Patrol Tag Inc., DBA Korner Safe

ADDENDUM TO TEST REPORT 96727-19

Hub
Model: Hub 1

Tested To The Following Standards:

FCC Part 15 Subpart C Section(s)
15.207 & 15.247

Report No.: 96727-19A

Date of issue: May 6, 2015

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:

Patrol Tag Inc., DBA Korner Safe
1080 W. Ewing Place, Suite 300
Seattle, WA 98119

Representative: Chris Doughty

REPORT PREPARED BY:

Terri Rayle
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 96727

DATE OF EQUIPMENT RECEIPT: February 12, 2015
DATE(S) OF TESTING: February 12 - 13, 2015

Revision History

Original: Testing of Hub, Model: Hub 1 to FCC Part 15 Subpart C Section 15.207 and 15.247.
Addendum A: To replace the Radiated Spurious Band Edge plots.

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.
22116 23rd Drive S.E., Suite A
Bothell, WA 98021-4413

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.00.14
Immunity	5.00.07

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Bothell	US0081	SL2-IN-E-1145R	3082C-1	318736	A-0148

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C

Test Procedure	Description	Modifications*	Results
15.207	Conducted Emissions	NA	Pass
15.247(a)(2)	Occupied Bandwidth	NA	Pass
15.247(b)(3)	Maximum Output Power	NA	Pass
15.247(d)	Conducted Spurious Emissions and Band Edge	NA	Pass
15.247(d)	Radiated Spurious Emissions and Band Edge	NA	Pass
15.247(e)	Power Spectral Density	NA	Pass

Modifications* During Testing

This list is a summary of the modifications made to the equipment during testing.

Summary of Conditions
No modifications were made during testing.

***Modifications listed above must be incorporated into all production units.**

Conditions During Testing

This list is a summary of the conditions noted to the equipment during testing.

Summary of Conditions
None

EQUIPMENT UNDER TEST (EUT)

The following model has been tested by CKC Laboratories: **Hub, Model: Hub 1**

The manufacturer states that the following additional model is identical electrically to the one which was tested, or any differences between them does not affect their EMC characteristics, and therefore It meets the level of testing equivalent to the tested model: **Repeater, Model: Repeater 1**

EQUIPMENT UNDER TEST

Hub
Manuf: Patrol Tag Inc., DBA Korner Safe
Model: Hub 1
Serial: None

PERIPHERAL DEVICES

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

Laptop
Manuf: Lenovo
Model: W530
Serial: None

Prosafe 5 Port Gigabit Switch
Manuf: Netgear
Model: GS105
Serial: 2N112435032BF

Class 2 Power Unit
Manuf: Phihong
Model: PSM03A-050
Serial: None

FCC PART 15 SUBPART C

15.207 Conducted Emissions

Test Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Patrol Tag Inc., DBA Korner Safe**
Specification: **15.207 AC Mains - Quasi-peak**
Work Order #: **96727** Date: 2/13/2015
Test Type: **Conducted Emissions** Time: 11:57:18
Equipment: **Hub** Sequence#: 9
Manufacturer: Patrol Tag Inc., DBA Korner Safe Tested By: Steven Pittsford
Model: Hub 1 120V 60Hz
S/N:

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05435	Attenuator	PE7015-10	9/2/2014	9/2/2016
T2	ANP05305	Cable	ETSI-50T	2/20/2014	2/20/2016
T3	ANP06505	Cable	32026-29080-29080-84	10/18/2013	10/18/2015
T4	AN01492	50uH LISN-Line	3816/2NM	7/21/2013	7/21/2015
	AN01492	50uH LISN-Neutral	3816/2NM	7/21/2013	7/21/2015
T5	AN02673	Spectrum Analyzer	E4446A	10/4/2013	10/4/2015
T6	AN02611	High Pass Filter	HE9615-150K-50-720B	3/26/2014	3/26/2016

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

Function	Manufacturer	Model #	S/N
Hub*	Patrol Tag Inc., DBA Korner Safe	Hub 1	

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Lenovo	W530	
Prosafe 5 Port Gigabit Switch	Netgear	GS105	2N112435032BF
Class 2 Power Unit	Phihong	PSM03A-050	

Test Conditions / Notes:

Temperature: 22°C
Pressure: 102.0kPa
Humidity: 45%
Frequency: 150k-30MHz
Test Method: ANSI 63.4 (2009)

Mode: EUT is Transmit Mode

The EUT is located on top of a Styrofoam table, 80cm over the ground plane.
The EUT is investigated in laying and standing axis with only the worst case being reported.
The EUT is powered via the supplied power supply and its Ethernet is port run outside the chamber to an Ethernet switch at 100Mbps through unshielded Cat 5 which is then attached to the support laptop.
The buzzer is on.

Ext Attn: 0 dB

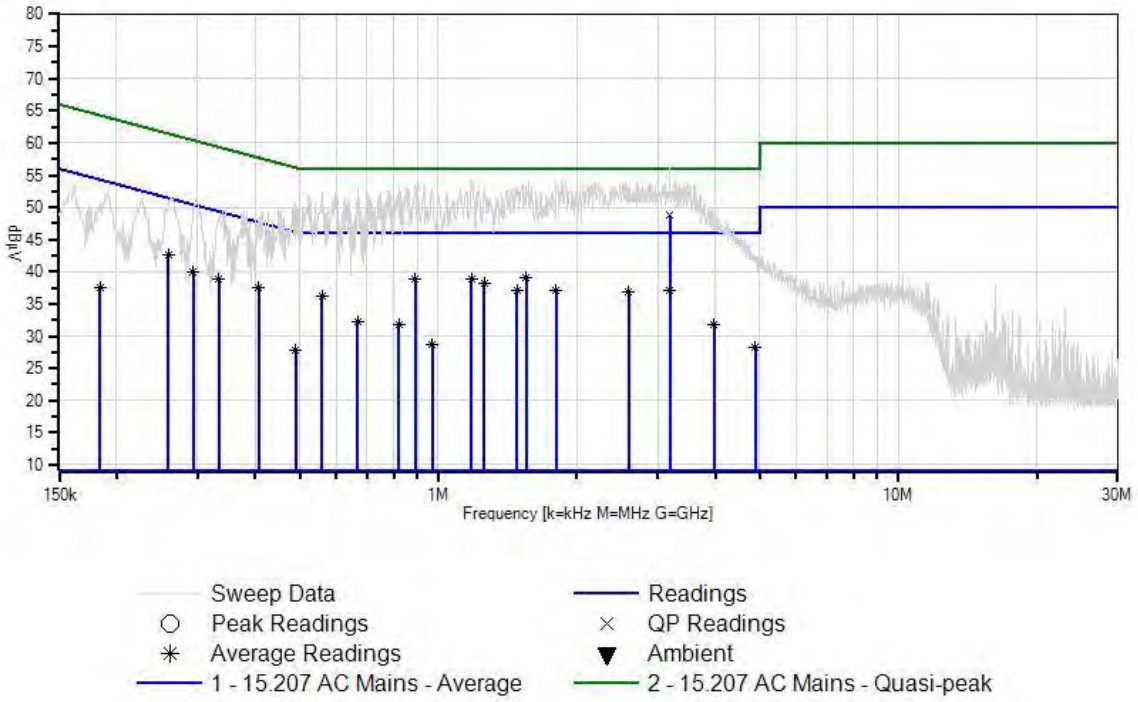
Measurement Data: Reading listed by margin. Test Lead: Line

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	1.553M	29.2	+9.2	+0.1	+0.0	+0.4	+0.0	39.0	46.0	-7.0	Line
	Ave		+0.0	+0.1							
^	1.553M	43.7	+9.2	+0.1	+0.0	+0.4	+0.0	53.5	46.0	+7.5	Line
			+0.0	+0.1							
3	3.191M	39.1	+9.1	+0.1	+0.0	+0.4	+0.0	48.8	56.0	-7.2	Line
	QP		+0.0	+0.1							
4	1.179M	28.8	+9.3	+0.1	+0.0	+0.4	+0.0	38.8	46.0	-7.2	Line
	Ave		+0.0	+0.2							
^	1.179M	44.3	+9.3	+0.1	+0.0	+0.4	+0.0	54.3	46.0	+8.3	Line
			+0.0	+0.2							
6	889.963k	28.7	+9.4	+0.1	+0.0	+0.4	+0.0	38.8	46.0	-7.2	Line
	Ave		+0.0	+0.2							
^	889.963k	43.5	+9.4	+0.1	+0.0	+0.4	+0.0	53.6	46.0	+7.6	Line
			+0.0	+0.2							
8	1.260M	28.2	+9.3	+0.1	+0.0	+0.4	+0.0	38.2	46.0	-7.8	Line
	Ave		+0.0	+0.2							
^	1.260M	43.5	+9.3	+0.1	+0.0	+0.4	+0.0	53.5	46.0	+7.5	Line
			+0.0	+0.2							
10	259.230k	32.2	+9.3	+0.0	+0.0	+1.0	+0.0	42.7	51.5	-8.8	Line
	Ave		+0.0	+0.2							
^	259.230k	41.0	+9.3	+0.0	+0.0	+1.0	+0.0	51.5	51.5	+0.0	Line
			+0.0	+0.2							
12	1.804M	27.3	+9.2	+0.1	+0.0	+0.4	+0.0	37.1	46.0	-8.9	Line
	Ave		+0.0	+0.1							
^	1.804M	44.0	+9.2	+0.1	+0.0	+0.4	+0.0	53.8	46.0	+7.8	Line
			+0.0	+0.1							
14	1.485M	27.2	+9.2	+0.1	+0.0	+0.4	+0.0	37.0	46.0	-9.0	Line
	Ave		+0.0	+0.1							
^	1.485M	43.3	+9.2	+0.1	+0.0	+0.4	+0.0	53.1	46.0	+7.1	Line
			+0.0	+0.1							

16	3.191M	27.3	+9.1	+0.1	+0.0	+0.4	+0.0	37.0	46.0	-9.0	Line
	Ave		+0.0	+0.1							
^	3.191M	46.5	+9.1	+0.1	+0.0	+0.4	+0.0	56.2	46.0	+10.2	Line
			+0.0	+0.1							
18	2.592M	27.2	+9.1	+0.1	+0.0	+0.4	+0.0	36.9	46.0	-9.1	Line
	Ave		+0.0	+0.1							
^	2.592M	44.6	+9.1	+0.1	+0.0	+0.4	+0.0	54.3	46.0	+8.3	Line
			+0.0	+0.1							
20	558.590k	26.2	+9.4	+0.0	+0.0	+0.5	+0.0	36.3	46.0	-9.7	Line
	Ave		+0.0	+0.2							
^	558.590k	42.6	+9.4	+0.0	+0.0	+0.5	+0.0	52.7	46.0	+6.7	Line
			+0.0	+0.2							
22	407.270k	27.5	+9.4	+0.0	+0.0	+0.6	+0.0	37.6	47.7	-10.1	Line
	Ave		+0.0	+0.1							
^	407.270k	40.8	+9.4	+0.0	+0.0	+0.6	+0.0	50.9	47.7	+3.2	Line
			+0.0	+0.1							
24	293.280k	29.6	+9.3	+0.0	+0.0	+0.9	+0.0	39.9	50.4	-10.5	Line
	Ave		+0.0	+0.1							
^	293.280k	40.7	+9.3	+0.0	+0.0	+0.9	+0.0	51.0	50.4	+0.6	Line
			+0.0	+0.1							
26	333.940k	28.8	+9.3	+0.0	+0.0	+0.7	+0.0	38.9	49.4	-10.5	Line
	Ave		+0.0	+0.1							
^	333.940k	43.0	+9.3	+0.0	+0.0	+0.7	+0.0	53.1	49.4	+3.7	Line
			+0.0	+0.1							
28	669.225k	22.2	+9.4	+0.0	+0.0	+0.4	+0.0	32.2	46.0	-13.8	Line
	Ave		+0.0	+0.2							
^	669.225k	43.2	+9.4	+0.0	+0.0	+0.4	+0.0	53.2	46.0	+7.2	Line
			+0.0	+0.2							
30	822.666k	21.7	+9.4	+0.1	+0.0	+0.4	+0.0	31.8	46.0	-14.2	Line
	Ave		+0.0	+0.2							
^	822.666k	43.1	+9.4	+0.1	+0.0	+0.4	+0.0	53.2	46.0	+7.2	Line
			+0.0	+0.2							
32	3.982M	22.1	+9.0	+0.1	+0.0	+0.4	+0.0	31.7	46.0	-14.3	Line
	Ave		+0.0	+0.1							
^	3.982M	40.1	+9.0	+0.1	+0.0	+0.4	+0.0	49.7	46.0	+3.7	Line
			+0.0	+0.1							
34	184.240k	26.5	+9.3	+0.0	+0.0	+1.5	+0.0	37.6	54.3	-16.7	Line
	Ave		+0.0	+0.3							
^	184.240k	41.0	+9.3	+0.0	+0.0	+1.5	+0.0	52.1	54.3	-2.2	Line
			+0.0	+0.3							
36	970.765k	18.6	+9.3	+0.1	+0.0	+0.4	+0.0	28.6	46.0	-17.4	Line
	Ave		+0.0	+0.2							
^	970.765k	43.1	+9.3	+0.1	+0.0	+0.4	+0.0	53.1	46.0	+7.1	Line
			+0.0	+0.2							
38	4.896M	18.6	+9.0	+0.1	+0.1	+0.4	+0.0	28.3	46.0	-17.7	Line
	Ave		+0.0	+0.1							
^	4.896M	32.7	+9.0	+0.1	+0.1	+0.4	+0.0	42.4	46.0	-3.6	Line
			+0.0	+0.1							

40	490.810k	17.8	+9.4	+0.0	+0.0	+0.5	+0.0	27.9	46.2	-18.3	Line
	Ave		+0.0	+0.2							
^	490.810k	40.7	+9.4	+0.0	+0.0	+0.5	+0.0	50.8	46.2	+4.6	Line
			+0.0	+0.2							

CKC Laboratories, Inc. Date: 2/13/2015 Time: 11:57:18 Patrol Tag Inc, DBA Korner Safe WO#: 96727
Test Lead: Line 120V 60Hz Sequence#: 9 Line
Patrol Tag Inc, DBA Korner Safe Hub P/N: Hub 1



Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Patrol Tag Inc., DBA Korner Safe**
Specification: **15.207 AC Mains - Quasi-peak**
Work Order #: **96727** Date: 2/13/2015
Test Type: **Conducted Emissions** Time: 11:44:27
Equipment: **Hub** Sequence#: 8
Manufacturer: Patrol Tag Inc., DBA Korner Safe Tested By: Steven Pittsford
Model: Hub 1 120V 60Hz
S/N:

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP05435	Attenuator	PE7015-10	9/2/2014	9/2/2016
T2	ANP05305	Cable	ETSI-50T	2/20/2014	2/20/2016
T3	ANP06505	Cable	32026-29080-29080-84	10/18/2013	10/18/2015
	AN01492	50uH LISN-Line	3816/2NM	7/21/2013	7/21/2015
T4	AN01492	50uH LISN-Neutral	3816/2NM	7/21/2013	7/21/2015
	AN02673	Spectrum Analyzer	E4446A	10/4/2013	10/4/2015
T5	AN02611	High Pass Filter	HE9615-150K-50-720B	3/26/2014	3/26/2016

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

Function	Manufacturer	Model #	S/N
Hub*	Patrol Tag Inc., DBA Korner Safe	Hub 1	

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Lenovo	W530	
Prosafe 5 Port Gigabit Switch	Netgear	GS105	2N112435032BF
Class 2 Power Unit	Phihong	PSM03A-050	

Test Conditions / Notes:

Temperature: 22°C
Pressure: 102.0kPa
Humidity: 45%
Frequency: 150k-30MHz
Test Method: ANSI 63.4 (2009)

Mode: EUT is Transmit Mode

The EUT is located on top of a Styrofoam table, 80cm over the ground plane.
The EUT is investigated in laying and standing axis with only the worst case being reported.
The EUT is powered via the supplied power supply and its Ethernet is port run outside the chamber to an Ethernet switch at 100Mbps through unshielded Cat 5 which is then attached to the support laptop.
The buzzer is on.

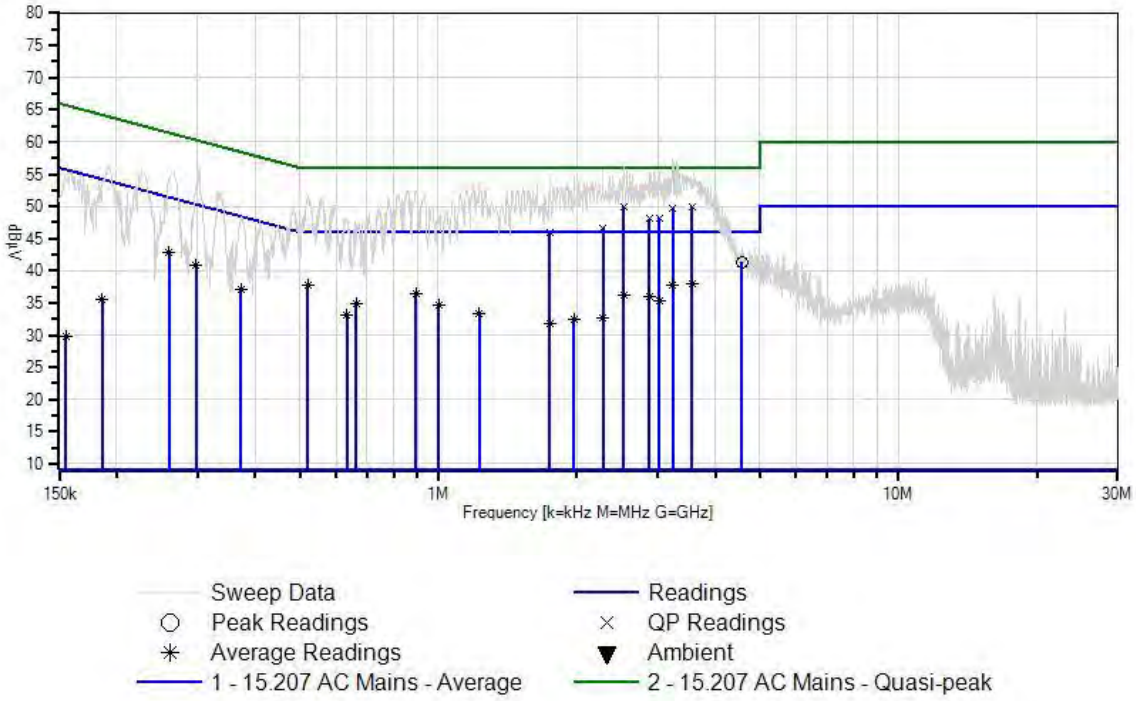
Ext Attn: 0 dB

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

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	4.561M	31.7	+9.0 +0.1	+0.1	+0.1	+0.4	+0.0	41.4	46.0	-4.6	Neutr
2	2.527M QP	40.4	+9.1 +0.1	+0.1	+0.0	+0.3	+0.0	50.0	56.0	-6.0	Neutr
3	3.564M QP	40.3	+9.0 +0.1	+0.1	+0.0	+0.4	+0.0	49.9	56.0	-6.1	Neutr
4	3.233M QP	40.1	+9.1 +0.1	+0.1	+0.0	+0.4	+0.0	49.8	56.0	-6.2	Neutr
5	3.025M QP	38.5	+9.1 +0.1	+0.1	+0.0	+0.4	+0.0	48.2	56.0	-7.8	Neutr
6	2.876M QP	38.4	+9.1 +0.1	+0.1	+0.0	+0.4	+0.0	48.1	56.0	-7.9	Neutr
7	3.564M Ave	28.4	+9.0 +0.1	+0.1	+0.0	+0.4	+0.0	38.0	46.0	-8.0	Neutr
^	3.564M	45.4	+9.0 +0.1	+0.1	+0.0	+0.4	+0.0	55.0	46.0	+9.0	Neutr
9	3.233M Ave	28.1	+9.1 +0.1	+0.1	+0.0	+0.4	+0.0	37.8	46.0	-8.2	Neutr
^	3.233M	47.9	+9.1 +0.1	+0.1	+0.0	+0.4	+0.0	57.6	46.0	+11.6	Neutr
11	521.130k Ave	27.6	+9.4 +0.2	+0.0	+0.0	+0.5	+0.0	37.7	46.0	-8.3	Neutr
^	521.130k	41.1	+9.4 +0.2	+0.0	+0.0	+0.5	+0.0	51.2	46.0	+5.2	Neutr
13	259.840k Ave	32.4	+9.3 +0.2	+0.0	+0.0	+1.0	+0.0	42.9	51.4	-8.5	Neutr
^	259.840k	44.9	+9.3 +0.2	+0.0	+0.0	+1.0	+0.0	55.4	51.4	+4.0	Neutr
15	2.281M QP	37.1	+9.1 +0.1	+0.1	+0.0	+0.3	+0.0	46.7	56.0	-9.3	Neutr
16	297.840k Ave	30.7	+9.3 +0.1	+0.0	+0.0	+0.8	+0.0	40.9	50.3	-9.4	Neutr
^	297.840k	46.2	+9.3 +0.1	+0.0	+0.0	+0.8	+0.0	56.4	50.3	+6.1	Neutr
18	893.050k Ave	26.4	+9.4 +0.2	+0.1	+0.0	+0.4	+0.0	36.5	46.0	-9.5	Neutr
^	893.050k	42.8	+9.4 +0.2	+0.1	+0.0	+0.4	+0.0	52.9	46.0	+6.9	Neutr
20	2.527M Ave	26.7	+9.1 +0.1	+0.1	+0.0	+0.3	+0.0	36.3	46.0	-9.7	Neutr
^	2.527M	46.6	+9.1 +0.1	+0.1	+0.0	+0.3	+0.0	56.2	46.0	+10.2	Neutr
22	1.749M QP	36.2	+9.2 +0.1	+0.1	+0.0	+0.3	+0.0	45.9	56.0	-10.1	Neutr

23	2.876M	26.2	+9.1	+0.1	+0.0	+0.4	+0.0	35.9	46.0	-10.1	Neutr
	Ave		+0.1								
^	2.876M	45.4	+9.1	+0.1	+0.0	+0.4	+0.0	55.1	46.0	+9.1	Neutr
			+0.1								
25	3.025M	25.6	+9.1	+0.1	+0.0	+0.4	+0.0	35.3	46.0	-10.7	Neutr
	Ave		+0.1								
^	3.025M	45.5	+9.1	+0.1	+0.0	+0.4	+0.0	55.2	46.0	+9.2	Neutr
			+0.1								
27	664.350k	24.8	+9.4	+0.0	+0.0	+0.4	+0.0	34.8	46.0	-11.2	Neutr
	Ave		+0.2								
^	664.350k	39.2	+9.4	+0.0	+0.0	+0.4	+0.0	49.2	46.0	+3.2	Neutr
			+0.2								
29	1.002M	24.6	+9.3	+0.1	+0.0	+0.4	+0.0	34.6	46.0	-11.4	Neutr
	Ave		+0.2								
^	1.002M	44.7	+9.3	+0.1	+0.0	+0.4	+0.0	54.7	46.0	+8.7	Neutr
			+0.2								
31	372.540k	26.9	+9.4	+0.0	+0.0	+0.6	+0.0	37.0	48.4	-11.4	Neutr
	Ave		+0.1								
^	372.540k	38.9	+9.4	+0.0	+0.0	+0.6	+0.0	49.0	48.4	+0.6	Neutr
			+0.1								
33	1.230M	23.4	+9.3	+0.1	+0.0	+0.4	+0.0	33.4	46.0	-12.6	Neutr
	Ave		+0.2								
^	1.230M	44.1	+9.3	+0.1	+0.0	+0.4	+0.0	54.1	46.0	+8.1	Neutr
			+0.2								
35	632.380k	23.2	+9.4	+0.0	+0.0	+0.4	+0.0	33.2	46.0	-12.8	Neutr
	Ave		+0.2								
^	632.380k	39.4	+9.4	+0.0	+0.0	+0.4	+0.0	49.4	46.0	+3.4	Neutr
			+0.2								
37	2.281M	23.1	+9.1	+0.1	+0.0	+0.3	+0.0	32.7	46.0	-13.3	Neutr
	Ave		+0.1								
^	2.281M	46.2	+9.1	+0.1	+0.0	+0.3	+0.0	55.8	46.0	+9.8	Neutr
			+0.1								
39	1.974M	22.6	+9.2	+0.1	+0.0	+0.4	+0.0	32.4	46.0	-13.6	Neutr
	Ave		+0.1								
^	1.974M	44.7	+9.2	+0.1	+0.0	+0.4	+0.0	54.5	46.0	+8.5	Neutr
			+0.1								
41	1.749M	22.1	+9.2	+0.1	+0.0	+0.3	+0.0	31.8	46.0	-14.2	Neutr
	Ave		+0.1								
^	1.749M	45.4	+9.2	+0.1	+0.0	+0.3	+0.0	55.1	46.0	+9.1	Neutr
			+0.1								
43	185.810k	24.5	+9.3	+0.0	+0.0	+1.5	+0.0	35.6	54.2	-18.6	Neutr
	Ave		+0.3								
^	185.810k	45.3	+9.3	+0.0	+0.0	+1.5	+0.0	56.4	54.2	+2.2	Neutr
			+0.3								
45	155.250k	17.7	+9.3	+0.0	+0.0	+2.0	+0.0	29.8	55.7	-25.9	Neutr
	Ave		+0.8								
^	155.250k	43.5	+9.3	+0.0	+0.0	+2.0	+0.0	55.6	55.7	-0.1	Neutr
			+0.8								

CKC Laboratories, Inc. Date: 2/13/2015 Time: 11:44:27 Patrol Tag Inc, DBA Korner Safe WO#: 96727
Test Lead: Neutral 120V 60Hz Sequence#: 8 Neutral
Patrol Tag Inc, DBA Korner Safe Hub P/N: Hub 1



Test Setup Photo

Test Setup

15.247(a)(2) Occupied Bandwidth

Test Engineer: Steven M. Pittsford
Test Date: 02/12/2015

Test Equipment

Asset #	Description	Model	Manufacturer	Cal Date	Cal Due
02673	Spectrum Analyzer	E4446A	Agilent	10/04/2013	10/04/2015
P06241	Attenuator	54A-10	Weinschel	04/25/2014	04/25/2016
P06678	Cable	32026-29801-29801-144	Astrolab	09/18/2014	09/18/2016
P06243	Attenuator	54A-10	Weinschel	03/05/2014	03/05/2016

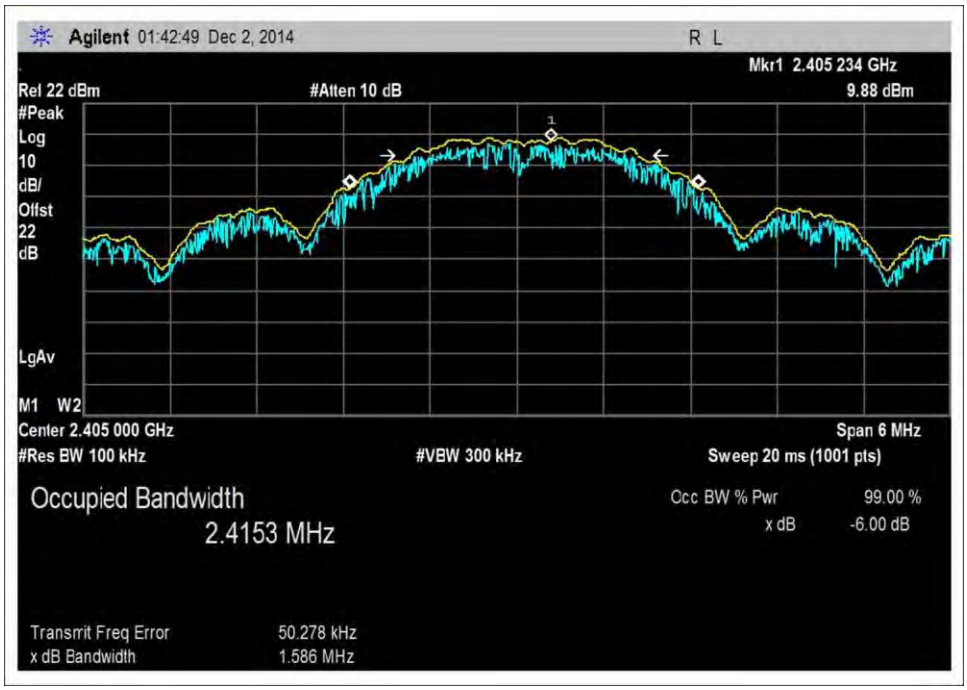
Test Conditions / Setup

Test Conditions:
Temp: 22°C
Humidity: 45%
Pressure: 102.0kPa
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02 & ANSI 63.10 (2009)

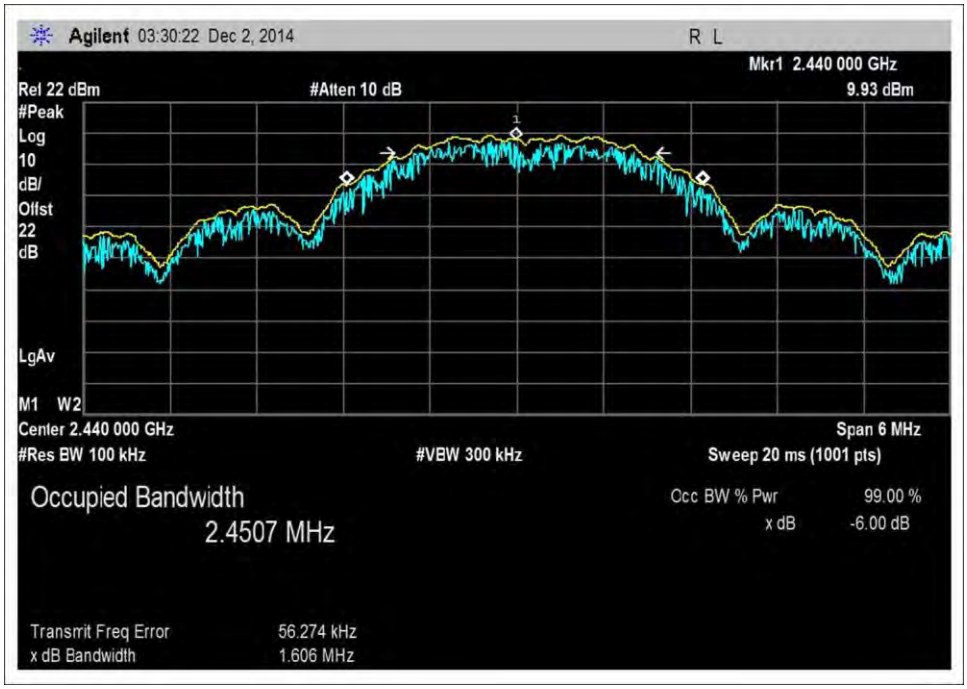
The EUT is powered via the supplied power supply and its Ethernet is port is connected to an Ethernet switch which is then attached to the support laptop.
The EUT has a temporary antenna connector attached. The antenna connector is attached to the spectrum analyzer through attenuators and a cable. The correction factors of the attenuators and cable are corrected for in the spectrum analyzer.

Frequency (MHz)	6dB Bandwidth (MHz)
2405	1.586
2440	1.606
2480	1.602

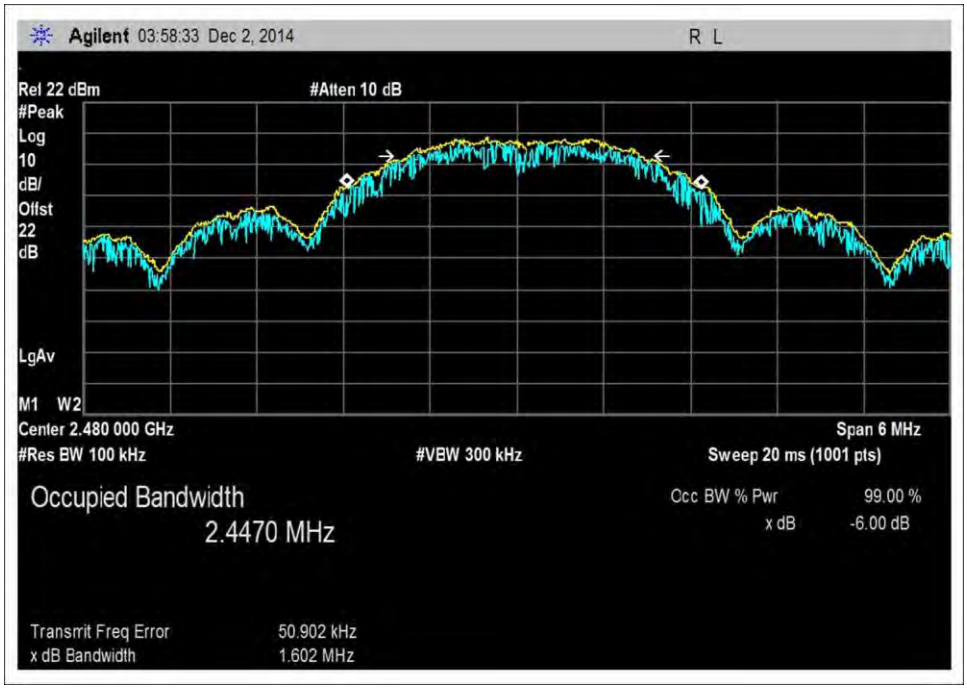
Test Data



Low Channel



Middle Channel



High Channel

Note: At the time of testing, the date stamp on the plots above was set on a default setting and should read 02/12/2015.

Test Setup Photo(s)

Test Setup #1

Test Setup #2

15.247(b)(3) Maximum Output Power

Test Engineer: Steven M. Pittsford
Test Date: 02/12/2015

Test Equipment					
Asset #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
02673	Spectrum Analyzer	E4446A	Agilent	10/04/2013	10/04/2015
P06241	Attenuator	54A-10	Weinschel	04/25/2014	04/25/2016
P06678	Cable	32026-29801-29801-144	Astrolab	09/18/2014	09/18/2016
P06243	Attenuator	54A-10	Weinschel	03/05/2014	03/05/2016

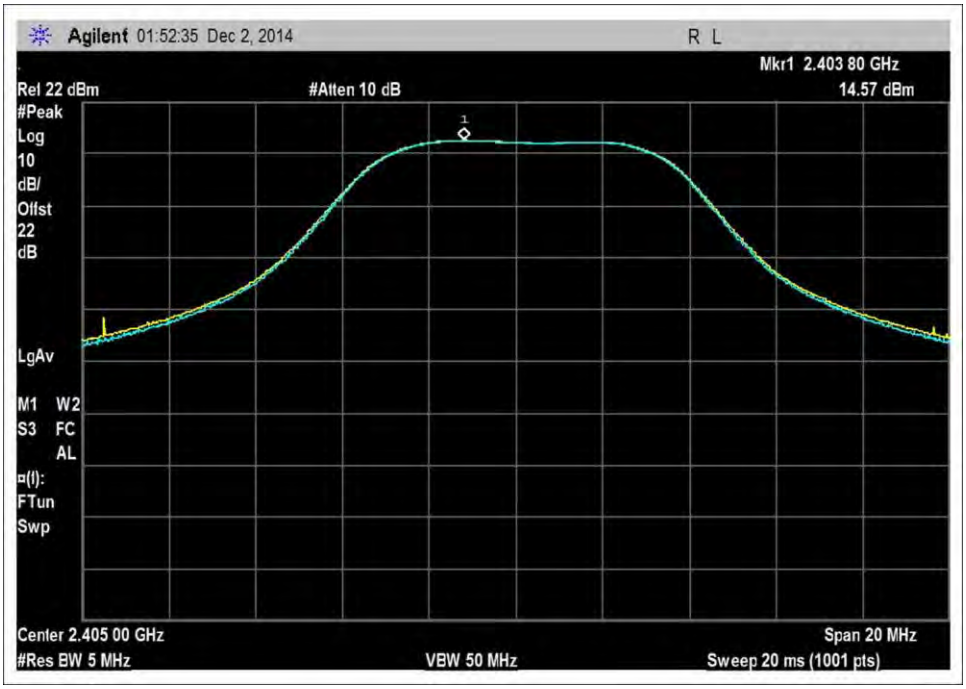
Test Conditions / Setup

Test Conditions:
Temp: 22°C
Humidity: 45%
Pressure: 102.0kPa
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02 & ANSI 63.10 (2009)

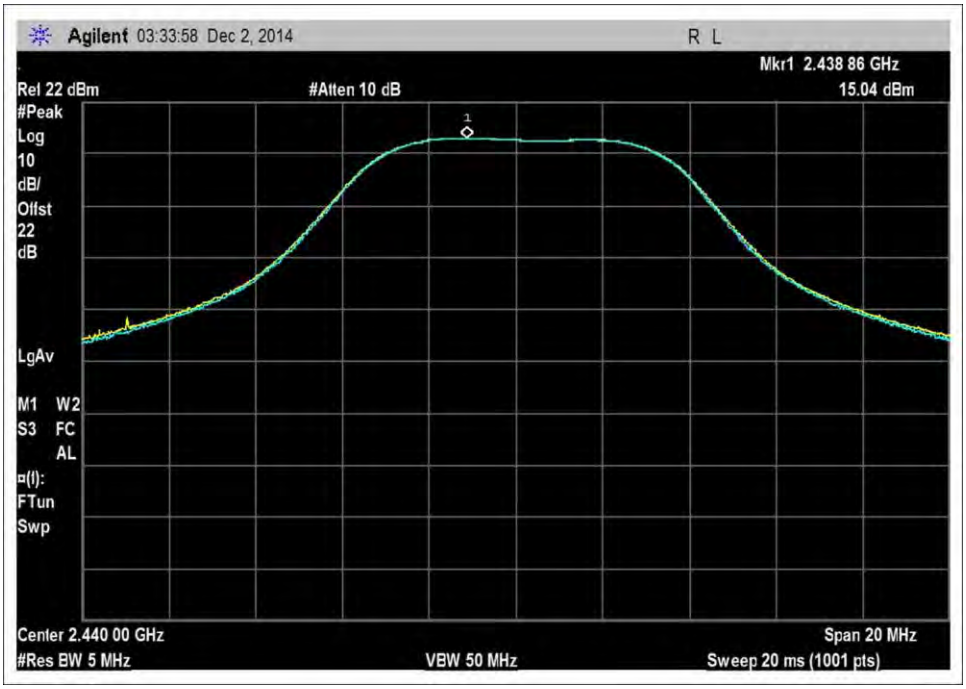
The EUT is powered via the supplied power supply (varied between 85% & 115% nominal voltage per 15.31(e) and its Ethernet is port is connected to an Ethernet switch at 100Mbps through unshielded Cat 5 which is then attached to the support laptop.
The EUT has a temporary antenna connector attached. The antenna connector is attached to the spectrum analyzer through attenuators and a cable. The correction factors of the attenuators and cable are corrected for in the spectrum analyzer.

Frequency (MHz)	Supply Voltage	Corrections due to cable & Attenuators (dB)	Corrected Reading (dBm)	Conducted Power (Watts)
2405	Nominal	22.0	14.57	0.0286
	85%	22.0	14.50	0.0282
	115%	22.0	14.50	0.0282
2440	Nominal	22.0	15.04	0.0319
	85%	22.0	14.98	0.0315
	115%	22.0	14.97	0.0314
2480	Nominal	22.0	14.85	0.0305
	85%	22.0	14.85	0.0305
	115%	22.0	14.84	0.0305

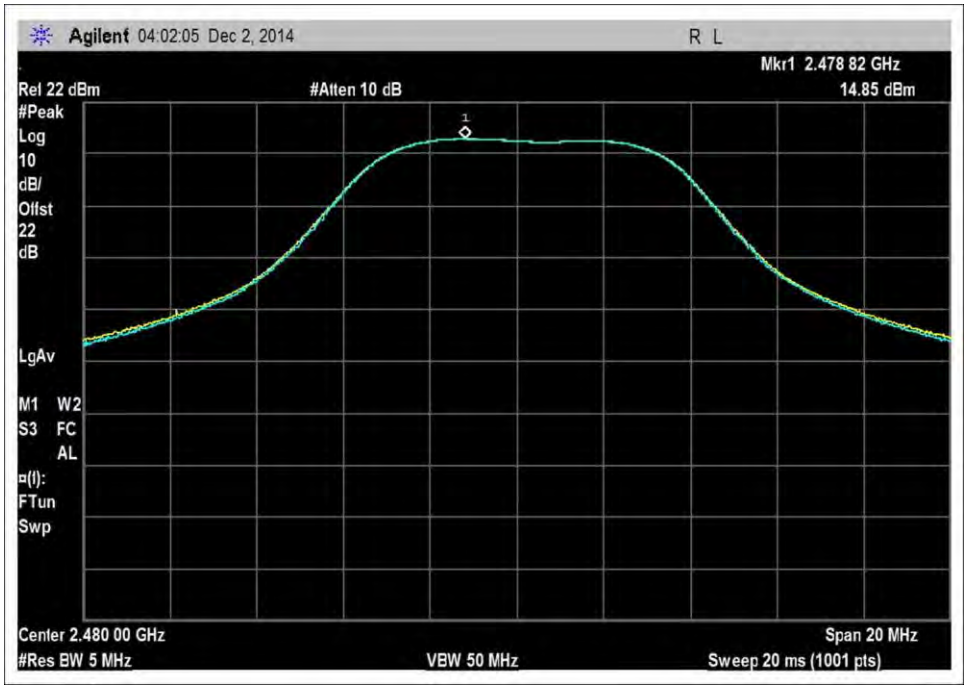
Test Data



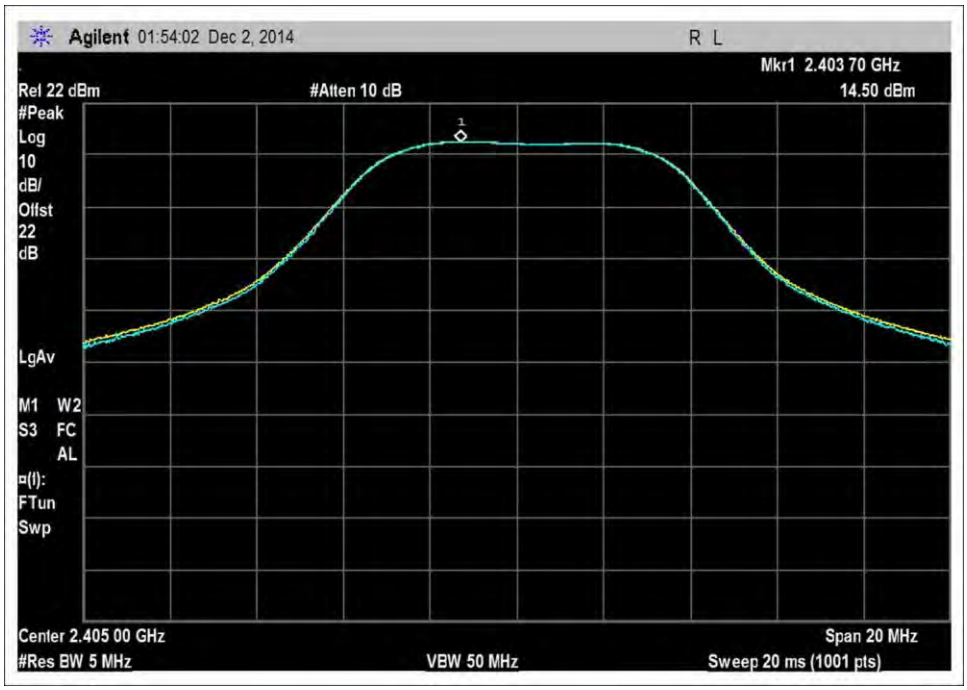
Low Channel - Nominal



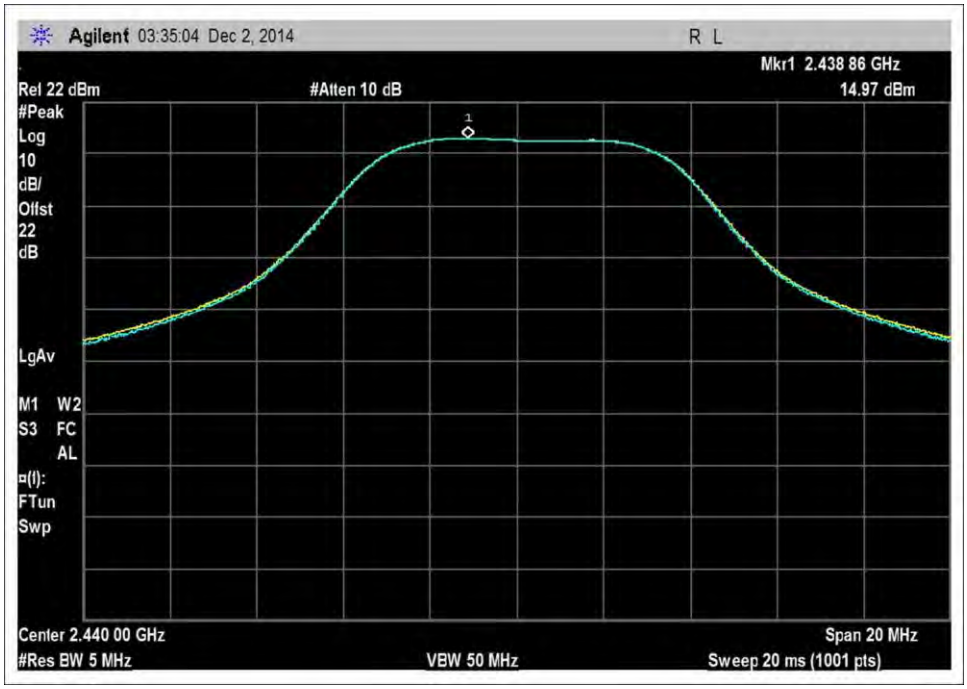
Middle Channel – Nominal



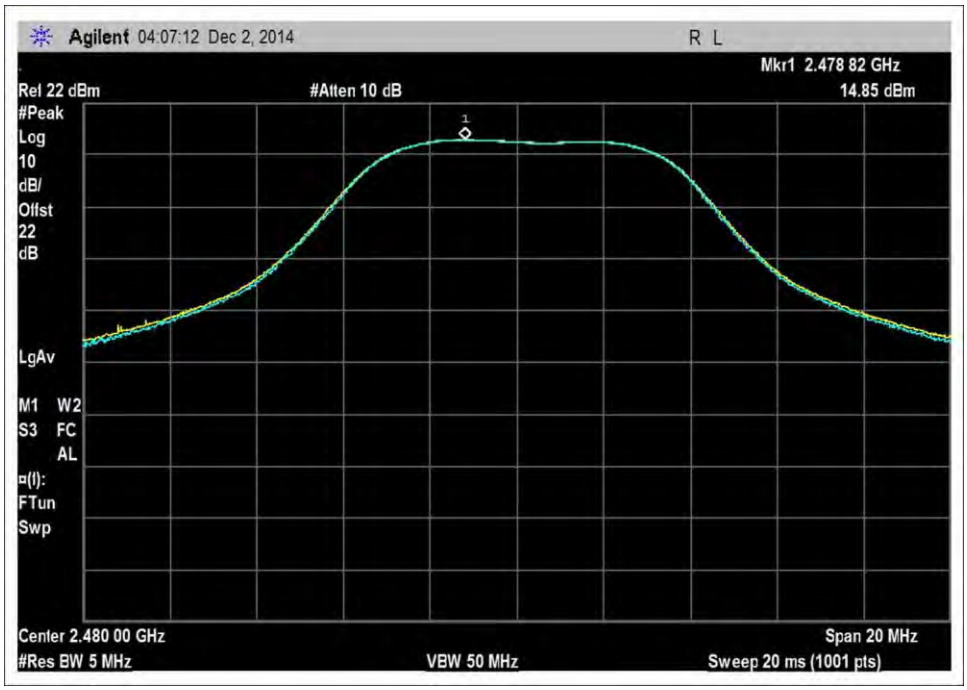
High Channel – Nominal



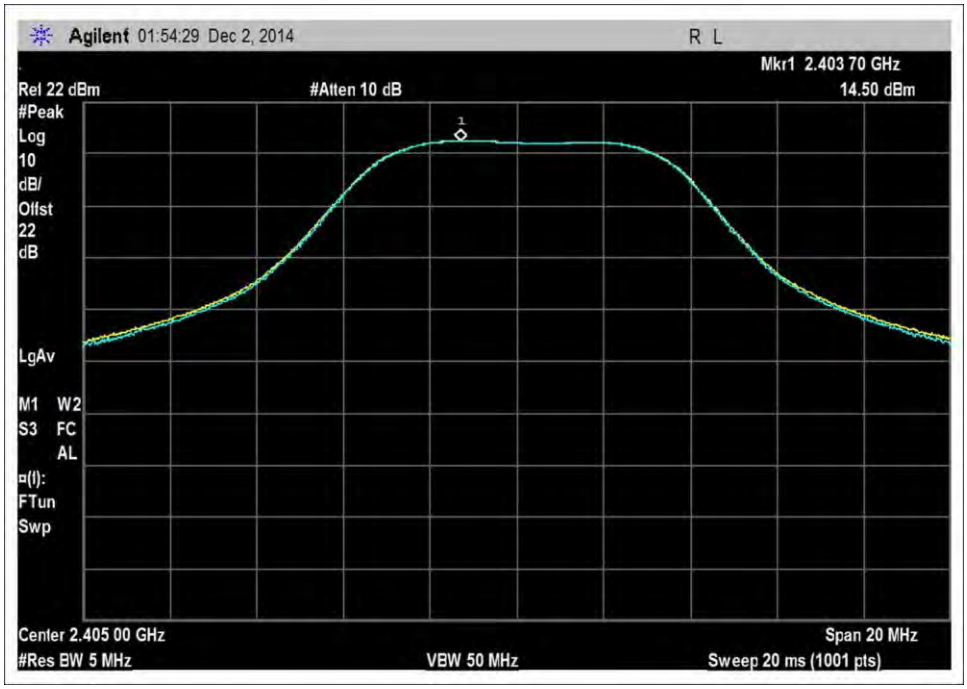
Low Channel – 85%



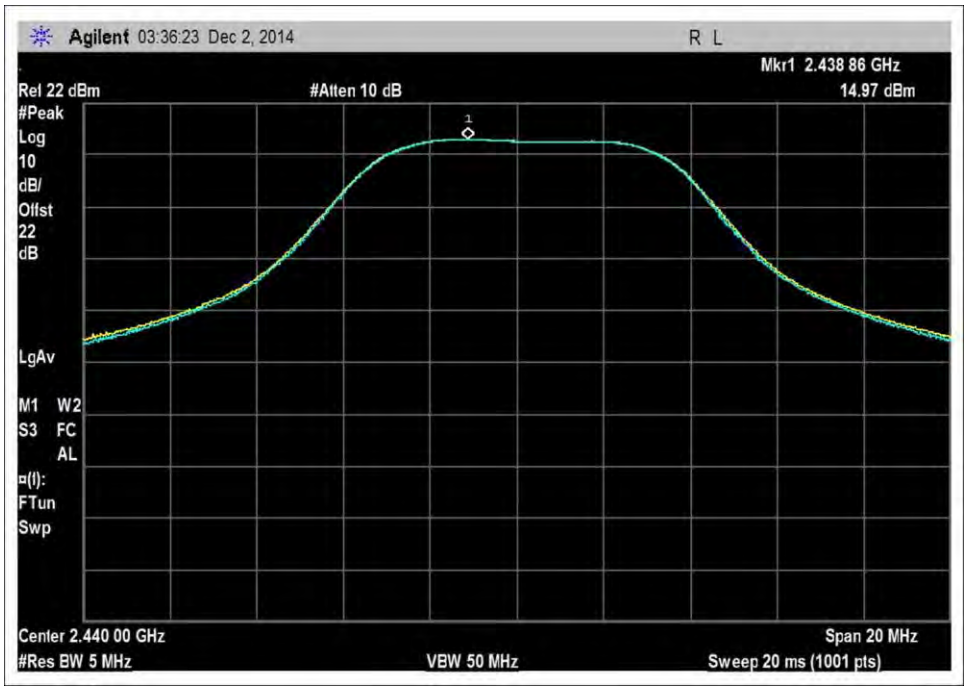
Middle Channel – 85%



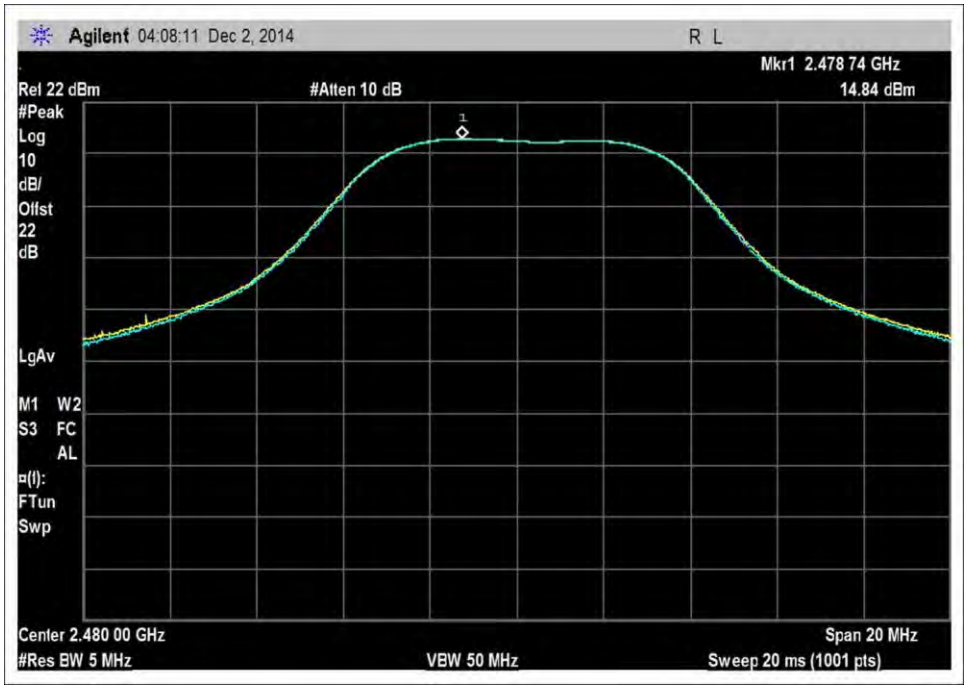
High Channel – 85%



Low Channel – 115%



Middle Channel – 115%



High Channel -115%

Note: At the time of testing, the date stamp on the plots above was set on a default setting and should read 02/12/2015.

Test Setup Photo(s)

Test Setup #1

Test Setup #2

15.247(d) Conducted Spurious Emissions and Band Edge

Test Engineer: Steven M. Pittsford
Test Date: 02/12/2015

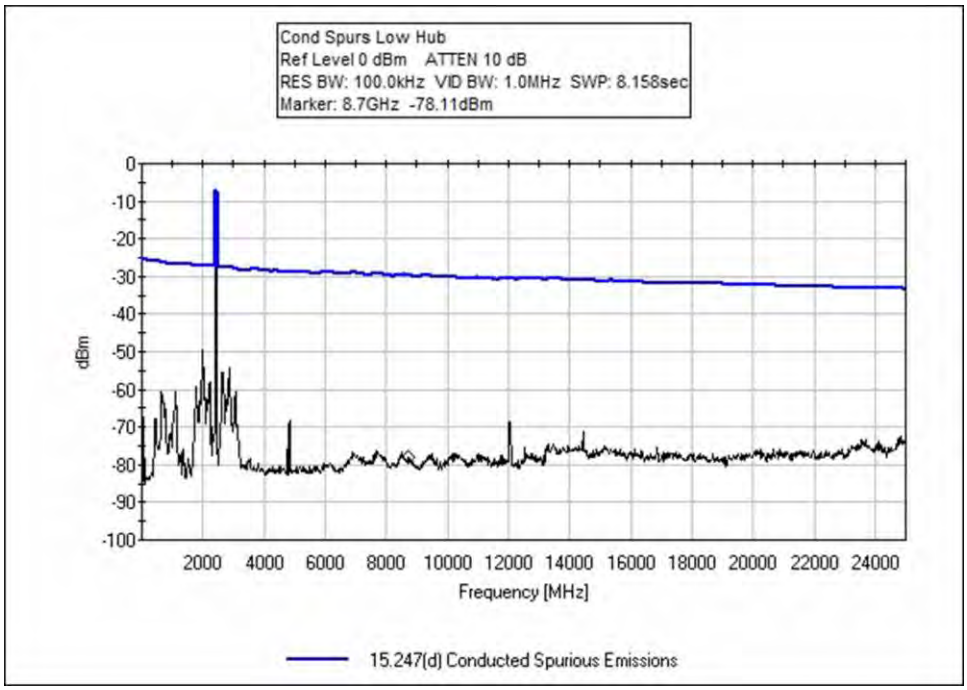
Test Equipment					
Asset #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
02673	Spectrum Analyzer	E4446A	Agilent	10/04/2013	10/04/2015
P06241	Attenuator	54A-10	Weinschel	04/25/2014	04/25/2016
P06678	Cable	32026-29801-29801-144	Astrolab	09/18/2014	09/18/2016
P06243	Attenuator	54A-10	Weinschel	03/05/2014	03/05/2016

Test Conditions / Setup

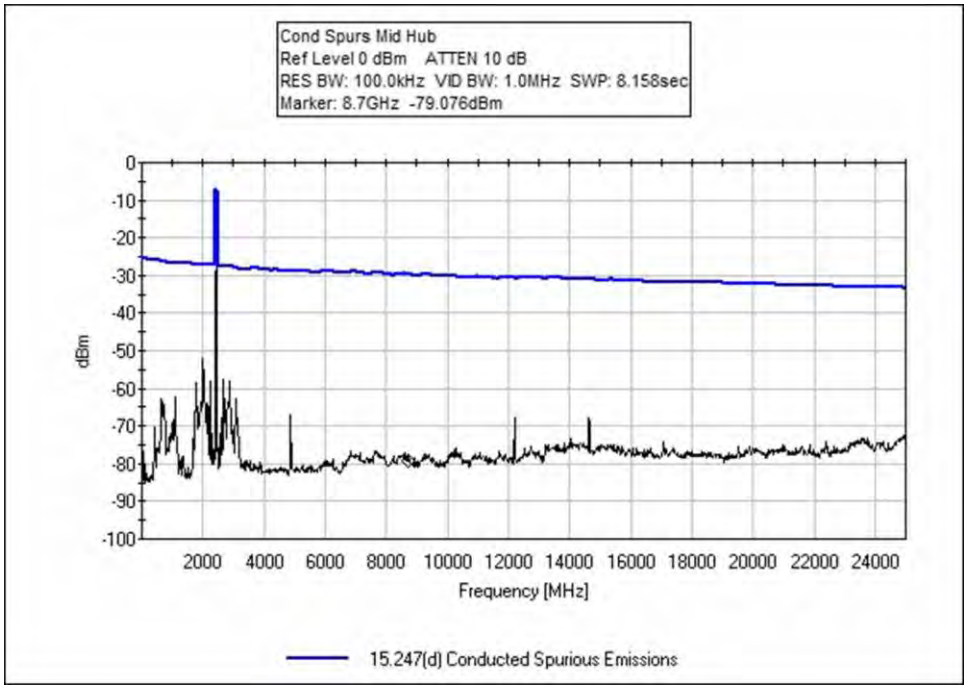
Test Conditions:
Temp: 22°C
Humidity: 45%
Pressure: 102.0kPa
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02 & ANSI 63.10 (2009)

The EUT is powered via the supplied power supply and its Ethernet is port is connected to an Ethernet switch at 100Mbps through unshielded Cat 5 which is then attached to the support laptop.
The EUT has a temporary antenna connector attached. The antenna connector is attached to the spectrum analyzer through attenuators and a cable. The correction factors of the attenuators and cable are corrected for in the spectrum analyzer.

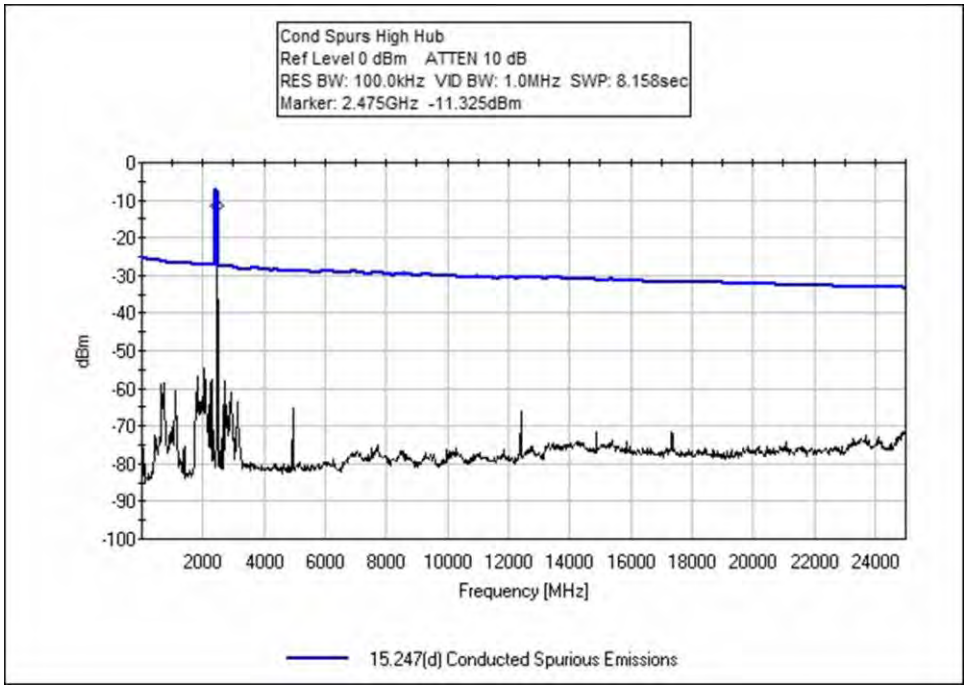
Test Data



Low Frequency

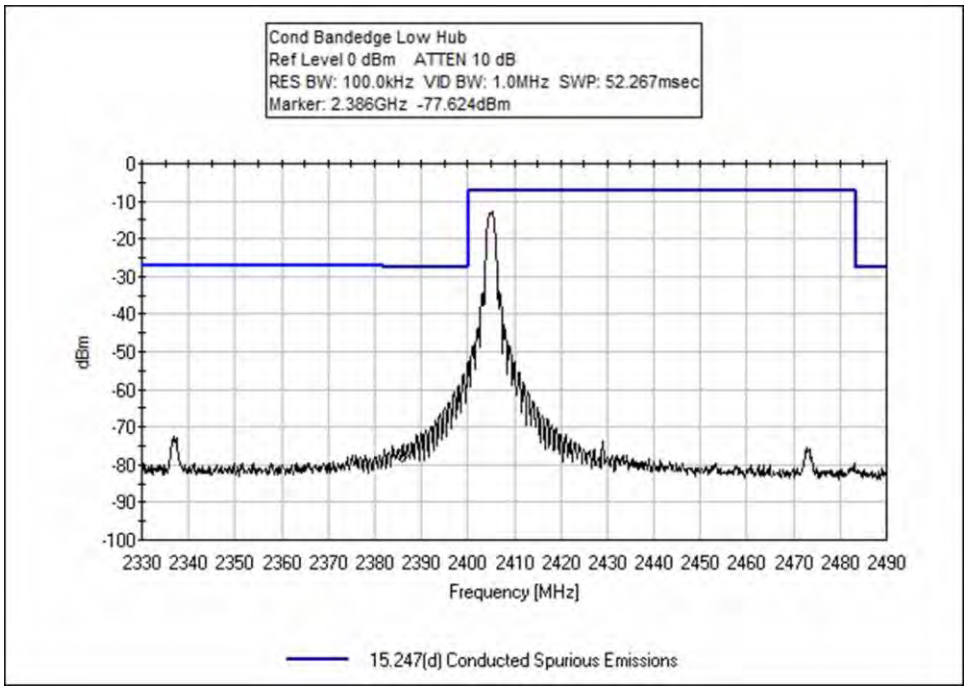


Middle Frequency

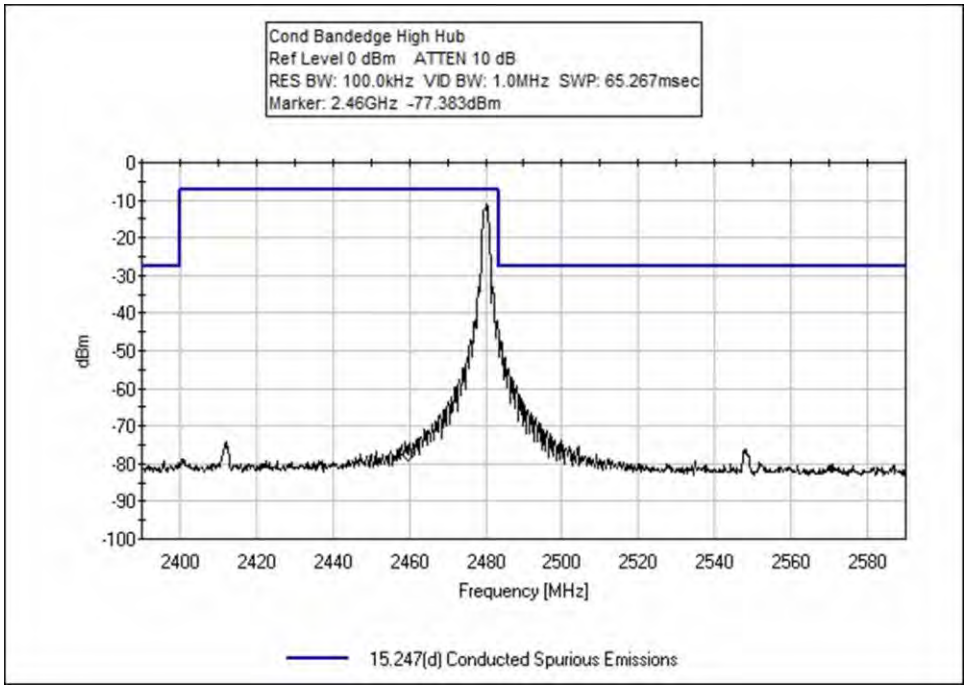


High Frequency

Band Edge Test Data



Low Frequency



High Frequency

Test Setup Photo(s)

Test Setup #1

Test Setup #2

15.247(d) Radiated Spurious Emissions and Band Edge

Test Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • (425) 402-1717

Customer: **Patrol Tag Inc., DBA Korner Safe**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96727** Date: 2/13/2015
Test Type: **Maximized Emissions** Time: 09:34:44
Equipment: **Hub** Sequence#: 2
Manufacturer: Patrol Tag Inc., DBA Korner Safe Tested By: Steven Pittsford
Model: Hub 1
S/N:

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03209	Preamp	83051A	3/5/2013	3/5/2015
T2	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	9/16/2013	9/16/2015
T3	ANP05305	Cable	ETSI-50T	2/20/2014	2/20/2016
T4	ANP06505	Cable	32026-29080-29080-84	10/18/2013	10/18/2015
T5	AN00052	Loop Antenna	6502	5/20/2014	5/20/2016
T6	AN02307	Preamp	8447D	3/14/2014	3/14/2016
T7	AN01996	Biconilog Antenna	CBL6111C	7/16/2014	7/16/2016
T8	ANP05360	Cable	RG214	12/1/2014	12/1/2016
T9	ANP05963	Cable	RG-214	2/21/2014	2/21/2016
T10	AN02673	Spectrum Analyzer	E4446A	10/4/2013	10/4/2015
T11	AN02763-69	Waveguide	Multiple	5/21/2014	5/21/2016
T12	ANP06503	Cable	32026-29801-29801-36	5/1/2014	5/1/2016
T13	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	1/14/2015	1/14/2017
T14	ANP06678	Cable	32026-29801-29801-144	9/18/2014	9/18/2016

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

Function	Manufacturer	Model #	S/N
Hub*	Patrol Tag Inc., DBA Korner Safe	Hub 1	

Support Devices:

Function	Manufacturer	Model #	S/N
Laptop	Lenovo	W530	
Prosafe 5 Port Gigabit Switch	Netgear	GS105	2N112435032BF
Class 2 Power Unit	Phihong	PSM03A-050	

Test Conditions / Notes:

Temperature: 22°C
Pressure: 102.0kPa
Humidity: 45%
Frequency: 9k-25GHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02 & ANSI 63.10 (2009)

Mode: EUT is Transmitting at Low, Mid and High Channels

The EUT is located on top of a Styrofoam table, 80cm over the ground plane.
The EUT is investigated in Laying and standing axis with only the worst case being reported.
The EUT is powered via the supplied power supply and its Ethernet is port run outside the chamber to an Ethernet switch at 100Mbps through unshielded Cat 5 which is then attached to the support laptop.
The buzzer is on.

Ext Attn: 0 dB

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

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13	T14							
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	19524.620	51.3	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+3.2	+2.2	298		Mid		111
			-13.2	+6.9							
^	19524.620	59.8	+0.0	+0.0	+0.0	+0.0	+0.0	58.9	54.0	+4.9	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+3.2	+2.2	59		Mid		111
			-13.2	+6.9							
3	64.299M	56.6	+0.0	+0.0	+0.0	+0.0	+0.0	35.9	40.0	-4.1	V & H
	QP		+0.0	-27.9	+6.5	+0.4					99
			+0.3	+0.0	+0.0	+0.0					
			+0.0	+0.0							
4	62.321M	56.3	+0.0	+0.0	+0.0	+0.0	+0.0	35.7	40.0	-4.3	V & H
	QP		+0.0	-27.9	+6.6	+0.4					99
			+0.3	+0.0	+0.0	+0.0					
			+0.0	+0.0							
5	19236.426	50.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.4	54.0	-4.6	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+3.1	+2.1	1		Low		104
			-13.3	+6.8							
^	19236.369	58.2	+0.0	+0.0	+0.0	+0.0	+0.0	56.9	54.0	+2.9	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+3.1	+2.1	353		Low		104
			-13.3	+6.8							
7	7439.200M	32.0	-28.2	+37.5	+4.7	+2.5	+0.0	48.5	54.0	-5.5	V & H
			+0.0	+0.0	+0.0	+0.0	106		High		118
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							

8	19836.650	49.6	+0.0	+0.0	+0.0	+0.0	+0.0	48.0	54.0	-6.0	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+2.7	+2.1			High		104
			-13.3	+6.9							
9	7213.733M	32.3	-28.2	+36.6	+4.8	+2.4	+0.0	47.9	54.0	-6.1	V & H
			+0.0	+0.0	+0.0	+0.0	296		Low		111
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
10	24795.725	47.1	+0.0	+0.0	+0.0	+0.0	+0.0	47.7	54.0	-6.3	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+2.7	+2.4	348		High		111
			-12.3	+7.8							
^	24795.725	56.5	+0.0	+0.0	+0.0	+0.0	+0.0	57.1	54.0	+3.1	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+2.7	+2.4	360		High		104
			-12.3	+7.8							
12	9758.335M	28.5	-27.8	+37.4	+6.3	+2.9	+0.0	47.3	54.0	-6.7	V & H
			+0.0	+0.0	+0.0	+0.0			Mid		116
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
13	7317.890M	30.5	-28.2	+37.0	+4.8	+2.4	+0.0	46.5	54.0	-7.5	V & H
			+0.0	+0.0	+0.0	+0.0	373		Mid		113
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
14	22315.869	50.2	+0.0	+0.0	+0.0	+0.0	+0.0	46.3	54.0	-7.7	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+3.2	+2.2			High		111
			-16.7	+7.4							
^	22315.869	58.4	+0.0	+0.0	+0.0	+0.0	+0.0	54.5	54.0	+0.5	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+3.2	+2.2	114		High		104
			-16.7	+7.4							
16	51.211M	50.4	+0.0	+0.0	+0.0	+0.0	+0.0	31.8	40.0	-8.2	V & H
	QP		+0.0	-27.9	+8.6	+0.4					99
			+0.3	+0.0	+0.0	+0.0					
			+0.0	+0.0							
17	500.410M	44.6	+0.0	+0.0	+0.0	+0.0	+0.0	37.2	46.0	-8.8	V & H
			+0.0	-28.1	+18.2	+1.4	360				99
			+1.1	+0.0	+0.0	+0.0					
			+0.0	+0.0							
18	712.440M	41.3	+0.0	+0.0	+0.0	+0.0	+0.0	37.2	46.0	-8.8	V & H
			+0.0	-28.0	+20.9	+1.7	360				99
			+1.3	+0.0	+0.0	+0.0					
			+0.0	+0.0							
19	45.740M	47.3	+0.0	+0.0	+0.0	+0.0	+0.0	30.8	40.0	-9.2	V & H
	QP		+0.0	-28.0	+10.9	+0.3					99
			+0.3	+0.0	+0.0	+0.0					
			+0.0	+0.0							

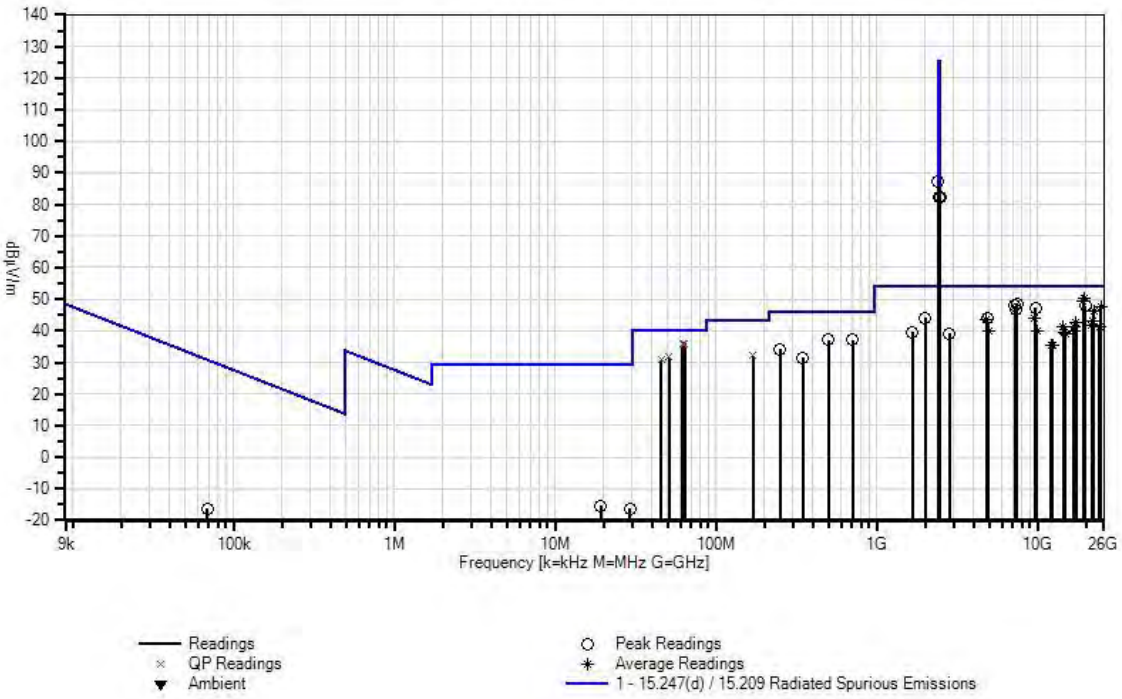
20	2002.000M	42.6	-30.6	+28.4	+2.4	+1.3	+0.0	44.1	54.0	-9.9	V & H
			+0.0	+0.0	+0.0	+0.0	159		Low		104
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
21	9618.242M	25.1	-27.8	+37.5	+6.3	+2.9	+0.0	44.0	54.0	-10.0	V & H
	Ave		+0.0	+0.0	+0.0	+0.0	329		Low		110
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	9618.242M	33.6	-27.8	+37.5	+6.3	+2.9	+0.0	52.5	54.0	-1.5	V & H
			+0.0	+0.0	+0.0	+0.0	148		Low		120
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
23	4881.036M	35.9	-30.9	+32.3	+3.9	+2.7	+0.0	43.9	54.0	-10.1	V & H
			+0.0	+0.0	+0.0	+0.0	164		Mid		114
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
24	4811.142M	36.0	-30.9	+32.1	+3.8	+2.5	+0.0	43.5	54.0	-10.5	V & H
	Ave		+0.0	+0.0	+0.0	+0.0	302		Low		109
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	4811.142M	43.1	-30.9	+32.1	+3.8	+2.5	+0.0	50.6	54.0	-3.4	V & H
			+0.0	+0.0	+0.0	+0.0			Low		112
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
26	21964.940 M	46.7	+0.0	+0.0	+0.0	+0.0	+0.0	43.1	54.0	-10.9	V & H
			+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+3.2	+2.2	21		Mid		111
			-16.4	+7.4							
^	21964.940 M	55.9	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	V & H
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+3.2	+2.2	275		Mid		111
			-16.4	+7.4							
28	170.990M	48.4	+0.0	+0.0	+0.0	+0.0	+0.0	32.2	43.5	-11.3	V & H
	QP		+0.0	-27.5	+9.9	+0.8					99
			+0.6	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	170.990M	57.5	+0.0	+0.0	+0.0	+0.0	+0.0	41.3	43.5	-2.2	V & H
			+0.0	-27.5	+9.9	+0.8	360				99
			+0.6	+0.0	+0.0	+0.0					
			+0.0	+0.0							
30	17360.730 M	17.8	-30.0	+42.0	+8.6	+4.2	+0.0	42.6	54.0	-11.4	V & H
			+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0			High		109
			+0.0	+0.0							
^	17360.730 M	31.9	-30.0	+42.0	+8.6	+4.2	+0.0	56.7	54.0	+2.7	V & H
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0	199		High		109
			+0.0	+0.0							

32	250.160M	46.9	+0.0	+0.0	+0.0	+0.0	+0.0	34.2	46.0	-11.8	V & H
			+0.0	-27.1	+12.7	+1.0	360				99
			+0.7	+0.0	+0.0	+0.0					
			+0.0	+0.0							
33	21649.900	45.3	+0.0	+0.0	+0.0	+0.0	+0.0	41.9	54.0	-12.1	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+3.0	+2.2			Low		104
			-15.9	+7.3							
^	21649.900	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+3.0	+2.2	360		Low		104
			-15.9	+7.3							
35	24405.320	41.1	+0.0	+0.0	+0.0	+0.0	+0.0	41.5	54.0	-12.5	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+3.2	+2.4	360		Mid		111
			-13.0	+7.8							
^	24405.320	53.2	+0.0	+0.0	+0.0	+0.0	+0.0	53.6	54.0	-0.4	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+3.2	+2.4	148		Mid		111
			-13.0	+7.8							
37	17081.200	17.5	-30.2	+41.2	+8.4	+4.3	+0.0	41.2	54.0	-12.8	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0			Mid		116
			+0.0	+0.0							
^	17081.200	31.4	-30.2	+41.2	+8.4	+4.3	+0.0	55.1	54.0	+1.1	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0			Mid		116
			+0.0	+0.0							
39	14430.000	19.1	-31.1	+41.0	+8.1	+4.1	+0.0	41.2	54.0	-12.8	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0	360		Low		120
			+0.0	+0.0							
^	14430.000	34.2	-31.1	+41.0	+8.1	+4.1	+0.0	56.3	54.0	+2.3	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0	360		Low		120
			+0.0	+0.0							
41	16833.708	17.0	-30.5	+40.8	+8.3	+4.5	+0.0	40.1	54.0	-13.9	V & H
	M		+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0	360		Low		120
			+0.0	+0.0							
^	16833.708	31.4	-30.5	+40.8	+8.3	+4.5	+0.0	54.5	54.0	+0.5	V & H
	M		+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0	360		Low		120
			+0.0	+0.0							
43	9922.420M	21.3	-27.9	+37.3	+6.3	+2.9	+0.0	39.9	54.0	-14.1	V & H
	Ave		+0.0	+0.0	+0.0	+0.0	360		High		123
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							

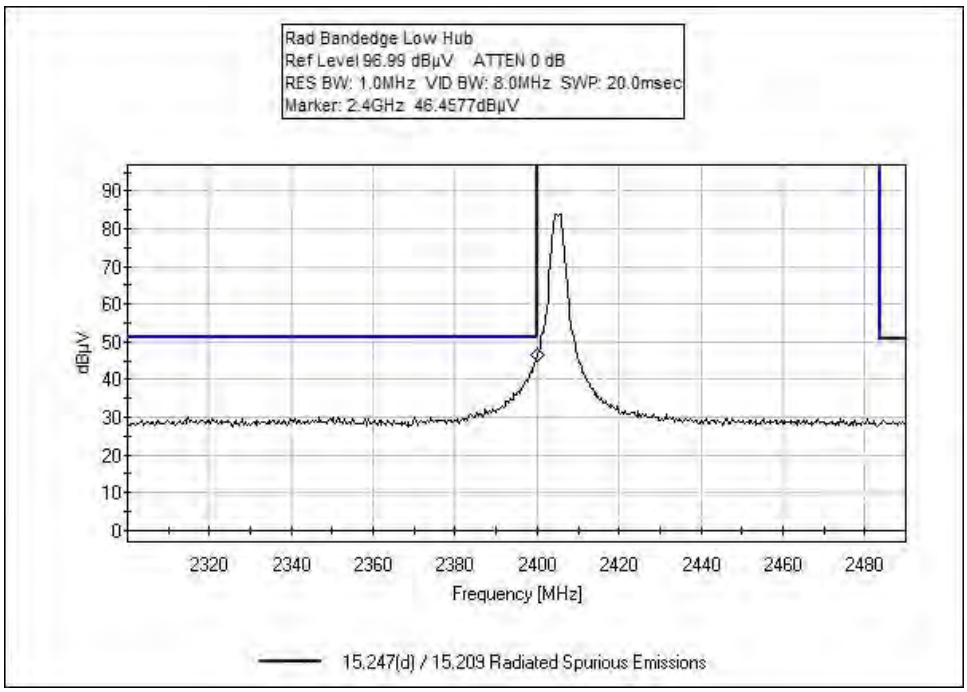
^	9922.420M	30.7	-27.9	+37.3	+6.3	+2.9	+0.0	49.3	54.0	-4.7	V & H
			+0.0	+0.0	+0.0	+0.0	199		High		109
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
45	4959.025M	31.5	-30.8	+32.5	+4.0	+2.6	+0.0	39.8	54.0	-14.2	V & H
	Ave		+0.0	+0.0	+0.0	+0.0	100		High		100
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
^	4959.025M	41.4	-30.8	+32.5	+4.0	+2.6	+0.0	49.7	54.0	-4.3	V & H
			+0.0	+0.0	+0.0	+0.0	360		High		124
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
47	346.620M	41.7	+0.0	+0.0	+0.0	+0.0	+0.0	31.6	46.0	-14.4	V & H
			+0.0	-27.2	+15.1	+1.1	360				99
			+0.9	+0.0	+0.0	+0.0					
			+0.0	+0.0							
48	1675.000M	40.7	-30.7	+26.1	+2.2	+1.2	+0.0	39.5	54.0	-14.5	V & H
			+0.0	+0.0	+0.0	+0.0	6		Low		104
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
49	14639.705 M	18.0	-31.0	+40.2	+8.3	+3.8	+0.0	39.3	54.0	-14.7	V & H
			+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0			Mid		116
			+0.0	+0.0							
^	14639.705 M	32.9	-31.0	+40.2	+8.3	+3.8	+0.0	54.2	54.0	+0.2	V & H
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0			Mid		116
			+0.0	+0.0							
51	2825.000M	35.9	-30.2	+29.0	+2.9	+1.5	+0.0	39.1	54.0	-14.9	V & H
			+0.0	+0.0	+0.0	+0.0			Low		104
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0							
52	14880.625 M	18.4	-31.0	+39.4	+8.4	+3.7	+0.0	38.9	54.0	-15.1	V & H
			+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0			High		109
			+0.0	+0.0							
^	14880.625 M	31.8	-31.0	+39.4	+8.4	+3.7	+0.0	52.3	54.0	-1.7	V & H
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0	199		High		109
			+0.0	+0.0							
54	12397.760 M	16.0	-29.4	+38.3	+7.1	+3.5	+0.0	35.5	54.0	-18.5	V & H
			+0.0	+0.0	+0.0	+0.0					
	Ave		+0.0	+0.0	+0.0	+0.0			High		109
			+0.0	+0.0							
^	12397.760 M	29.2	-29.4	+38.3	+7.1	+3.5	+0.0	48.7	54.0	-5.3	V & H
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0	199		High		109
			+0.0	+0.0							

56	12202.320 M	15.6	-29.0 +0.0 +0.0 +0.0	+38.3 +0.0 +0.0 +0.0	+7.0 +0.0 +0.0	+3.5 +0.0 +0.0	+0.0	35.4	54.0	-18.6	V & H
	Ave								Mid		116
^	12202.320 M	29.6	-29.0 +0.0 +0.0 +0.0	+38.3 +0.0 +0.0 +0.0	+7.0 +0.0 +0.0	+3.5 +0.0 +0.0	+0.0	49.4	54.0	-4.6	V & H
									Mid		116
58	2404.500M	85.6	-30.4 +0.0 +0.0 +0.0	+28.0 +0.0 +0.0 +0.0	+2.7 +0.0 +0.0	+1.4 +0.0 +0.0	+0.0 -8	87.3	125.2	-37.9	V & H
									Low		109
59	2479.560M	80.5	-30.3 +0.0 +0.0 +0.0	+27.9 +0.0 +0.0 +0.0	+2.7 +0.0 +0.0	+1.4 +0.0 +0.0	+0.0	82.2	125.2	-43.0	V & H
									High		141
60	2439.515M	80.5	-30.4 +0.0 +0.0 +0.0	+28.0 +0.0 +0.0 +0.0	+2.7 +0.0 +0.0	+1.4 +0.0 +0.0	+0.0	82.2	125.2	-43.0	V & H
									Mid		100
61	19.173M	16.5	+0.0 +7.8 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.2 +0.0 +0.0	+0.1 +0.0 +0.0	-40.0	-15.4	29.5	-44.9	Perp
											111
62	29.220M	18.8	+0.0 +4.5 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.3 +0.0 +0.0	+0.2 +0.0 +0.0	-40.0	-16.2	29.5	-45.7	Perp
											111
63	69.000k	53.7	+0.0 +10.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	-80.0	-16.3	30.8	-47.1	Perp
											111

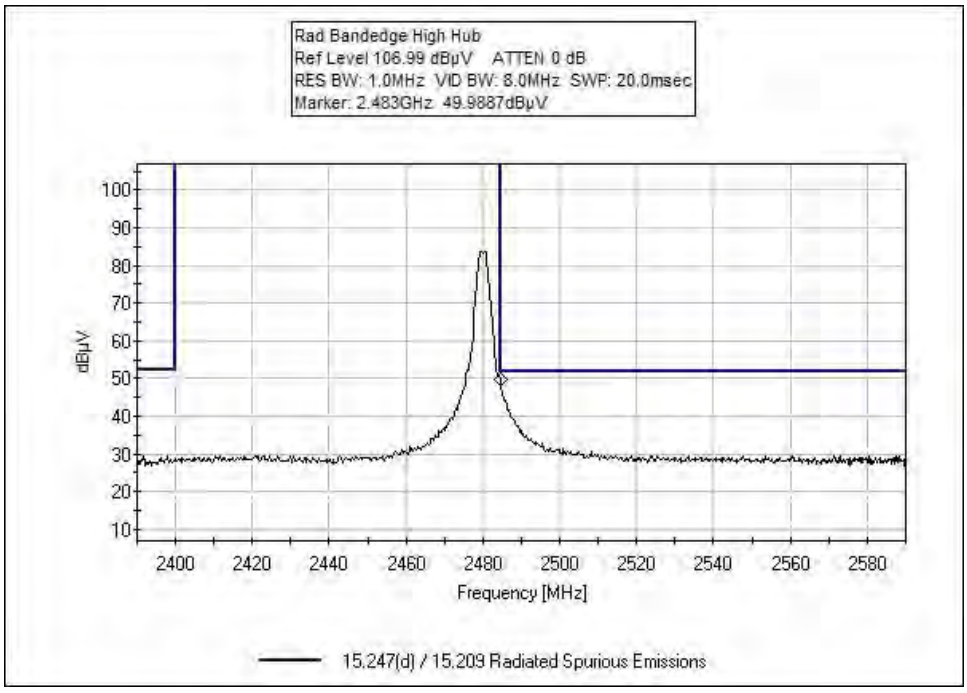
CKC Laboratories, Inc. Date: 2/13/2015 Time: 09:34:44 Patrol Tag Inc, DBA Korner Safe WO#: 96727
Test Distance: 3 Meters Sequence#: 2 V & H
Patrol Tag Inc, DBA Korner Safe Hub P/N: Hub 1



Band Edge Test Data

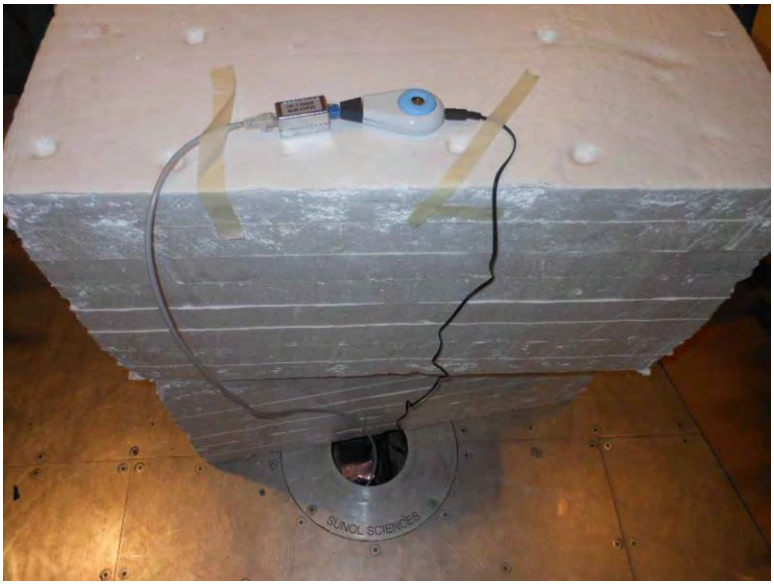


Low Frequency



High Frequency

Test Setup Photo(s)



Test Setup

15. 247(e) Power Spectral Density

Test Engineer: Steven M. Pittsford
Test Date: 02/12/2015

Test Equipment					
Asset #	**Description**	**Model**	**Manufacturer**	**Cal Date**	**Cal Due**
02673	Spectrum Analyzer	E4446A	Agilent	10/04/2013	10/04/2015
P06241	Attenuator	54A-10	Weinschel	04/25/2014	04/25/2016
P06678	Cable	32026-29801-29801-144	Astrolab	09/18/2014	09/18/2016
P06243	Attenuator	54A-10	Weinschel	03/05/2014	03/05/2016

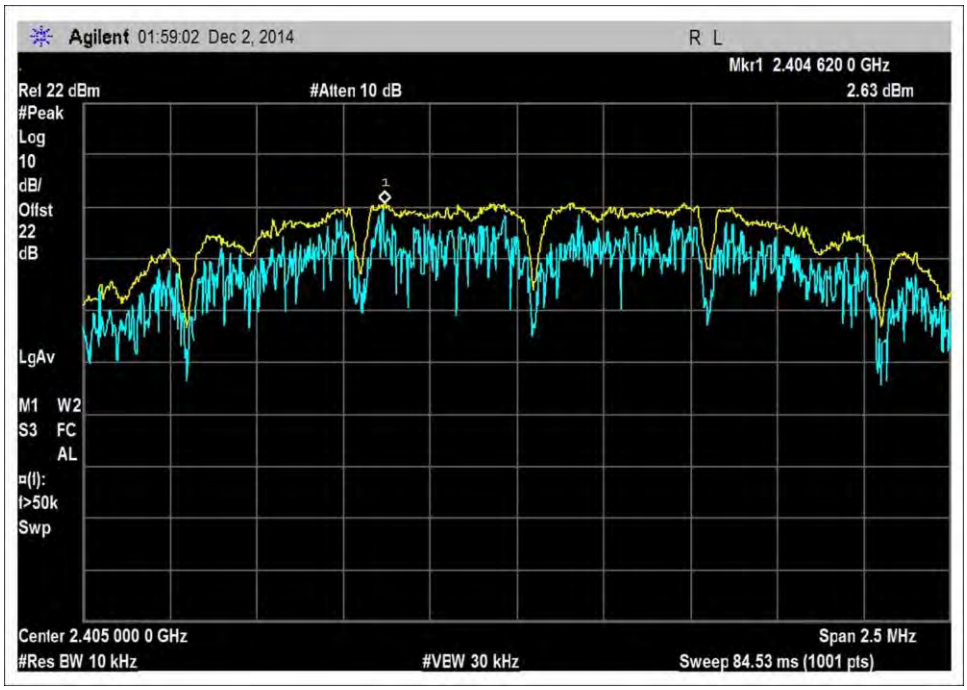
Test Conditions / Setup

Test Conditions:
Temp: 22°C
Humidity: 45%
Pressure: 102.0kPa
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

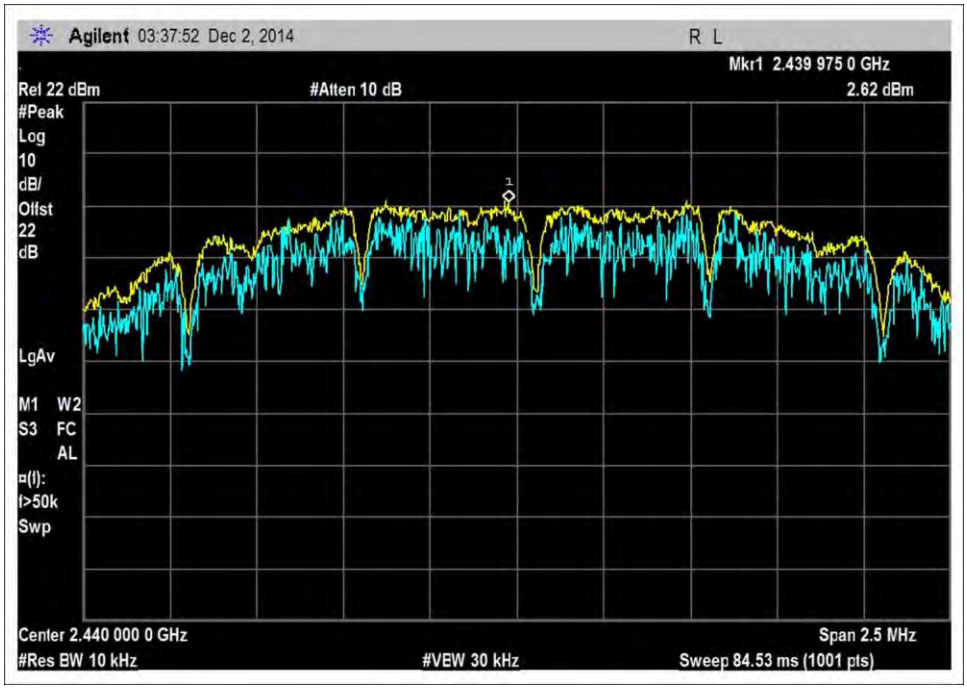
The EUT is powered via the supplied power supply and its Ethernet is port is connected to an Ethernet switch at 100Mbps through unshielded Cat 5 which is then attached to the support laptop.
The EUT has a temporary antenna connector attached. The antenna connector is attached to the spectrum analyzer through attenuators and a cable. The correction factors of the attenuators and cable are corrected for in the spectrum analyzer.

Frequency (MHz)	Corrections due to cable & attenuators (dB)	Spectral Density (dBm)
2405	22.0	2.63
2440	22.0	2.62
2480	22.0	2.62

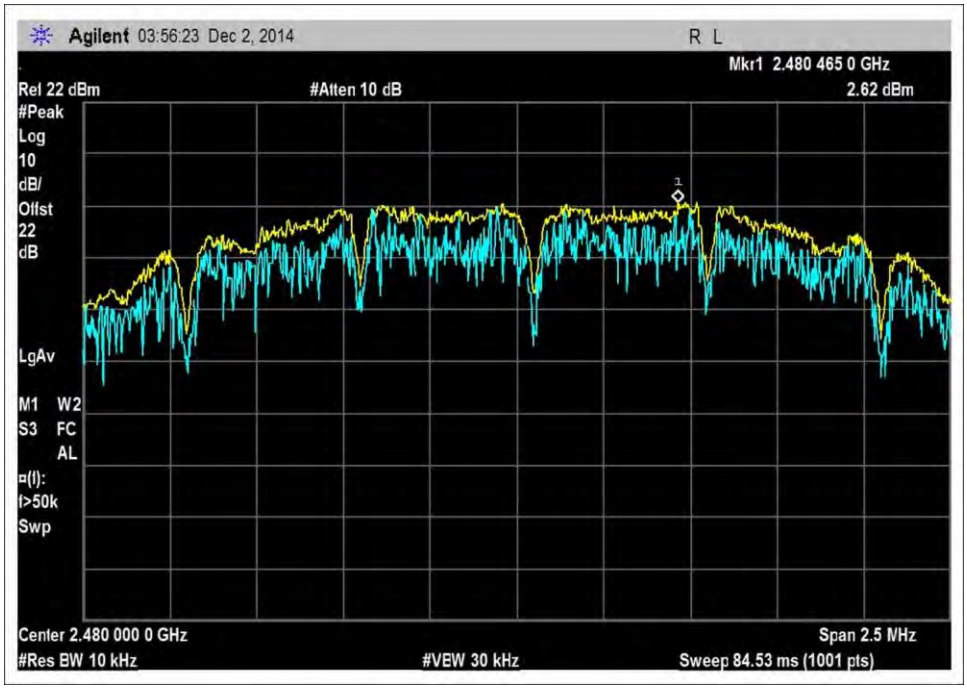
Test Data



Low Channel



Middle Channel



High Channel

Note: At the time of testing, the date stamp on the plots above was set on a default setting and should read 02/12/2015.

Test Setup Photo(s)

Test Setup #1

Test Setup #2

SUPPLEMENTAL INFORMATION

Measurement Uncertainty

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

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

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.