

Ext Attn: 0 dB

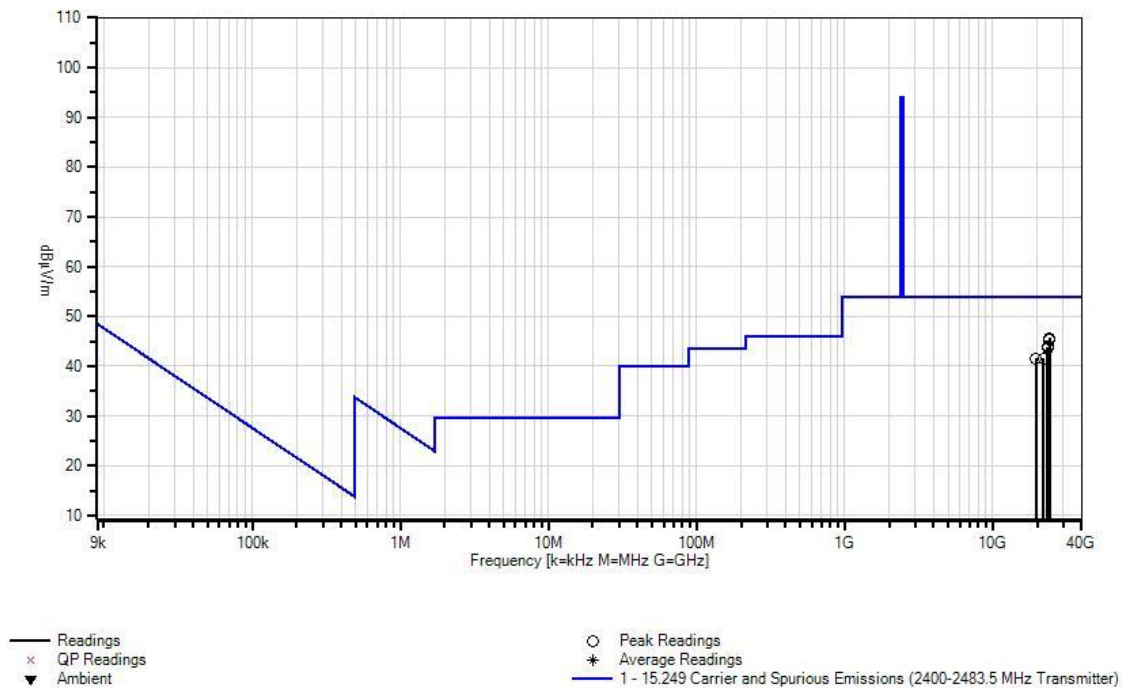
Measurement Data:

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	24218.716 M	47.1	+4.4	+8.6	-17.5	+3.0	+0.0	45.6	54.0	-8.4	Vert
2	24181.938 M	46.8	+4.4	+8.6	-17.5	+2.9	+0.0	45.2	54.0	-8.8	Horiz
3	23361.356 M	45.9	+4.4	+8.5	-17.8	+2.9	+0.0	43.9	54.0	-10.1	Vert
4	23669.664 M	45.6	+4.4	+8.5	-17.7	+3.0	+0.0	43.8	54.0	-10.2	Vert
5	21950.947 M	43.4	+4.3	+8.2	-17.3	+3.0	+0.0	41.6	54.0	-12.4	Horiz
6	19535.534 M	43.3	+3.7	+7.8	-16.6	+3.3	+0.0	41.5	54.0	-12.5	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 13:50:46 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 44



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 10:55:25
 Equipment: **Link** Sequence#: 83
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 9kHz to 30MHz
 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6 kPa

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

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 4 DQPSK (2Mbps)
 High Channel

Ext Attn: 0 dB

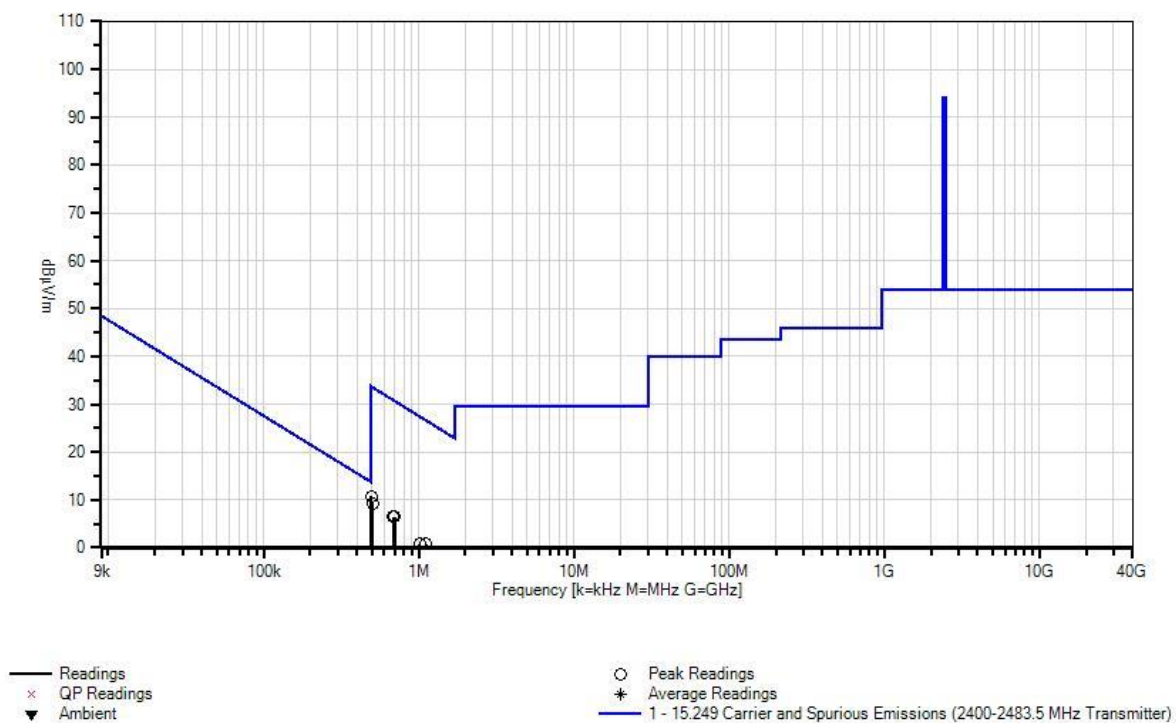
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB		Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	496.414k	40.9	+9.8	+0.1	+0.0		-40.0	10.8	33.7	-22.9	Paral
2	704.036k	36.4	+9.9	+0.1	+0.0		-40.0	6.4	30.6	-24.2	Perpe
3	505.419k	39.4	+9.8	+0.1	+0.0		-40.0	9.3	33.5	-24.2	Perpe
4	683.477k	36.5	+9.9	+0.1	+0.0		-40.0	6.5	30.9	-24.4	Paral
5	1.110M	31.0	+9.7	+0.1	+0.0		-40.0	0.8	26.7	-25.9	Paral
6	1.018M	31.0	+9.7	+0.1	+0.0		-40.0	0.8	27.4	-26.6	Perpe

CKC Laboratories, Inc Date: 1/13/2014 Time: 10:55:25 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 83



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 4:33:22 PM
 Equipment: **Link** Sequence#: 64
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00730	Preamp	8447D	1/17/2013	1/17/2015
T2	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T3	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 30MHz to 1000MHz
 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa
 RBW=VBW=120kHz
 High Clock: 40MHz
 Software Used: FCC test
 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm
 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.
 Note: Modulation Type: 4 DQPSK (2Mbps)
 High Channel

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

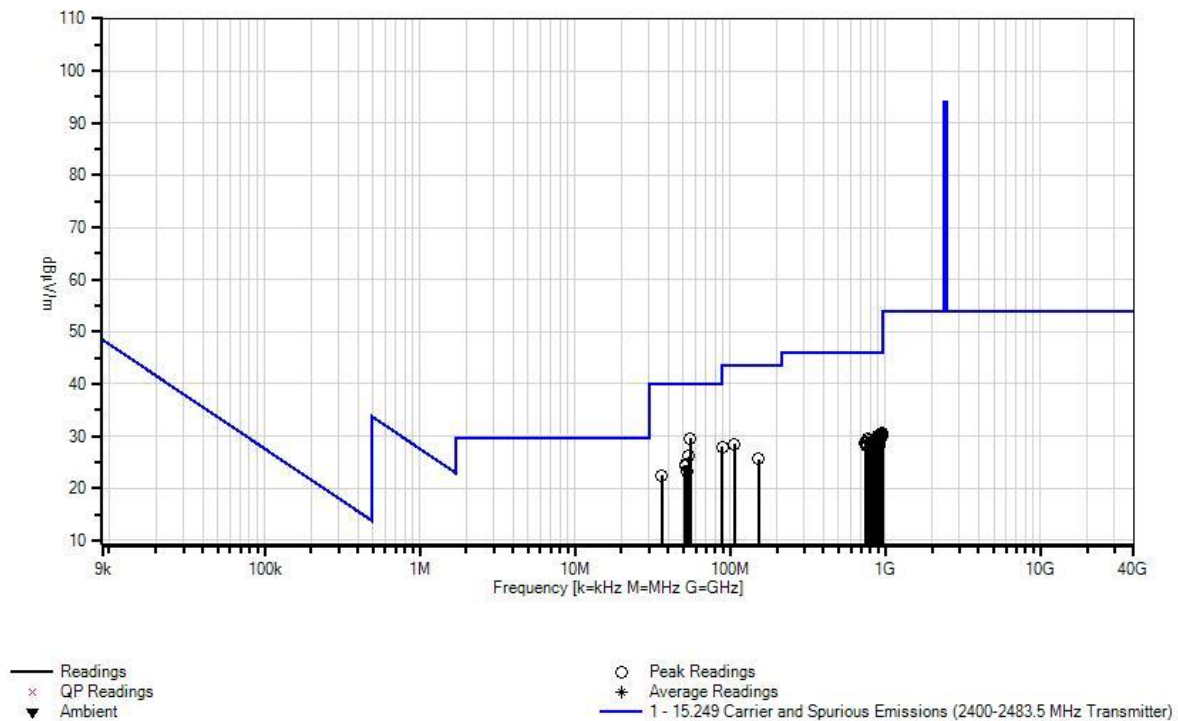
Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	55.488M	48.4	-27.0 +0.2	+7.1	+0.7	+0.2	+0.0	29.6	40.0	-10.4	Vert
2	53.958M	44.5	-27.0 +0.2	+7.5	+0.7	+0.2	+0.0	26.1	40.0	-13.9	Vert
3	106.038M	43.5	-27.1 +0.3	+10.6	+1.0	+0.2	+0.0	28.5	43.5	-15.0	Vert
4	953.480M	28.6	-27.1 +0.9	+23.5	+3.5	+1.2	+0.0	30.6	46.0	-15.4	Vert
5	954.795M	28.6	-27.1 +0.9	+23.5	+3.5	+1.2	+0.0	30.6	46.0	-15.4	Vert
6	51.628M	42.1	-27.0 +0.2	+8.3	+0.7	+0.2	+0.0	24.5	40.0	-15.5	Vert
7	959.365M	28.5	-27.2 +0.9	+23.6	+3.5	+1.2	+0.0	30.5	46.0	-15.5	Vert
8	89.295M	44.5	-27.0 +0.3	+8.9	+0.9	+0.3	+0.0	27.9	43.5	-15.6	Vert
9	956.110M	28.4	-27.1 +0.9	+23.5	+3.5	+1.2	+0.0	30.4	46.0	-15.6	Vert
10	52.227M	42.0	-27.0 +0.2	+8.1	+0.7	+0.2	+0.0	24.2	40.0	-15.8	Vert
11	889.101M	29.2	-27.1 +0.9	+22.7	+3.4	+1.0	+0.0	30.1	46.0	-15.9	Vert
12	957.675M	28.0	-27.2 +0.9	+23.6	+3.5	+1.2	+0.0	30.0	46.0	-16.0	Vert
13	899.431M	28.7	-27.1 +0.9	+23.0	+3.4	+1.0	+0.0	29.9	46.0	-16.1	Vert
14	937.389M	28.4	-27.1 +0.9	+23.1	+3.5	+1.1	+0.0	29.9	46.0	-16.1	Vert
15	891.503M	28.9	-27.1 +0.9	+22.7	+3.4	+1.0	+0.0	29.8	46.0	-16.2	Vert
16	916.848M	28.4	-27.1 +0.9	+22.7	+3.5	+1.1	+0.0	29.5	46.0	-16.5	Vert
17	881.533M	28.2	-27.1 +0.9	+23.0	+3.4	+1.0	+0.0	29.4	46.0	-16.6	Vert
18	774.506M	29.4	-26.8 +0.8	+21.7	+3.1	+1.2	+0.0	29.4	46.0	-16.6	Vert
19	932.464M	28.1	-27.1 +0.9	+22.9	+3.5	+1.1	+0.0	29.4	46.0	-16.6	Vert
20	904.236M	28.2	-27.1 +0.9	+23.0	+3.4	+1.0	+0.0	29.4	46.0	-16.6	Vert
21	883.215M	28.1	-27.1 +0.9	+23.0	+3.4	+1.0	+0.0	29.3	46.0	-16.7	Vert
22	893.425M	28.4	-27.1 +0.9	+22.7	+3.4	+1.0	+0.0	29.3	46.0	-16.7	Vert
23	52.560M	41.1	-27.0 +0.2	+8.0	+0.7	+0.2	+0.0	23.2	40.0	-16.8	Vert

24	782.794M	29.0	-26.7 +0.8	+21.7	+3.2	+1.2	+0.0	29.2	46.0	-16.8	Vert
25	908.440M	27.9	-27.1 +0.9	+22.9	+3.5	+1.1	+0.0	29.2	46.0	-16.8	Vert
26	817.629M	28.7	-26.8 +0.9	+21.8	+3.3	+1.1	+0.0	29.0	46.0	-17.0	Vert
27	915.647M	27.9	-27.1 +0.9	+22.7	+3.5	+1.1	+0.0	29.0	46.0	-17.0	Vert
28	822.314M	28.4	-26.8 +0.9	+22.0	+3.3	+1.1	+0.0	28.9	46.0	-17.1	Vert
29	882.734M	27.6	-27.1 +0.9	+23.0	+3.4	+1.0	+0.0	28.8	46.0	-17.2	Vert
30	763.095M	28.7	-26.8 +0.8	+21.6	+3.1	+1.2	+0.0	28.6	46.0	-17.4	Vert
31	746.879M	28.6	-26.9 +0.8	+21.9	+3.0	+1.2	+0.0	28.6	46.0	-17.4	Vert
32	913.605M	27.4	-27.1 +0.9	+22.8	+3.5	+1.1	+0.0	28.6	46.0	-17.4	Vert
33	857.990M	27.7	-27.0 +0.9	+22.7	+3.3	+1.0	+0.0	28.6	46.0	-17.4	Vert
34	814.386M	28.4	-26.8 +0.9	+21.7	+3.2	+1.1	+0.0	28.5	46.0	-17.5	Vert
35	36.256M	33.5	-27.1 +0.1	+15.2	+0.5	+0.2	+0.0	22.4	40.0	-17.6	Vert
36	806.818M	28.4	-26.8 +0.9	+21.6	+3.2	+1.1	+0.0	28.4	46.0	-17.6	Vert
37	808.620M	28.3	-26.8 +0.9	+21.6	+3.2	+1.1	+0.0	28.3	46.0	-17.7	Vert
38	763.936M	28.4	-26.8 +0.8	+21.6	+3.1	+1.2	+0.0	28.3	46.0	-17.7	Vert
39	889.581M	27.4	-27.1 +0.9	+22.7	+3.4	+1.0	+0.0	28.3	46.0	-17.7	Vert
40	850.662M	27.8	-26.9 +0.9	+22.2	+3.3	+1.0	+0.0	28.3	46.0	-17.7	Vert
41	810.182M	28.2	-26.8 +0.9	+21.6	+3.2	+1.1	+0.0	28.2	46.0	-17.8	Vert
42	765.617M	28.3	-26.8 +0.8	+21.6	+3.1	+1.2	+0.0	28.2	46.0	-17.8	Vert
43	749.041M	28.1	-26.9 +0.8	+22.0	+3.0	+1.2	+0.0	28.2	46.0	-17.8	Vert
44	852.584M	27.6	-26.9 +0.9	+22.3	+3.3	+1.0	+0.0	28.2	46.0	-17.8	Vert
45	914.446M	27.1	-27.1 +0.9	+22.7	+3.5	+1.1	+0.0	28.2	46.0	-17.8	Vert
46	911.203M	26.9	-27.1 +0.9	+22.9	+3.5	+1.1	+0.0	28.2	46.0	-17.8	Vert
47	853.785M	27.6	-27.0 +0.9	+22.4	+3.3	+1.0	+0.0	28.2	46.0	-17.8	Vert

48	152.885M	39.8	-27.0 +0.4	+10.7	+1.2	+0.5	+0.0	25.6	43.5	-17.9	Vert
49	828.320M	27.6	-26.8 +0.9	+22.1	+3.3	+1.0	+0.0	28.1	46.0	-17.9	Vert
50	832.644M	27.7	-26.9 +0.9	+22.1	+3.3	+1.0	+0.0	28.1	46.0	-17.9	Vert

CKC Laboratories, Inc Date: 1/10/2014 Time: 4:33:22 PM Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 64



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/9/2014
 Test Type: **Radiated Scan** Time: 16:40:45
 Equipment: **Link** Sequence#: 11
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
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
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T5	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission

Frequency Range: 1000MHz to 12000MHz

Temperature: 21.2°C, Humidity: 36%, Atmospheric Pressure: 102.0kPa

RBW=VBW=1MHz

High Clock: 40MHz

Software Used: FCC test

Transmitter operating frequency: 2.4GHz

Number of Channel: 40

Low Frequency: 2.402GHz

Middle Frequency: 2.442GHz

High Frequency: 2.480GHz

RF output power: 2dBm

The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.

Test mode firmware installed for testing that modifies frequency based on input voltage.

Note: Modulation Type: 4 DQPSK (2Mbps)

High Channel

Ext Attn: 0 dB

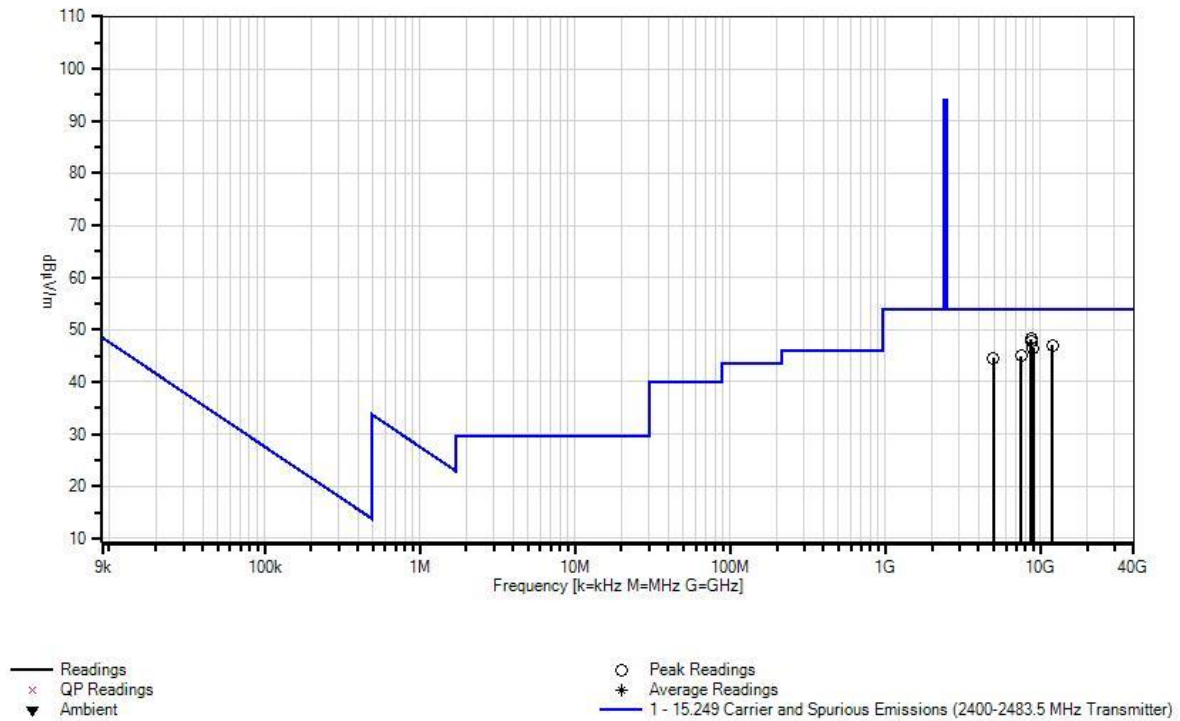
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	8714.709M	56.2	+37.8 +2.4	+2.1 +0.3	+5.7	-56.3	+0.0	48.2	54.0	-5.8	Vert
2	8744.739M	55.6	+37.9 +2.4	+2.1 +0.3	+5.8	-56.3	+0.0	47.8	54.0	-6.2	Horiz
3	11944.448 M	52.0	+39.7 +2.4	+2.4 +0.3	+6.4	-56.2	+0.0	47.0	54.0	-7.0	Vert
4	9000.995M	54.2	+38.2 +2.3	+2.1 +0.3	+6.0	-56.7	+0.0	46.4	54.0	-7.6	Vert
5	7540.536M	57.9	+36.7 +2.0	+1.9 +0.2	+5.4	-59.2	+0.0	44.9	54.0	-9.1	Horiz
6	4959.958M	61.5	+33.6 +1.6	+1.6 +0.2	+3.9	-57.9	+0.0	44.5	54.0	-9.5	Horiz

CKC Laboratories, Inc Date: 1/9/2014 Time: 16:40:45 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 11



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 10:49:38
 Equipment: **Link** Sequence#: 29
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP00928	Cable	various	2/10/2012	2/10/2014
T2	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
T3	ANP06126	Cable	32022-29094K-29094K-168TC	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	ANANT-AN02693-20130221	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 12000MHz to 18000MHz
 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1 kPa
 RBW=VBW=1MHz
 High Clock: 40MHz

Software Used: FCC test
 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm

The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

Note: Modulation Type: 4 DQPSK (2Mbps)
 High Channel

Ext Attn: 0 dB

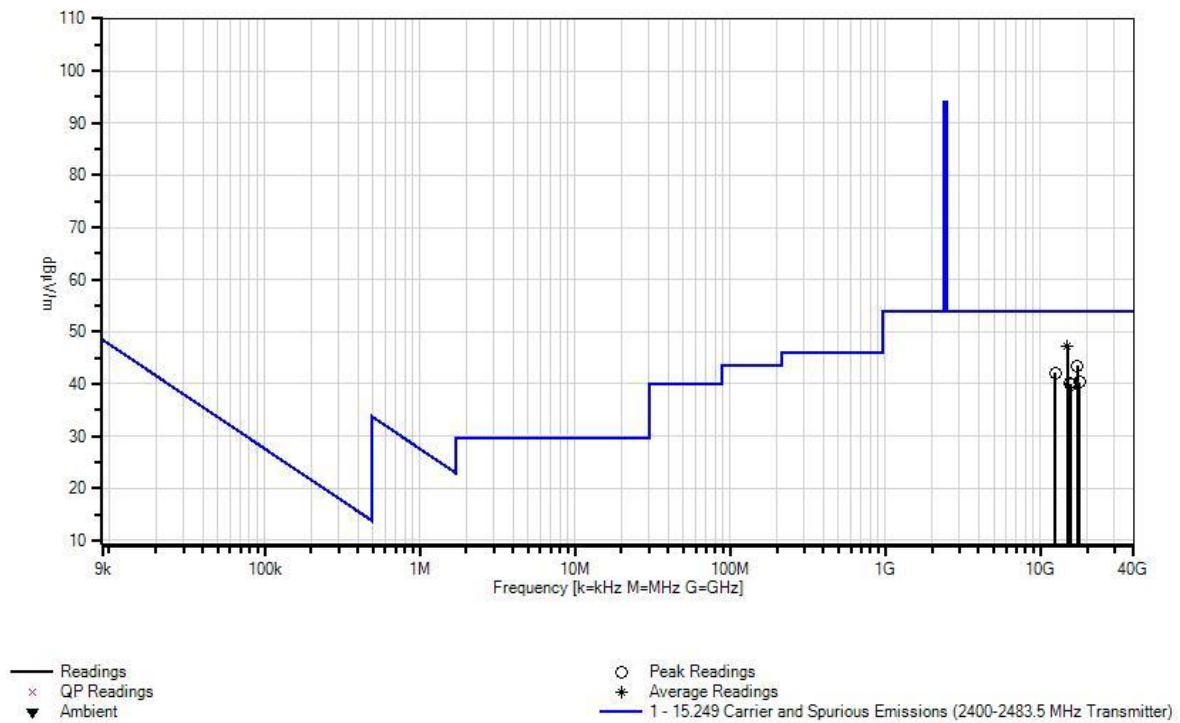
Measurement Data:

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	14879.231 M	52.0	+0.9	+3.0	+6.8	-15.4	+0.0	47.3	54.0	-6.7	Vert
Ave											
^	14879.231 M	61.4	+0.9	+3.0	+6.8	-15.4	+0.0	56.7	54.0	+2.7	Vert
^	14879.231 M	59.4	+0.9	+3.0	+6.8	-15.4	+0.0	54.7	54.0	+0.7	Vert
4	17337.330 M	46.9	+0.8	+3.0	+7.3	-14.6	+0.0	43.4	54.0	-10.6	Vert
5	12401.401 M	48.0	+0.9	+2.5	+6.0	-15.3	+0.0	42.1	54.0	-11.9	Horiz
6	17821.895 M	42.3	+0.8	+3.3	+7.3	-13.4	+0.0	40.3	54.0	-13.7	Horiz
7	15590.587 M	44.8	+1.0	+3.2	+7.0	-15.9	+0.0	40.1	54.0	-13.9	Vert
8	15699.696 M	44.9	+1.0	+3.2	+7.0	-16.3	+0.0	39.8	54.0	-14.2	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 10:49:38 Automatic Labs WO#: 95286
 Test Distance: 3 Meters Sequence#: 29



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 14:11:33
 Equipment: **Link** Sequence#: 47
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T3	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

<p>Radiated Emission Frequency Range: 18000MHz to 25000MHz Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa RBW=VBW=1MHz High Clock: 40MHz</p> <p>Software Used: FCC test Transmitter operating frequency: 2.4GHz Number of Channel: 40 Low Frequency: 2.402GHz Middle Frequency: 2.442GHz High Frequency: 2.480GHz RF output power: 2dBm</p> <p>The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.</p> <p>Note: Modulation Type: 4 DQPSK (2Mbps) High Channel</p>

Ext Attn: 0 dB

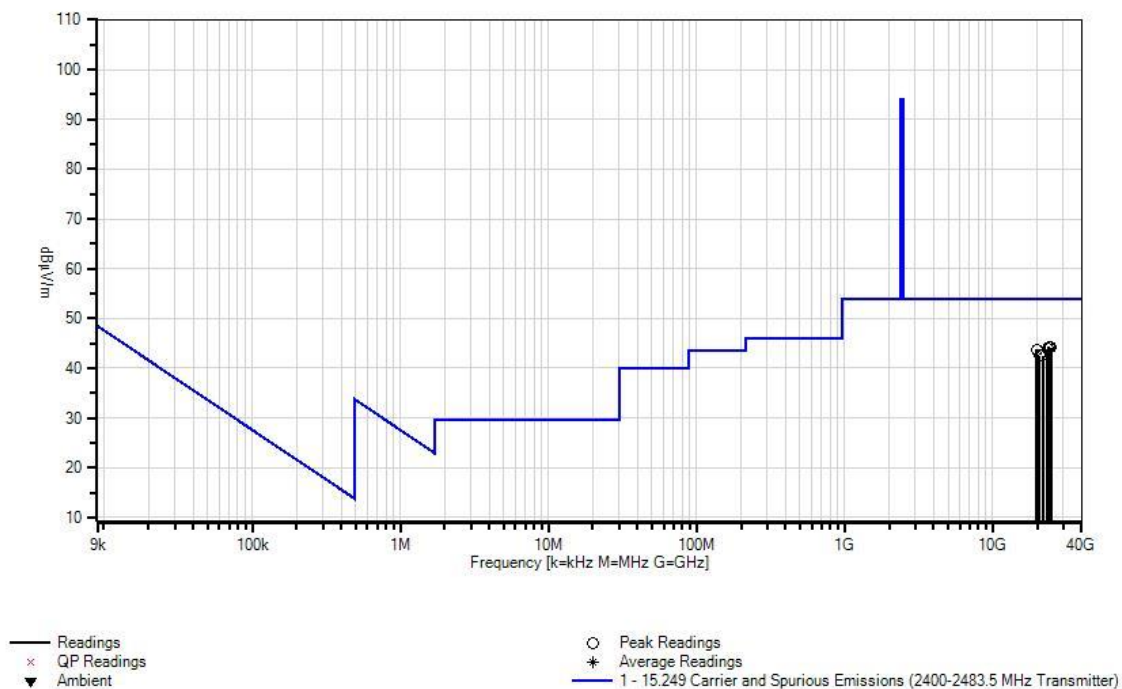
Measurement Data:

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	23976.971 M	45.9	+4.4	+8.5	-17.5	+3.0	+0.0	44.3	54.0	-9.7	Horiz
2	24654.088 M	45.1	+4.4	+8.9	-17.1	+2.9	+0.0	44.2	54.0	-9.8	Vert
3	23447.442 M	45.8	+4.4	+8.5	-17.7	+2.9	+0.0	43.9	54.0	-10.1	Vert
4	19838.837 M	45.6	+3.8	+7.8	-16.7	+3.2	+0.0	43.7	54.0	-10.3	Vert
5	21739.736 M	44.4	+4.2	+8.2	-17.3	+3.0	+0.0	42.5	54.0	-11.5	Horiz
6	20691.689 M	44.3	+4.2	+7.9	-17.0	+3.1	+0.0	42.5	54.0	-11.5	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 14:11:33 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 47



Test Data – 8 DPSK

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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 11:12:28
 Equipment: **Link** Sequence#: 86
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 9kHz to 30MHz
 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6kPa
 RBW=VBW=200Hz from 9kHz to 150kHz
 RBW=VBW=9kHz from 150kHz to 30MHz
 High Clock: 40MHz
 Software Used: FCC test
 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm
 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.
 Note: Modulation Type: 8 DPSK (3Mbps)
 Low Channel

Ext Attn: 0 dB

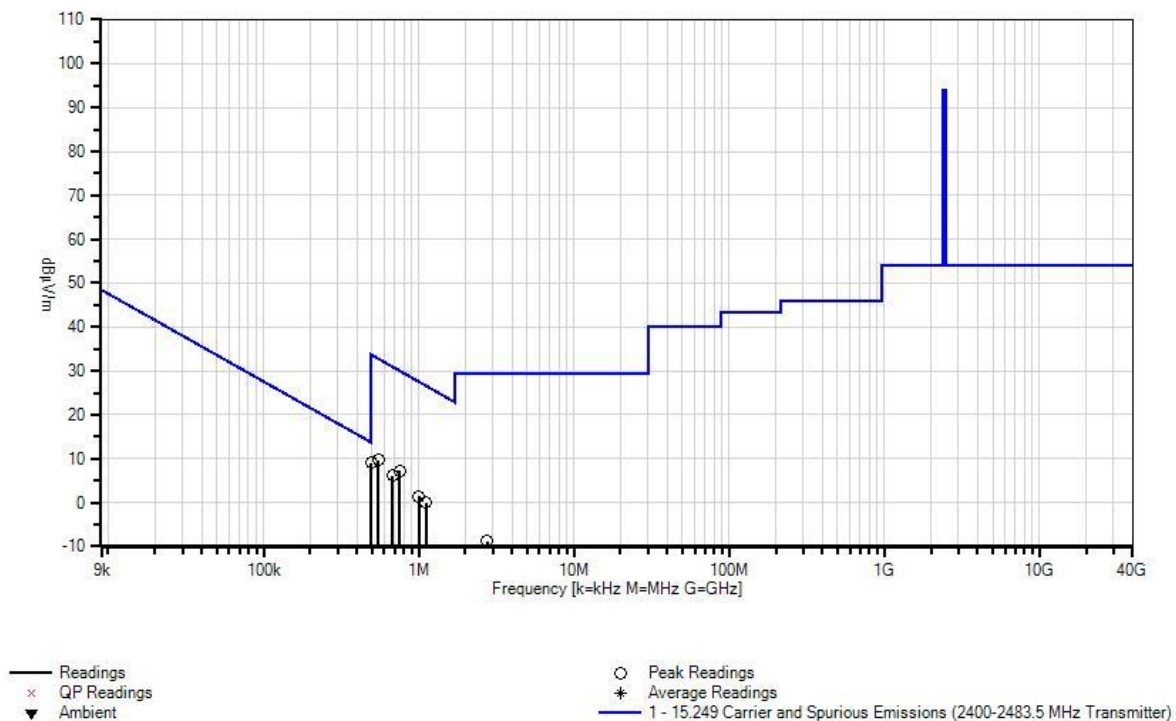
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB		Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	757.709k	37.5	+9.6	+0.1	+0.0		-40.0	7.2	30.0	-22.8	Perpe
2	551.840k	39.8	+9.8	+0.1	+0.0		-40.0	9.7	32.8	-23.1	Paral
3	492.455k	39.2	+9.8	+0.1	+0.0		-40.0	9.1	33.8	-24.7	Perpe
4	679.518k	36.2	+9.9	+0.1	+0.0		-40.0	6.2	30.9	-24.7	Paral
5	1.008M	31.6	+9.7	+0.1	+0.0		-40.0	1.4	27.5	-26.1	Perpe
6	1.111M	30.2	+9.7	+0.1	+0.0		-40.0	0.0	26.6	-26.6	Paral
7	2.772M	21.1	+9.9	+0.2	+0.0		-40.0	-8.8	29.5	-38.3	Paral

CKC Laboratories, Inc Date: 1/13/2014 Time: 11:12:28 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 86



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 08:45:01
 Equipment: **Link** Sequence#: 68
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00730	Preamp	8447D	1/17/2013	1/17/2015
T2	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T3	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 30MHz to 1000MHz

 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6kPa

 RBW=VBW=120kHz

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 Low Channel

Ext Attn: 0 dB

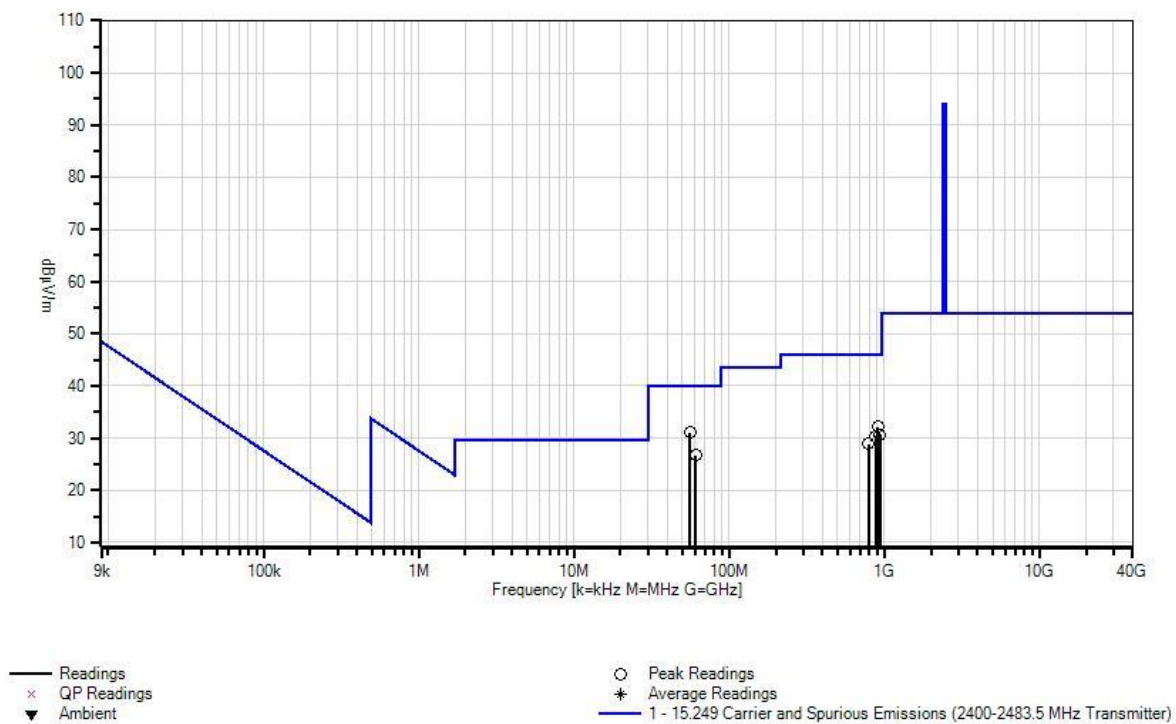
Measurement Data:

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	55.954M	50.0	-27.0 +0.2	+6.9	+0.7	+0.2	+0.0	31.0	40.0	-9.0	Vert
2	61.145M	46.8	-27.1 +0.2	+5.8	+0.7	+0.3	+0.0	26.7	40.0	-13.3	Vert
3	908.800M	30.9	-27.1 +0.9	+22.9	+3.5	+1.1	+0.0	32.2	46.0	-13.8	Horiz
4	942.586M	28.8	-27.1 +0.9	+23.4	+3.5	+1.2	+0.0	30.7	46.0	-15.3	Vert
5	876.128M	29.1	-27.0 +0.9	+22.9	+3.4	+1.0	+0.0	30.3	46.0	-15.7	Horiz
6	793.485M	28.7	-26.7 +0.9	+21.6	+3.2	+1.2	+0.0	28.9	46.0	-17.1	Horiz

CKC Laboratories, Inc Date: 1/13/2014 Time: 08:45:01 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 68



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/9/2014
 Test Type: **Radiated Scan** Time: 17:10:30
 Equipment: **Link** Sequence#: 14
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
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
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T5	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 1000MHz to 12000MHz
 Temperature: 21.2°C, Humidity: 36%, Atmospheric Pressure: 102.0kPa
 RBW=VBW=1MHz
 High Clock: 40MHz
 Software Used: FCC test
 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm
 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.
 Note: Modulation Type: 8 DPSK (3Mbps)
 Low Channel

Ext Attn: 0 dB

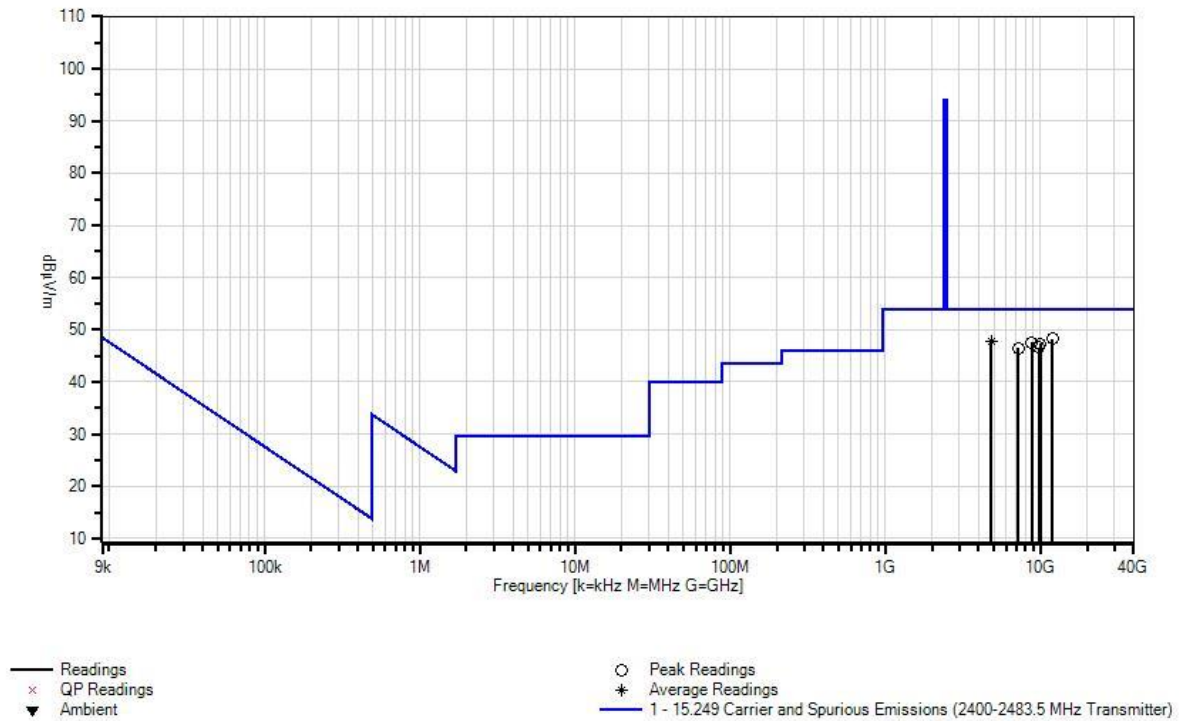
Measurement Data:

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	11950.400 M	53.2	+39.7 +2.4	+2.4 +0.3	+6.4	-56.2	+0.0	48.2	54.0	-5.8	Horiz
2	4803.802M Ave	65.7	+33.2 +1.6	+1.5 +0.2	+3.8	-58.3	+0.0	47.7	54.0	-6.3	Horiz
^	4803.802M	71.7	+33.2 +1.6	+1.5 +0.2	+3.8	-58.3	+0.0	53.7	54.0	-0.3	Horiz
^	4803.802M	69.9	+33.2 +1.6	+1.5 +0.2	+3.8	-58.3	+0.0	51.9	54.0	-2.1	Horiz
5	8817.812M	55.1	+38.1 +2.4	+2.1 +0.3	+5.9	-56.3	+0.0	47.6	54.0	-6.4	Vert
6	10026.019 M	54.9	+39.7 +2.3	+2.3 +0.0	+6.3	-58.2	+0.0	47.3	54.0	-6.7	Vert
7	9740.734M	54.1	+39.0 +2.2	+2.3 +0.2	+6.3	-57.5	+0.0	46.6	54.0	-7.4	Vert
8	7207.203M	60.3	+36.1 +1.9	+1.9 +0.2	+5.3	-59.3	+0.0	46.4	54.0	-7.6	Horiz

CKC Laboratories, Inc Date: 1/9/2014 Time: 17:10:30 Automatic Labs WO#: 95286
 Test Distance: 3 Meters Sequence#: 14



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 11:08:39
 Equipment: **Link** Sequence#: 32
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP00928	Cable	various	2/10/2012	2/10/2014
T2	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
T3	ANP06126	Cable	32022-29094K-29094K-168TC	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	ANANT-AN02693-20130221	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 12000MHz to 18000MHz

 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa

 RBW=VBW=1MHz

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 Low Channel

Ext Attn: 0 dB

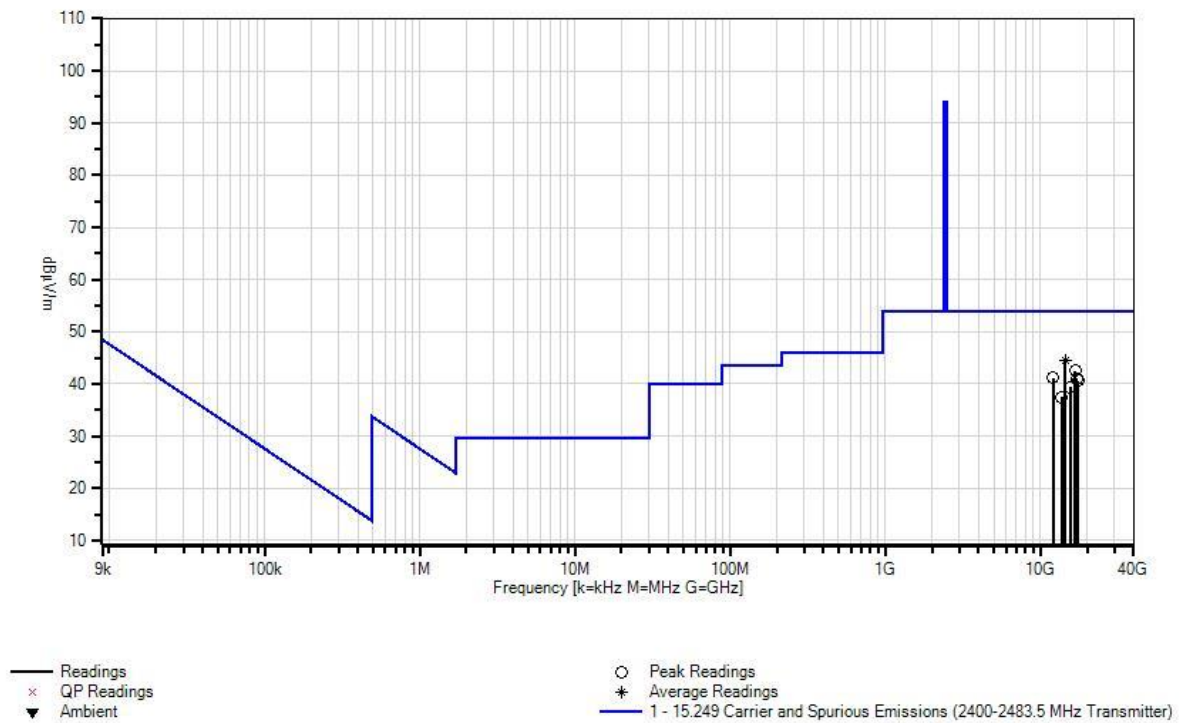
Measurement Data:

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	14411.990 M Ave	49.9	+0.9	+2.8	+6.5	-15.5	+0.0	44.6	54.0	-9.4	Vert
^	14411.990 M	59.6	+0.9	+2.8	+6.5	-15.5	+0.0	54.3	54.0	+0.3	Vert
^	14411.990 M	57.2	+0.9	+2.8	+6.5	-15.5	+0.0	51.9	54.0	-2.1	Vert
4	16815.811 M	47.4	+0.9	+2.9	+7.3	-16.0	+0.0	42.5	54.0	-11.5	Vert
5	12010.010 M	46.7	+1.0	+2.4	+5.8	-14.7	+0.0	41.2	54.0	-12.8	Horiz
6	17180.120 M	44.7	+0.8	+3.1	+7.3	-14.9	+0.0	41.0	54.0	-13.0	Horiz
7	17447.775 M	43.9	+0.8	+3.1	+7.3	-14.5	+0.0	40.6	54.0	-13.4	Vert
8	15521.518 M	44.0	+1.0	+3.2	+7.0	-15.8	+0.0	39.4	54.0	-14.6	Horiz
9	13676.675 M	43.5	+0.9	+2.7	+6.5	-16.2	+0.0	37.4	54.0	-16.6	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 11:08:39 Automatic Labs WO#: 95286
 Test Distance: 3 Meters Sequence#: 32



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 14:33:42
 Equipment: **Link** Sequence#: 50
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T3	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

<p>Radiated Emission Frequency Range: 18000MHz to 25000MHz</p> <p>Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa</p> <p>RBW=VBW=1MHz</p> <p>High Clock: 40MHz Software Used: FCC test</p> <p>Transmitter operating frequency: 2.4GHz Number of Channel: 40 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz RF output power: 2dBm</p> <p>The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.</p> <p>Note: Modulation Type: 8 DPSK (3Mbps) Low Channel</p>
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Ext Attn: 0 dB

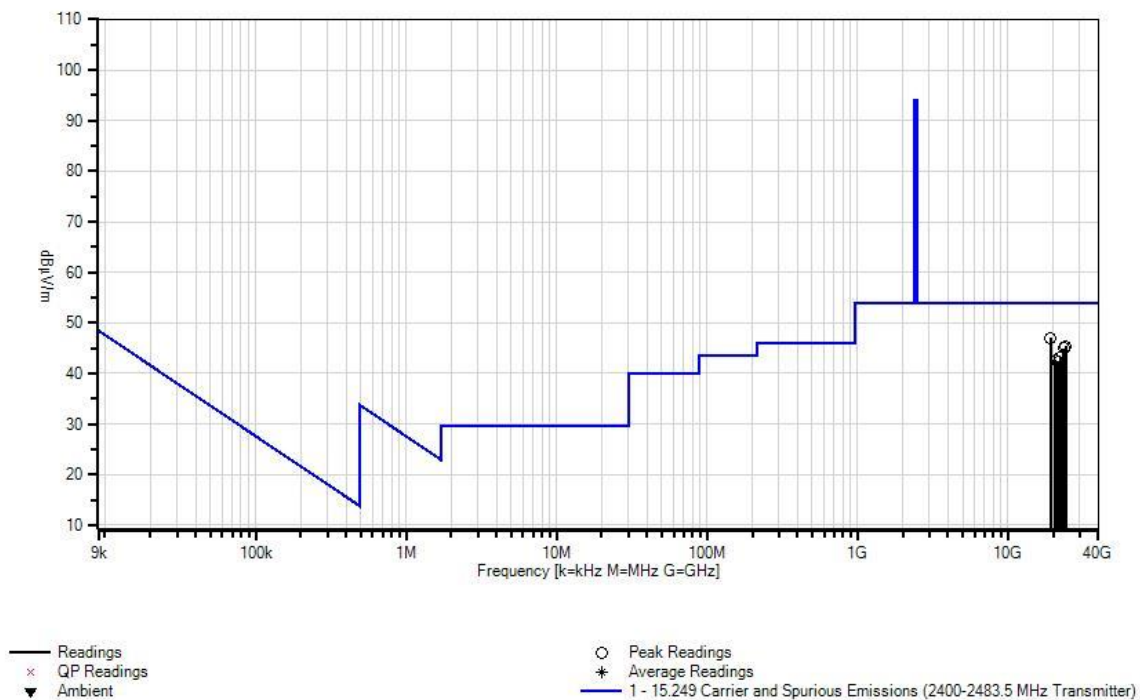
Measurement Data:

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	19216.215 M	49.0	+3.6	+7.6	-16.5	+3.3	+0.0	47.0	54.0	-7.0	Horiz
2	24174.980 M	47.0	+4.4	+8.6	-17.5	+2.9	+0.0	45.4	54.0	-8.6	Vert
3	23534.529 M	46.7	+4.4	+8.5	-17.7	+3.0	+0.0	44.9	54.0	-9.1	Vert
4	22172.168 M	45.2	+4.4	+8.2	-17.5	+2.9	+0.0	43.2	54.0	-10.8	Vert
5	20768.766 M	44.4	+4.2	+7.9	-17.0	+3.1	+0.0	42.6	54.0	-11.4	Horiz
6	21553.550 M	44.2	+4.2	+8.2	-17.2	+3.0	+0.0	42.4	54.0	-11.6	Horiz

CKC Laboratories, Inc. Date: 1/10/2014 Time: 14:33:42 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 50



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 11:30:00
 Equipment: **Link** Sequence#: 89
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 9kHz to 30MHz

 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6kPa

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

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 Middle Channel

Ext Attn: 0 dB

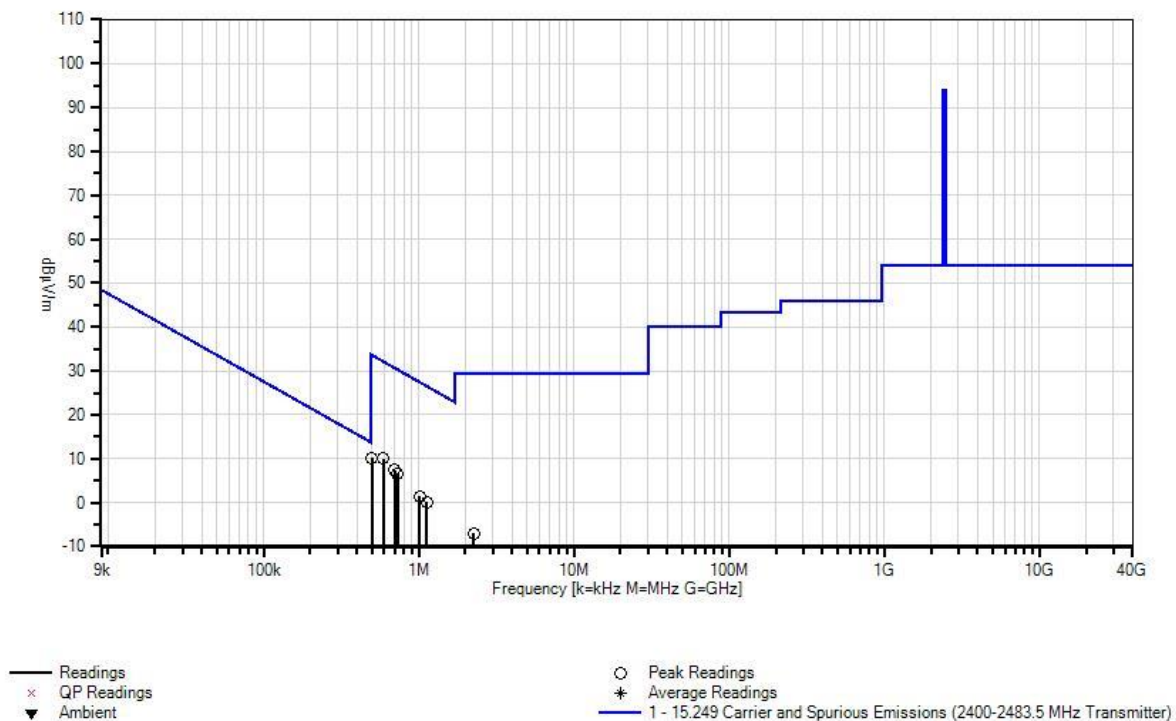
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB		Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	591.430k	40.2	+9.8	+0.1	+0.0		-40.0	10.1	32.2	-22.1	Paral
2	699.313k	37.4	+9.9	+0.1	+0.0		-40.0	7.4	30.7	-23.3	Perpe
3	499.383k	40.3	+9.8	+0.1	+0.0		-40.0	10.2	33.6	-23.4	Perpe
4	733.955k	36.7	+9.7	+0.1	+0.0		-40.0	6.5	30.3	-23.8	Paral
5	1.011M	31.6	+9.7	+0.1	+0.0		-40.0	1.4	27.5	-26.1	Perpe
6	1.126M	30.4	+9.7	+0.1	+0.0		-40.0	0.2	26.5	-26.3	Paral
7	2.253M	23.0	+9.9	+0.1	+0.0		-40.0	-7.0	29.5	-36.5	Paral

CKC Laboratories, Inc Date: 1/13/2014 Time: 11:30:00 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 89



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 09:16:23
 Equipment: **Link** Sequence#: 71
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00730	Preamp	8447D	1/17/2013	1/17/2015
T2	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T3	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 30MHz to 1000MHz

 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6kPa

 RBW=VBW=120kHz

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz
 Middle Frequency: 2.442GHz
 High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 Middle Channel

Ext Attn: 0 dB

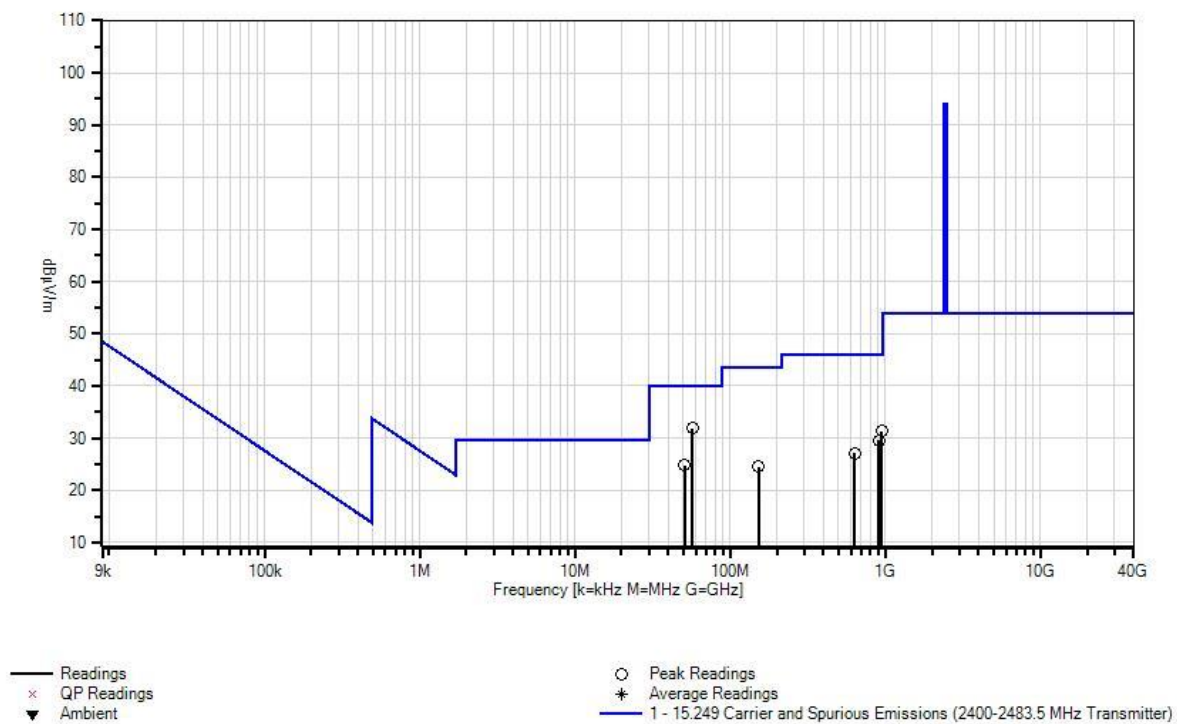
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	56.886M	51.0	-27.0 +0.2	+6.7	+0.7	+0.2	+0.0	31.8	40.0	-8.2	Vert
2	951.789M	29.3	-27.1 +0.9	+23.5	+3.5	+1.2	+0.0	31.3	46.0	-14.7	Vert
3	50.963M	42.0	-27.0 +0.2	+8.6	+0.7	+0.2	+0.0	24.7	40.0	-15.3	Vert
4	906.158M	28.3	-27.1 +0.9	+23.0	+3.4	+1.1	+0.0	29.6	46.0	-16.4	Horiz
5	636.849M	29.6	-26.8 +0.7	+19.8	+2.8	+1.0	+0.0	27.1	46.0	-18.9	Horiz
6	152.885M	38.7	-27.0 +0.4	+10.7	+1.2	+0.5	+0.0	24.5	43.5	-19.0	Horiz

CKC Laboratories, Inc Date: 1/13/2014 Time: 09:16:23 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 71



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 08:40:17
 Equipment: **Link** Sequence#: 17
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
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
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T5	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 1000MHz to 12000MHz
 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa
 RBW=VBW=1MHz
 High Clock: 40MHz
 Software Used: FCC test
 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm
 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.
 Note: Modulation Type: 8 DPSK (3Mbps)
 Middle Channel

Ext Attn: 0 dB

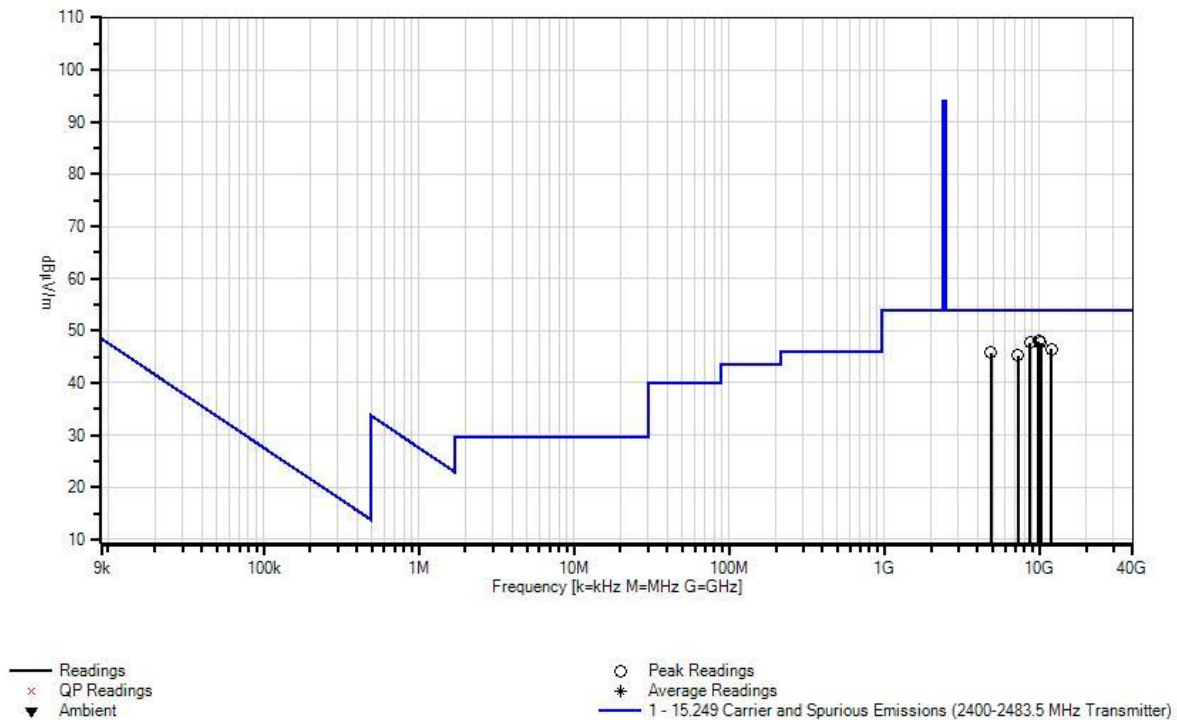
Measurement Data:

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	9846.840M	55.5	+39.4 +2.2	+2.3 +0.1	+6.2	-57.8	+0.0	47.9	54.0	-6.1	Horiz
2	10153.146 M	55.3	+39.7 +2.3	+2.3 +0.1	+6.3	-58.3	+0.0	47.7	54.0	-6.3	Vert
3	8735.730M	55.5	+37.9 +2.4	+2.1 +0.3	+5.8	-56.3	+0.0	47.7	54.0	-6.3	Vert
4	11997.024 M	51.5	+39.7 +2.4	+2.4 +0.3	+6.4	-56.2	+0.0	46.5	54.0	-7.5	Vert
5	4883.882M	63.4	+33.4 +1.6	+1.5 +0.3	+3.8	-58.2	+0.0	45.8	54.0	-8.2	Horiz
6	7307.303M	58.4	+36.6 +2.0	+1.9 +0.2	+5.4	-59.3	+0.0	45.2	54.0	-8.8	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 08:40:17 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 17



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 11:24:55
 Equipment: **Link** Sequence#: 35
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP00928	Cable	various	2/10/2012	2/10/2014
T2	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
T3	ANP06126	Cable	32022-29094K-29094K-168TC	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	ANANT-AN02693-20130221	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 12000MHz to 18000MHz

 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa

 RBW=VBW=1MHz

 High Clock: 40MHz
 Software Used: FCC test
 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 Middle Channel

Ext Attn: 0 dB

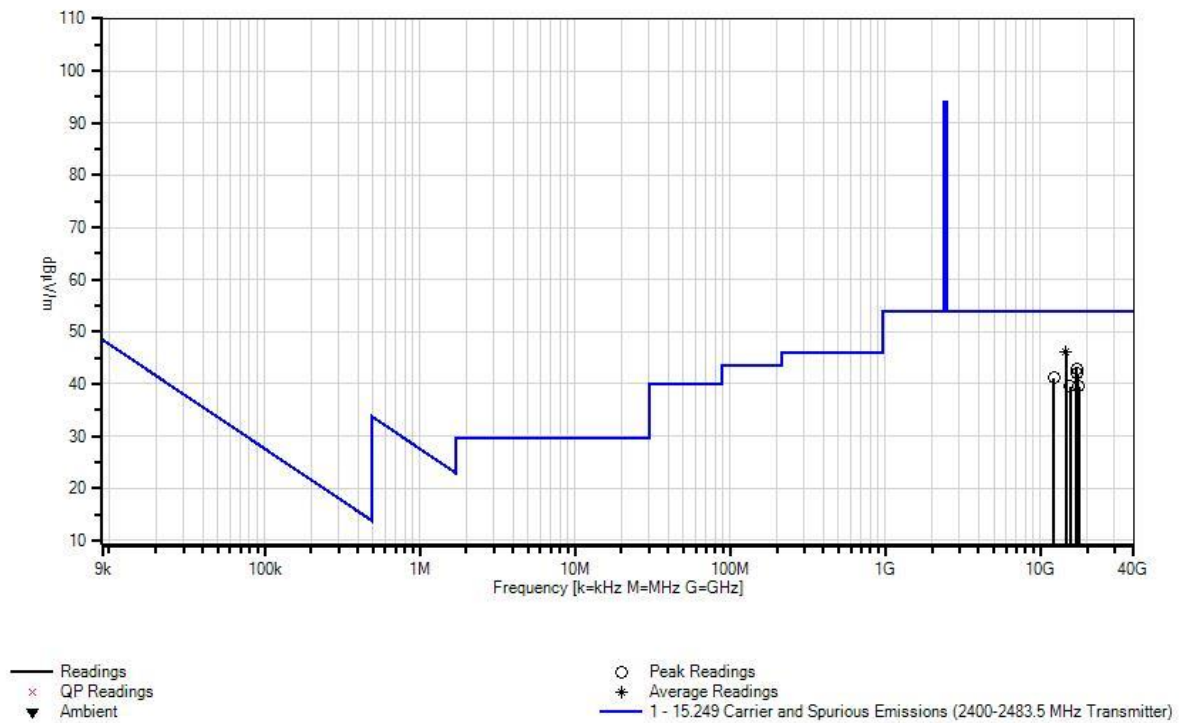
Measurement Data:

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	14651.990 M	51.0	+0.9	+2.9	+6.6	-15.4	+0.0	46.0	54.0	-8.0	Vert
Ave											
^	14651.990 M	60.6	+0.9	+2.9	+6.6	-15.4	+0.0	55.6	54.0	+1.6	Vert
^	14651.990 M	58.1	+0.9	+2.9	+6.6	-15.4	+0.0	53.1	54.0	-0.9	Vert
4	17094.550 M	47.1	+0.9	+3.0	+7.3	-15.4	+0.0	42.9	54.0	-11.1	Vert
5	17292.555 M	45.4	+0.8	+3.0	+7.3	-14.6	+0.0	41.9	54.0	-12.1	Vert
6	12210.210 M	47.2	+1.0	+2.4	+5.9	-15.3	+0.0	41.2	54.0	-12.8	Horiz
7	17671.650 M	42.0	+0.8	+3.2	+7.3	-13.8	+0.0	39.5	54.0	-14.5	Horiz
8	15494.491 M	44.2	+1.0	+3.1	+7.0	-15.8	+0.0	39.5	54.0	-14.5	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 11:24:55 Automatic Labs WO#: 95286
 Test Distance: 3 Meters Sequence#: 35



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 14:51:20
 Equipment: **Link** Sequence#: 53
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T3	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 18000MHz to 25000MHz

Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1 kPa

RBW=VBW=1MHz
 High Clock: 40MHz
 Software Used: FCC test

Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

Note: Modulation Type: 8 DPSK (3Mbps)
 Middle Channel

Ext Attn: 0 dB

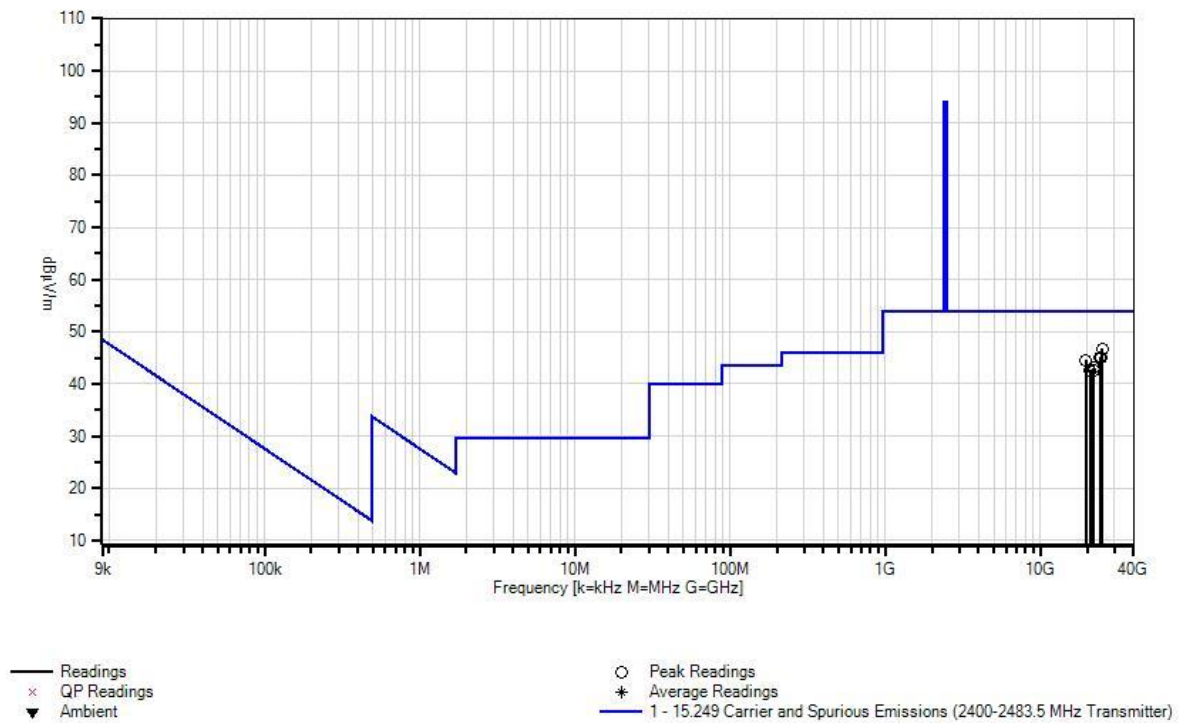
Measurement Data:

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	24938.372 M	47.4	+4.3	+9.0	-16.9	+2.9	+0.0	46.7	54.0	-7.3	Horiz
2	24377.756 M	46.3	+4.5	+8.7	-17.3	+2.9	+0.0	45.1	54.0	-8.9	Vert
3	24166.034 M	46.6	+4.4	+8.6	-17.5	+2.9	+0.0	45.0	54.0	-9.0	Horiz
4	19536.535 M	46.4	+3.7	+7.8	-16.6	+3.3	+0.0	44.6	54.0	-9.4	Horiz
5	22013.009 M	44.8	+4.4	+8.2	-17.3	+2.9	+0.0	43.0	54.0	-11.0	Vert
6	20820.818 M	44.3	+4.2	+8.0	-17.0	+3.1	+0.0	42.6	54.0	-11.4	Vert
7	21980.977 M	44.4	+4.3	+8.2	-17.3	+2.9	+0.0	42.5	54.0	-11.5	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 14:51:20 Automatic Labs WO#: 95286
 Test Distance: 3 Meters Sequence#: 53



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 11:48:56
 Equipment: **Link** Sequence#: 92
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 9kHz to 30MHz

 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6 kPa

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

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 High Channel

Ext Attn: 0 dB

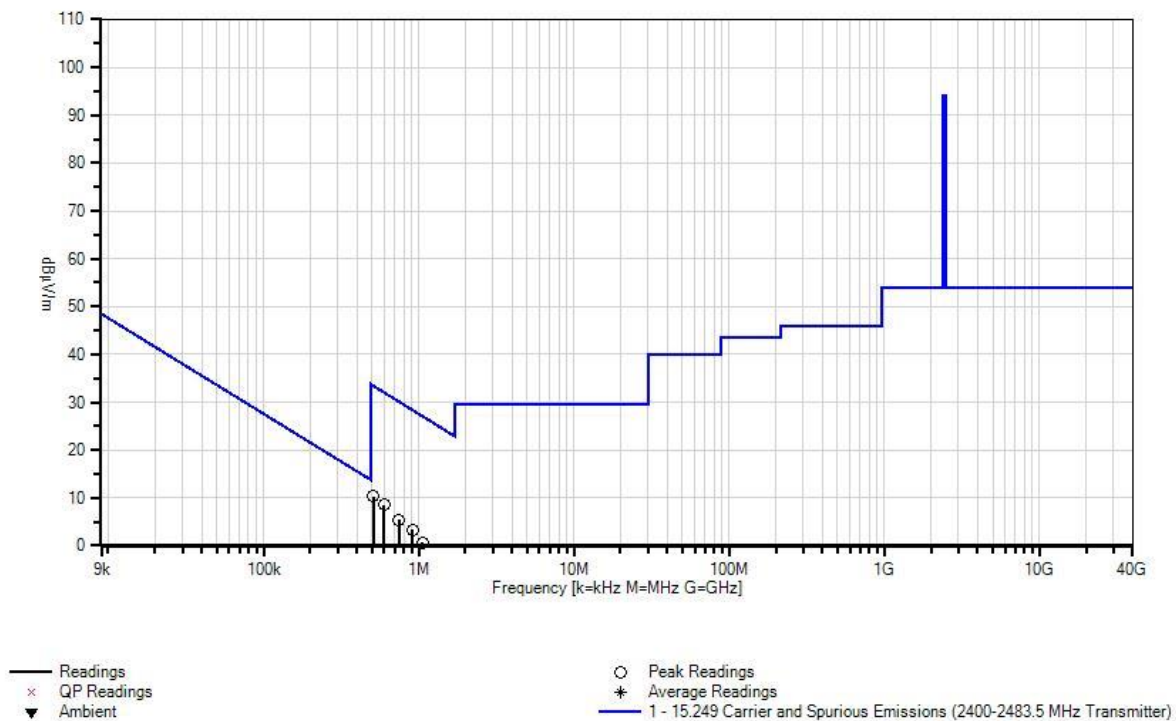
Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB		Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	512.250k	40.4	+9.8	+0.1	+0.0		-40.0	10.3	33.4	-23.1	Paral
2	597.369k	38.6	+9.8	+0.1	+0.0		-40.0	8.5	32.1	-23.6	Perpe
3	746.822k	35.6	+9.7	+0.1	+0.0		-40.0	5.4	30.1	-24.7	Perpe
4	913.100k	33.8	+9.5	+0.1	+0.0		-40.0	3.4	28.4	-25.0	Paral
5	1.056M	30.9	+9.7	+0.1	+0.0		-40.0	0.7	27.1	-26.4	Perpe
6	1.140M	28.7	+9.7	+0.1	+0.0		-40.0	-1.5	26.4	-27.9	Paral

CKC Laboratories, Inc Date: 1/13/2014 Time: 11:48:56 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 92



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/13/2014
 Test Type: **Radiated Scan** Time: 09:45:36
 Equipment: **Link** Sequence#: 74
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00730	Preamp	8447D	1/17/2013	1/17/2015
T2	AN00852	Biconilog Antenna	CBL 6111C	11/28/2012	11/28/2014
T3	ANP00880	Cable	RG214U	7/30/2012	7/30/2014
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 30MHz to 1000MHz

 Temperature: 20.8°C, Humidity: 39%, Atmospheric Pressure: 102.6kPa

 RBW=VBW=120kHz

 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT.
 Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 High Channel

Ext Attn: 0 dB

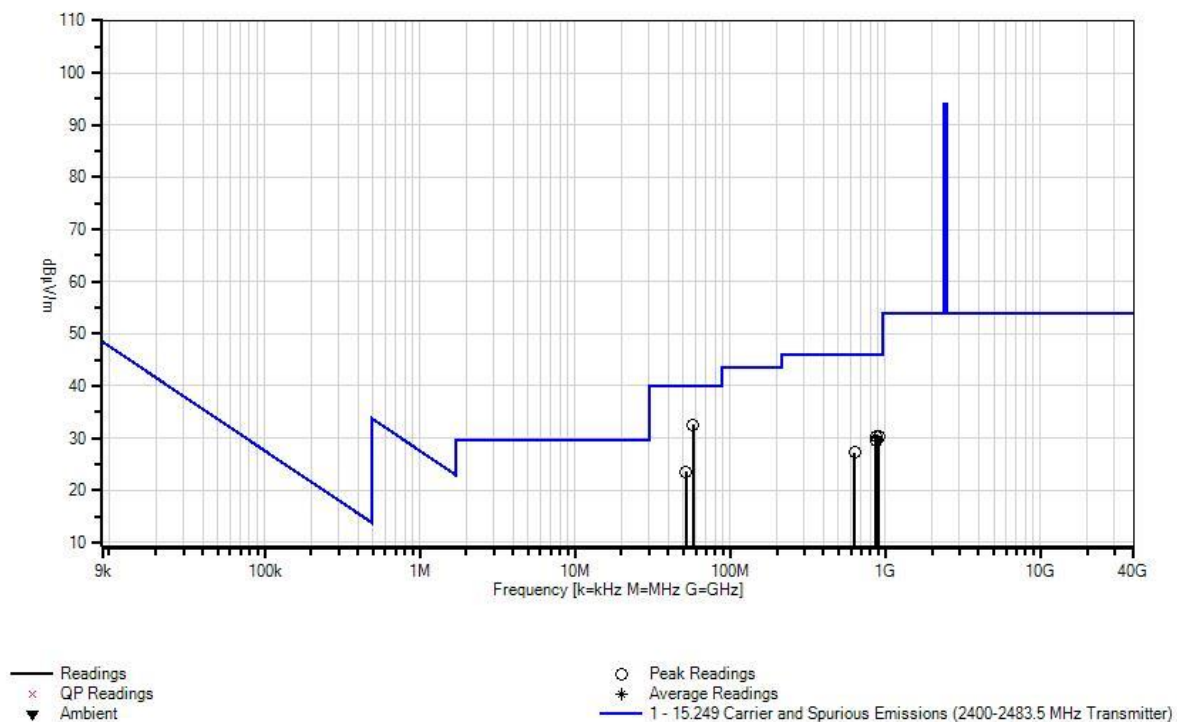
Measurement Data:

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	57.485M	51.9	-27.1 +0.2	+6.5	+0.7	+0.3	+0.0	32.5	40.0	-7.5	Vert
2	907.119M	29.1	-27.1 +0.9	+23.0	+3.4	+1.1	+0.0	30.4	46.0	-15.6	Horiz
3	873.485M	29.1	-27.0 +0.9	+22.9	+3.4	+1.0	+0.0	30.3	46.0	-15.7	Vert
4	868.921M	28.3	-27.0 +0.9	+23.0	+3.4	+1.0	+0.0	29.6	46.0	-16.4	Horiz
5	51.828M	41.1	-27.0 +0.2	+8.3	+0.7	+0.2	+0.0	23.5	40.0	-16.5	Vert
6	636.488M	29.7	-26.8 +0.7	+19.8	+2.8	+1.0	+0.0	27.2	46.0	-18.8	Horiz

CKC Laboratories, Inc Date: 1/13/2014 Time: 09:45:36 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 74



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 09:09:57
 Equipment: **Link** Sequence#: 20
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
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
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T5	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 1000MHz to 12000MHz
 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa
 RBW=VBW=1MHz
 High Clock: 40MHz
 Software Used: FCC test

Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.
 Note: Modulation Type: 8 DPSK (3Mbps)
 High Channel

Ext Attn: 0 dB

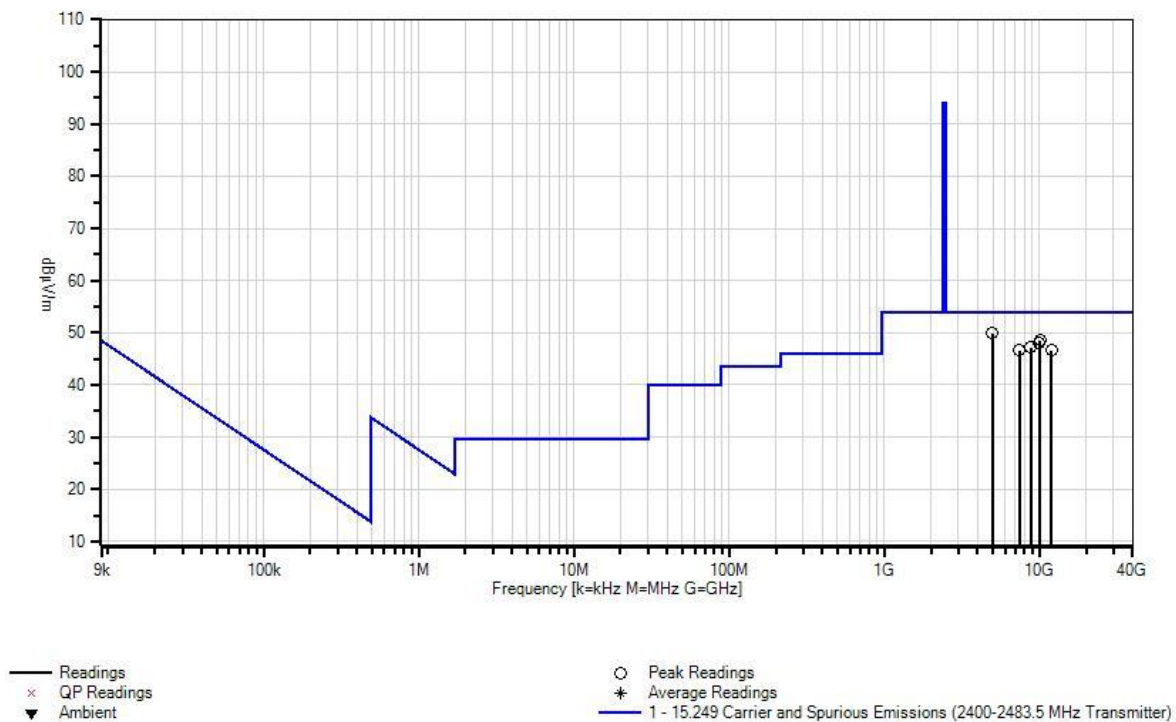
Measurement Data:

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	4959.958M	66.9	+33.6 +1.6	+1.6 +0.2	+3.9	-57.9	+0.0	49.9	54.0	-4.1	Horiz
2	10134.127 M	56.1	+39.7 +2.3	+2.3 +0.1	+6.3	-58.3	+0.0	48.5	54.0	-5.5	Horiz
3	9957.951M	55.7	+39.6 +2.3	+2.3 +0.0	+6.3	-58.2	+0.0	48.0	54.0	-6.0	Horiz
4	8826.821M	54.7	+38.1 +2.4	+2.1 +0.3	+5.9	-56.3	+0.0	47.2	54.0	-6.8	Vert
5	11994.048 M	51.6	+39.7 +2.4	+2.4 +0.3	+6.4	-56.2	+0.0	46.6	54.0	-7.4	Vert
6	7401.397M	59.7	+36.8 +2.0	+1.9 +0.2	+5.4	-59.4	+0.0	46.6	54.0	-7.4	Vert

CKC Laboratories, Inc Date: 1/10/2014 Time: 09:09:57 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 20



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 11:42:53
 Equipment: **Link** Sequence#: 38
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	ANP00928	Cable	various	2/10/2012	2/10/2014
T2	ANP06125	Cable	32022-29094K-29094K-72TC	5/6/2013	5/6/2015
T3	ANP06126	Cable	32022-29094K-29094K-168TC	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T4	ANANT-AN02693-20130221	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 12000MHz to 18000MHz

 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa

 RBW=VBW=1MHz
 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 High Channel

Ext Attn: 0 dB

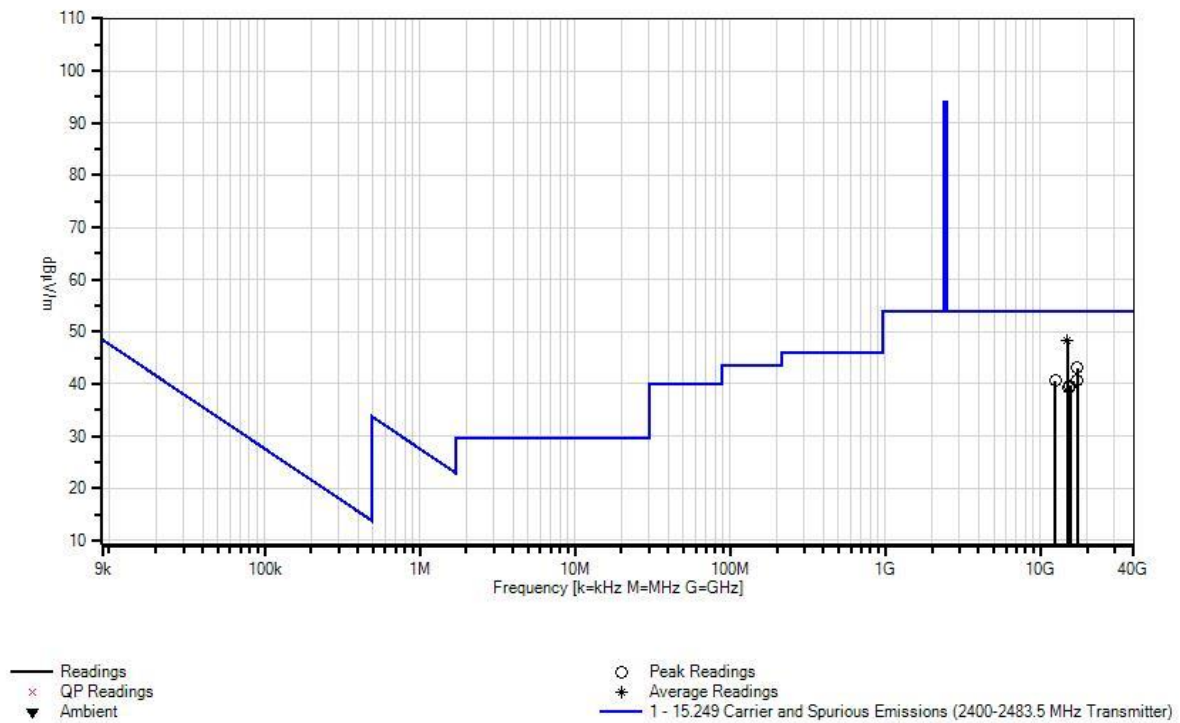
Measurement Data:

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	14880.077 M	53.1	+0.9	+3.0	+6.8	-15.4	+0.0	48.4	54.0	-5.6	Vert
Ave											
^	14880.077 M	62.6	+0.9	+3.0	+6.8	-15.4	+0.0	57.9	54.0	+3.9	Vert
^	14880.077 M	59.9	+0.9	+3.0	+6.8	-15.4	+0.0	55.2	54.0	+1.2	Vert
4	17359.220 M	46.6	+0.8	+3.0	+7.3	-14.6	+0.0	43.1	54.0	-10.9	Vert
5	17208.975 M	44.2	+0.8	+3.1	+7.3	-14.7	+0.0	40.7	54.0	-13.3	Horiz
6	12399.399 M	46.5	+0.9	+2.5	+6.0	-15.3	+0.0	40.6	54.0	-13.4	Horiz
7	15613.610 M	44.3	+1.0	+3.2	+7.0	-15.9	+0.0	39.6	54.0	-14.4	Vert
8	15228.225 M	43.7	+1.0	+3.1	+6.9	-15.5	+0.0	39.2	54.0	-14.8	Horiz

CKC Laboratories, Inc Date: 1/10/2014 Time: 11:42:53 Automatic Labs WO#: 95286
 Test Distance: 3 Meters Sequence#: 38



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

Customer: **Automatic Labs**
 Specification: **15.249 Carrier and Spurious Emissions (2400-2483.5 MHz Transmitter)**
 Work Order #: **95286** Date: 1/10/2014
 Test Type: **Radiated Scan** Time: 15:17:38
 Equipment: **Link** Sequence#: 56
 Manufacturer: Automatic Labs Tested By: Hieu Song Nguyenpham
 Model: 1
 S/N: FW1 1

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	7/12/2013	7/12/2015
	AN02668	Spectrum Analyzer	E4446A	2/22/2013	2/22/2015
T3	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	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
Link*	Automatic Labs	1	FW1 1

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

Test Conditions / Notes:

Radiated Emission
 Frequency Range: 18000MHz to 25000MHz

 Temperature: 20.5°C, Humidity: 37%, Atmospheric Pressure: 102.1kPa

 RBW=VBW=1MHz
 High Clock: 40MHz
 Software Used: FCC test

 Transmitter operating frequency: 2.4GHz
 Number of Channel: 40
 Low Frequency: 2.402GHz, Middle Frequency: 2.442GHz, High Frequency: 2.480GHz
 RF output power: 2dBm

 The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed for testing that modifies frequency based on input voltage.

 Note: Modulation Type: 8 DPSK (3Mbps)
 High Channel

Ext Attn: 0 dB

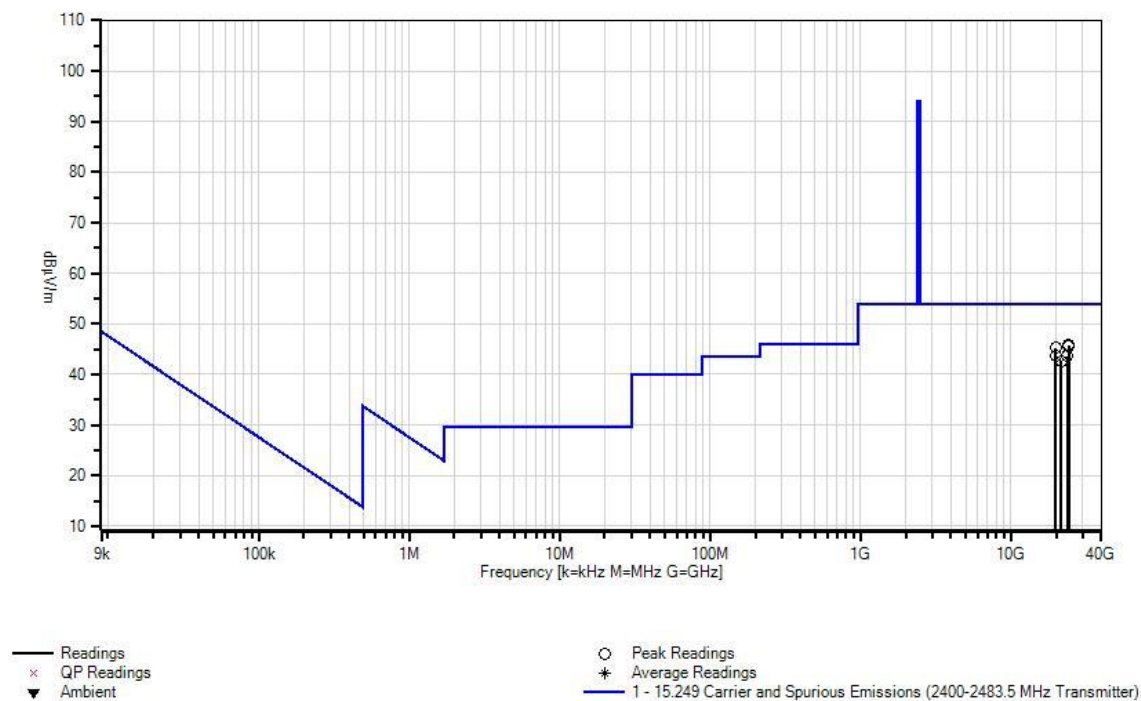
Measurement Data:

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	24265.434 M	47.1	+4.5	+8.7	-17.4	+2.9	+0.0	45.8	54.0	-8.2	Horiz
2	24109.376 M	47.2	+4.4	+8.6	-17.5	+3.0	+0.0	45.7	54.0	-8.3	Vert
3	19784.783 M	47.1	+3.7	+7.8	-16.7	+3.3	+0.0	45.2	54.0	-8.8	Vert
4	19838.837 M	45.6	+3.8	+7.8	-16.7	+3.2	+0.0	43.7	54.0	-10.3	Horiz
5	23777.772 M	45.4	+4.4	+8.5	-17.7	+3.0	+0.0	43.6	54.0	-10.4	Vert
6	21576.573 M	44.5	+4.2	+8.2	-17.2	+3.0	+0.0	42.7	54.0	-11.3	Horiz

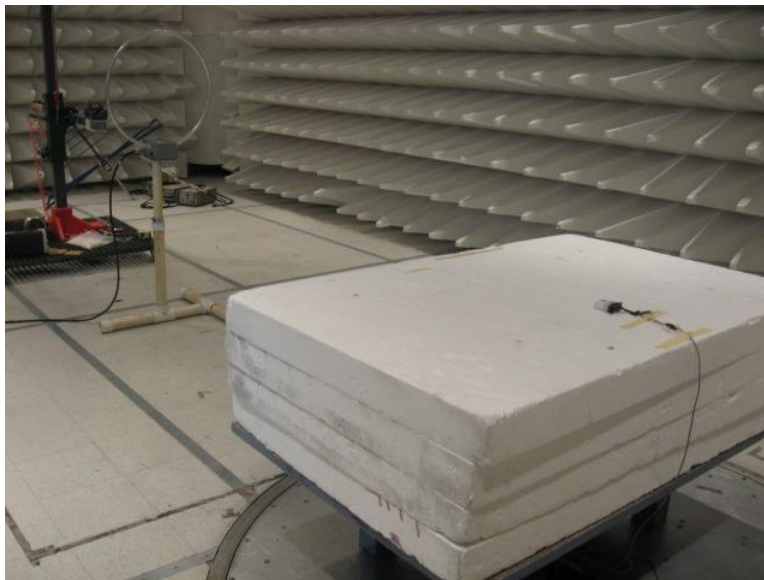
CKC Laboratories, Inc Date: 1/10/2014 Time: 15:17:38 Automatic Labs WO#: 95286
Test Distance: 3 Meters Sequence#: 56



Test Setup Photo(s)



Front View, 4 DQPSK: 9kHz - 30MHz



Back View, 4 DQPSK: 9kHz - 30MHz



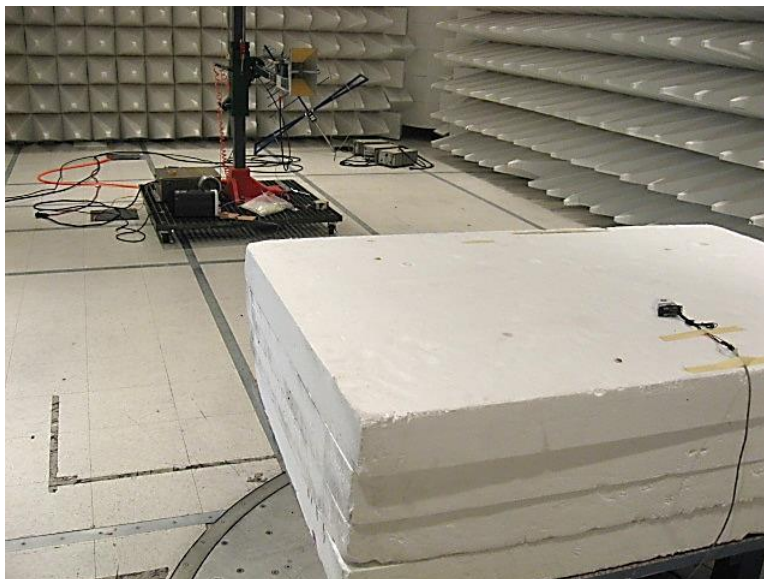
Front View, 4 DQPSK: 30MHz – 1GHz



Back View, 4 DQPSK: 30MHz – 1GHz



Front View, 4 DQPSK: 1-12GHz



Back View, 4 DQPSK: 1-12GHz