

Electronic Warfare Associates, Inc.

TEST REPORT FOR

**Access Point
Model: SKEY-SSRF**

Tested To The Following Standards:

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

Report No.: 94594-10

Date of issue: August 28, 2013



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

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

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Electronic Warfare Associates, Inc
13873 Park Center Road
Herndon, VA 20171

Representative: Jason Pizzillo
Customer Reference Number: P210000039

DATE OF EQUIPMENT RECEIPT:

DATE(S) OF TESTING:

REPORT PREPARED BY:

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

Project Number: 94594

August 16, 2013

August 16-19, 2013

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

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
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 and RSS 210 Issue 8

Description	Test Procedure/Method	Results
Conducted Emissions	FCC Part 15 Subpart C Section 15.207 / ANSI C63.4 / ANSI C63.10	Pass
RF Power Output	FCC Part 15 Subpart C Section 15.249(a) / ANSI C63.4 / ANSI C63.10	Pass
Voltage Variation	FCC Part 15 Subpart C Section 15.31(e) / ANSI C63.4 / ANSI C63.10	Pass
-20dBc Occupied Bandwidth	FCC Part 15 Subpart C Section 15.215(c) / ANSI C63.4 / ANSI C63.10	Pass
99% Bandwidth	RSS GEN Section 4.6	Pass
Radiated Spurious Emissions	FCC Part 15 Subpart C Section 15.249(a) / ANSI C63.4 / ANSI C63.10	Pass
Band Edge	FCC Part 15 Subpart C Section 15.249(d) / ANSI C63.4 / ANSI C63.10	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

AC/DC Power Adapter

Manuf: Triad
Model: WSU075-1000
Serial: E345519

Access Point

Manuf: Electronic Warfare Associates, Inc.
Model: SKEY-SSRF
Serial: ENG1

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

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.

15.207 AC Conducted Emissions

Test Data Sheets

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

Customer: **Electronic Warfare Associates, Inc.**

Specification: **15.207 AC Mains - Average**

Work Order #: **94594**

Date: 8/16/2013

Test Type: **Conducted Emissions**

Time: 09:16:47

Equipment: **Access Point**

Sequence#: 1

Manufacturer: Electronic Warfare Associates, Inc.

Tested By: Hieu Song Nguyenpham

Model: SKEY-SSRF

120V 60Hz

S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	PE7002-10	4/2/2013	4/2/2015
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
T4	AN00493	50uH LISN-L1 (L) Loss W/O European Adapter	3816/NM	3/4/2013	3/4/2015
	AN00493	50uH LISN-L(2) N Loss W/O European Adapter	3816/NM	3/4/2013	3/4/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T5	ANP05258	High Pass Filter	HE9615-150K- 50-720B	12/6/2012	12/6/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Conducted Emission
 Frequency Range: 150kHz to 30MHz

Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C
 Humidity: 43%
 Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

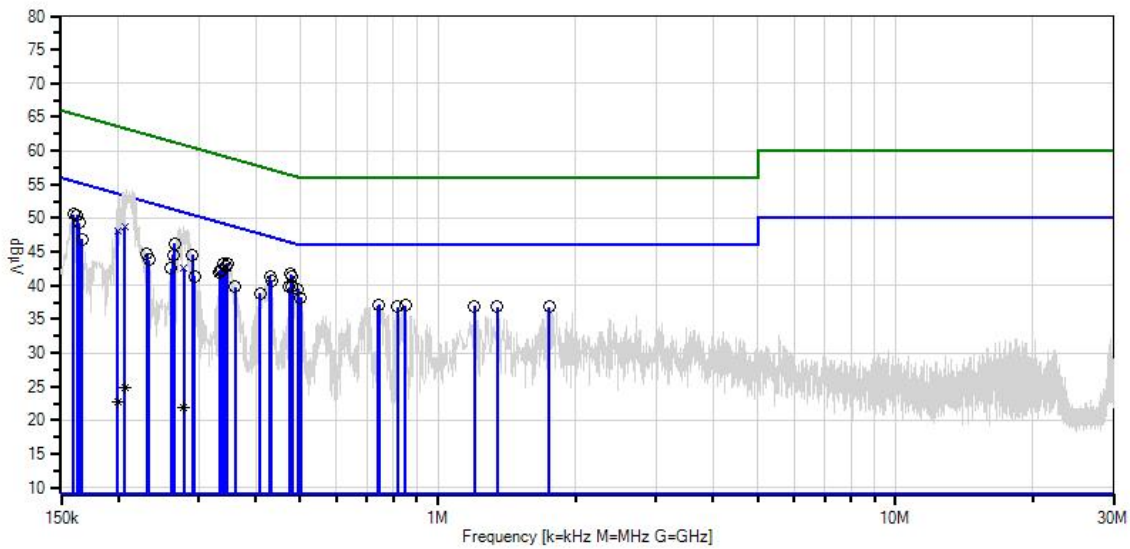
Test Lead: Black

#	Freq MHz	Rdng dB μ V	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	475.788k	31.8	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	41.7	46.4	-4.7	Black
2	162.363k	40.3	+9.6 +0.4	+0.1	+0.0	+0.1	+0.0	50.5	55.3	-4.8	Black
3	159.454k	40.5	+9.6 +0.4	+0.0	+0.0	+0.1	+0.0	50.6	55.5	-4.9	Black
4	480.152k	31.5	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	41.4	46.3	-4.9	Black
5	265.626k	36.2	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	46.2	51.3	-5.1	Black
6	346.346k	33.4	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	43.3	49.0	-5.7	Black
7	164.544k	39.1	+9.6 +0.4	+0.1	+0.0	+0.1	+0.0	49.3	55.2	-5.9	Black
8	429.247k	31.6	+9.6 +0.0	+0.1	+0.0	+0.1	+0.0	41.4	47.3	-5.9	Black
9	290.351k	34.5	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	44.5	50.5	-6.0	Black
10	339.801k	33.3	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	43.2	49.2	-6.0	Black
11	344.891k	32.9	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	42.8	49.1	-6.3	Black
12	432.156k	30.9	+9.6 +0.0	+0.1	+0.0	+0.1	+0.0	40.7	47.2	-6.5	Black
13	477.970k	29.9	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	39.8	46.4	-6.6	Black
14	493.968k	29.6	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	39.5	46.1	-6.6	Black
15	263.444k	34.6	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	44.6	51.3	-6.7	Black

16	473.607k	29.9	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	39.8	46.5	-6.7	Black
17	336.892k	32.5	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	42.4	49.3	-6.9	Black
18	334.710k	32.3	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	42.2	49.3	-7.1	Black
19	332.529k	32.1	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	42.0	49.4	-7.4	Black
20	231.447k	34.8	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	44.8	52.4	-7.6	Black
21	500.513k	28.2	+9.7 +0.1	+0.1	+0.0	+0.1	+0.0	38.2	46.0	-7.8	Black
22	166.726k	36.7	+9.6 +0.4	+0.1	+0.0	+0.1	+0.0	46.9	55.1	-8.2	Black
23	233.629k	33.8	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	43.8	52.3	-8.5	Black
24	408.885k	29.1	+9.6 +0.0	+0.1	+0.0	+0.1	+0.0	38.9	47.7	-8.8	Black
25	744.127k	27.4	+9.5 +0.1	+0.1	+0.0	+0.1	+0.0	37.2	46.0	-8.8	Black
26	360.163k	29.9	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	39.8	48.7	-8.9	Black
27	261.263k	32.5	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	42.5	51.4	-8.9	Black
28	847.391k	27.1	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	37.1	46.0	-8.9	Black
29	740.491k	27.3	+9.5 +0.1	+0.1	+0.0	+0.1	+0.0	37.1	46.0	-8.9	Black
30	293.260k	31.4	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	41.4	50.4	-9.0	Black
31	1.200M	27.0	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	36.9	46.0	-9.1	Black
32	816.848k	26.8	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	36.8	46.0	-9.2	Black
33	1.349M	26.9	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	36.8	46.0	-9.2	Black
34	1.749M	26.9	+9.6 +0.1	+0.1	+0.0	+0.1	+0.0	36.8	46.0	-9.2	Black
35	207.078k QP	38.7	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	48.7	63.3	-14.6	Black
36	199.179k QP	38.2	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	48.2	63.6	-15.4	Black
37	278.159k QP	32.5	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	42.5	60.9	-18.4	Black
38	207.078k Ave	14.9	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	24.9	53.3	-28.4	Black
^	207.078k	43.8	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	53.8	53.3	+0.5	Black
^	207.078k	43.7	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	53.7	53.3	+0.4	Black
41	278.159k Ave	11.8	+9.6 +0.2	+0.1	+0.0	+0.1	+0.0	21.8	50.9	-29.1	Black

^	278.159k	38.7	+9.6	+0.1	+0.0	+0.1	+0.0	48.7	50.9	-2.2	Black
			+0.2								
^	278.159k	38.3	+9.6	+0.1	+0.0	+0.1	+0.0	48.3	50.9	-2.6	Black
			+0.2								
44	199.179k	12.8	+9.6	+0.1	+0.0	+0.1	+0.0	22.8	53.6	-30.8	Black
	Ave		+0.2								
^	199.179k	44.2	+9.6	+0.1	+0.0	+0.1	+0.0	54.2	53.6	+0.6	Black
			+0.2								
^	199.179k	44.0	+9.6	+0.1	+0.0	+0.1	+0.0	54.0	53.6	+0.4	Black
			+0.2								
^	196.541k	38.4	+9.6	+0.1	+0.0	+0.1	+0.0	48.4	53.8	-5.4	Black
			+0.2								
^	194.360k	36.8	+9.6	+0.1	+0.0	+0.1	+0.0	46.8	53.8	-7.0	Black
			+0.2								

CKC Laboratories, Inc Date: 8/16/2013 Time: 09:16:47 Electronic Warfare Associates, Inc WO#: 94594
 Test Lead: Black 120V 60Hz Sequence#: 1



— Sweep Data
 ○ Peak Readings
 * Average Readings
 — 1 - 15.207 AC Mains - Average
 — Readings
 × QP Readings
 ▼ Ambient
 — 2 - 15.207 AC Mains - Quasi-peak

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

Customer: **Electronic Warfare Associates, Inc.**

Specification: **15.207 AC Mains - Average**

Work Order #: **94594**

Date: 8/16/2013

Test Type: **Conducted Emissions**

Time: 09:25:02

Equipment: **Access Point**

Sequence#: 2

Manufacturer: Electronic Warfare Associates, Inc.

Tested By: Hieu Song Nguyenpham

Model: SKEY-SSRF

120V 60Hz

S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP01211	Attenuator	PE7002-10	4/2/2013	4/2/2015
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN00493	50uH LISN-L1 (L) Loss W/O European Adapter	3816/NM	3/4/2013	3/4/2015
T4	AN00493	50uH LISN-L(2) N Loss W/O European Adapter	3816/NM	3/4/2013	3/4/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T5	ANP05258	High Pass Filter	HE9615-150K- 50-720B	12/6/2012	12/6/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Conducted Emission
 Frequency Range: 150kHz to 30MHz

Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C
 Humidity: 43%
 Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

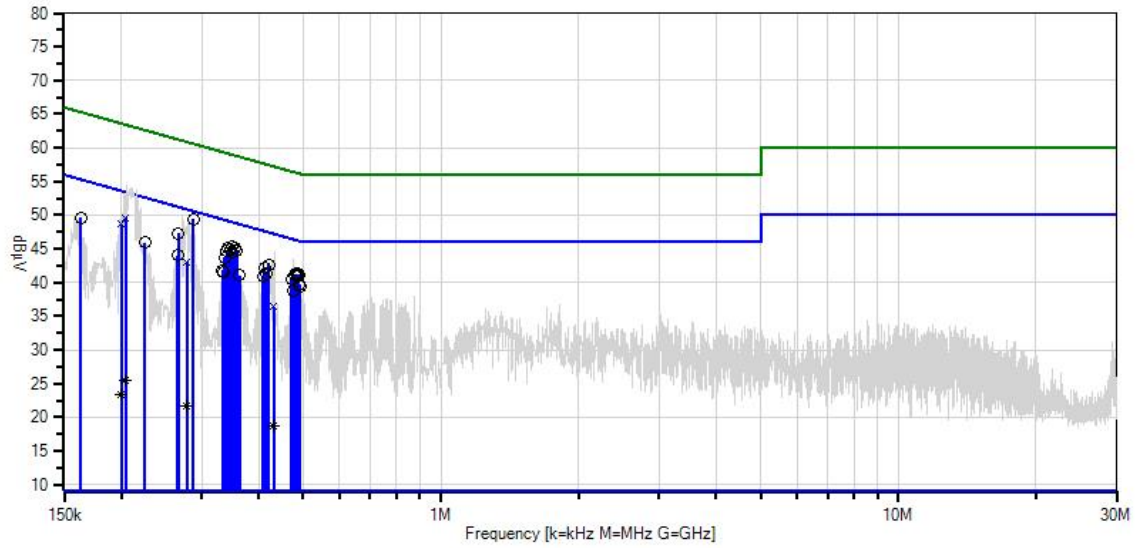
The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.

Ext Attn: 0 dB

#	Measurement Data:		Reading listed by margin.					Test Lead: White			
	Freq MHz	Rdng dB μ V	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	287.503k	38.9	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	49.4	50.6	-1.2	White
2	355.071k	34.7	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	45.1	48.8	-3.7	White
3	348.526k	34.9	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	45.3	49.0	-3.7	White
4	267.079k	36.8	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	47.3	51.2	-3.9	White
5	342.709k	34.8	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	45.2	49.1	-3.9	White
6	357.980k	34.4	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	44.8	48.8	-4.0	White
7	347.072k	34.5	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	44.9	49.0	-4.1	White
8	339.800k	34.3	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	44.7	49.2	-4.5	White
9	349.981k	34.1	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	44.5	49.0	-4.5	White
10	420.520k	32.3	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	42.6	47.4	-4.8	White
11	481.605k	30.9	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.3	46.3	-5.0	White
12	484.514k	30.9	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.3	46.3	-5.0	White
13	488.150k	30.8	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.2	46.2	-5.0	White
14	486.695k	30.6	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.0	46.2	-5.2	White
15	478.696k	30.7	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.1	46.4	-5.3	White
16	411.793k	31.9	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	42.2	47.6	-5.4	White
17	336.891k	33.3	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	43.7	49.3	-5.6	White
18	163.089k	38.9	+9.6 +0.4	+0.1	+0.0	+0.6	+0.0	49.6	55.3	-5.7	White
19	472.151k	30.1	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	40.5	46.5	-6.0	White
20	414.702k	31.1	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	41.4	47.6	-6.2	White
21	490.331k	29.3	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	39.7	46.2	-6.5	White
22	491.786k	29.1	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	39.5	46.1	-6.6	White
23	225.628k	35.4	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	45.9	52.6	-6.7	White

24	408.884k	30.7	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	41.0	47.7	-6.7	White
25	265.625k	33.5	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	44.0	51.3	-7.3	White
26	332.528k	31.4	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.8	49.4	-7.6	White
27	362.343k	30.7	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.1	48.7	-7.6	White
28	334.709k	31.2	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	41.6	49.3	-7.7	White
29	474.333k	28.3	+9.6 +0.1	+0.1	+0.0	+0.6	+0.0	38.7	46.4	-7.7	White
30	204.229k QP	39.1	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	49.6	63.4	-13.8	White
31	200.245k QP	38.2	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	48.7	63.6	-14.9	White
32	278.503k QP	32.5	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	43.0	60.9	-17.9	White
33	430.835k QP	26.1	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	36.4	57.2	-20.8	White
34	204.229k Ave	14.9	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	25.4	53.4	-28.0	White
35	430.835k Ave	8.5	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	18.8	47.2	-28.4	White
^	430.853k	34.3	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	44.6	47.2	-2.6	White
^	430.835k	34.0	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	44.3	47.2	-2.9	White
^	434.337k	33.0	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	43.3	47.2	-3.9	White
^	427.064k	32.9	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	43.2	47.3	-4.1	White
^	429.973k	32.9	+9.6 +0.0	+0.1	+0.0	+0.6	+0.0	43.2	47.3	-4.1	White
41	278.503k Ave	11.1	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	21.6	50.9	-29.3	White
^	278.503k	39.4	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	49.9	50.9	-1.0	White
43	200.245k Ave	12.8	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	23.3	53.6	-30.3	White
^	204.229k	43.9	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	54.4	53.4	+1.0	White
^	200.245k	44.1	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	54.6	53.6	+1.0	White
^	200.245k	44.1	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	54.6	53.6	+1.0	White
^	204.229k	43.6	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	54.1	53.4	+0.7	White
^	197.995k	39.0	+9.6 +0.2	+0.1	+0.0	+0.6	+0.0	49.5	53.7	-4.2	White

CKC Laboratories, Inc Date: 8/16/2013 Time: 09:25:02 Electronic Warfare Associates, Inc WO#: 94594
Test Lead: White 120V 60Hz Sequence#: 2



— Sweep Data
○ Peak Readings
* Average Readings
— 1 - 15.207 AC Mains - Average

— Readings
× QP Readings
▼ Ambient
— 2 - 15.207 AC Mains - Quasi-peak

Test Setup Photos



15.249(a) RF Power Output

Test Conditions / Setup

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 10:21:59
 Equipment: **Access Point** Sequence#: 5
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Fundamental of the EUT
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C
 Humidity: 43%
 Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz
 Transmitting operating frequency= 923MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)
 The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB	Dist Table dB	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	922.993M	64.5	+22.7	+3.5	+0.9	+0.0	91.6	94.0	-2.4	Horiz
2	922.993M	56.6	+22.7	+3.5	+0.9	+0.0	83.7	94.0	-10.3	Vert

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 10:52:24
 Equipment: **Access Point** Sequence#: 6
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T1	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T2	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T3	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Fundamental of the EUT
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C
 Humidity: 43%
 Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive

Ext Attn: 0 dB

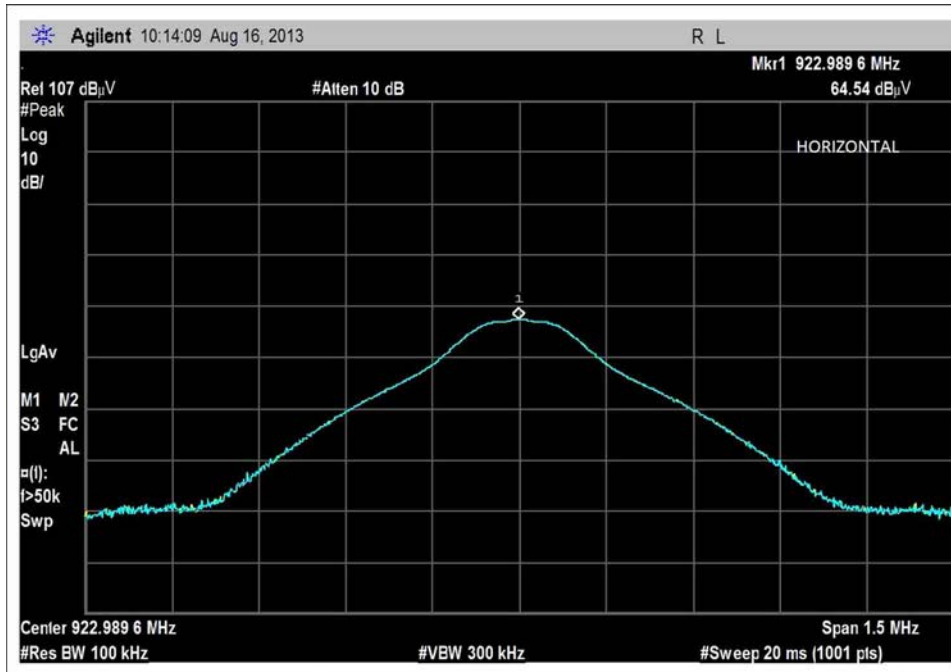
Measurement Data:

Reading listed by margin.

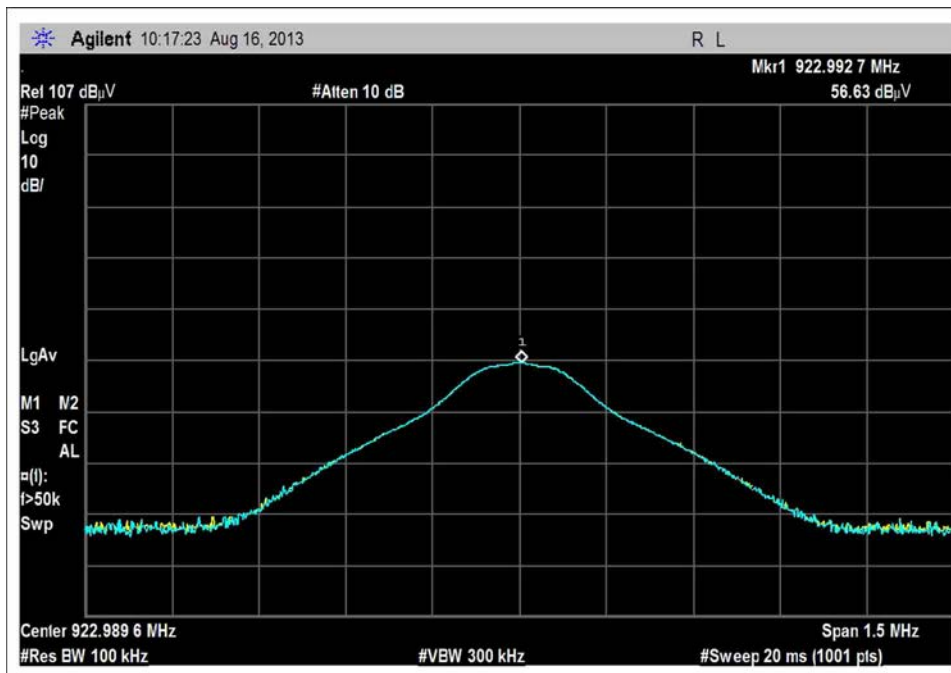
Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB	Dist Table dB	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	2481.070M	55.5	+28.9	+1.1	+2.7	+0.0	88.2	94.0	-5.8	Horiz
2	2481.070M	49.4	+28.9	+1.1	+2.7	+0.0	82.1	94.0	-11.9	Vert

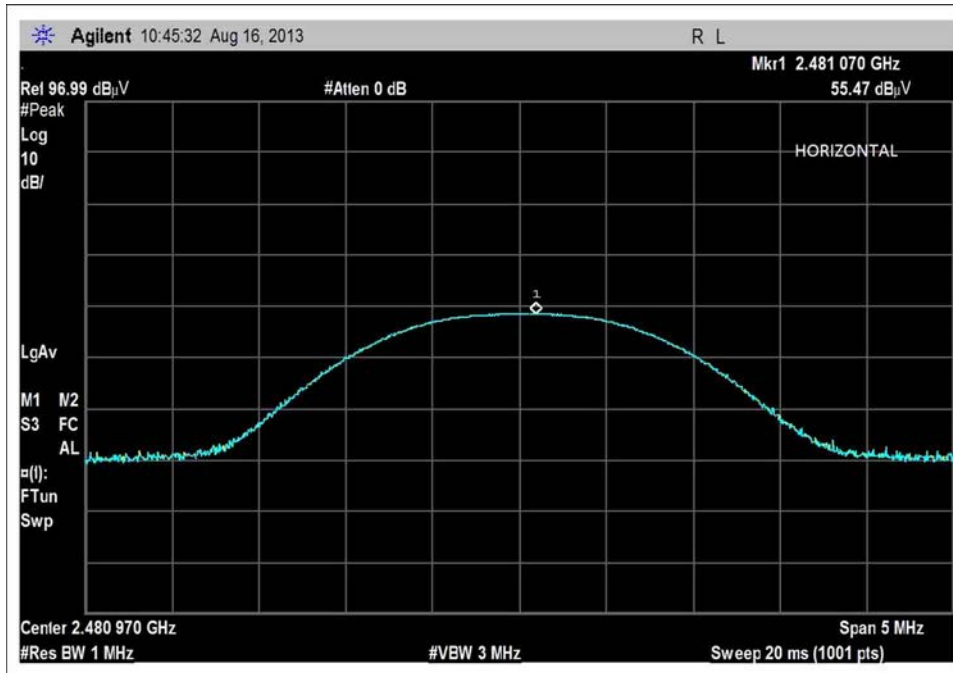
Test Data



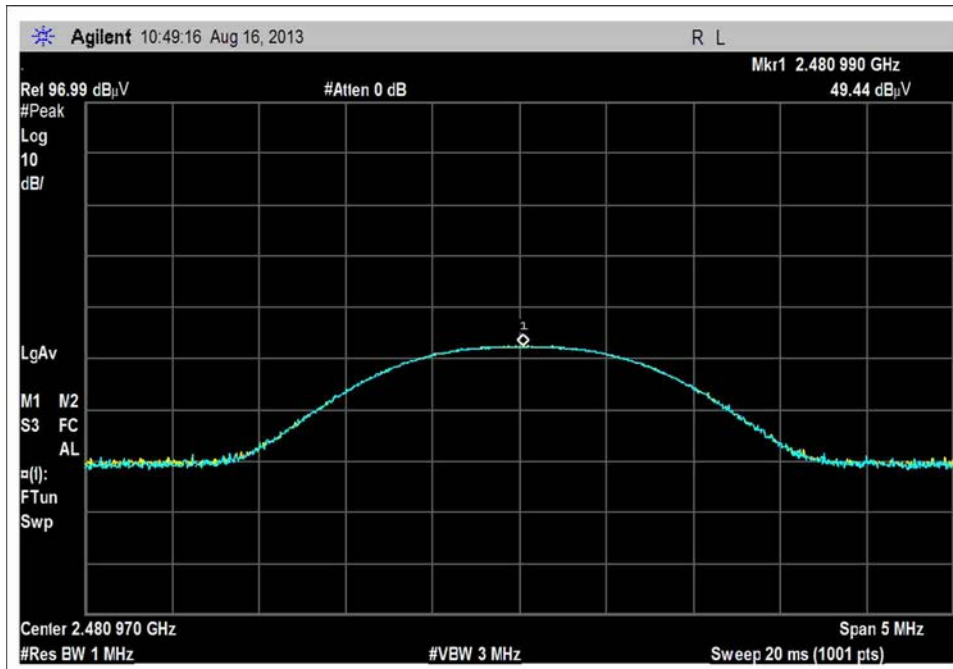
923MHz, Horizontal



923MHz, Vertical



2481MHz, Horizontal

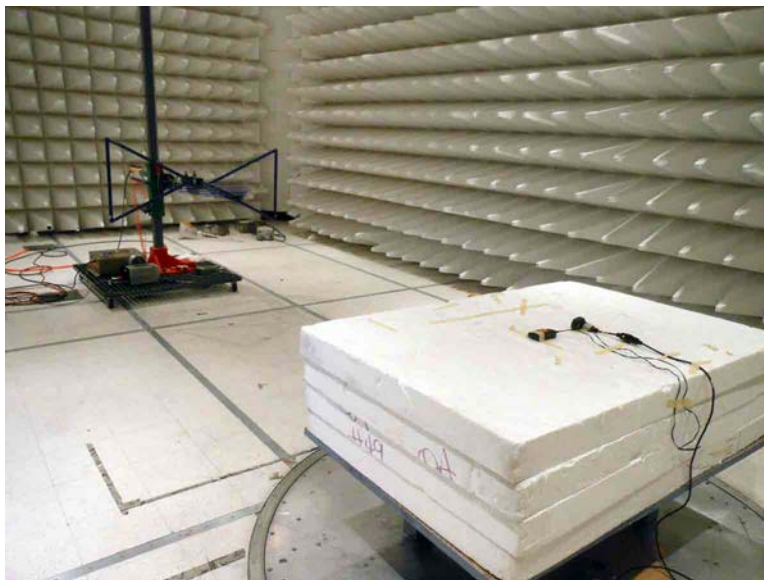


2481MHz, Vertical

Test Setup Photos



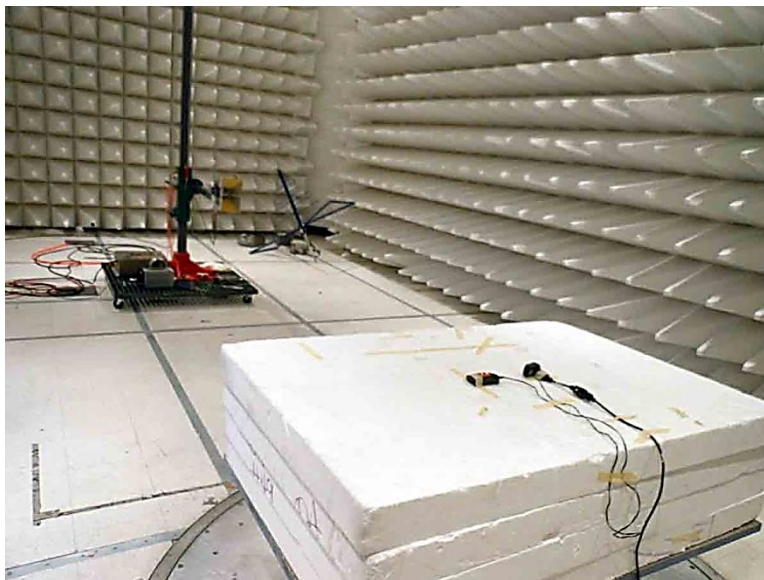
923MHz



923MHz



2481MHz



2481MHz

15.31(e) Voltage Variations

Test Conditions / Setup

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

Customer: **Electronic Warfare Associates, Inc.**

Specification: **15.31e**

Work Order #: **94594**

Date: 8/16/2013

Test Type: **Radiated Scan**

Time: 10:21:59

Equipment: **Access Point**

Sequence#: 5

Manufacturer: Electronic Warfare Associates, Inc.

Tested By: Hieu Song Nguyenpham

Model: SKEY-SSRF

S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
T4	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T5	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T6	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

15.31e Set up. Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz
 Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)
 The EUT is a fixed device. It is placed on the 80 cm Styrofoam table. The EUT is set in continuously transmit or receive. 15.31e: adjust the power voltage +/- 15% (102V and 138V) the RF output power is not changing.

Test Setup Photos



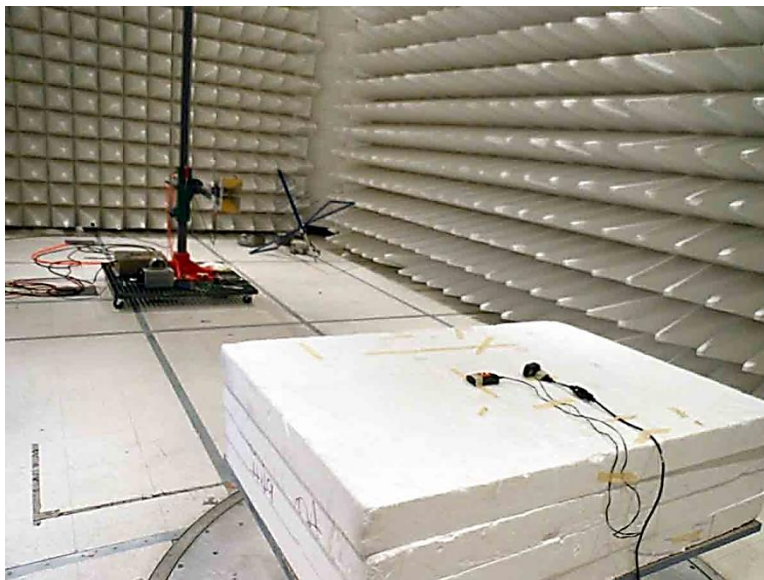
923MHz



923MHz



2481MHz



2481MHz

-20dBc Occupied Bandwidth

Test Conditions / Setup

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

Customer: **Electronic Warfare Associates, Inc.**

Specification: **OBW Set up**

Work Order #: **94594**

Date: 8/16/2013

Test Type: **Radiated Scan**

Time: 10:21:59

Equipment: **Access Point**

Sequence#: 5

Manufacturer: Electronic Warfare Associates, Inc.

Tested By: Hieu Song Nguyenpham

Model: **SKEY-SSRF**

S/N: **ENG1**

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
T4	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T5	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T6	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

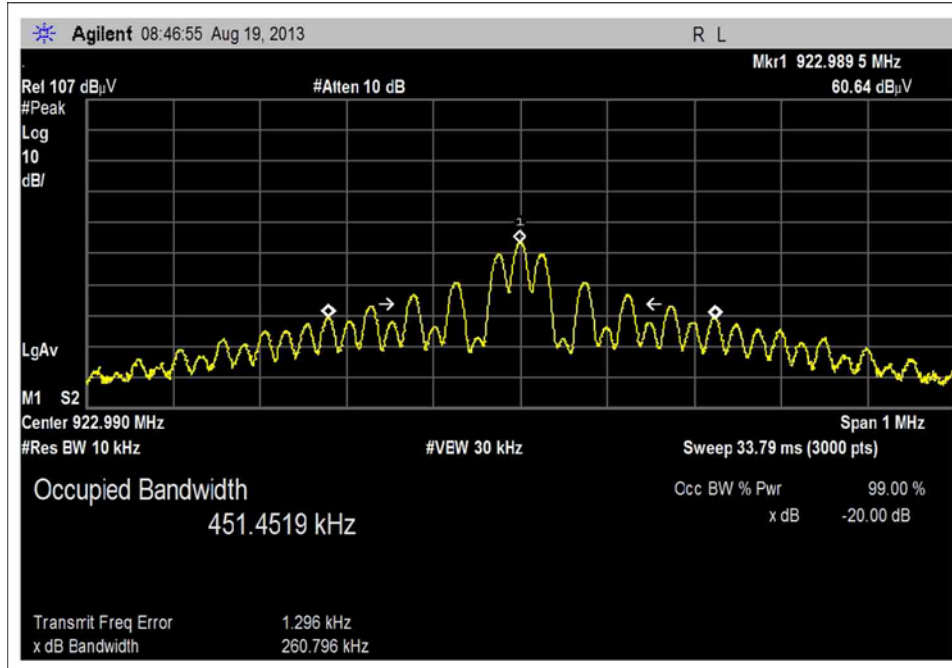
Support Devices:

Function	Manufacturer	Model #	S/N
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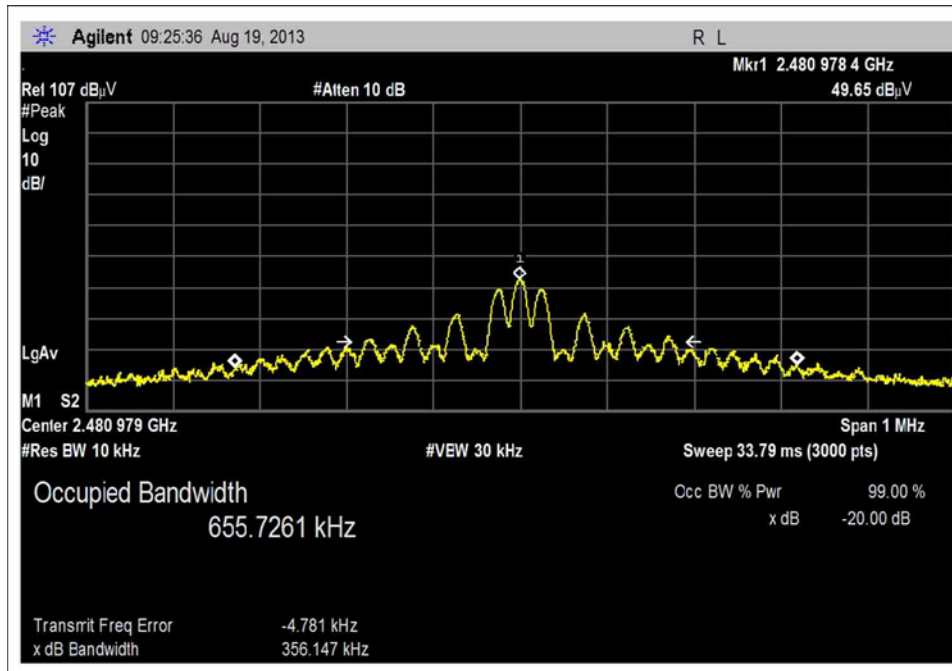
Test Conditions / Notes:

OBW Set up. Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz
 Transmitting operating frequency= 923MHz and 2481MHz; RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)
 The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.

Test Data



923MHz

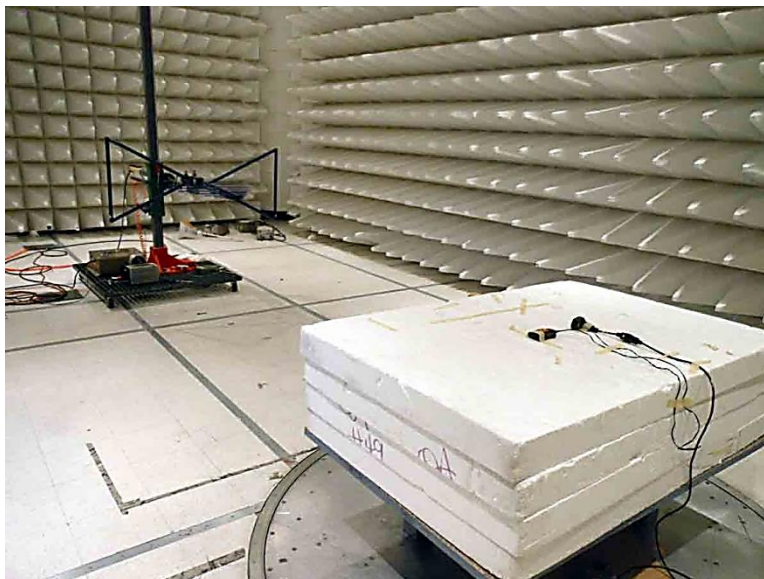


2481MHz

Test Setup Photos



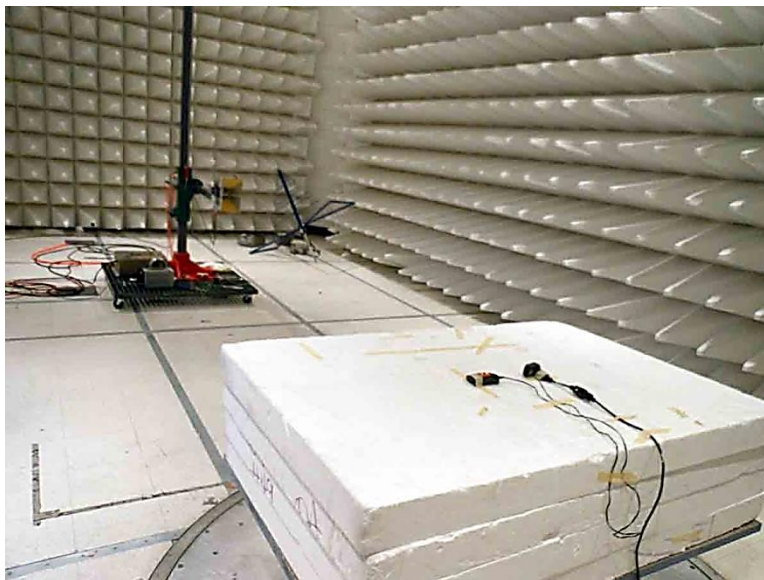
923MHz



923MHz



2481MHz



2481MHz

RSS-210 99 % Bandwidth

Test Conditions / Setup

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

Customer: **Electronic Warfare Associates, Inc.**

Specification: **OBW Set up**

Work Order #: **94594**

Date: 8/16/2013

Test Type: **Radiated Scan**

Time: 10:21:59

Equipment: **Access Point**

Sequence#: 5

Manufacturer: Electronic Warfare Associates, Inc.

Tested By: Hieu Song Nguyenpham

Model: SKEY-SSRF

S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
T4	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T5	AN03302	Cable	32026-29094K- 29094K-72TC	3/21/2012	3/21/2014
T6	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

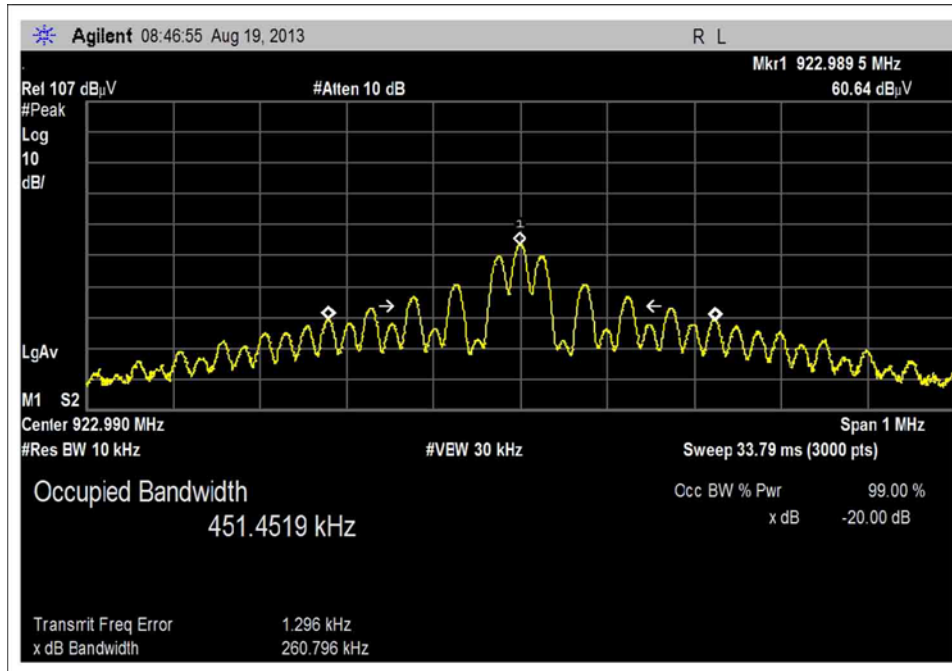
Support Devices:

Function	Manufacturer	Model #	S/N
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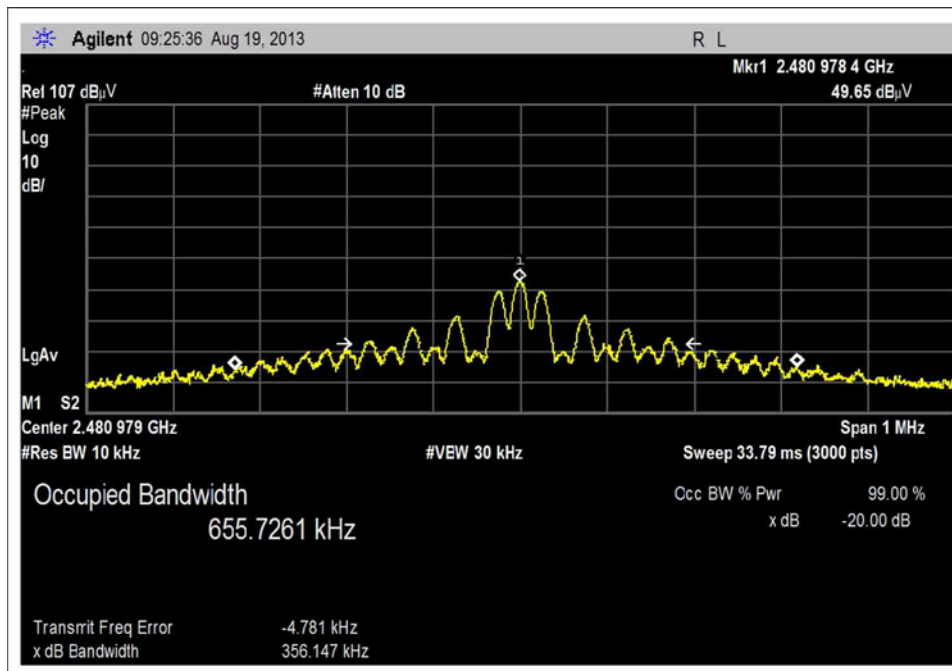
Test Conditions / Notes:

OBW Set up. Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz
 Transmitting operating frequency= 923MHz and 2481MHz; RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)
 The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.

Test Data



923MHz

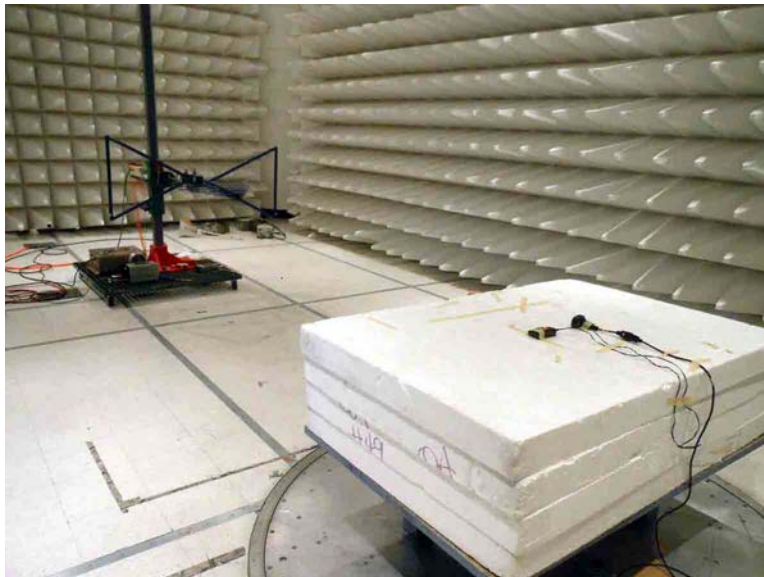


2481MHz

Test Setup Photos



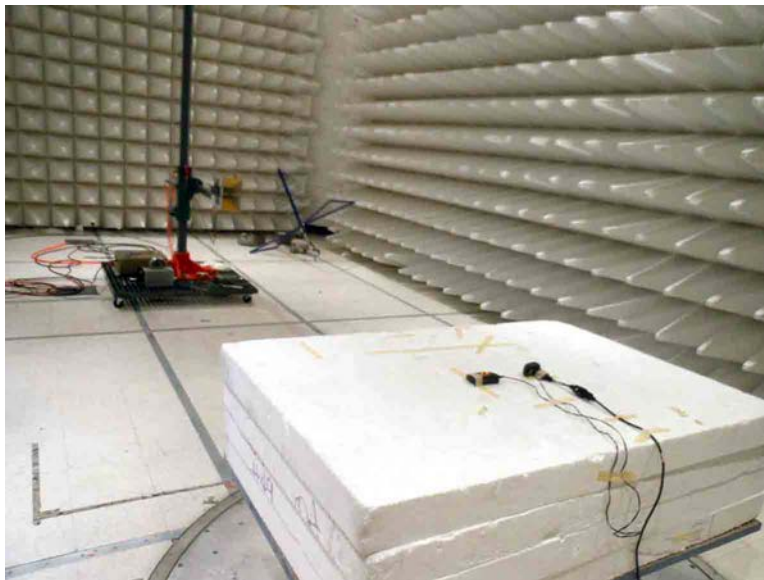
923MHz



923MHz



2481MHz



2481MHz

15.249(a) Radiated Spurious Emissions

Test Data Sheets

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
 Work Order #: **94594** Date: 8/19/2013
 Test Type: **Radiated Scan** Time: 08:41:43
 Equipment: **Access Point** Sequence#: 30
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00432	Loop Antenna	6502	4/2/2013	4/2/2015
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 9kHz to 30MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -150 kHz; RBW=200Hz, 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-10000MHz: RBW=1 MHz, VBW=1 MHz.

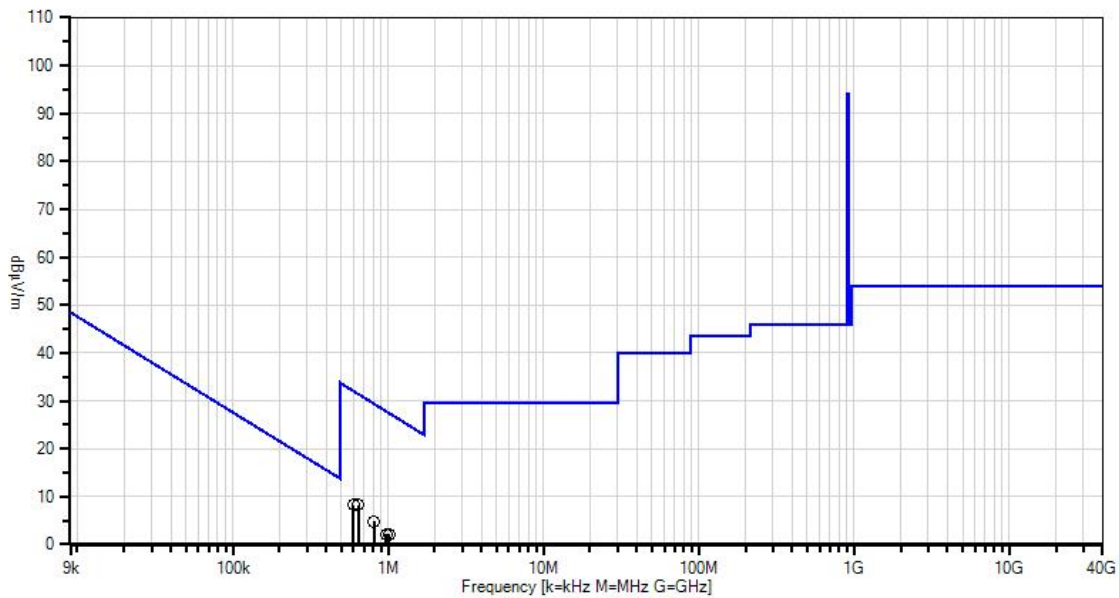
The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive
 Note: Channel 923MHz

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	645.496k	38.4	+9.8	+0.1	+0.0		-40.0	8.3	31.4	-23.1	Paral
2	597.410k	38.4	+9.8	+0.1	+0.0		-40.0	8.3	32.1	-23.8	Perpe
3	808.571k	35.4	+9.4	+0.1	+0.0		-40.0	4.9	29.4	-24.5	Paral
4	1.016M	32.3	+9.7	+0.1	+0.0		-40.0	2.1	27.4	-25.3	Paral
5	971.646k	32.4	+9.6	+0.1	+0.0		-40.0	2.1	27.8	-25.7	Perpe
6	1.639M	26.4	+9.8	+0.1	+0.0		-40.0	-3.7	23.2	-26.9	Perpe

CKC Laboratories, Inc Date: 8/19/2013 Time: 08:41:43 Electronic Warfare Associates, Inc WO#: 94594
 Test Distance: 3 Meters Sequence#: 30



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 11:48:23
 Equipment: **Access Point** Sequence#: 9
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	AN00730	Preamplifier	8447D	1/17/2013	1/17/2015
T5	ANP01183	Cable	CNT-195	10/24/2011	10/24/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 30MHz to 1000MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -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-10000MHz; RBW=1 MHz, VBW=1 MHz.

The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive

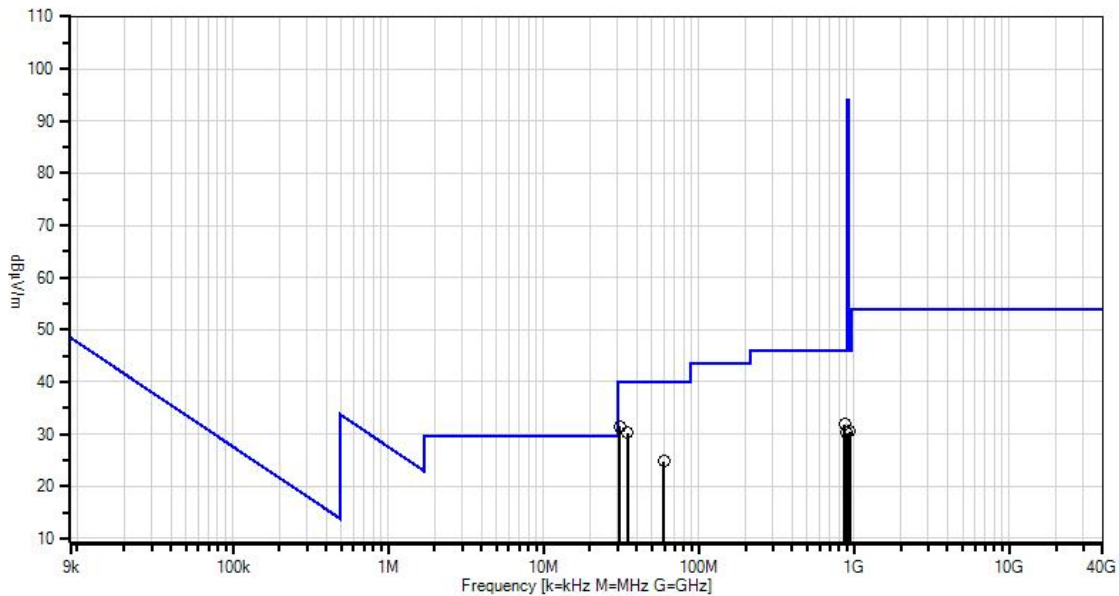
Note: Channel 923MHz

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dB μ V	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	30.998M	39.9	+17.8 +0.2	+0.5	+0.1	-27.1	+0.0	31.4	40.0	-8.6	Vert
2	34.792M	40.6	+15.9 +0.1	+0.5	+0.1	-27.0	+0.0	30.2	40.0	-9.8	Vert
3	870.963M	30.6	+23.0 +0.9	+3.4	+0.9	-27.0	+0.0	31.8	46.0	-14.2	Horiz
4	59.947M	45.1	+5.8 +0.1	+0.7	+0.2	-27.1	+0.0	24.8	40.0	-15.2	Vert
5	936.308M	29.1	+23.1 +1.0	+3.5	+0.9	-27.1	+0.0	30.5	46.0	-15.5	Horiz
6	898.350M	29.1	+22.9 +1.0	+3.4	+0.9	-27.1	+0.0	30.2	46.0	-15.8	Horiz

CKC Laboratories, Inc Date: 8/16/2013 Time: 11:48:23 Electronic Warfare Associates, Inc WO#: 94594
Test Distance: 3 Meters Sequence#: 9



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 14:12:24
 Equipment: **Access Point** Sequence#: 15
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T2	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T3	AN03015	Cable	32022-2-29094K-24TC	5/6/2013	5/6/2015
T4	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T5	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T6	AN03172	High Pass Filter	HM1155-11SS	2/9/2012	2/9/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 1000MHz to 10000MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz-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-10000MHz; RBW=1 MHz, VBW=1 MHz.

The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.
 Note: Channel 923MHz

Ext Attn: 0 dB

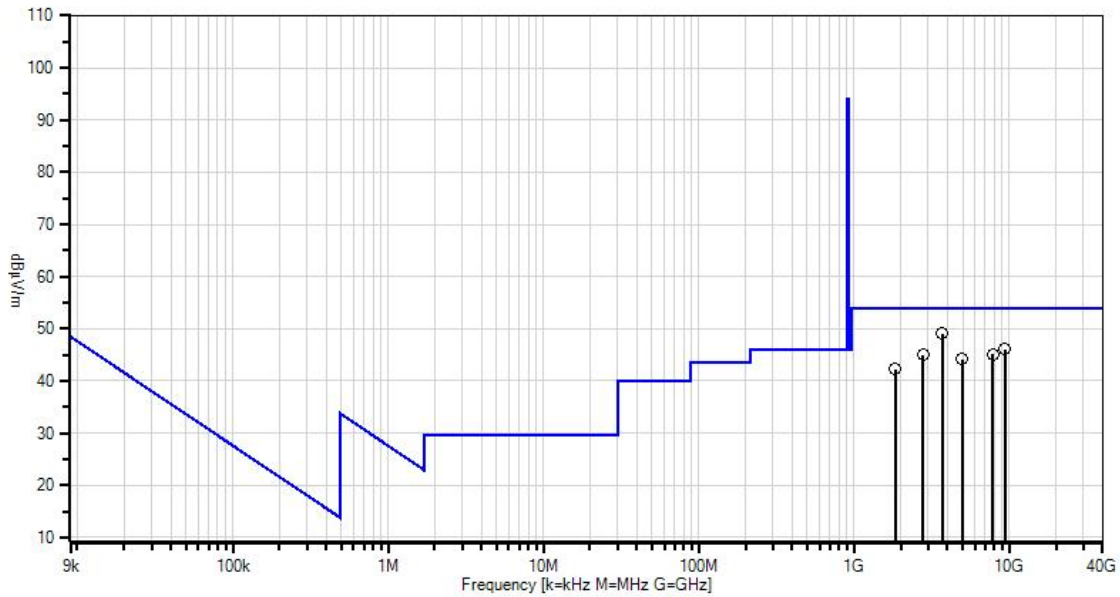
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 T5 dB	T2 T6 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	3691.689M	71.2	-59.3 +3.2	+31.9 +0.2	+0.5	+1.3	+0.0	49.0	54.0	-5.0	Vert
2	9322.464M	55.1	-57.2 +6.2	+38.4 +0.2	+1.2	+2.2	+0.0	46.1	54.0	-7.9	Vert
3	7812.806M	58.1	-58.5 +5.5	+36.6 +0.2	+1.2	+2.0	+0.0	45.1	54.0	-8.9	Vert
4	2768.767M	70.0	-59.0 +2.8	+29.2 +0.2	+0.5	+1.2	+0.0	44.9	54.0	-9.1	Horiz
5	4960.957M	62.1	-57.9 +3.9	+33.6 +0.2	+0.7	+1.6	+0.0	44.2	54.0	-9.8	Horiz
6	1845.845M	70.4	-58.8 +2.1	+27.1 +0.3	+0.3	+0.9	+0.0	42.3	54.0	-11.7	Horiz

CKC Laboratories, Inc Date: 8/16/2013 Time: 14:12:24 Electronic Warfare Associates, Inc WO#: 94594
Test Distance: 3 Meters Sequence#: 15



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.249 Carrier and Spurious Emissions (902-928 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 16:49:41
 Equipment: **Access Point** Sequence#: 27
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00432	Loop Antenna	6502	4/2/2013	4/2/2015
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 9kHz to 30MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -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-25000MHz; RBW=1 MHz, VBW=1 MHz.

The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive

Note: Channel 2481MHz

Ext Attn: 0 dB

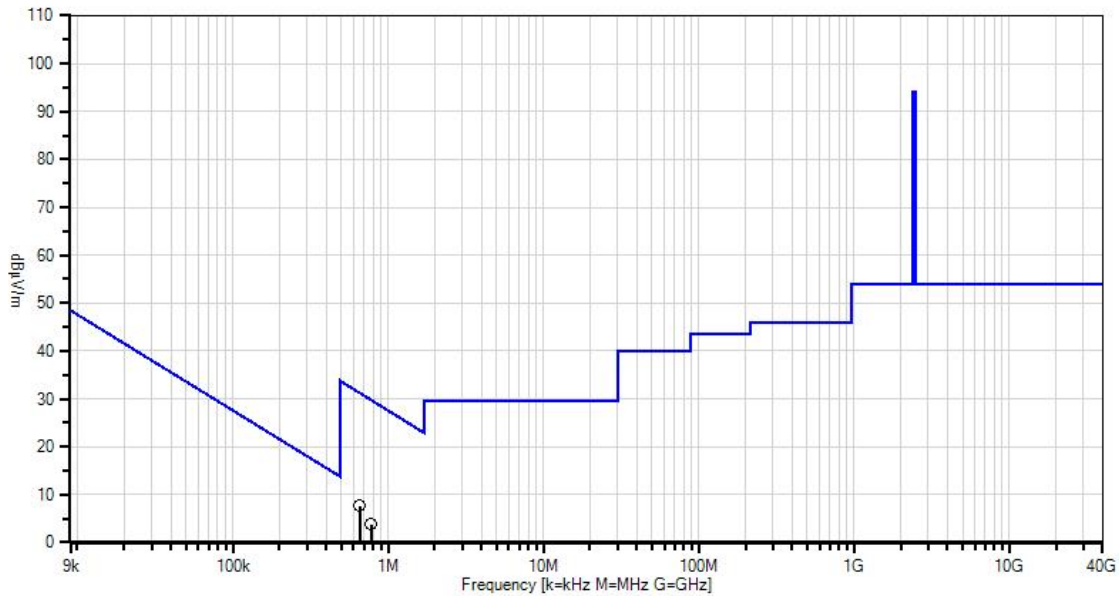
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	658.041k	37.6	+9.9	+0.1	+0.0		-40.0	7.6	31.2	-23.6	Perpe
2	779.759k	34.2	+9.5	+0.1	+0.0		-40.0	3.8	29.7	-25.9	Paral
3	1.124M	29.9	+9.7	+0.1	+0.0		-40.0	-0.3	26.5	-26.8	Perpe
4	1.316M	28.0	+9.8	+0.1	+0.0		-40.0	-2.1	25.2	-27.3	Paral
5	1.576M	26.0	+9.8	+0.1	+0.0		-40.0	-4.1	23.6	-27.7	Perpe
6	1.478M	26.6	+9.8	+0.1	+0.0		-40.0	-3.5	24.2	-27.7	Paral

CKC Laboratories, Inc Date: 8/16/2013 Time: 16:49:41 Electronic Warfare Associates, Inc WO#: 94594
 Test Distance: 3 Meters Sequence#: 27



— Readings
 × QP Readings
 ▼ Ambient

○ Peak Readings
 * Average Readings
 — 1 - 15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 13:33:01
 Equipment: **Access Point** Sequence#: 12
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	AN00730	Preamp	8447D	1/17/2013	1/17/2015
T5	ANP01183	Cable	CNT-195	10/24/2011	10/24/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 30MHz to 1000MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -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-25000MHz; RBW=1 MHz, VBW=1 MHz.

The EUT is a fit device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.

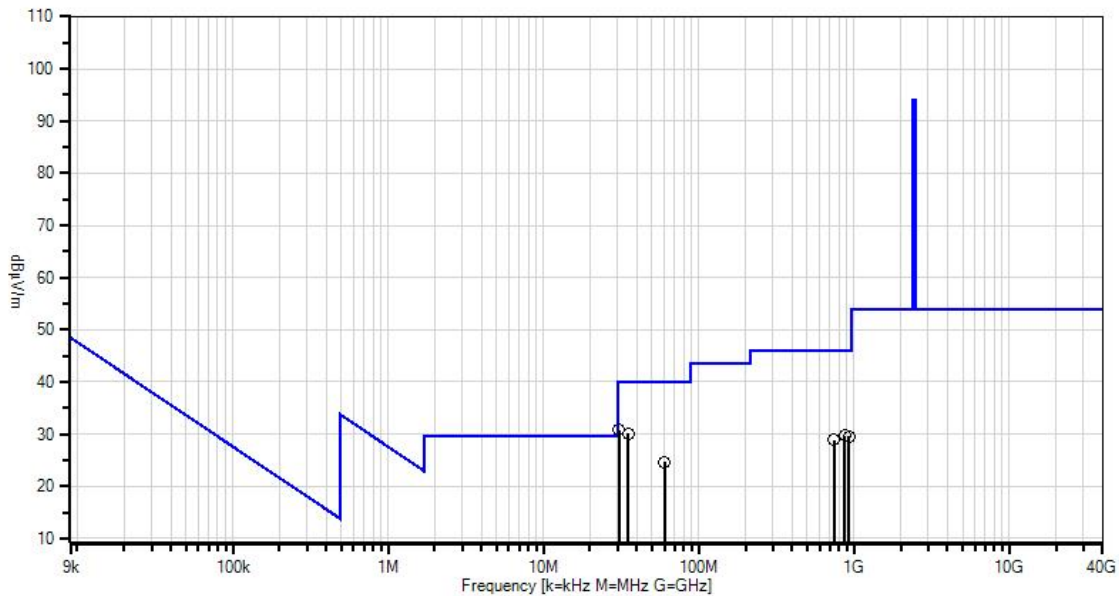
Note: Channel 2481MHz

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dB μ V	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	30.599M	39.0	+18.1 +0.2	+0.5	+0.1	-27.1	+0.0	30.8	40.0	-9.2	Vert
2	35.124M	40.6	+15.7 +0.2	+0.5	+0.1	-27.0	+0.0	30.1	40.0	-9.9	Vert
3	60.014M	44.9	+5.8 +0.1	+0.7	+0.2	-27.1	+0.0	24.6	40.0	-15.4	Vert
4	866.878M	28.6	+22.9 +0.9	+3.4	+0.9	-27.0	+0.0	29.7	46.0	-16.3	Horiz
5	924.056M	28.6	+22.7 +0.9	+3.5	+0.9	-27.1	+0.0	29.5	46.0	-16.5	Horiz
6	747.479M	29.1	+21.9 +0.9	+3.0	+0.8	-26.9	+0.0	28.8	46.0	-17.2	Horiz

CKC Laboratories, Inc Date: 8/16/2013 Time: 13:33:01 Electronic Warfare Associates, Inc WO#: 94594
Test Distance: 3 Meters Sequence#: 12



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 15:00:48
 Equipment: **Access Point** Sequence#: 18
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T2	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T3	AN03015	Cable	32022-2-29094K-24TC	5/6/2013	5/6/2015
T4	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T5	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T6	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	6/12/2012	6/12/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 1000MHz to 12000MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz
 Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -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-25000MHz; RBW=1 MHz, VBW=1 MHz.

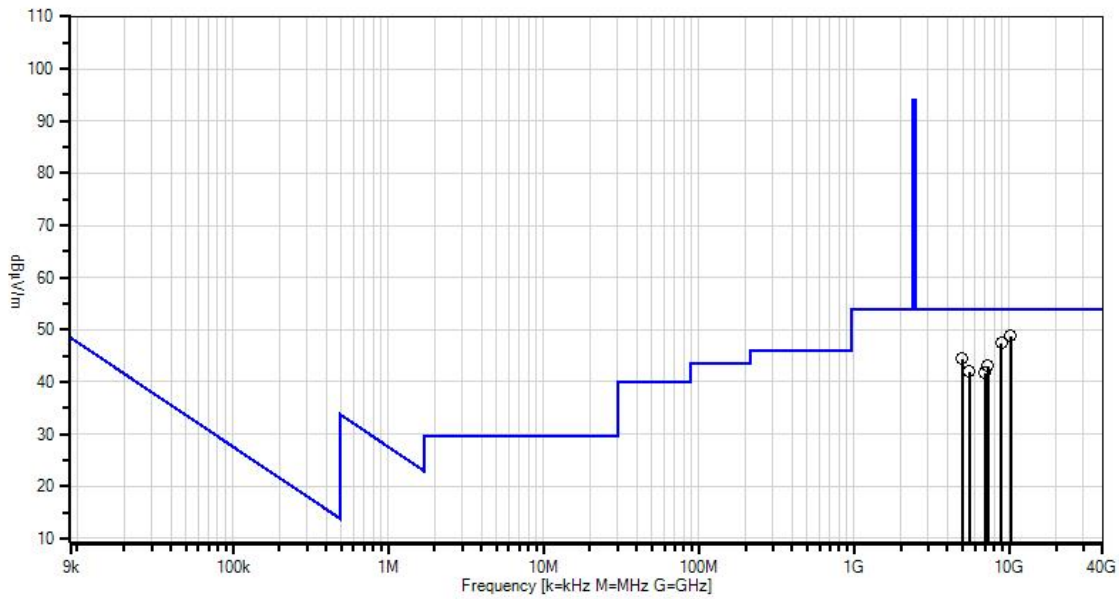
The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.
 Note: Channel 2481MHz

Ext Attn: 0 dB

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

#	Freq MHz	Rdng dB μ V	T1 T5 dB	T2 T6 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	10179.172 M	57.3	-58.2 +6.3	+39.7 +0.1	+1.3	+2.3	+0.0	48.8	54.0	-5.2	Horiz
2	8868.863M	55.8	-56.3 +6.0	+38.1 +0.3	+1.4	+2.1	+0.0	47.4	54.0	-6.6	Vert
3	4961.960M	62.3	-57.9 +3.9	+33.6 +0.2	+0.7	+1.6	+0.0	44.4	54.0	-9.6	Vert
4	7238.234M	57.8	-59.3 +5.3	+36.2 +0.2	+1.0	+1.9	+0.0	43.1	54.0	-10.9	Horiz
5	5535.533M	57.7	-56.8 +4.0	+34.7 +0.2	+0.6	+1.6	+0.0	42.0	54.0	-12.0	Vert
6	6954.951M	57.7	-59.4 +5.1	+35.3 +0.2	+0.9	+1.9	+0.0	41.7	54.0	-12.3	Horiz

CKC Laboratories, Inc Date: 8/16/2013 Time: 15:00:48 Electronic Warfare Associates, Inc WO#: 94594
Test Distance: 3 Meters Sequence#: 18



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 15:49:11
 Equipment: **Access Point** Sequence#: 21
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANANT-AN02693-20130221	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015
T2	ANP00928	Cable	various	2/10/2012	2/10/2014
T3	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
T4	ANP06126	Cable	32022-29094K-29094K-168TC	9/7/2011	9/7/2013
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 12000MHz to 18000MHz
 Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C
 Humidity: 43%
 Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -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-25000MHz; RBW=1 MHz, VBW=1 MHz.

The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive.
 Note: Channel 2481MHz

Ext Attn: 0 dB

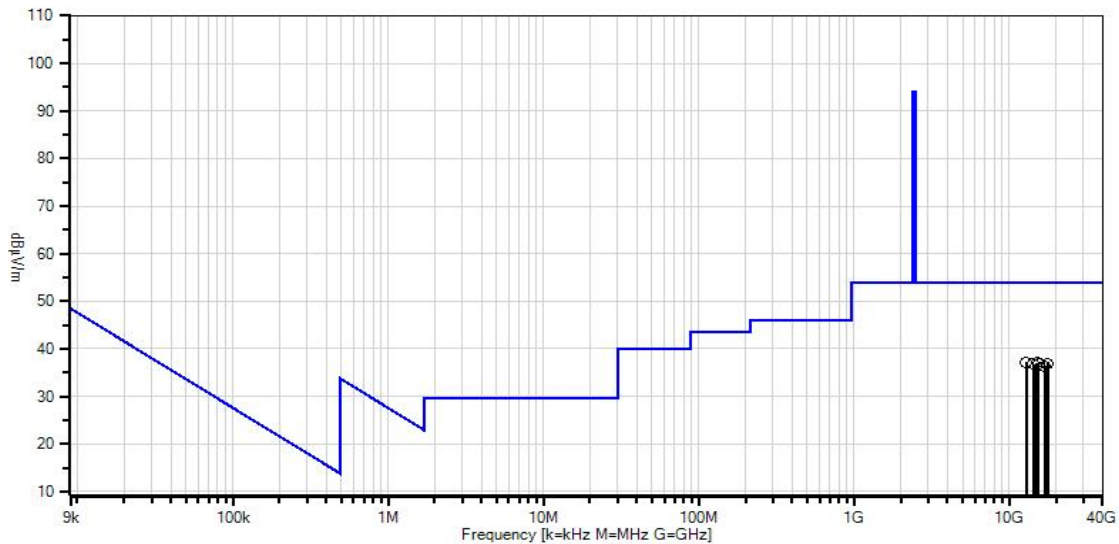
Measurement Data:

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	12841.841 M	45.6	-15.9	+0.9	+2.6	+4.0	+0.0	37.2	54.0	-16.8	Horiz
2	15027.024 M	44.1	-15.4	+1.0	+3.0	+4.3	+0.0	37.0	54.0	-17.0	Horiz
3	17667.670 M	42.0	-13.8	+0.8	+3.2	+4.7	+0.0	36.9	54.0	-17.1	Vert
4	14340.338 M	44.4	-15.6	+0.9	+2.8	+4.3	+0.0	36.8	54.0	-17.2	Vert
5	15388.385 M	44.1	-15.8	+1.0	+3.1	+4.4	+0.0	36.8	54.0	-17.2	Vert
6	16967.963 M	43.4	-15.5	+0.9	+3.0	+4.6	+0.0	36.4	54.0	-17.6	Horiz

CKC Laboratories, Inc Date: 8/16/2013 Time: 15:49:11 Electronic Warfare Associates, Inc WO#: 94594
Test Distance: 3 Meters Sequence#: 21



— Readings
× QP Readings
▼ Ambient

○ Peak Readings
* Average Readings
— 1 - 15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)

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

Customer: **Electronic Warfare Associates, Inc.**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **94594** Date: 8/16/2013
 Test Type: **Radiated Scan** Time: 16:22:56
 Equipment: **Access Point** Sequence#: 24
 Manufacturer: Electronic Warfare Associates, Inc. Tested By: Hieu Song Nguyenpham
 Model: SKEY-SSRF
 S/N: ENG1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
T2	ANP06126	Cable	32022-29094K-29094K-168TC	9/7/2011	9/7/2013
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T3	AN02694	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	AMFW-5F-18002650-20-10P	2/4/2013	2/4/2015
T4	ANP00929	Cable	various	2/16/2012	2/16/2014

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Radiated Spurious Emission
 Frequency Range: 18000MHz 25000

Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz

Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)

9 kHz -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-25000MHz; RBW=1 MHz, VBW=1 MHz.

The EUT is a fixed device. It is placed on the 80 cm Styrofoam table. The EUT is set in continuously transmit or receive.
 Note: Channel 2481MHz

Ext Attn: 0 dB

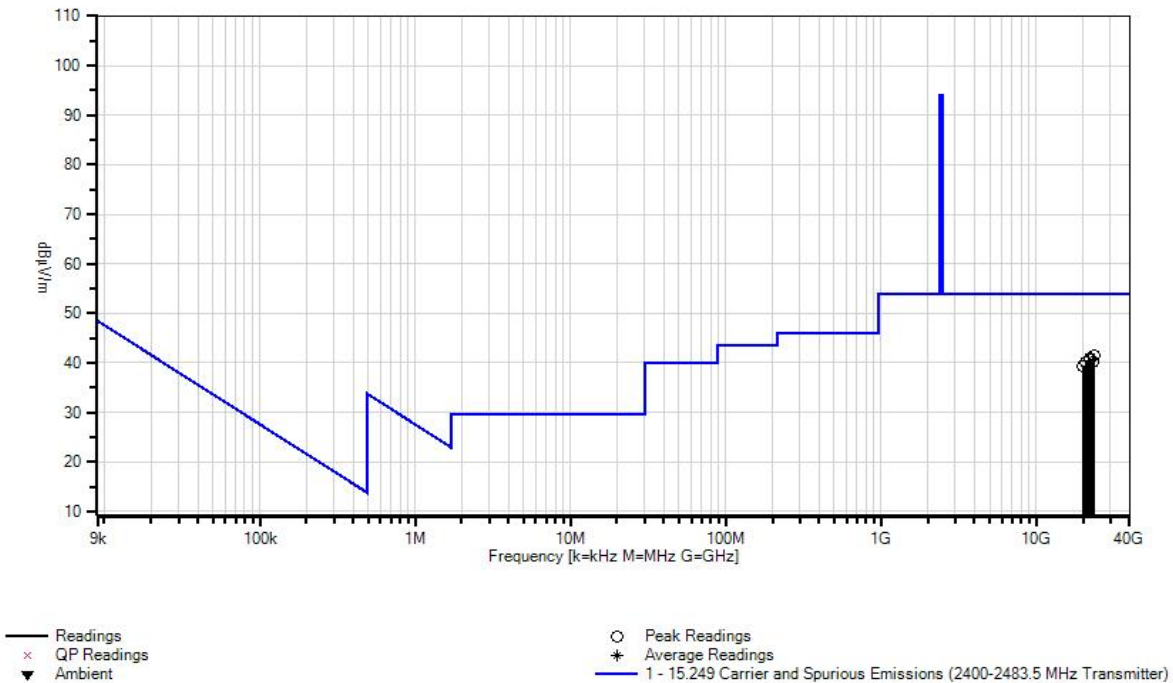
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	23537.441 M	45.8	+4.4	+5.4	-17.1	+3.0	+0.0	41.5	54.0	-12.5	Horiz
2	22186.415 M	45.3	+4.4	+5.3	-17.0	+2.9	+0.0	40.9	54.0	-13.1	Horiz
3	22130.129 M	44.9	+4.4	+5.3	-16.9	+2.9	+0.0	40.6	54.0	-13.4	Vert
4	23151.105 M	44.7	+4.3	+5.4	-17.2	+2.9	+0.0	40.1	54.0	-13.9	Vert
5	20830.193 M	44.0	+4.2	+5.1	-16.4	+3.1	+0.0	40.0	54.0	-14.0	Vert
6	19957.128 M	43.7	+3.8	+5.0	-16.3	+3.2	+0.0	39.4	54.0	-14.6	Horiz

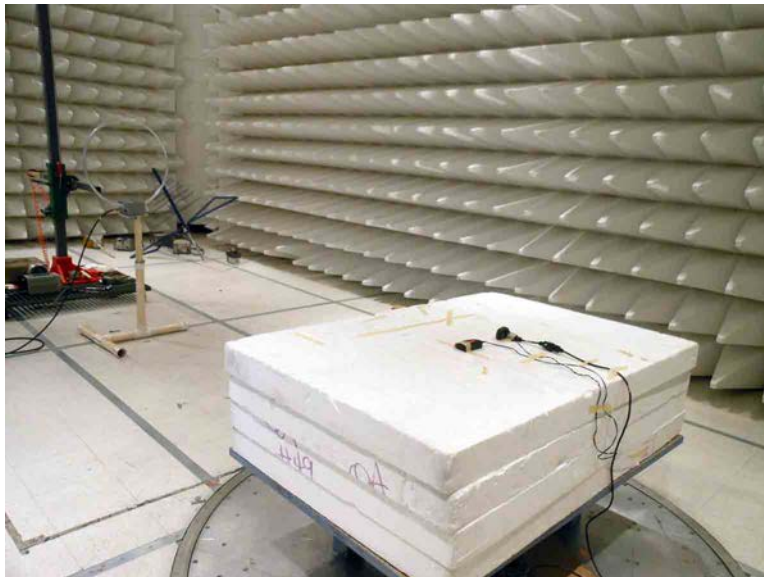
CKC Laboratories, Inc Date: 8/16/2013 Time: 16:22:56 Electronic Warfare Associates, Inc WO#: 94594
 Test Distance: 3 Meters Sequence#: 24



Test Setup Photos



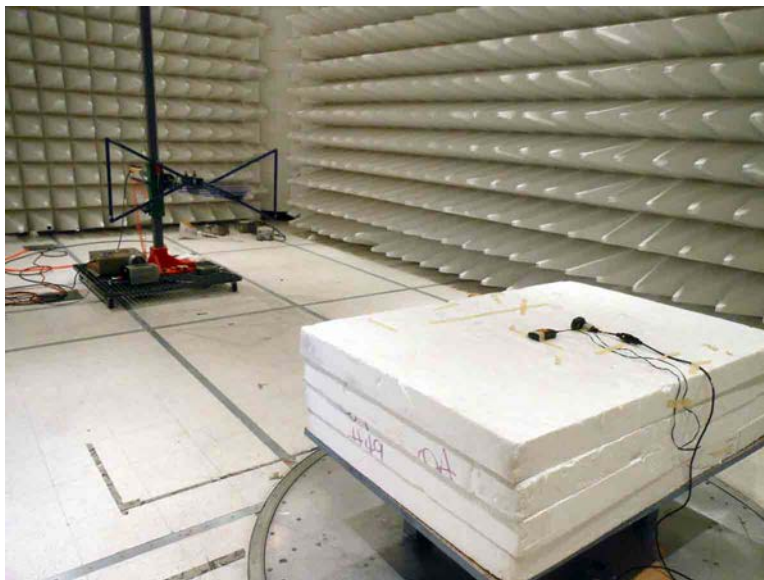
9kHz - 30MHz



9kHz - 30MHz



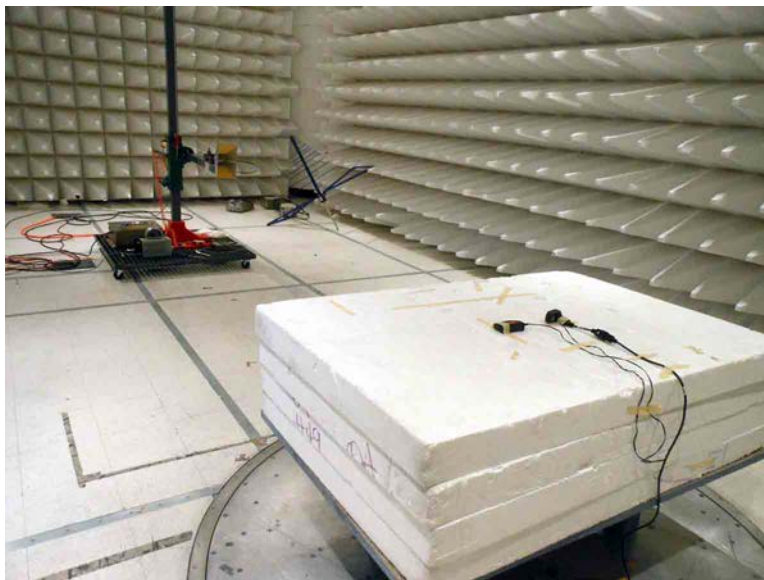
30MHz - 1GHz



30MHz - 1GHz



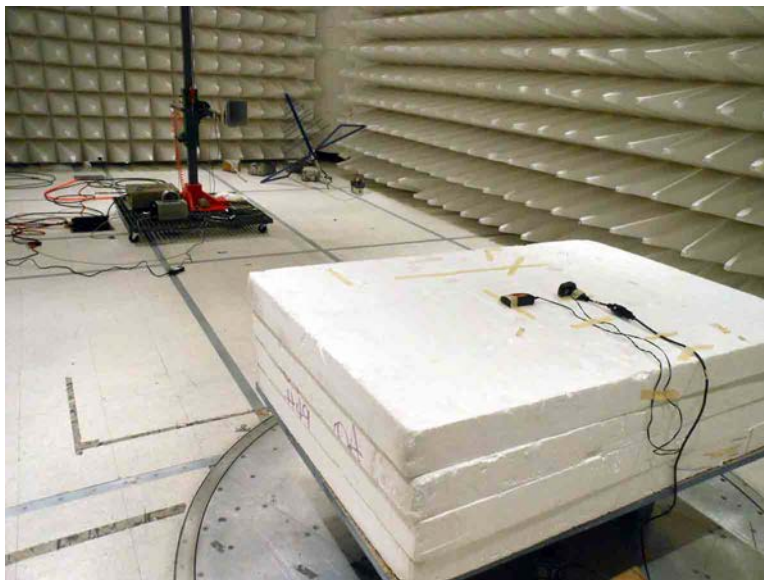
1-12GHz



1-12GHz



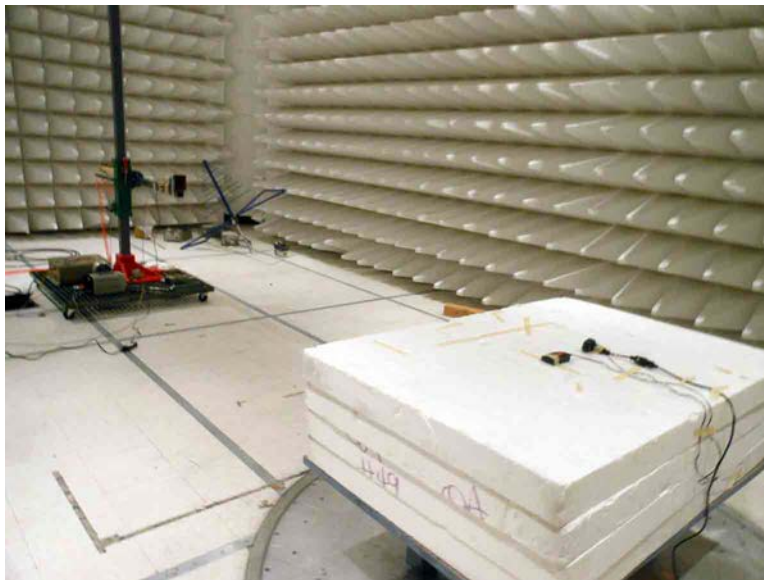
12-18GHz



12-18GHz



18-25GHz



18-25GHz

15.249(d) Band Edge

Test Conditions / Setup

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

Customer: **Electronic Warfare Associates, Inc.**

Specification: **Band Edge Set up**

Work Order #: **94594**

Date: 8/16/2013

Test Type: **Radiated Scan**

Time: 10:21:59

Equipment: **Access Point**

Sequence#: 5

Manufacturer: Electronic Warfare Associates, Inc.

Tested By: Hieu Song Nguyenpham

Model: **SKEY-SSRF**

S/N: **ENG1**

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T2	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T3	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
T4	AN02157	Horn Antenna-ANSI C63.5	3115	1/23/2013	1/23/2015
T5	AN03302	Cable	32026-29094K-29094K-72TC	3/21/2012	3/21/2014
T6	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
AC/DC Power adapter	Triad	WSU075-1000	E345519
Access Point*	Electronic Warfare Associates, Inc.	SKEY-SSRF	ENG1

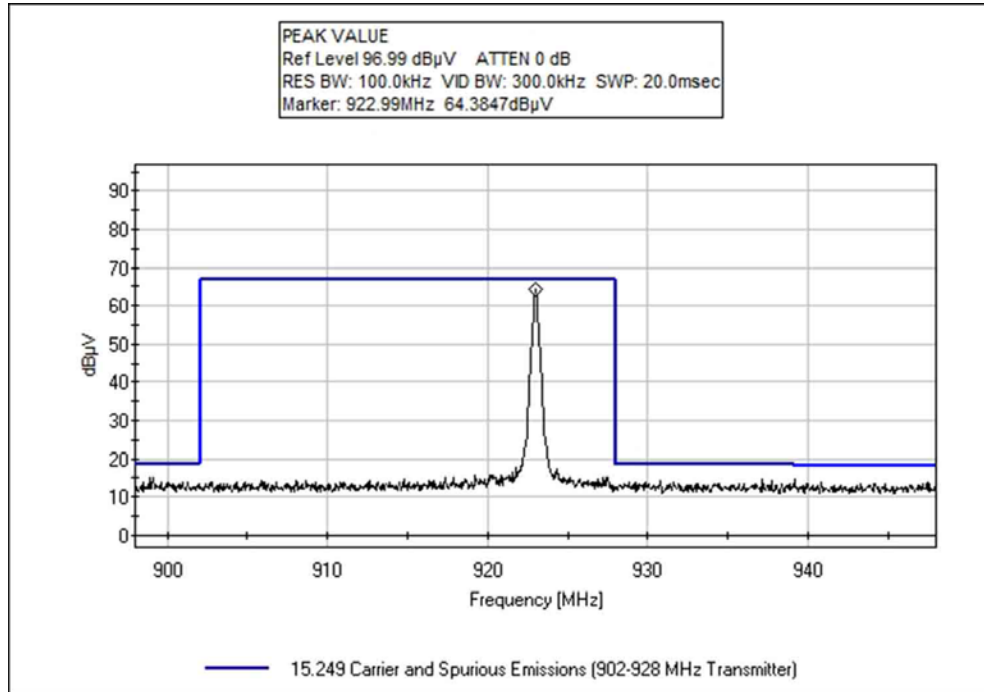
Support Devices:

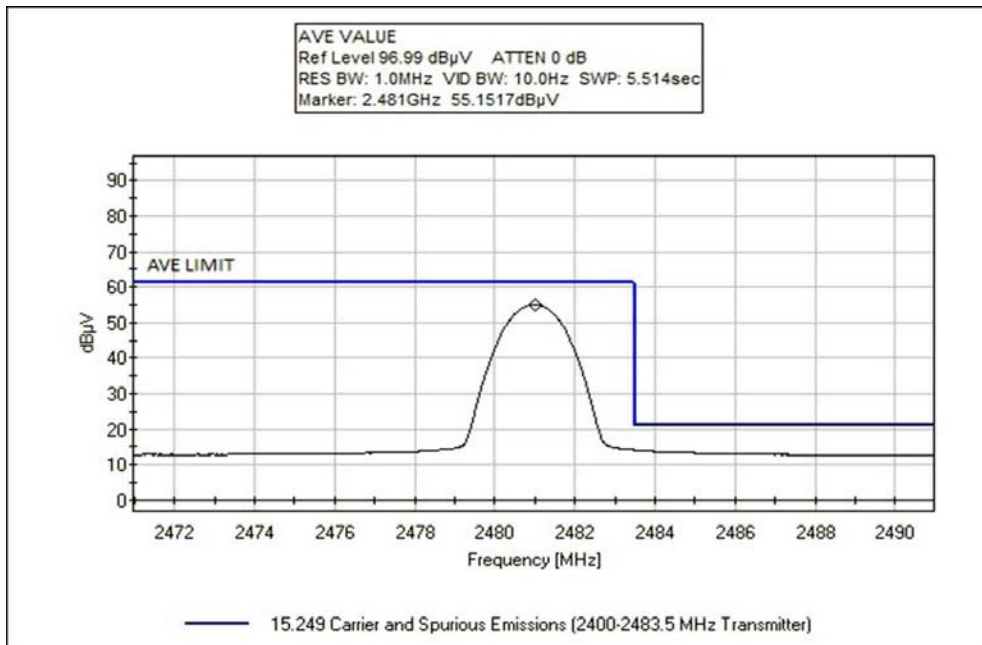
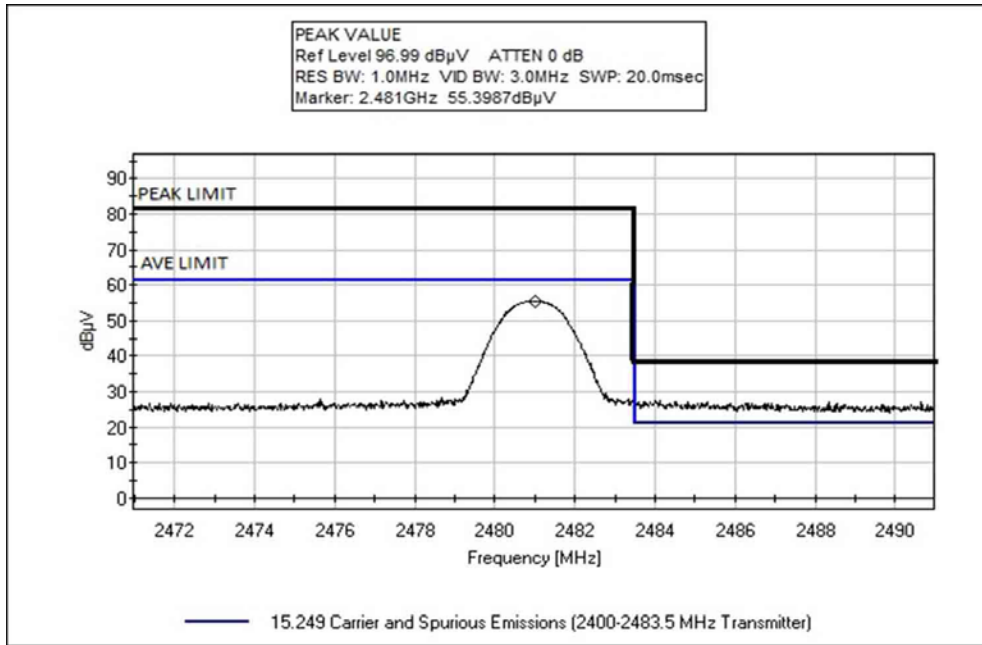
Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

Band edge Set up. Software Used: C and is permanently burned into memory as binary machine language (two different processors, CC2510 and CC1110)
 Temperature: 22.1°C, Humidity: 43%, Atmospheric Pressure: 101.2 kPa
 High Clock: 26MHz
 Transmitting operating frequency= 923MHz and 2481MHz
 RF Output= 0dBm at the antenna feed point
 Gain of the antenna= 0 dBi (923 MHz) and +1.5 dBi (2.481 GHz)
 The EUT is a fixed device. It is placed on the 80cm Styrofoam table. The EUT is set in continuously transmit or receive

Test Data

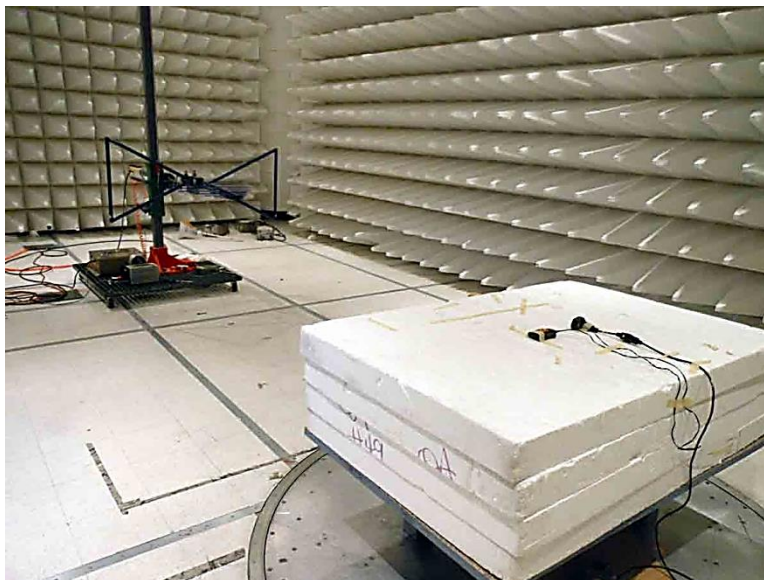




Test Setup Photos



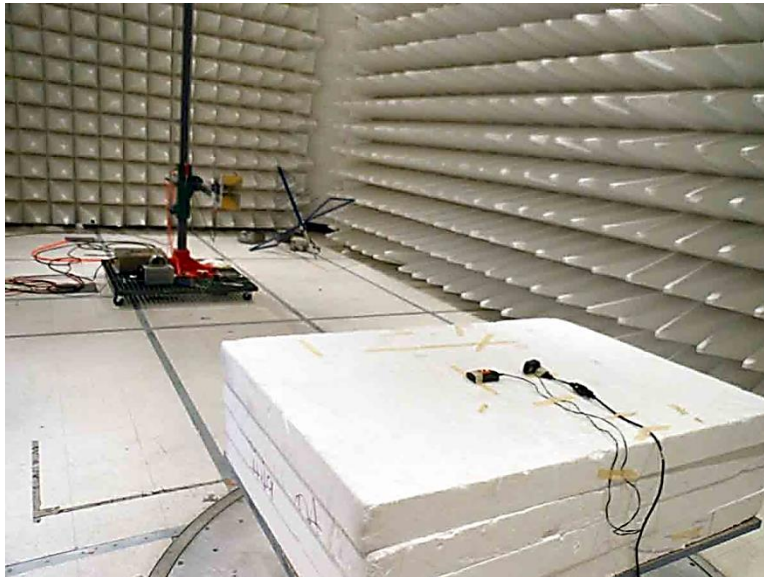
923MHz



923MHz



2481MHz



2481MHz

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	(dB μ V)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dB μ V/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.