

Ext Attn: 0 dB

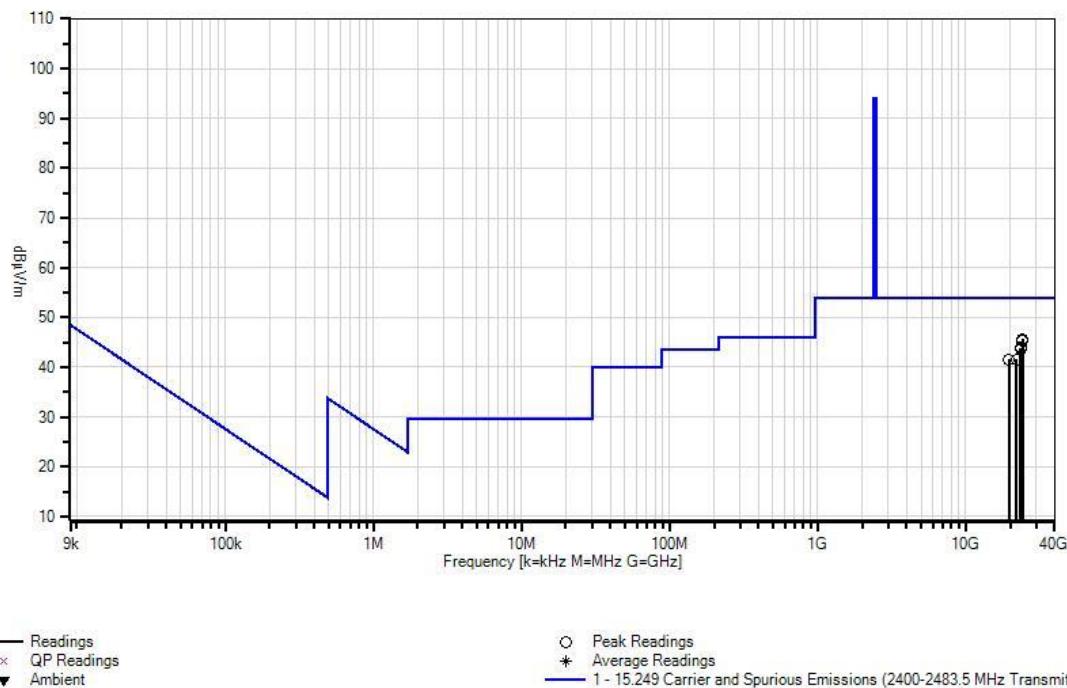
Measurement Data:

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:

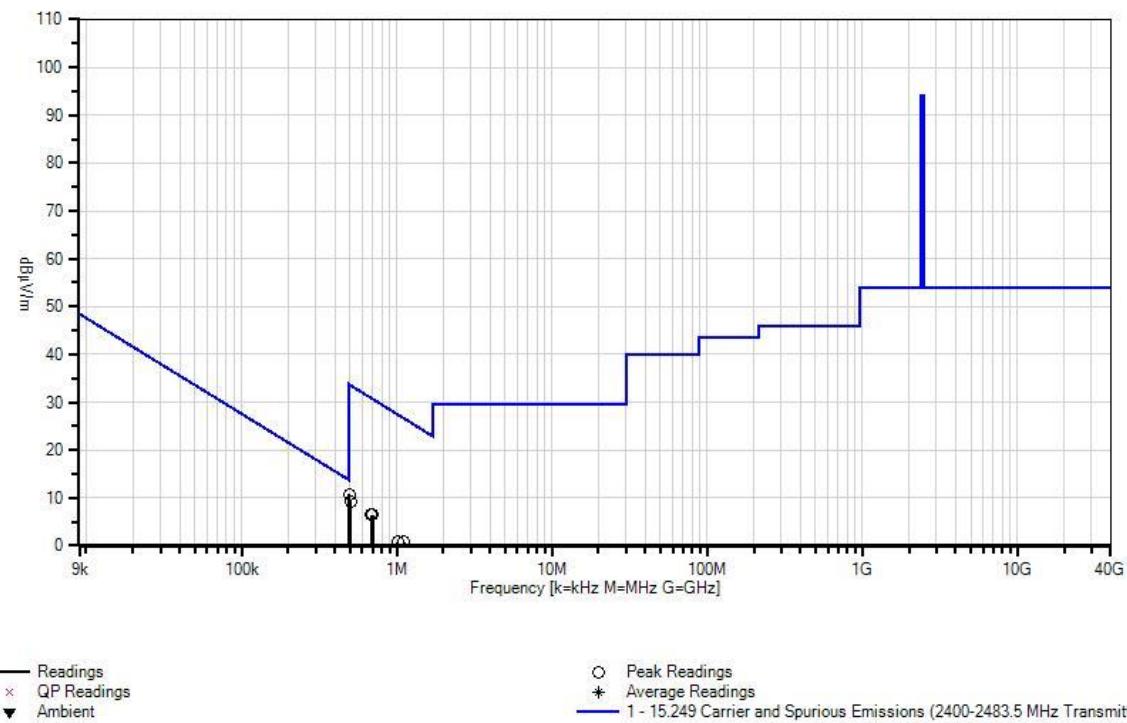
Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

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

#	Freq MHz	Rdng dB μ V	Reading listed by margin.			Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
			T1 dB	T2 dB	T3 dB					
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

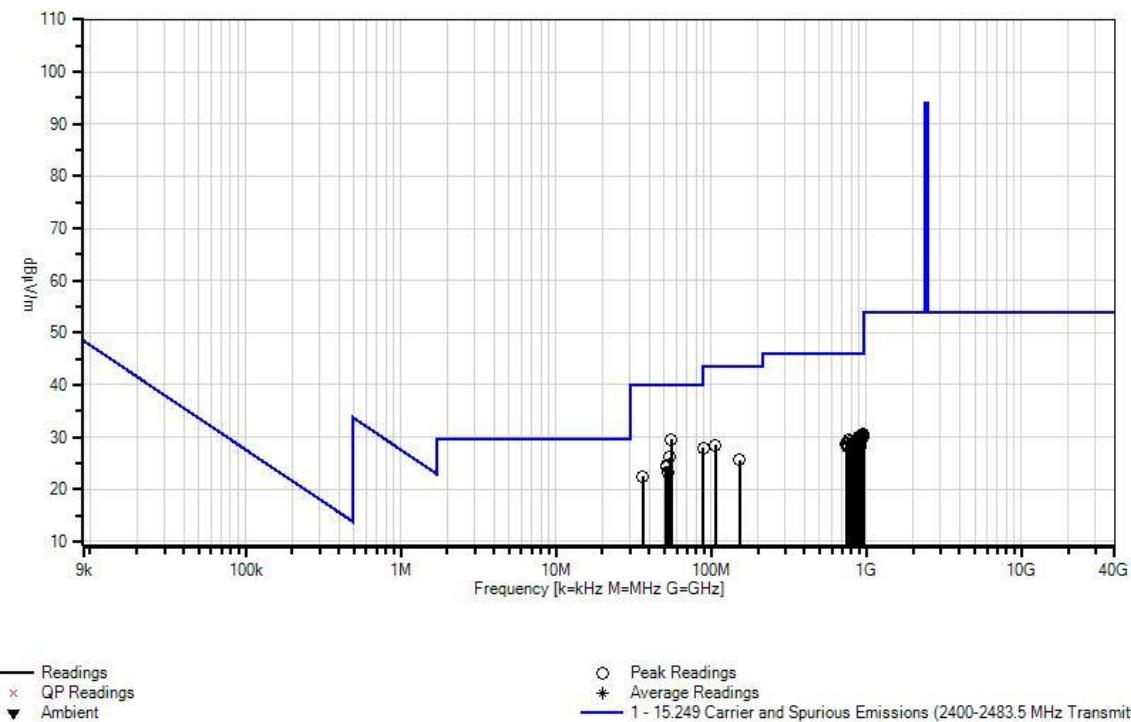
Ext Attn: 0 dB

Measurement Data:			Reading listed by margin.				Test Distance: 3 Meters				
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5				Table	dB μ V/m	dB μ V/m		
			MHz	dB μ V	dB	dB	dB	Table	dB μ V/m	dB μ V/m	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.

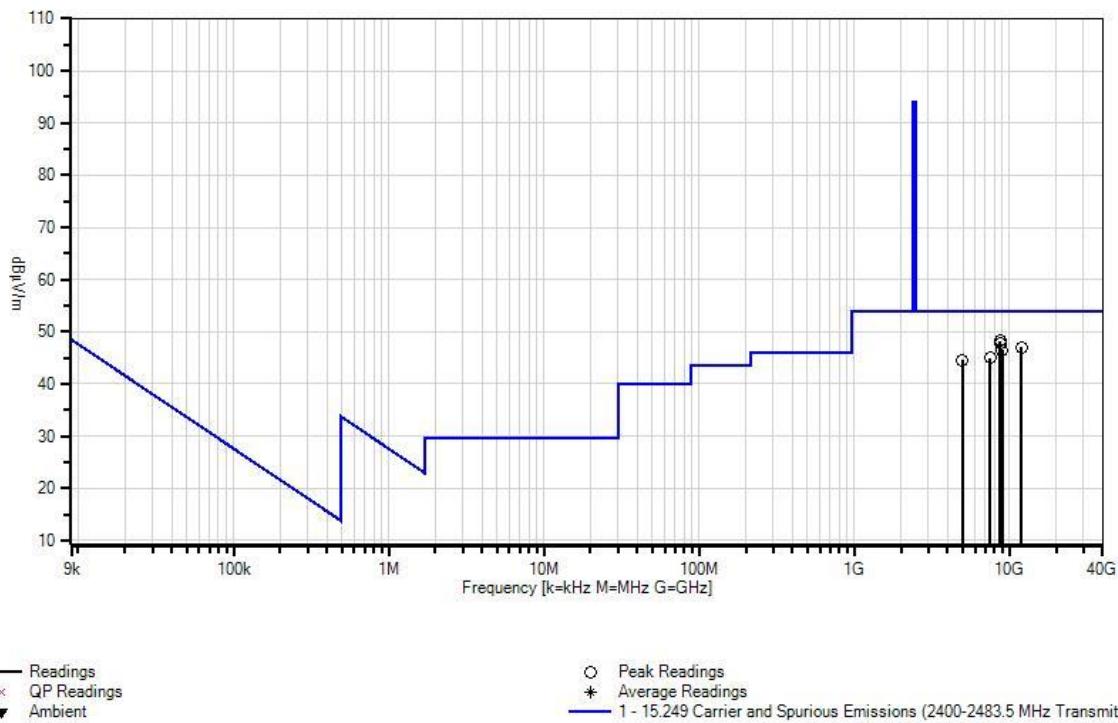
Note: Modulation Type: 4 DQPSK (2Mbps)

High Channel

Ext Attn: 0 dB

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

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

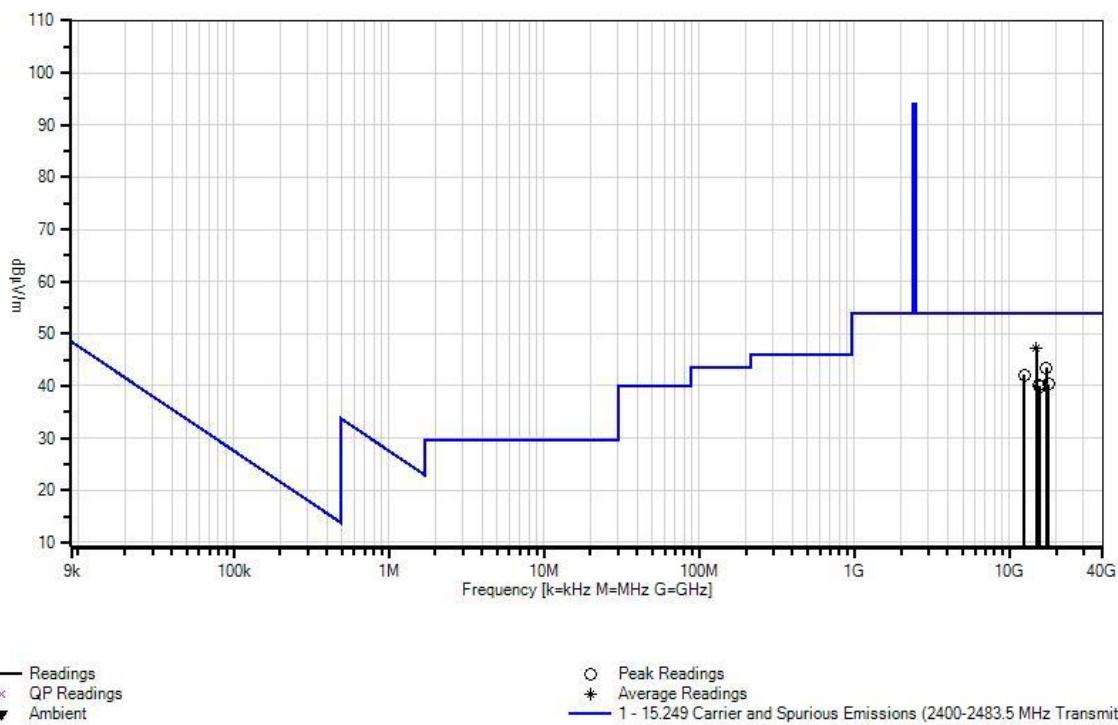
Test Conditions / Notes:

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

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:

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: 4 DQPSK (2Mbps) High Channel

Ext Attn: 0 dB

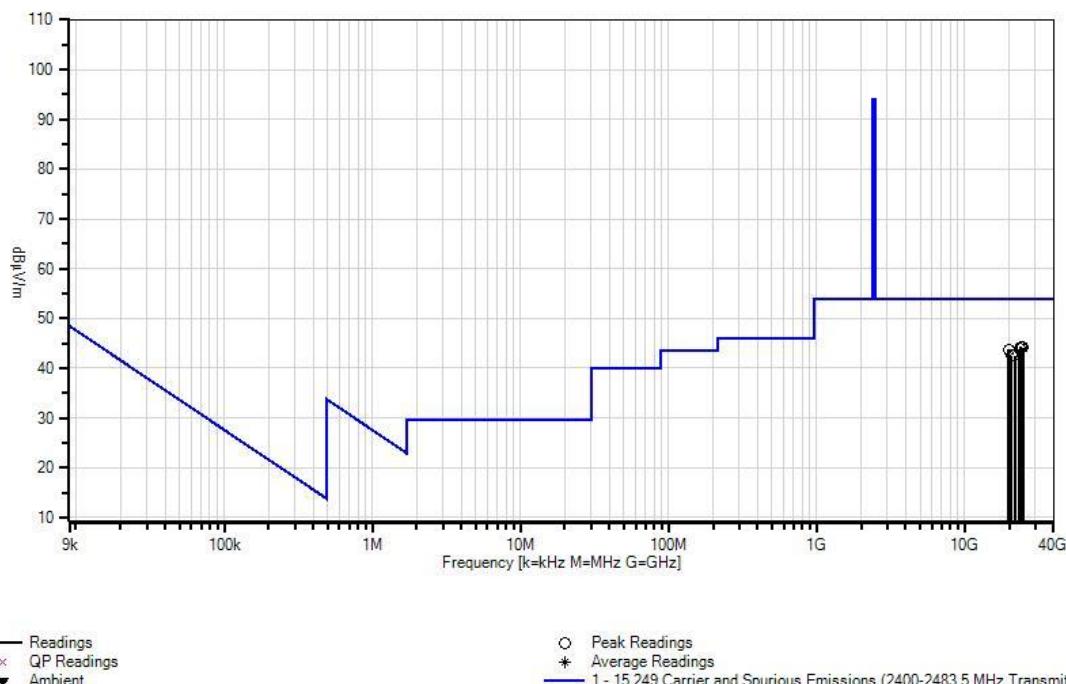
Measurement Data:

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	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

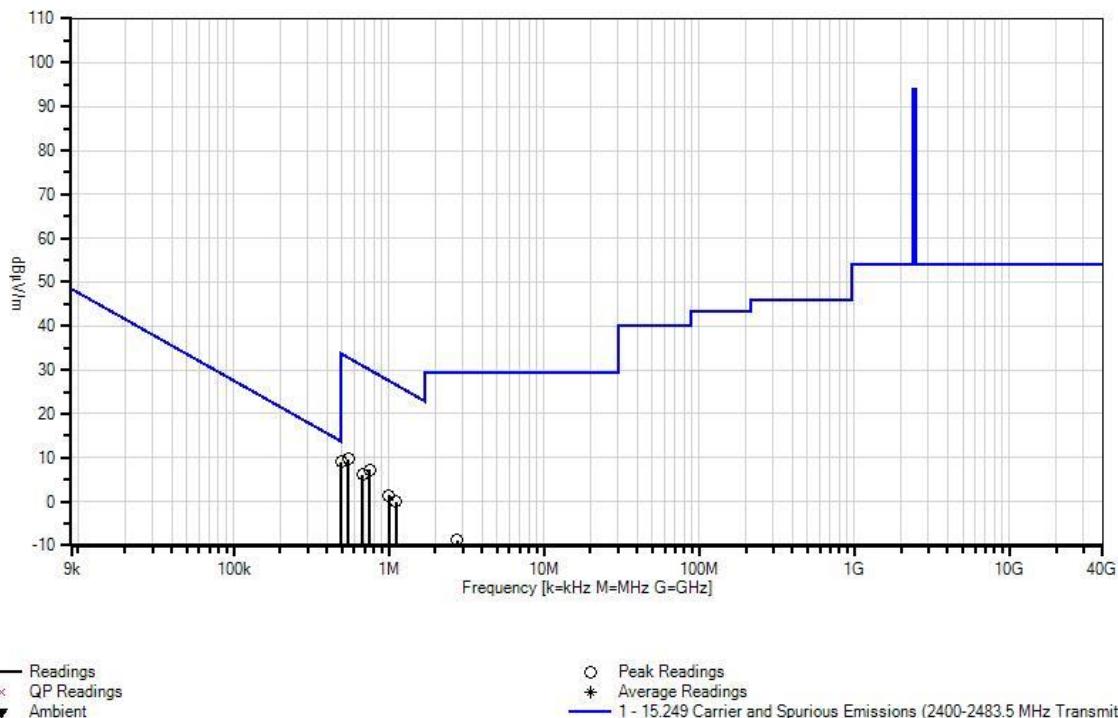
The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed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

Note: Modulation Type: 8 DPSK (3Mbps)

Low Channel

Ext Attn: 0 dB

#	Freq MHz	Rdng dB μ V	Reading listed by margin.			Test Distance: 3 Meters				
			T1 dB	T2 dB	T3 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar
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

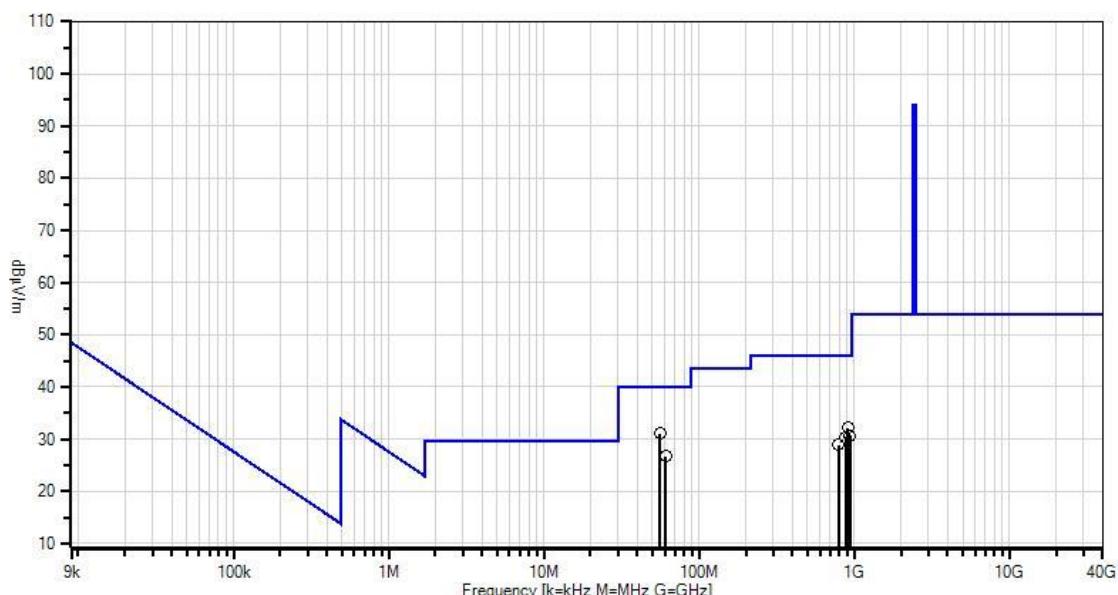
Test Conditions / Notes:

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 dB					T2 dB					T3 dB					T4 dB					Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
			T5 dB	T1 dB	T2 dB	T3 dB	T4 dB	T5 dB	T1 dB	T2 dB	T3 dB	T4 dB	T5 dB	T1 dB	T2 dB	T3 dB	T4 dB	T5 dB	T1 dB	T2 dB	T3 dB	T4 dB					
1	55.954M	50.0 +0.2	-27.0	+6.9	+0.7	+0.2	+0.2	+0.0	+0.0	31.0	40.0	-9.0	+0.2	-27.1	+5.8	+0.7	+0.3	+0.0	26.7	40.0	-13.3	Vert					
2	61.145M	46.8 +0.2	-27.1	+5.8	+0.7	+0.3	+0.3	+0.0	+0.0	30.9	46.0	-13.8	+0.9	-27.1	+22.9	+3.5	+1.1	+0.0	32.2	46.0	-15.3	Vert					
3	908.800M	30.9 +0.9	-27.1	+22.9	+3.5	+1.1	+1.1	+0.0	+0.0	28.8	46.0	-15.7	+0.9	-27.1	+23.4	+3.5	+1.2	+0.0	30.7	46.0	-17.1	Horiz					
4	942.586M	28.8 +0.9	-27.1	+23.4	+3.5	+1.2	+1.2	+0.0	+0.0	29.1	46.0	-17.1	+0.9	-27.0	+22.9	+3.4	+1.0	+0.0	30.3	46.0	-17.1	Horiz					
5	876.128M	29.1 +0.9	-27.0	+22.9	+3.4	+1.0	+1.0	+0.0	+0.0	28.7	46.0	-17.1	+0.9	-26.7	+21.6	+3.2	+1.2	+0.0	28.9	46.0	-17.1	Horiz					
6	793.485M	28.7 +0.9	-26.7	+21.6	+3.2	+1.2	+1.2	+0.0	+0.0	28.7	46.0	-17.1	+0.9	-26.7	+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


— 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: **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

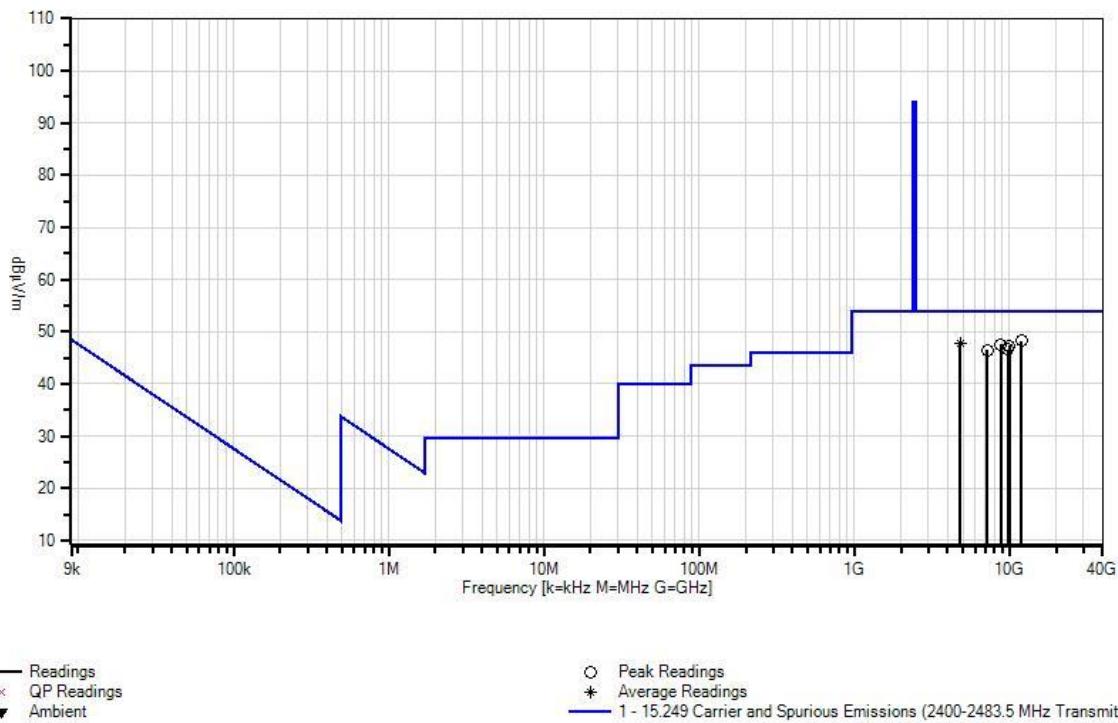
Test Conditions / Notes:

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	Rdng	T1 T5	T2 T6	T3	T4	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar
			MHz	dB μ V	dB	dB	dB			Ant	
1	11950.400	53.2	+39.7 M	+2.4 +2.4	+2.4	+6.4 +0.3	-56.2	+0.0	48.2	54.0 -5.8	Horiz
2	4803.802M	65.7	+33.2 Ave	+1.5 +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	+1.5 +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	+1.5 +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	+2.1 +2.4	+2.1 +0.3	+5.9	-56.3	+0.0	47.6	54.0 -6.4	Vert
6	10026.019	54.9	+39.7 M	+2.3 +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	+2.3 +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	+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

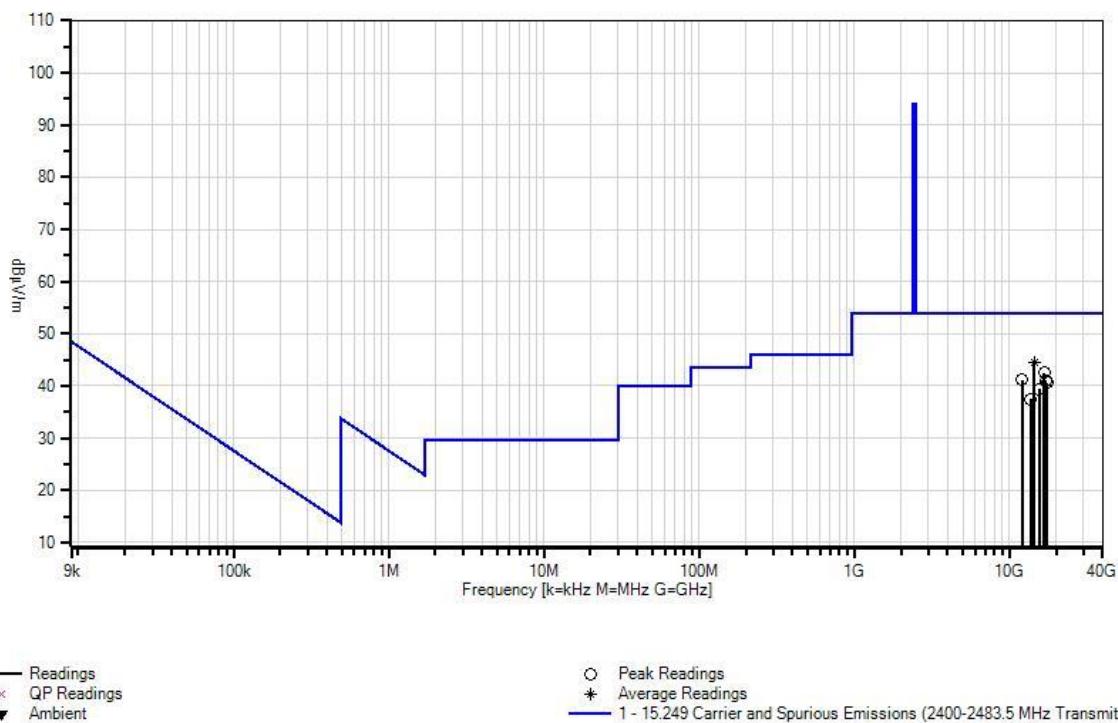
Test Conditions / Notes:

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

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:

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) Low Channel

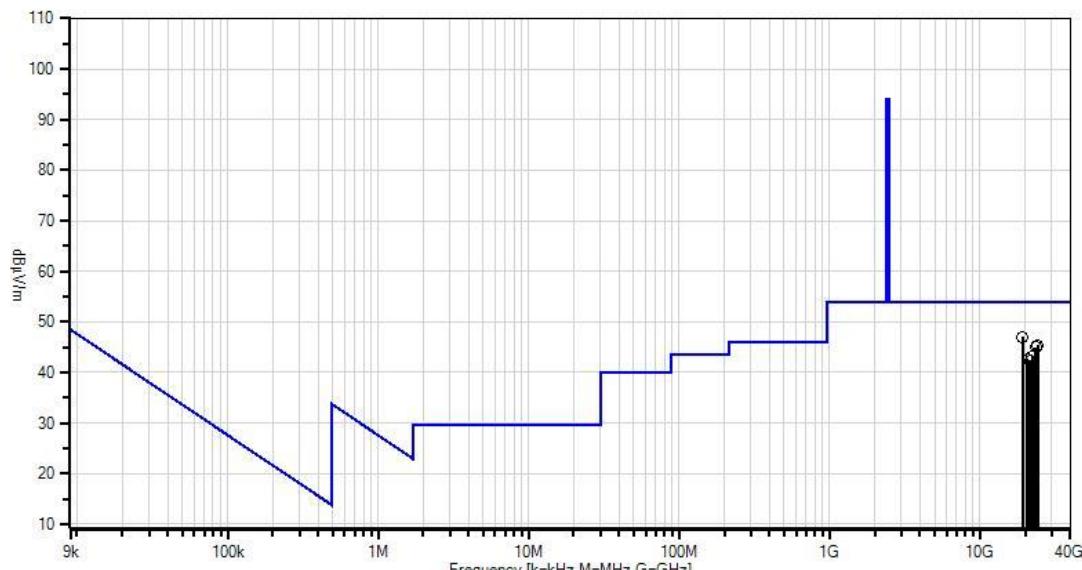
Ext Attn: 0 dB

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	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

 — Readings
 x 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: **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.

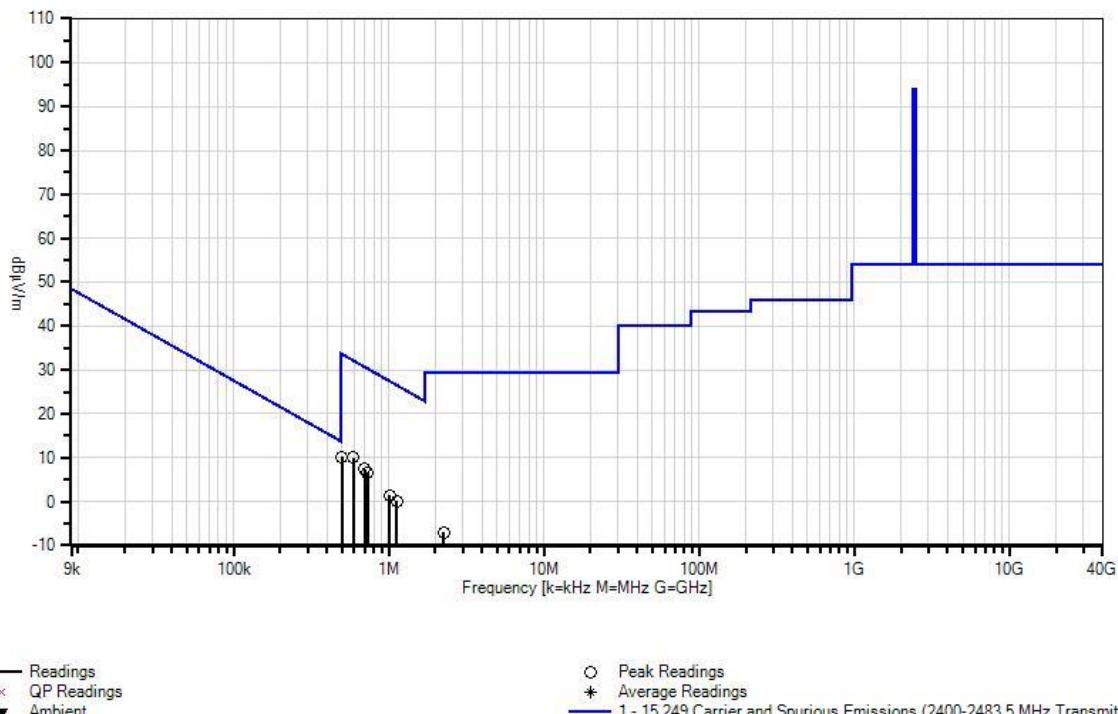
Test mode firmware installed for testing that modifies frequency based on input voltage.

Note: Modulation Type: 8 DPSK (3Mbps)

Middle Channel

Ext Attn: 0 dB

#	Freq MHz	Rdng dB μ V	Reading listed by margin.			Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
			T1 dB	T2 dB	T3 dB					
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.

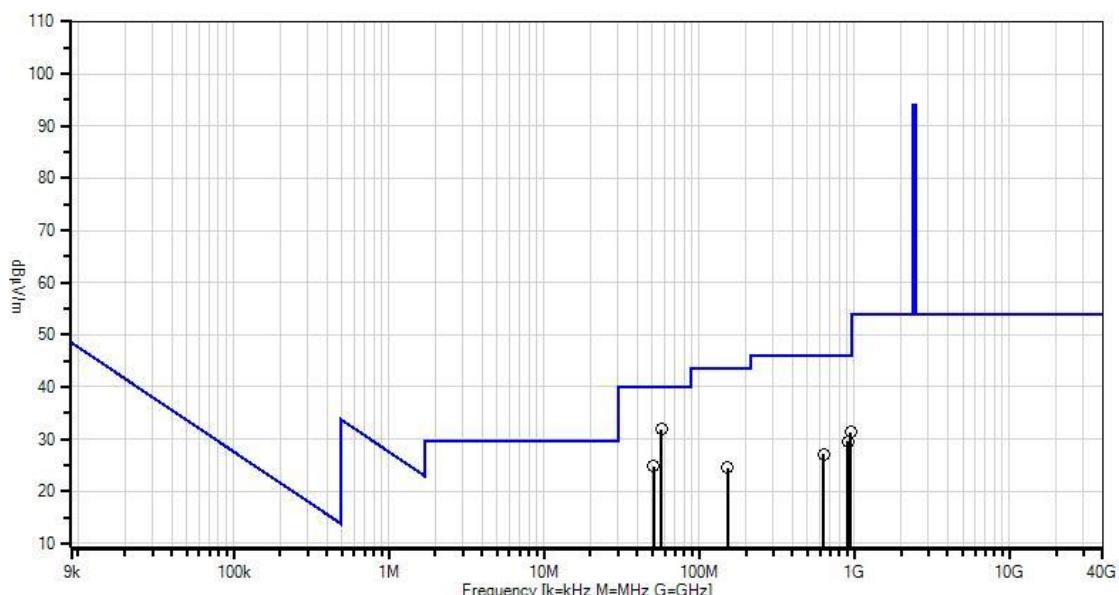
Note: Modulation Type: 8 DPSK (3Mbps)

Middle Channel

Ext Attn: 0 dB

#	Freq	Rdng	Reading listed by margin.				Test Distance: 3 Meters				
			T1	T2	T3	T4	Dist	Corr	Spec	Margin	
			T5				Table	dB μ V/m	dB μ V/m	dB	
			MHz	dB μ V	dB	dB	dB	dB μ V/m	dB μ V/m	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



— 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: **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

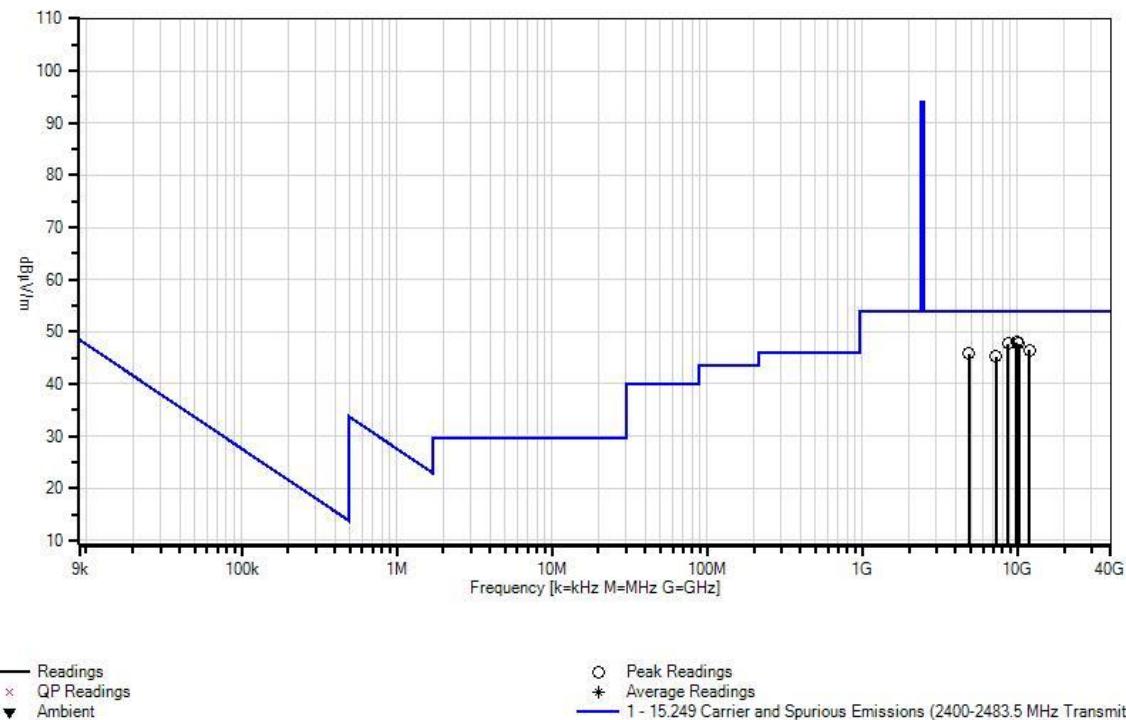
Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	Reading listed by margin.				Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
			T1 T5 dB	T2 T6 dB	T3 dB	T4 dB					
1	9846.840M	55.5	+39.4	+2.3	+6.2	-57.8	+0.0	47.9	54.0	-6.1	Horiz
			+2.2	+0.1							
2	10153.146 M	55.3	+39.7	+2.3	+6.3	-58.3	+0.0	47.7	54.0	-6.3	Vert
			+2.3	+0.1							
3	8735.730M	55.5	+37.9	+2.1	+5.8	-56.3	+0.0	47.7	54.0	-6.3	Vert
			+2.4	+0.3							
4	11997.024 M	51.5	+39.7	+2.4	+6.4	-56.2	+0.0	46.5	54.0	-7.5	Vert
			+2.4	+0.3							
5	4883.882M	63.4	+33.4	+1.5	+3.8	-58.2	+0.0	45.8	54.0	-8.2	Horiz
			+1.6	+0.3							
6	7307.303M	58.4	+36.6	+1.9	+5.4	-59.3	+0.0	45.2	54.0	-8.8	Horiz
			+2.0	+0.2							

 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

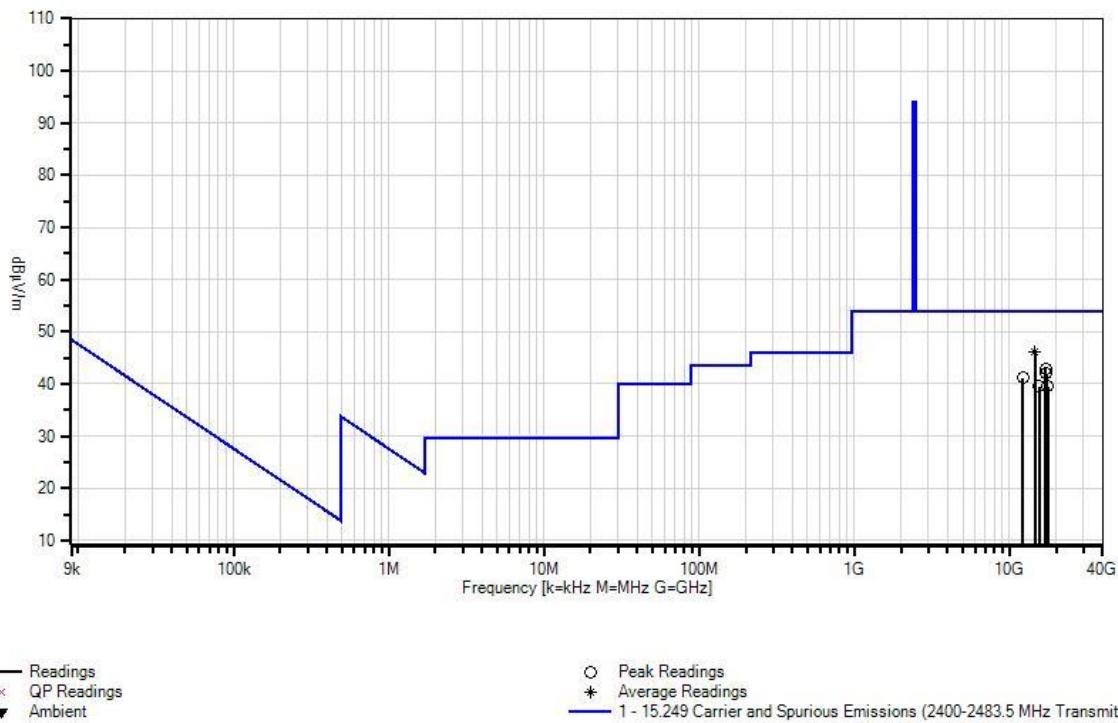
Test Conditions / Notes:

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

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

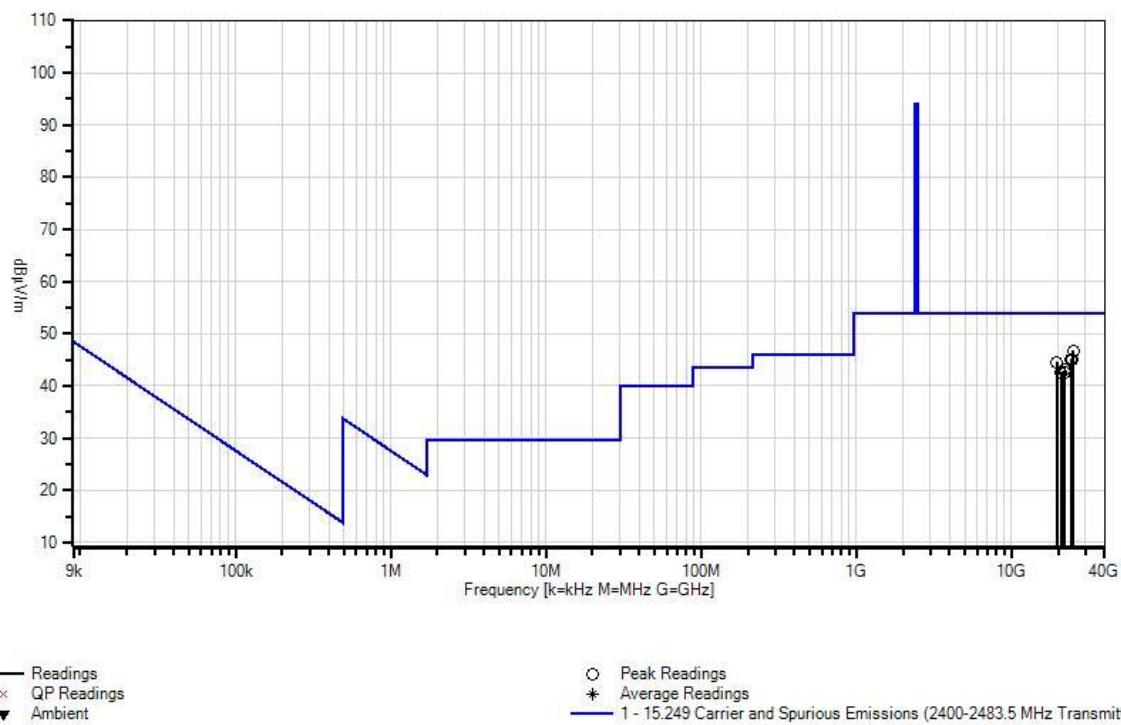
Measurement Data:

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

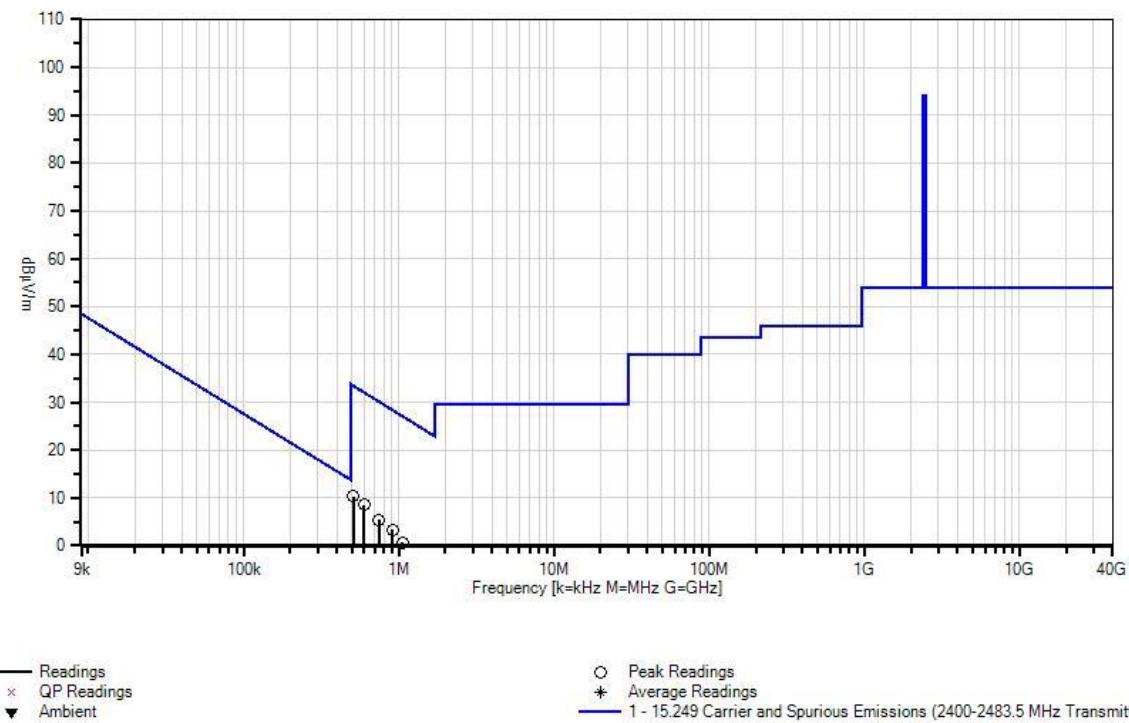
Test Conditions / Notes:

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

#	Freq MHz	Rdng dB μ V	Reading listed by margin.			Test Distance: 3 Meters				
			T1 dB	T2 dB	T3 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar
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:

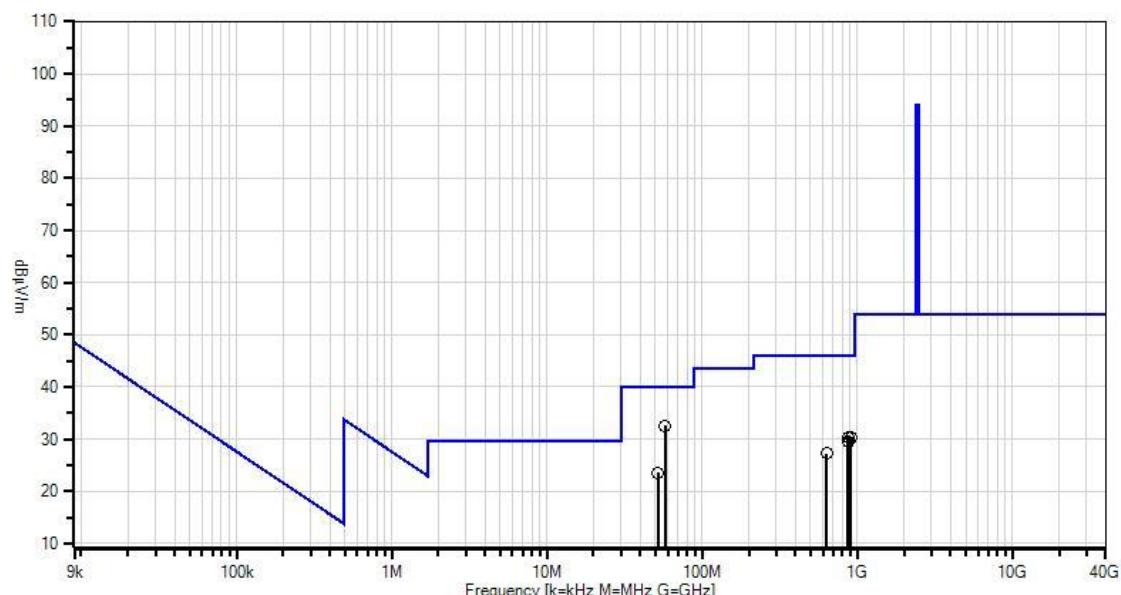
Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

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
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Ext Attn: 0 dB

#	Freq	Rdng	Reading listed by margin.				Test Distance: 3 Meters				
			T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB
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


— 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: **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:

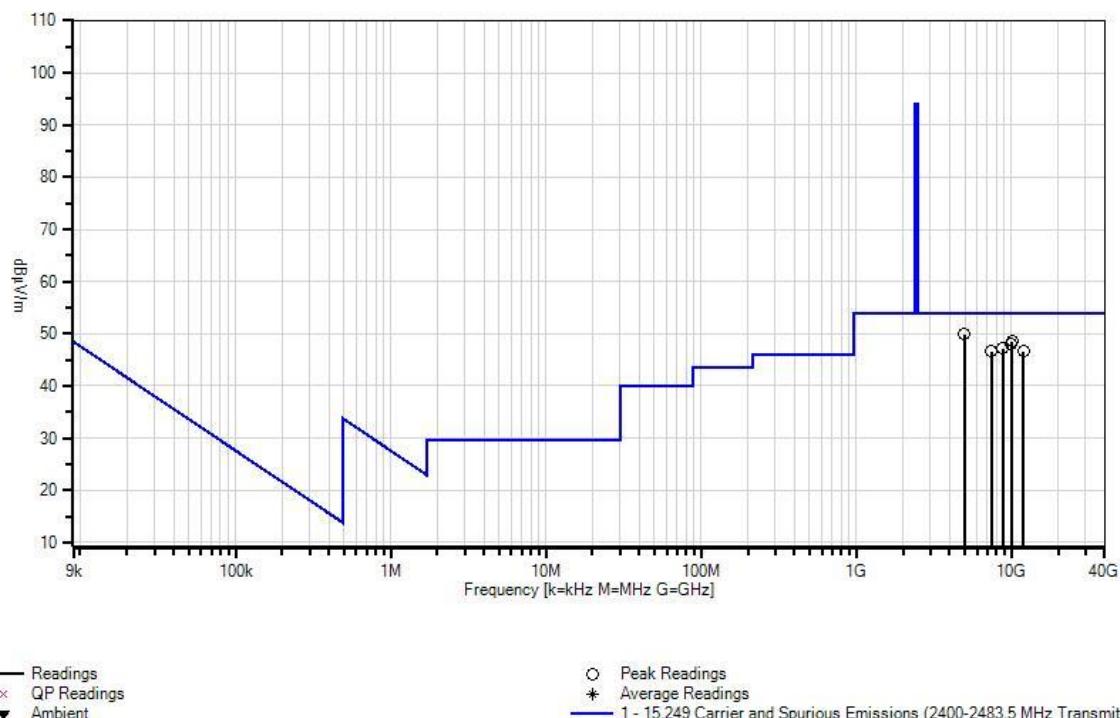
Function	Manufacturer	Model #	S/N
DC Power Supply	TekPower	HY1803D	259223

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

#	Freq	Rdng	Reading listed by margin.				Test Distance: 3 Meters				
			T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	dB	dB					
MHz	dB μ V	dB	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	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 10134.127M	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 11994.048M	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

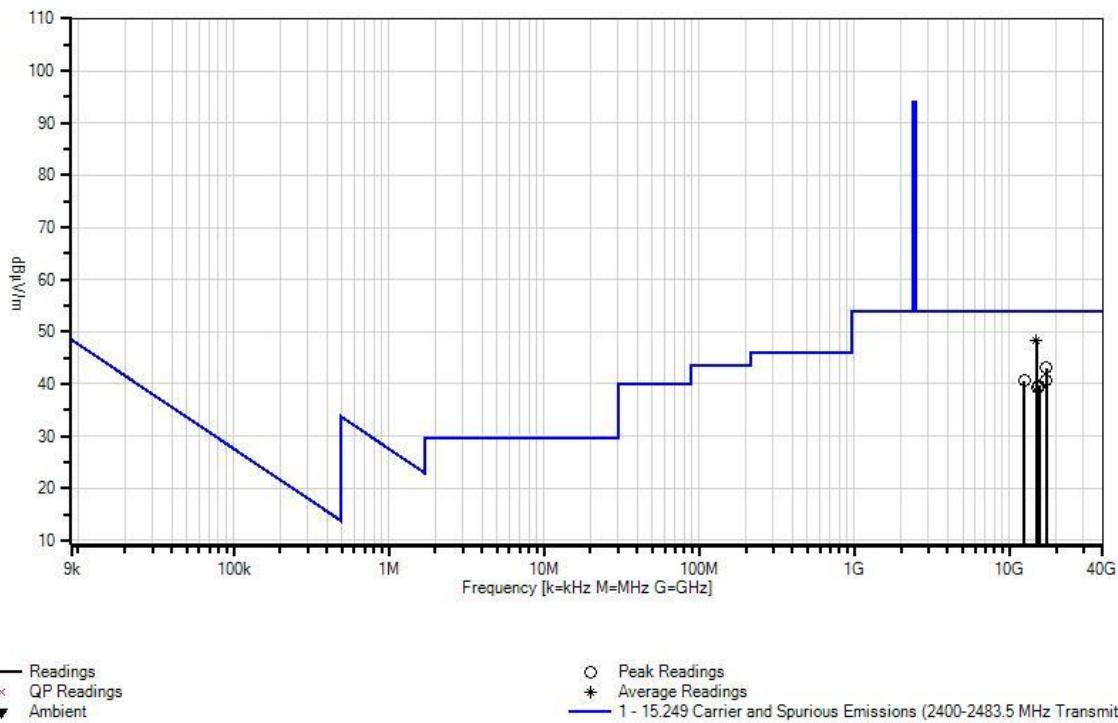
Test Conditions / Notes:

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

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

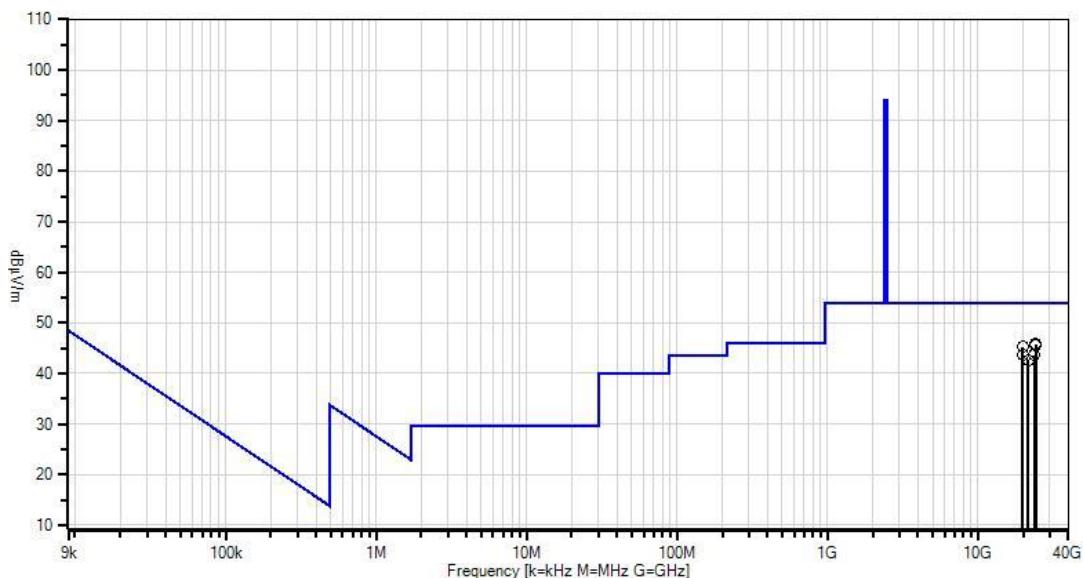
The EUT is a fixed device. It is placed on the 80 cm table, at the center of a turning table and 3 meters away from the measurement antenna. The EUT is connected to DC power supply which is outside of the chamber in order to control a transmitting operating frequency of the EUT. Test mode firmware installed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

Note: Modulation Type: 8 DPSK (3Mbps)

High Channel

Ext Attn: 0 dB

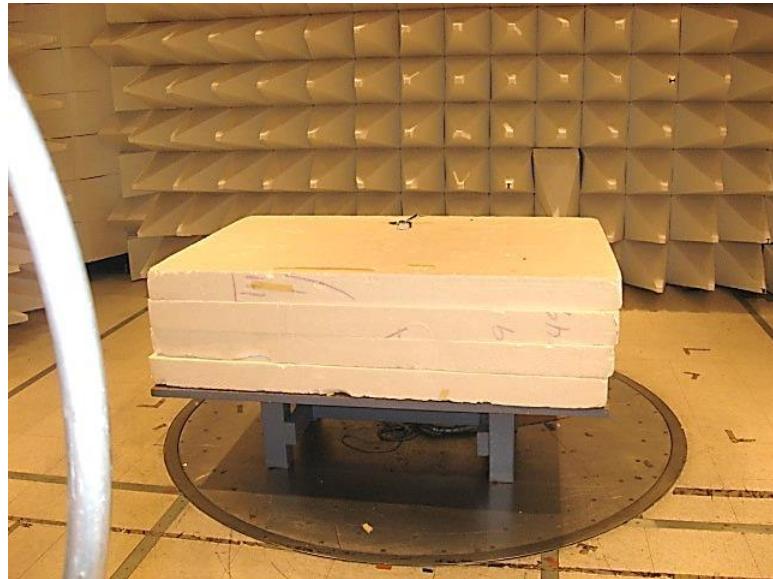
#	Freq MHz	Reading listed by margin.				Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant	
		Rdng dB μ V	T1 dB	T2 dB	T3 dB						
1	24265.434 M	47.1	+4.5	+8.7	-17.4	+2.9	+0.0	45.8	54.0	-8.2	Horiz
2	24109.376 M	47.2	+4.4	+8.6	-17.5	+3.0	+0.0	45.7	54.0	-8.3	Vert
3	19784.783 M	47.1	+3.7	+7.8	-16.7	+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


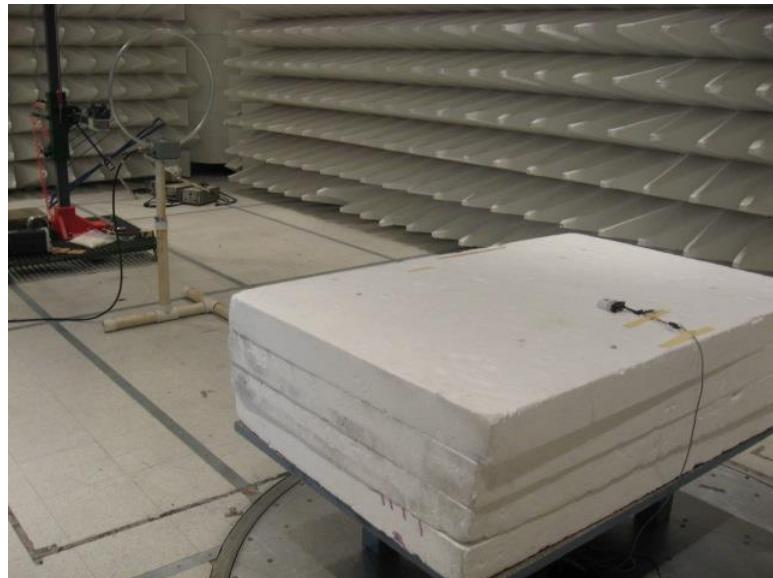
— Readings
 ✕ QP Readings
 ▼ Ambient

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

Test Setup Photo(s)



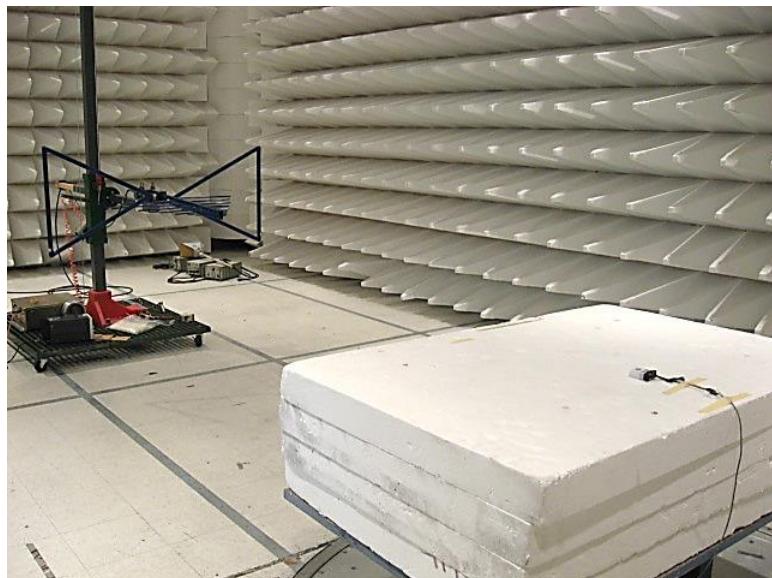
Front View, 4 DQPSK: 9kHz - 30MHz



Back View, 4 DQPSK: 9kHz - 30MHz



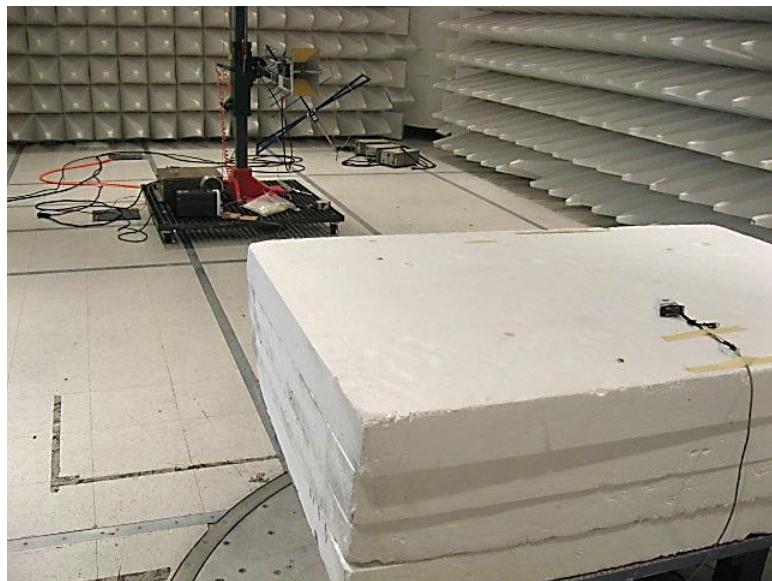
Front View, 4 DQPSK: 30MHz – 1GHz



Back View, 4 DQPSK: 30MHz – 1GHz



Front View, 4 DQPSK: 1-12GHz



Back View, 4 DQPSK: 1-12GHz