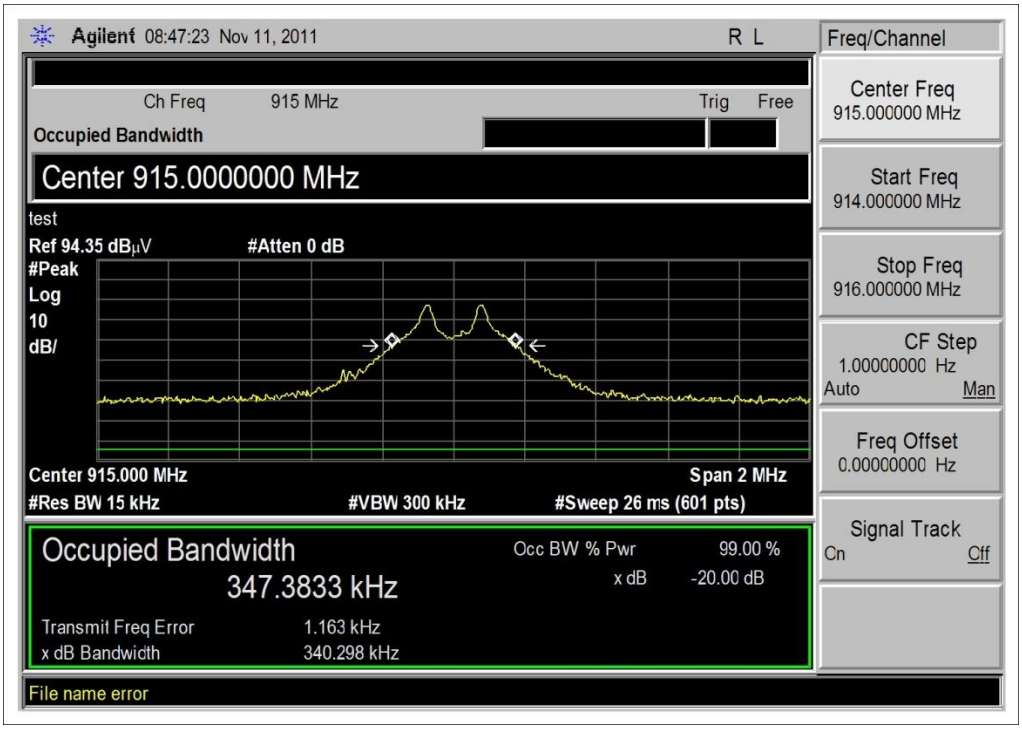
The EUT is placed on the wooden table lined with Styrofoam. Total height is 1.5 meter from the ground plane. Connected to the EUT is a support suspended ceiling fan. Continuous transmit 914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
Frequency range of measurement
30MHz - 1GHz.
30 MHz-1000 MHz; RBW=120 kHz, VBW=120 kHz

Temperature: 17°C, Relative Humidity: 20%
15.31(e): The supply voltage varied between 85% and 115% of the nominal rated supply voltage (120Vac), no change in the Fundamental signal level was observed.

Engineer Name: Don 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



Test Setup Photos

X AXIS FRONT VIEW

X AXIS BACK VIEW

Y AXIS FRONT VIEW

Y AXIS BACK VIEW

Z AXIS FRONT VIEW

Z AXIS 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 support suspended ceiling fan. Continuous transmit 914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
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30MHz - 1GHz.
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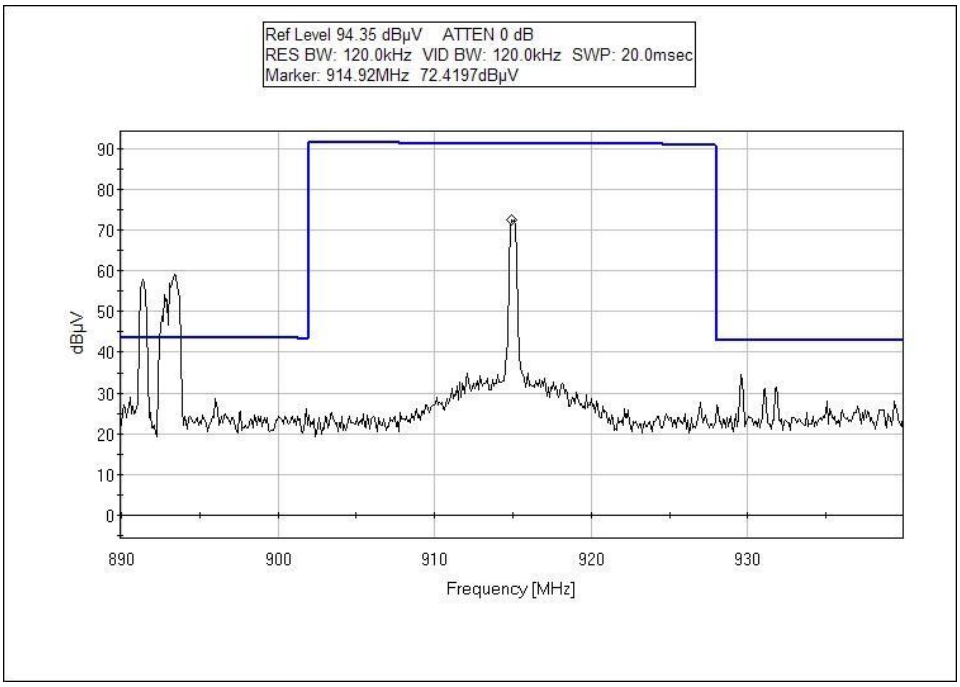
ANP05198	Cable	8268	Belden	12/21/2010	12/21/2012
AN02672	Spectrum Analyzer	E4446A	Agilent	8/9/2010	8/9/2012

Test Data



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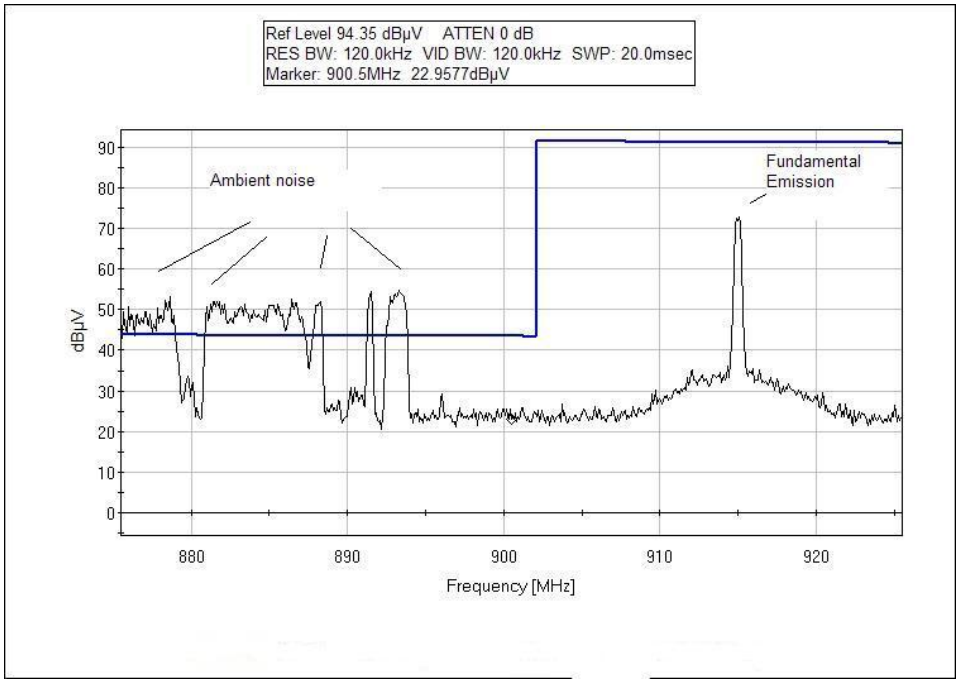

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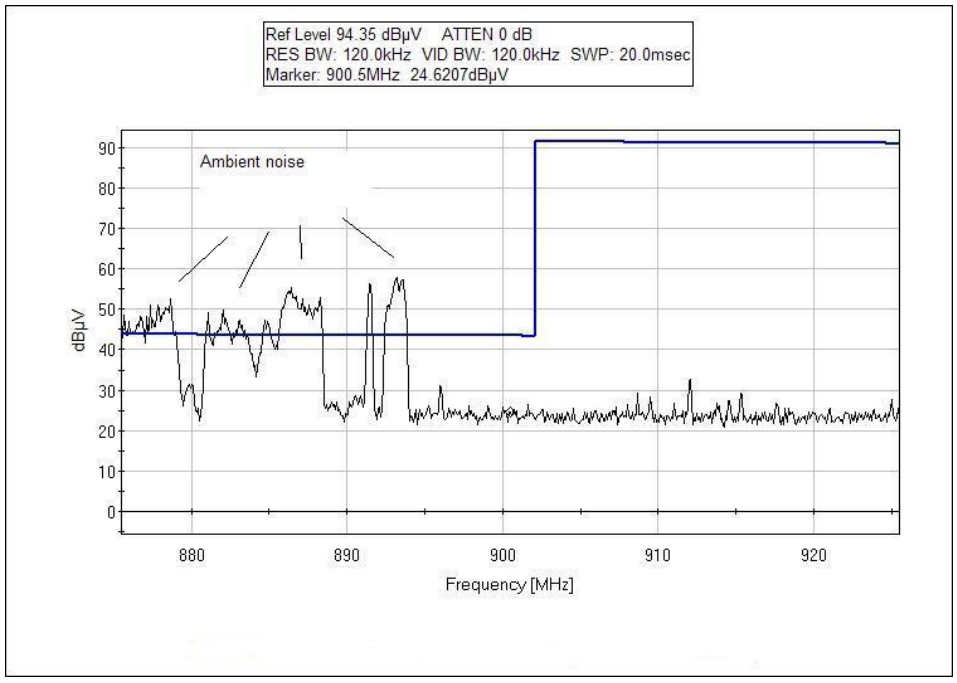

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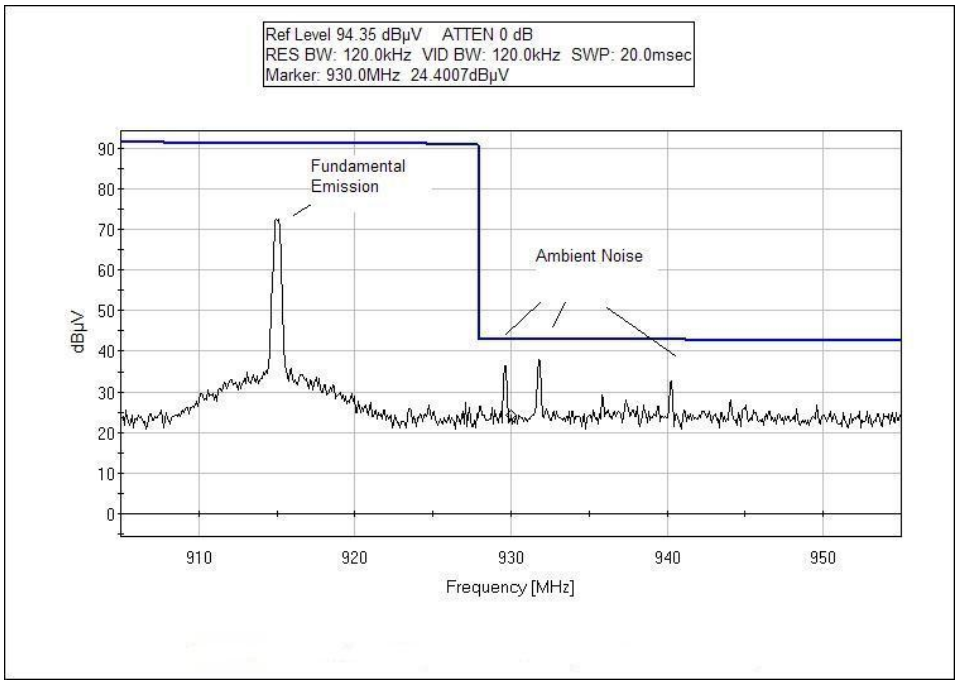
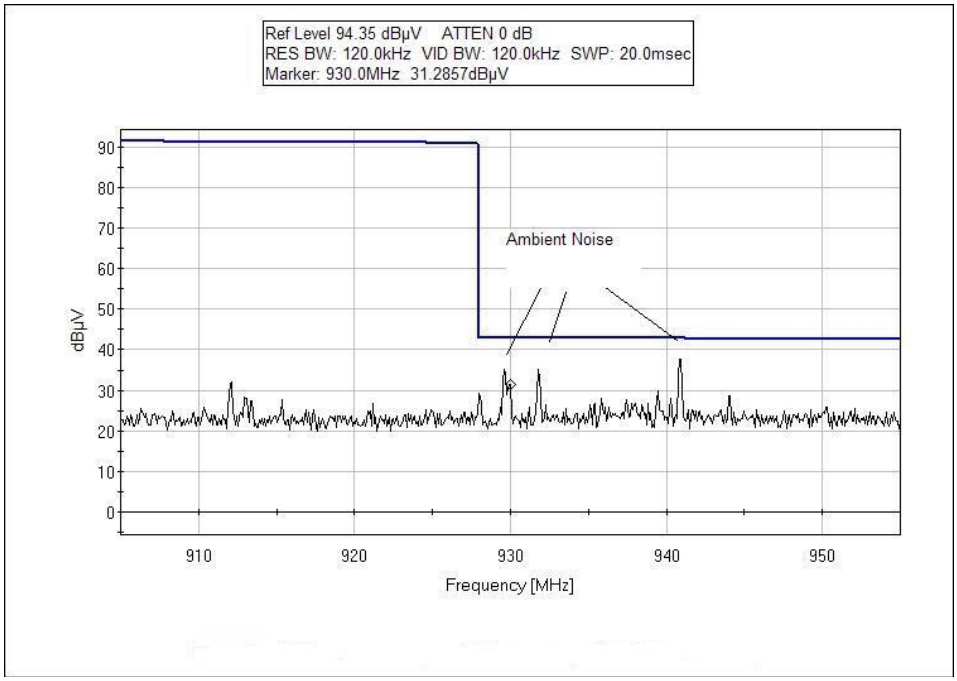


Right TX on



Right Tx off

Test Setup Photos

X AXIS FRONT VIEW

X AXIS BACK VIEW

Y AXIS FRONT VIEW

Y AXIS BACK VIEW

Z AXIS FRONT VIEW

Z AXIS BACK VIEW

15.249(d) Radiated Spurious Emissions

Test Data Sheets

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 #: **92499** Date: 11/11/2011
Test Type: **Maximized Emissions** Time: 11:18:48
Equipment: **Inline Dual Load Module** Sequence#: 12
Manufacturer: SmartLabs, Inc. Tested By: Don Nguyen
Model: FanLinc™ #2475F
S/N: 14.8C.4A

***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	AN03169	High Pass Filter	HM1155-11SS	9/22/2011	9/22/2013
T11	ANP06081	Cable	L1-PNMNM-48	4/28/2011	4/28/2013
T12	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012

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

Function	Manufacturer	Model #	S/N
Inline Dual Load Module*	SmartLabs, Inc.	FanLinc™ #2475F	14.8C.4A

Support Devices:

Function	Manufacturer	Model #	S/N
Suspended Ceiling Fan	Hunter	28683-530	NA

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 support suspended ceiling fan.
Continuous transmit
914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
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.

17°C, 20% 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	1830.000M	57.8	+0.0 +0.0 +1.0	+0.0 -38.2 +0.4	+0.0 +27.2 +2.8	+0.0 +0.3 +0.0	+0.0	51.3	54.0 Z-axis	-2.7	Horiz
2	1830.057M	56.9	+0.0 +0.0 +1.0	+0.0 -38.2 +0.4	+0.0 +27.2 +2.8	+0.0 +0.3 +0.0	+0.0	50.4	54.0 Y-axis	-3.6	Vert
3	2745.050M	52.6	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	49.6	54.0 Y-axis	-4.4	Horiz
4	2745.507M	52.6	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	49.6	54.0 Y-axis	-4.4	Vert
5	2744.707M	52.4	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	49.4	54.0 Y-axis	-4.6	Vert
6	2745.357M	52.2	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	49.2	54.0 Y-axis	-4.8	Vert
7	2745.117M	52.1	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	49.1	54.0 Z-axis	-4.9	Horiz
8	2745.000M	51.3	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	48.3	54.0 Z-axis	-5.7	Horiz
9	1830.067M	54.6	+0.0 +0.0 +1.0	+0.0 -38.2 +0.4	+0.0 +27.2 +2.8	+0.0 +0.3 +0.0	+0.0	48.1	54.0 X-axis	-5.9	Vert
10	2745.017M	50.8	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	47.8	54.0 X-axis	-6.2	Horiz
11	1830.067M	53.2	+0.0 +0.0 +1.0	+0.0 -38.2 +0.4	+0.0 +27.2 +2.8	+0.0 +0.3 +0.0	+0.0	46.7	54.0 Z-axis	-7.3	Vert

12	2744.967M	49.0	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	46.0	54.0 X-axis	-8.0	Vert
13	1829.967M	52.0	+0.0 +0.0 +1.0	+0.0 -38.2 +0.4	+0.0 +27.2 +2.8	+0.0 +0.3 +0.0	+0.0	45.5	54.0 X-axis	-8.5	Horiz
14	1830.050M	52.0	+0.0 +0.0 +1.0	+0.0 -38.2 +0.4	+0.0 +27.2 +2.8	+0.0 +0.3 +0.0	+0.0	45.5	54.0 Y-axis	-8.5	Horiz
15	2745.067M	47.8	+0.0 +0.0 +1.4	+0.0 -37.8 +0.3	+0.0 +29.3 +3.4	+0.0 +0.4 +0.0	+0.0	44.8	54.0 Z-axis	-9.2	Vert
16	5490.000M	38.6	+0.0 +0.0 +2.0	+0.0 -36.9 +0.2	+0.0 +34.4 +5.4	+0.0 +0.6 +0.0	+0.0	44.3	54.0 Y-axis	-9.7	Vert
17	5489.967M	38.5	+0.0 +0.0 +2.0	+0.0 -36.9 +0.2	+0.0 +34.4 +5.4	+0.0 +0.6 +0.0	+0.0	44.2	54.0 X-axis	-9.8	Vert
18	5490.067M	38.2	+0.0 +0.0 +2.0	+0.0 -36.9 +0.2	+0.0 +34.4 +5.4	+0.0 +0.6 +0.0	+0.0	43.9	54.0 Z-axis	-10.1	Horiz
19	5490.067M	37.9	+0.0 +0.0 +2.0	+0.0 -36.9 +0.2	+0.0 +34.4 +5.4	+0.0 +0.6 +0.0	+0.0	43.6	54.0 Z-axis	-10.4	Vert
20	4575.000M	40.7	+0.0 +0.0 +1.9	+0.0 -37.2 +0.3	+0.0 +32.5 +4.7	+0.0 +0.5 +0.0	+0.0	43.4	54.0 Y-axis	-10.6	Vert
21	5490.017M	37.2	+0.0 +0.0 +2.0	+0.0 -36.9 +0.2	+0.0 +34.4 +5.4	+0.0 +0.6 +0.0	+0.0	42.9	54.0 X-axis	-11.1	Horiz
22	3660.067M	42.1	+0.0 +0.0 +1.7	+0.0 -37.4 +0.3	+0.0 +31.3 +4.2	+0.0 +0.4 +0.0	+0.0	42.6	54.0 Z-axis	-11.4	Horiz
23	3660.000M	41.9	+0.0 +0.0 +1.7	+0.0 -37.4 +0.3	+0.0 +31.3 +4.2	+0.0 +0.4 +0.0	+0.0	42.4	54.0 Y-axis	-11.6	Vert
24	4574.967M	39.5	+0.0 +0.0 +1.9	+0.0 -37.2 +0.3	+0.0 +32.5 +4.7	+0.0 +0.5 +0.0	+0.0	42.2	54.0 X-axis	-11.8	Vert
25	3660.067M	41.6	+0.0 +0.0 +1.7	+0.0 -37.4 +0.3	+0.0 +31.3 +4.2	+0.0 +0.4 +0.0	+0.0	42.1	54.0 Z-axis	-11.9	Vert
26	4575.067M	39.3	+0.0 +0.0 +1.9	+0.0 -37.2 +0.3	+0.0 +32.5 +4.7	+0.0 +0.5 +0.0	+0.0	42.0	54.0 Z-axis	-12.0	Vert
27	4575.017M	38.8	+0.0 +0.0 +1.9	+0.0 -37.2 +0.3	+0.0 +32.5 +4.7	+0.0 +0.5 +0.0	+0.0	41.5	54.0 X-axis	-12.5	Horiz
28	4575.000M	38.8	+0.0 +0.0 +1.9	+0.0 -37.2 +0.3	+0.0 +32.5 +4.7	+0.0 +0.5 +0.0	+0.0	41.5	54.0 Y-axis	-12.5	Horiz

29	230.010M	46.9	-27.8	+11.3	+0.2	+2.6	+0.0	33.2	46.0	-12.8	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
30	899.990M	30.6	-27.1	+23.3	+0.5	+5.8	+0.0	33.1	46.0	-12.9	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
31	3660.000M	40.4	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Horiz
			+0.0	-37.4	+31.3	+0.4			Y-axis		
			+1.7	+0.3	+4.2	+0.0					
32	230.035M	46.5	-27.8	+11.3	+0.2	+2.6	+0.0	32.8	46.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
33	110.585M	44.8	-27.8	+11.1	+0.1	+1.8	+0.0	30.0	43.5	-13.5	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
34	35.000M	36.7	-27.8	+16.4	+0.1	+1.0	+0.0	26.4	40.0	-13.6	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
35	5490.000M	34.6	+0.0	+0.0	+0.0	+0.0	+0.0	40.3	54.0	-13.7	Horiz
			+0.0	-36.9	+34.4	+0.6			Y-axis		
			+2.0	+0.2	+5.4	+0.0					
36	3659.967M	39.5	+0.0	+0.0	+0.0	+0.0	+0.0	40.0	54.0	-14.0	Vert
			+0.0	-37.4	+31.3	+0.4			X-axis		
			+1.7	+0.3	+4.2	+0.0					
37	286.160M	43.2	-27.7	+13.1	+0.3	+3.0	+0.0	31.9	46.0	-14.1	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
38	373.030M	40.3	-27.8	+15.5	+0.3	+3.4	+0.0	31.7	46.0	-14.3	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
39	4575.067M	36.9	+0.0	+0.0	+0.0	+0.0	+0.0	39.6	54.0	-14.4	Horiz
			+0.0	-37.2	+32.5	+0.5			Z-axis		
			+1.9	+0.3	+4.7	+0.0					
40	900.000M	28.5	-27.1	+23.3	+0.5	+5.8	+0.0	31.0	46.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
41	295.060M	42.2	-27.8	+13.3	+0.2	+3.1	+0.0	31.0	46.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
42	900.000M	28.5	-27.1	+23.3	+0.5	+5.8	+0.0	31.0	46.0	-15.0	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
43	3660.017M	38.5	+0.0	+0.0	+0.0	+0.0	+0.0	39.0	54.0	-15.0	Horiz
			+0.0	-37.4	+31.3	+0.4			X-axis		
			+1.7	+0.3	+4.2	+0.0					
44	900.000M	27.8	-27.1	+23.3	+0.5	+5.8	+0.0	30.3	46.0	-15.7	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
45	900.000M	26.3	-27.1	+23.3	+0.5	+5.8	+0.0	28.8	46.0	-17.2	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					

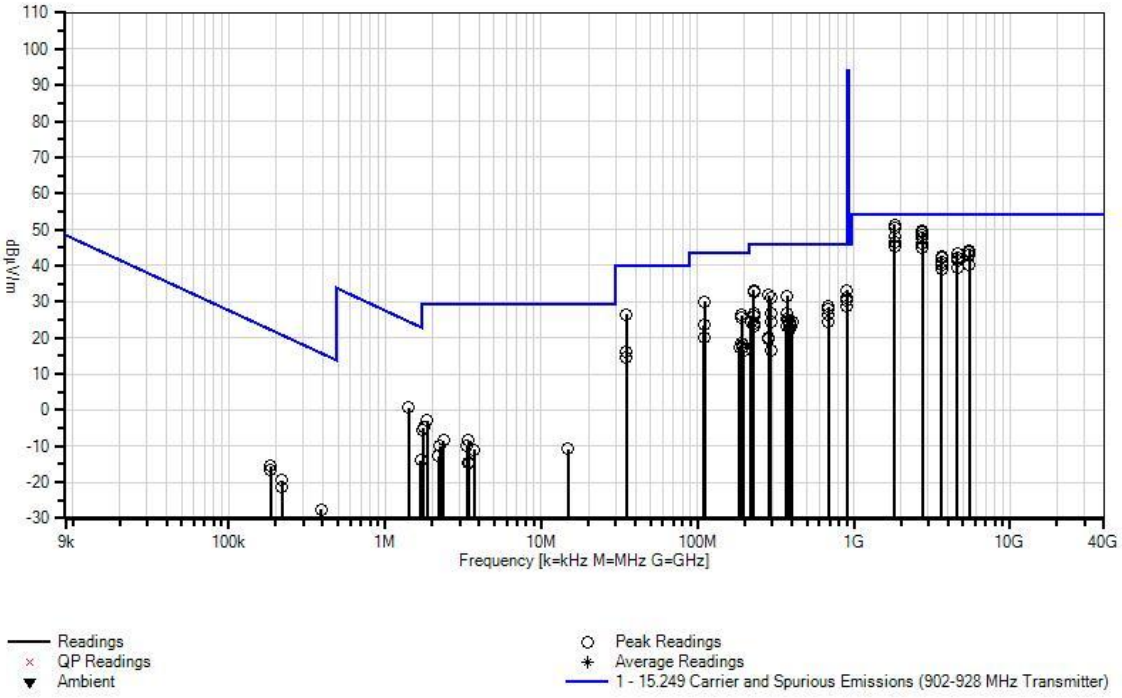
46	192.485M	42.3	-27.7	+9.0	+0.2	+2.4	+0.0	26.2	43.5	-17.3	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
47	690.010M	29.4	-27.2	+20.9	+0.5	+5.0	+0.0	28.6	46.0	-17.4	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
48	192.485M	41.8	-27.7	+9.0	+0.2	+2.4	+0.0	25.7	43.5	-17.8	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
49	690.000M	28.6	-27.2	+20.9	+0.5	+5.0	+0.0	27.8	46.0	-18.2	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
50	230.005M	40.5	-27.8	+11.3	+0.2	+2.6	+0.0	26.8	46.0	-19.2	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
51	373.560M	35.3	-27.8	+15.5	+0.3	+3.4	+0.0	26.7	46.0	-19.3	Horiz
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
52	295.010M	37.9	-27.8	+13.3	+0.2	+3.1	+0.0	26.7	46.0	-19.3	Horiz
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
53	690.000M	27.2	-27.2	+20.9	+0.5	+5.0	+0.0	26.4	46.0	-19.6	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
54	110.000M	38.4	-27.8	+11.0	+0.1	+1.8	+0.0	23.5	43.5	-20.0	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
55	230.000M	39.6	-27.8	+11.3	+0.2	+2.6	+0.0	25.9	46.0	-20.1	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
56	373.600M	33.9	-27.8	+15.5	+0.3	+3.4	+0.0	25.3	46.0	-20.7	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
57	381.220M	33.1	-27.9	+15.7	+0.3	+3.5	+0.0	24.7	46.0	-21.3	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
58	401.220M	32.4	-27.9	+16.2	+0.3	+3.6	+0.0	24.6	46.0	-21.4	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
59	390.790M	32.8	-27.9	+15.9	+0.3	+3.5	+0.0	24.6	46.0	-21.4	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
60	690.000M	25.4	-27.2	+20.9	+0.5	+5.0	+0.0	24.6	46.0	-21.4	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
61	295.070M	35.7	-27.8	+13.3	+0.2	+3.1	+0.0	24.5	46.0	-21.5	Vert
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+0.0					
62	690.000M	25.1	-27.2	+20.9	+0.5	+5.0	+0.0	24.3	46.0	-21.7	Horiz
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					

63	218.495M	38.8	-27.8 +0.0 +0.0	+10.5 +0.0 +0.0	+0.2 +0.0 +0.0	+2.6 +0.0 +0.0	+0.0	24.3	46.0 X-axis	-21.7	Vert
64	230.000M	37.6	-27.8 +0.0 +0.0	+11.3 +0.0 +0.0	+0.2 +0.0 +0.0	+2.6 +0.0 +0.0	+0.0	23.9	46.0 Z-axis	-22.1	Vert
65	390.050M	31.8	-27.9 +0.0 +0.0	+15.9 +0.0 +0.0	+0.3 +0.0 +0.0	+3.5 +0.0 +0.0	+0.0	23.6	46.0 Z-axis	-22.4	Horiz
66	372.220M	32.0	-27.8 +0.0 +0.0	+15.4 +0.0 +0.0	+0.3 +0.0 +0.0	+3.4 +0.0 +0.0	+0.0	23.3	46.0 X-axis	-22.7	Vert
67	230.000M	36.8	-27.8 +0.0 +0.0	+11.3 +0.0 +0.0	+0.2 +0.0 +0.0	+2.6 +0.0 +0.0	+0.0	23.1	46.0 Y-axis	-22.9	Horiz
68	392.720M	31.1	-27.9 +0.0 +0.0	+16.0 +0.0 +0.0	+0.3 +0.0 +0.0	+3.6 +0.0 +0.0	+0.0	23.1	46.0 X-axis	-22.9	Vert
69	390.810M	30.8	-27.9 +0.0 +0.0	+15.9 +0.0 +0.0	+0.3 +0.0 +0.0	+3.5 +0.0 +0.0	+0.0	22.6	46.0 X-axis	-23.4	Horiz
70	110.000M	34.9	-27.8 +0.0 +0.0	+11.0 +0.0 +0.0	+0.1 +0.0 +0.0	+1.8 +0.0 +0.0	+0.0	20.0	43.5 Z-axis	-23.5	Horiz
71	35.160M	26.6	-27.8 +0.0 +0.0	+16.3 +0.0 +0.0	+0.1 +0.0 +0.0	+1.0 +0.0 +0.0	+0.0	16.2	40.0 X-axis	-23.8	Horiz
72	1.411M	31.7	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.1 +0.0 +8.9	-40.0	0.7	24.6 Y-axis	-23.9	Paral
73	192.485M	34.6	-27.7 +0.0 +0.0	+9.0 +0.0 +0.0	+0.2 +0.0 +0.0	+2.4 +0.0 +0.0	+0.0	18.5	43.5 Z-axis	-25.0	Vert
74	192.880M	34.4	-27.7 +0.0 +0.0	+9.0 +0.0 +0.0	+0.2 +0.0 +0.0	+2.4 +0.0 +0.0	+0.0	18.3	43.5 Y-axis	-25.2	Horiz
75	35.000M	24.9	-27.8 +0.0 +0.0	+16.4 +0.0 +0.0	+0.1 +0.0 +0.0	+1.0 +0.0 +0.0	+0.0	14.6	40.0 Z-axis	-25.4	Horiz
76	286.400M	31.3	-27.7 +0.0 +0.0	+13.1 +0.0 +0.0	+0.3 +0.0 +0.0	+3.0 +0.0 +0.0	+0.0	20.0	46.0 Z-axis	-26.0	Vert
77	192.880M	33.5	-27.7 +0.0 +0.0	+9.0 +0.0 +0.0	+0.2 +0.0 +0.0	+2.4 +0.0 +0.0	+0.0	17.4	43.5 Y-axis	-26.1	Vert
78	185.595M	33.6	-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	17.4	43.5 X-axis	-26.1	Vert
79	286.160M	31.1	-27.7 +0.0 +0.0	+13.1 +0.0 +0.0	+0.3 +0.0 +0.0	+3.0 +0.0 +0.0	+0.0	19.8	46.0 Z-axis	-26.2	Vert

80	197.945M	32.4	-27.7	+9.0	+0.2	+2.5	+0.0	16.4	43.5	-27.1	Vert
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+0.0					
81	295.000M	27.6	-27.8	+13.3	+0.2	+3.1	+0.0	16.4	46.0	-29.6	Vert
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+0.0					
82	1.860M	28.1	+0.0	+0.0	+0.0	+0.2	-40.0	-2.9	29.5	-32.4	Paral
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+8.8					
83	1.765M	26.1	+0.0	+0.0	+0.0	+0.2	-40.0	-4.9	29.5	-34.4	Paral
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+8.8					
84	1.742M	25.3	+0.0	+0.0	+0.0	+0.2	-40.0	-5.7	29.5	-35.2	Perpe
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+8.8					
85	1.700M	16.9	+0.0	+0.0	+0.0	+0.2	-40.0	-14.0	22.9	-36.9	Perpe
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+8.9					
86	185.000k	55.8	+0.0	+0.0	+0.0	+0.1	-80.0	-15.6	22.3	-37.9	Perpe
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+8.5					
87	3.400M	22.4	+0.0	+0.0	+0.0	+0.3	-40.0	-8.5	29.5	-38.0	Perpe
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+8.8					
88	2.370M	22.5	+0.0	+0.0	+0.0	+0.2	-40.0	-8.5	29.5	-38.0	Paral
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+8.8					
89	185.000k	54.9	+0.0	+0.0	+0.0	+0.1	-80.0	-16.5	22.3	-38.8	Perpe
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+8.5					
90	3.335M	21.2	+0.0	+0.0	+0.0	+0.2	-40.0	-9.8	29.5	-39.3	Paral
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+8.8					
91	2.247M	21.1	+0.0	+0.0	+0.0	+0.2	-40.0	-9.9	29.5	-39.4	Perpe
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+8.8					
92	14.876M	21.0	+0.0	+0.0	+0.0	+0.6	-40.0	-10.8	29.5	-40.3	Paral
			+0.0	+0.0	+0.0	+0.0			Y-axis		
			+0.0	+0.0	+0.0	+7.6					
93	220.000k	51.9	+0.0	+0.0	+0.0	+0.1	-80.0	-19.5	20.8	-40.3	Paral
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+8.5					
94	3.710M	20.0	+0.0	+0.0	+0.0	+0.3	-40.0	-10.9	29.5	-40.4	Perpe
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+8.8					
95	2.200M	18.2	+0.0	+0.0	+0.0	+0.2	-40.0	-12.8	29.5	-42.3	Perpe
			+0.0	+0.0	+0.0	+0.0			Z-axis		
			+0.0	+0.0	+0.0	+8.8					
96	220.000k	49.9	+0.0	+0.0	+0.0	+0.1	-80.0	-21.5	20.8	-42.3	Perpe
			+0.0	+0.0	+0.0	+0.0			X-axis		
			+0.0	+0.0	+0.0	+8.5					

97	390.000k	43.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.1 +0.0 +8.6	-80.0	-27.5	15.8 X-axis	-43.3	Paral
98	3.455M	16.2	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.3 +0.0 +8.8	-40.0	-14.7	29.5 Z-axis	-44.2	Paral
99	3.415M	16.1	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.3 +0.0 +8.8	-40.0	-14.8	29.5 Y-axis	-44.3	Perpe
100	356.000k	38.2	+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	-33.2	16.6 Y-axis	-49.8	Paral

CKC Laboratories Date: 11/11/2011 Time: 11:18:48 SmartLabs, Inc. WO#: 92499
15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter) Test Distance: 3 Meters Sequence#: 12 Ext
ATTN: 0 dB



Test Setup Photos

X AXIS FRONT VIEW

X AXIS BACK VIEW

Y AXIS FRONT VIEW

Y AXIS BACK VIEW

Z AXIS FRONT VIEW

Z AXIS BACK VIEW

RSS-210

99 % Bandwidth

Test Conditions / Setup

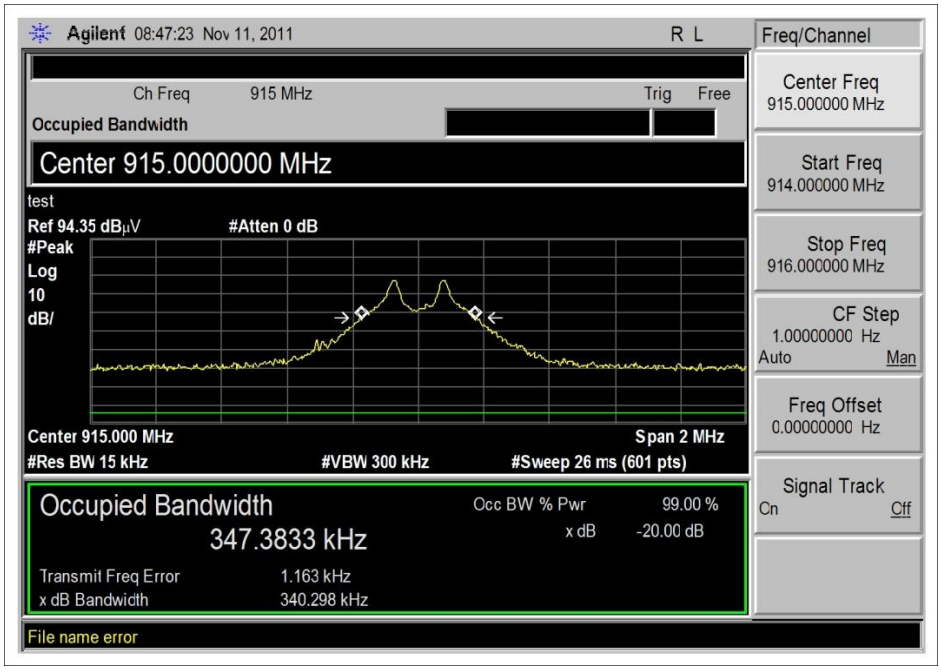
The EUT is placed on the wooden table lined with Styrofoam. Total height is 1.5 meter from the ground plane. Connected to the EUT is a support suspended ceiling fan. Continuous transmit 914.92MHz-915.08MHz
EUT only operates on 120Vac/60Hz.
Frequency range of measurement
30MHz - 1GHz.
30 MHz-1000 MHz; RBW=120 kHz, VBW=120 kHz
Temperature: 17°C, Relative Humidity: 20%
15.31(e): The supply voltage varied between 85% and 115% of the nominal rated supply voltage (120Vac), no change in the Fundamental signal level was observed.

Engineer Name: Don 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



Test Setup Photos

X AXIS FRONT VIEW

X AXIS BACK VIEW

Y AXIS FRONT VIEW

Y AXIS BACK VIEW

Z AXIS FRONT VIEW

Z AXIS 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.