FCC Test Report

Product Name	Bar Code Printer
Model No	M320-Y010-100
FCC ID.	2ACKK-0481402

Applicant	CognitiveTPG, LLC
Address	950 DANBY ROAD ITHACA, NY 14850 U.S.A.

Date of Receipt	April 23, 2012
Issue Date	May 26, 2014
Report No.	1450515R-RFUSP26V00
Report Version	V1.0

Testing Laboratory
0914

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.

Test Report

Issue Date: May 26, 2014
Report No.: 1450515R-RFUSP26V00

Product Name	Bar Code Printer
Applicant	CognitiveTPG, LLC
Address	950 DANBY ROAD ITHACA, NY 14850 U.S.A.
Manufacturer	CognitiveTPG, LLC
Model No.	M320-Y010-100
FCC ID.	2ACKK-0481402
EUT Rated Voltage	DC 7.4V (Power by Battery), DC 12V(Power by Adapter)
EUT Test Voltage	AC 120V/60Hz
Trade Name	CognitiveTPG
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2012 ANSI C63.10: 2009, KDB 558074
Test Result	Complied

Documented By : Rita Huang

(Senior Adm. Specialist / Rita Huang)

Tested By : Alan Chen

(Engineer / Alan Chen)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Bar Code Printer
Trade Name	CognitiveTPG
Model No.	M320-Y010-100
FCC ID.	2ACKK-0481402
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW
Number of Channels	802.11b/g/n-20MHz: 11
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 72.2Mbps
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	Printed on PCB
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto
USB Cable	Shielded, 1.0m, with one ferrite core bonded.
RS-232 to USB Cable	Shielded, 1.0m
Power Adapter (1)	MFR: Li Tone Electronics Co., LTD. (Trade Mark：L.T.E.), M/N: LTE12W-S2 Input: AC 100-240V, 1A, 50/60Hz Output: DC 12V⎓1A MAX: 12W Cable Out: Non-shielded, 1.8m, with one ferrite core bonded.
Power Adapter (2)	MFR: Powertron Electronics Corp. (Trade Mark：Powertron), M/N: PA1015-2DU Input: AC 100-240V, 0.4A, 50-60Hz Output: AC 12V⎓1.0A 12W Max Cable Out: Non-shielded, 1.2m, with one ferrite core bonded.
Power Adapter (3)	MFR: Atech OEM Inc.(Trade Mark：OEM), M/N: ADS0128-W 120100 Input: AC 100-240V, 0.5A, 50-60Hz Output: DC 12V⎓1.0A Cable Out: Non-shielded, 1.5m
Power Adapter (4) Car Charge	MFR: Atech OEM Inc.(Trade Mark：OEM), M/N: C11A-1215CD0-S0 Input: DC 12 ~ 24V Output: DC 12V⎓1.5A(MAX) Cable Out: Non-shielded, 1.5m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	GainSpan	GS-AN042	Printed on PCB	2.26 dBi for 2.4 GHz

Note:
1. The antenna of EUT is conform to FCC 15.203.

802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

Note:

1. The EUT is a Bar Code Printer with a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps 、802.11g is 6Mbps、802.11n(20M-BW) is 7.2Mbps and)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

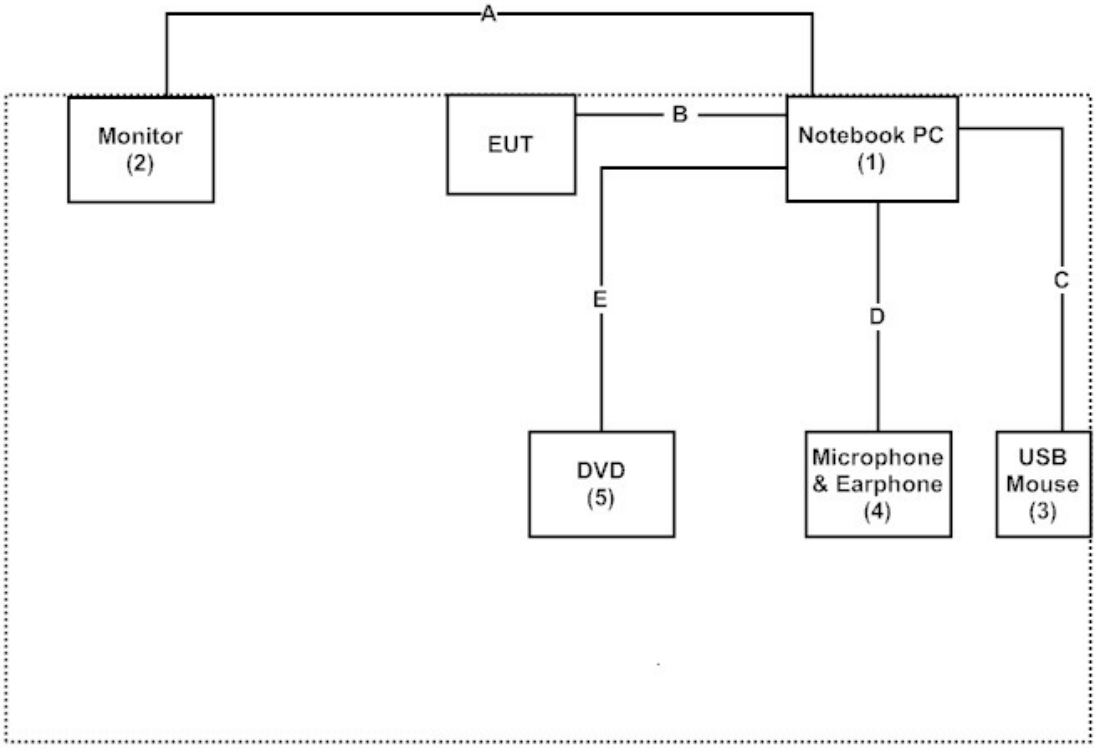
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2	Monitor	LG	W2261VT	907YHZK07373	Non-Shielded, 1.8m
3	USB Mouse	DELL	MO56UC	G0X01JK0	N/A
4	Microphone & Earphone	PCHOME	N/A	N/A	N/A
5	DVD	DELL	PD01S	N/A	Non-Shielded, 1.8m

Signal Cable Type		Signal cable Description
A	VGA Cable	Non-Shielded, 1.8m, with two ferrite cores bonded.
B	USB to RS-232 Cable	Non-Shielded, 2.0m, with one ferrite core bonded.
C	Mouse Cable	Non-Shielded, 1.8m
D	Microphone & Earphone	Non-Shielded, 2.0m
E	DVD Cable	Non-Shielded, 0.3m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in Section 1.4

(2) Execute software on the EUT.

(3) Configure the test mode, the test channel, and the data rate.

(4) Press “OK” to start the continuous Transmit.

(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site: http://www.quietek.com/tw/ctg/cts/accreditations.htm
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: http://www.quietek.com/

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Site Name: Quietek Corporation
Site Address: No.5-22, Ruishukeng, Linkou Dist.,
New Taipei City 24451, Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

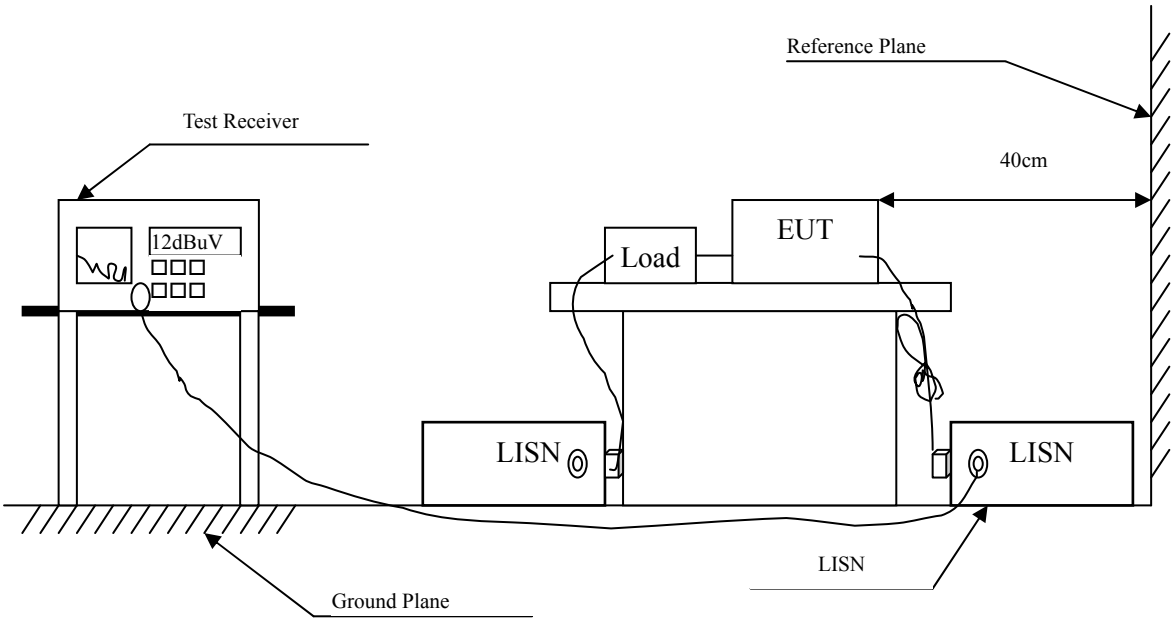
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2013	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2014	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2014	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2014	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2014	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Bar Code Printer
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.302	9.640	20.610	30.250	-31.407	61.657
0.388	9.640	34.140	43.780	-15.420	59.200
0.685	9.640	28.060	37.700	-18.300	56.000
0.943	9.670	26.970	36.640	-19.360	56.000
5.732	9.710	30.690	40.400	-19.600	60.000
11.865	9.820	21.720	31.540	-28.460	60.000
Average					
0.302	9.640	8.970	18.610	-33.047	51.657
0.388	9.640	29.250	38.890	-10.310	49.200
0.685	9.640	20.570	30.210	-15.790	46.000
0.943	9.670	17.740	27.410	-18.590	46.000
5.732	9.710	23.750	33.460	-16.540	50.000
11.865	9.820	15.610	25.430	-24.570	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Bar Code Printer
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.181	9.702	41.270	50.972	-14.142	65.114
0.236	9.662	33.000	42.662	-20.881	63.543
0.373	9.650	34.900	44.550	-15.079	59.629
0.986	9.690	26.050	35.740	-20.260	56.000
3.670	9.710	23.490	33.200	-22.800	56.000
5.900	9.740	23.050	32.790	-27.210	60.000
Average					
0.181	9.702	29.490	39.192	-15.922	55.114
0.236	9.662	19.230	28.892	-24.651	53.543
0.373	9.650	24.220	33.870	-15.759	49.629
0.986	9.690	17.600	27.290	-18.710	46.000
3.670	9.710	16.750	26.460	-19.540	46.000
5.900	9.740	16.570	26.310	-23.690	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Bar Code Printer
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(2) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.201	9.840	25.310	35.150	-29.393	64.543
0.322	9.840	18.460	28.300	-32.786	61.086
0.459	9.840	28.350	38.190	-18.981	57.171
1.130	9.850	23.530	33.380	-22.620	56.000
5.330	9.891	23.760	33.651	-26.349	60.000
29.728	10.104	12.640	22.744	-37.256	60.000
Average					
0.201	9.840	11.740	21.580	-32.963	54.543
0.322	9.840	8.960	18.800	-32.286	51.086
0.459	9.840	19.200	29.040	-18.131	47.171
1.130	9.850	2.100	11.950	-34.050	46.000
5.330	9.891	6.960	16.851	-33.149	50.000
29.728	10.104	1.820	11.924	-38.076	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Bar Code Printer
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(2) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.166	9.840	9.370	19.210	-46.333	65.543
0.205	9.840	24.990	34.830	-29.599	64.429
0.298	9.840	17.720	27.560	-34.211	61.771
0.498	9.840	22.350	32.190	-23.867	56.057
1.384	9.850	3.640	13.490	-42.510	56.000
9.474	10.040	7.870	17.910	-42.090	60.000
Average					
0.166	9.840	0.970	10.810	-44.733	55.543
0.205	9.840	13.490	23.330	-31.099	54.429
0.298	9.840	7.580	17.420	-34.351	51.771
0.498	9.840	18.300	28.140	-17.917	46.057
1.384	9.850	-2.380	7.470	-38.530	46.000
9.474	10.040	-1.610	8.430	-41.570	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Bar Code Printer
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(3)(2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.170	9.707	39.400	49.107	-16.322	65.429
0.279	9.647	29.100	38.747	-23.567	62.314
0.396	9.640	30.950	40.590	-18.381	58.971
3.955	9.700	21.540	31.240	-24.760	56.000
8.201	9.750	21.040	30.790	-29.210	60.000
25.998	9.960	22.860	32.820	-27.180	60.000
Average					
0.170	9.707	24.250	33.957	-21.472	55.429
0.279	9.647	18.020	27.667	-24.647	52.314
0.396	9.640	23.890	33.530	-15.441	48.971
3.955	9.700	14.340	24.040	-21.960	46.000
8.201	9.750	15.510	25.260	-24.740	50.000
25.998	9.960	22.030	31.990	-18.010	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Bar Code Printer
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(3) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.162	9.721	33.340	43.062	-22.595	65.657
0.224	9.670	30.300	39.970	-23.916	63.886
0.392	9.650	30.280	39.930	-19.156	59.086
0.470	9.650	25.570	35.220	-21.637	56.857
5.736	9.730	26.120	35.850	-24.150	60.000
25.998	10.190	22.480	32.670	-27.330	60.000
Average					
0.162	9.721	17.680	27.402	-28.255	55.657
0.224	9.670	24.790	34.460	-19.426	53.886
0.392	9.650	23.530	33.180	-15.906	49.086
0.470	9.650	18.310	27.960	-18.897	46.857
5.736	9.730	19.190	28.920	-21.080	50.000
25.998	10.190	21.510	31.700	-18.300	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ “ means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2014
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

3.2. Test Setup

3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements. The maximum peak conducted output power using KDB 558074 section 9.1.3 PKPM1 Peak power meter method.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product : Bar Code Printer
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)				Peak Power	Required Limit	Result
		1	2	5.5	11	1		
		Measurement Level (dBm)						
01	2412	12.97	--	--	--	15.40	<30dBm	Pass
06	2437	12.87	12.85	12.54	12.53	15.56	<30dBm	Pass
11	2462	12.91	--	--	--	15.50	<30dBm	Pass

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Product : Bar Code Printer
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		6	9	12	18	24	36	48	54	6		
		Measurement Level (dBm)										
01	2412	12.70	--	--	--	--	--	--	--	21.09	<30dBm	Pass
06	2437	12.58	12.57	12.56	12.53	12.52	12.5	12.49	12.49	21.35	<30dBm	Pass
11	2462	12.45	--	--	--	--	--	--	--	21.22	<30dBm	Pass

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Product : Bar Code Printer
Test Item : Peak Power Output Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1)

Channel No	Frequency (MHz)	Average Power For different Data Rate (Mbps)								Peak Power	Required Limit	Result
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2		
		Measurement Level (dBm)										
01	2412	11.52	--	--	--	--	--	--	--	20.81	<30dBm	Pass
06	2437	11.51	11.5	11.49	11.48	11.47	11.46	11.45	11.43	20.76	<30dBm	Pass
11	2462	11.68	--	--	--	--	--	--	--	20.66	<30dBm	Pass

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

4. Radiated Emission

4.1. Test Equipment

The following test equipment are used during the radiated emission test:

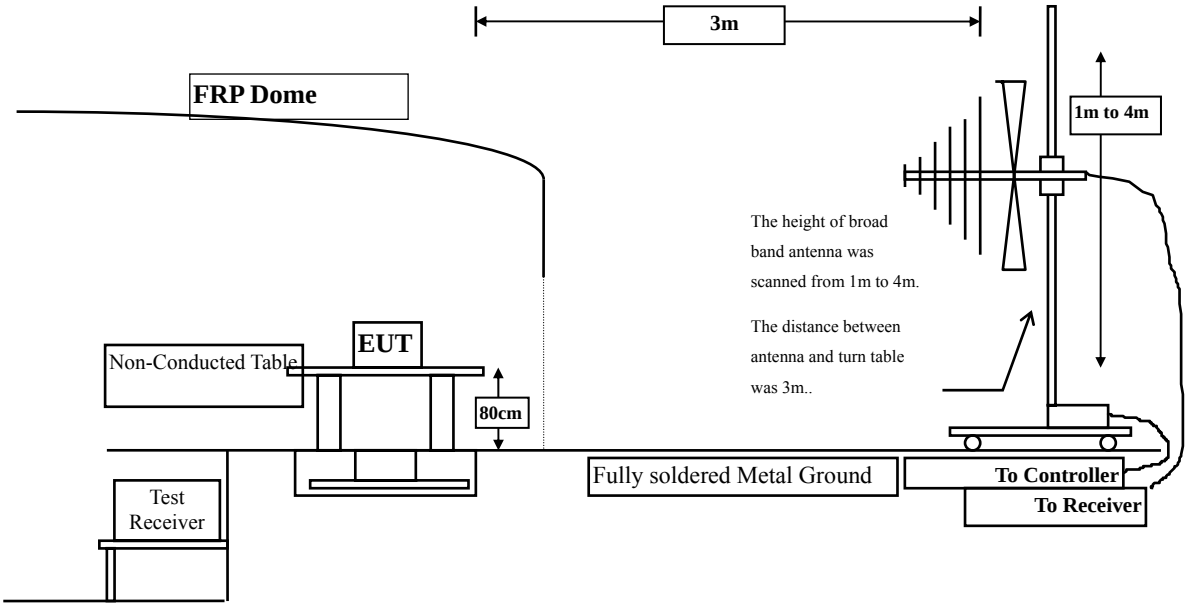
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2014
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

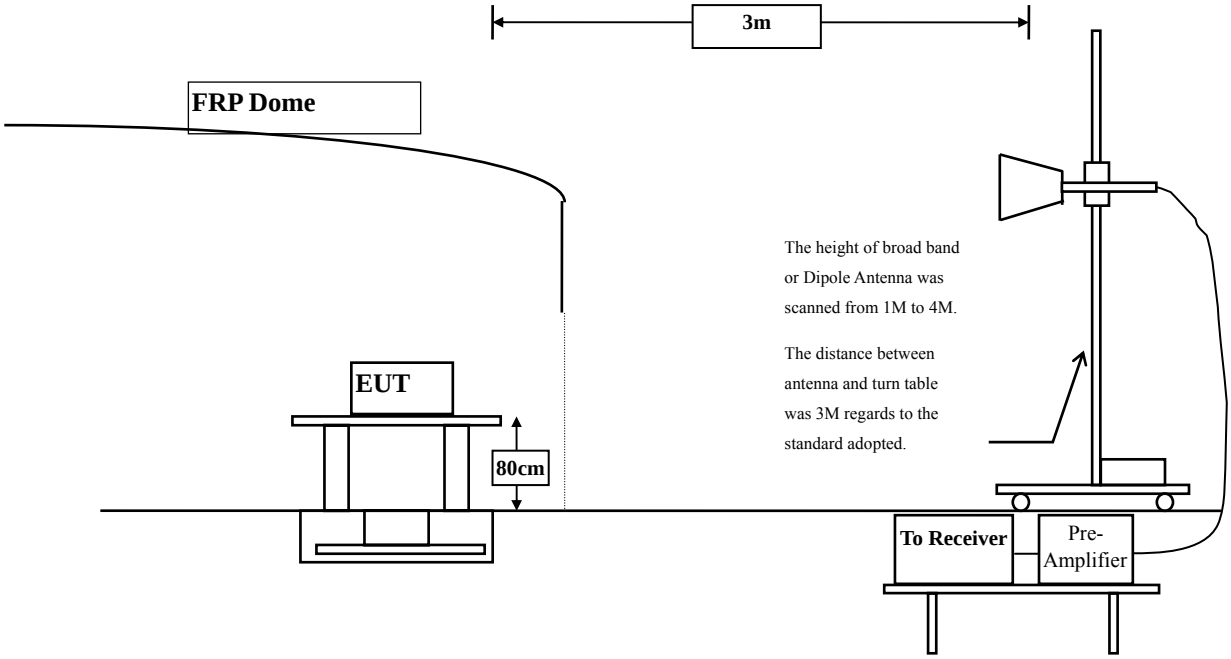
2. The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The frequency range from 9KHz to 10th harminics is checked.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	36.470	39.731	-34.269	74.000
7236.000	10.650	36.790	47.440	-26.560	74.000
9648.000	13.337	36.200	49.536	-24.464	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	37.280	43.701	-30.299	74.000
7236.000	11.495	35.470	46.965	-27.035	74.000
9648.000	13.807	36.640	50.446	-23.554	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437 MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	36.540	39.577	-34.423	74.000
7311.000	11.795	35.140	46.934	-27.066	74.000
9748.000	12.635	37.280	49.915	-24.085	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	36.260	42.071	-31.929	74.000
7311.000	12.630	34.490	47.119	-26.881	74.000
9748.000	13.126	37.370	50.496	-23.504	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	36.940	39.797	-34.203	74.000
7386.000	12.127	34.820	46.948	-27.052	74.000
9848.000	12.852	36.670	49.523	-24.477	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	36.340	41.860	-32.140	74.000
7386.000	13.254	34.480	47.734	-26.266	74.000
9848.000	13.367	36.690	50.057	-23.943	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.020	40.281	-33.719	74.000
7236.000	10.650	35.930	46.580	-27.420	74.000
9648.000	13.337	36.240	49.576	-24.424	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	37.280	43.701	-30.299	74.000
7236.000	11.495	36.160	47.655	-26.345	74.000
9648.000	13.807	36.140	49.946	-24.054	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	36.600	39.637	-34.363	74.000
7311.000	11.795	34.770	46.564	-27.436	74.000
9748.000	12.635	37.000	49.635	-24.365	74.000
Average Detector:					
--					
Peak Detector:					
4874.000	5.812	36.530	42.341	-31.659	74.000
7311.000	12.630	34.680	47.309	-26.691	74.000
9748.000	13.126	36.750	49.876	-24.124	74.000
Average Detector:					
--					

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462 MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	37.430	40.287	-33.713	74.000
7386.000	12.127	35.150	47.278	-26.722	74.000
9848.000	12.852	36.250	49.103	-24.897	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	40.380	45.900	-28.100	74.000
7386.000	13.254	35.260	48.514	-25.486	74.000
9848.000	13.367	36.610	49.977	-24.023	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.820	41.081	-32.919	74.000
7236.000	10.650	35.600	46.250	-27.750	74.000
9648.000	13.337	35.940	49.276	-24.724	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4824.000	6.421	36.840	43.261	-30.739	74.000
7236.000	11.495	35.540	47.035	-26.965	74.000
9648.000	13.807	35.850	49.656	-24.344	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	37.510	40.547	-33.453	74.000
7311.000	11.795	35.130	46.924	-27.076	74.000
9748.000	12.635	36.700	49.335	-24.665	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4874.000	5.812	36.940	42.751	-31.249	74.000
7311.000	12.630	35.080	47.709	-26.291	74.000
9748.000	13.126	37.280	50.406	-23.594	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz) -Adapter(1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.858	37.610	40.467	-33.533	74.000
7386.000	12.127	35.490	47.618	-26.382	74.000
9848.000	12.852	36.190	49.043	-24.957	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4924.000	5.521	37.580	43.100	-30.900	74.000
7386.000	13.254	34.560	47.814	-26.186	74.000
9848.000	13.367	37.200	50.567	-23.433	74.000
Average Detector:					
--					

Note:
1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
249.220	-6.014	41.629	35.615	-10.385	46.000
299.660	-3.585	39.947	36.362	-9.638	46.000
400.540	-2.276	35.811	33.535	-12.465	46.000
602.300	4.287	28.903	33.190	-12.810	46.000
901.060	5.591	34.713	40.304	-5.696	46.000
949.560	6.695	28.058	34.753	-11.247	46.000
Vertical					
101.780	-0.021	35.211	35.189	-8.311	43.500
249.220	-7.634	41.988	34.354	-11.646	46.000
398.600	-4.678	38.278	33.600	-12.400	46.000
499.480	-0.852	33.670	32.818	-13.182	46.000
751.680	2.850	35.032	37.882	-8.118	46.000
899.120	3.063	37.977	41.040	-4.960	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
249.220	-6.014	41.526	35.512	-10.488	46.000
299.660	-3.585	39.981	36.396	-9.604	46.000
398.600	-2.268	36.617	34.349	-11.651	46.000
460.680	1.589	32.753	34.342	-11.658	46.000
701.240	2.668	31.891	34.559	-11.441	46.000
901.060	5.591	34.439	40.030	-5.970	46.000
Vertical					
198.780	-8.221	40.824	32.603	-10.897	43.500
398.600	-4.678	39.072	34.394	-11.606	46.000
499.480	-0.852	33.235	32.383	-13.617	46.000
751.680	2.850	35.526	38.376	-7.624	46.000
901.060	3.331	37.063	40.394	-5.606	46.000
967.020	8.071	28.801	36.872	-17.128	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)-Adapter(1) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
299.660	-3.585	40.059	36.474	-9.526	46.000
460.680	1.589	33.590	35.179	-10.821	46.000
600.360	3.977	30.714	34.691	-11.309	46.000
848.680	5.776	34.007	39.782	-6.218	46.000
901.060	5.591	34.109	39.700	-6.300	46.000
949.560	6.695	28.858	35.553	-10.447	46.000
Vertical					
249.220	-7.634	41.801	34.167	-11.833	46.000
398.600	-4.678	38.820	34.142	-11.858	46.000
499.480	-0.852	33.504	32.652	-13.348	46.000
751.680	2.850	35.259	38.109	-7.891	46.000
899.120	3.063	37.138	40.201	-5.799	46.000
967.020	8.071	28.578	36.649	-17.351	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(2) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
194.900	-11.012	47.415	36.403	-7.097	43.500
282.200	-5.211	37.794	32.583	-13.417	46.000
472.320	0.637	34.162	34.799	-11.201	46.000
625.580	1.770	37.736	39.506	-6.494	46.000
802.120	5.091	36.061	41.152	-4.848	46.000
912.700	6.132	34.010	40.142	-5.858	46.000
Vertical					
107.600	-0.318	36.273	35.955	-7.545	43.500
224.000	-8.699	41.584	32.885	-13.115	46.000
472.320	-4.613	40.868	36.255	-9.745	46.000
662.440	-2.026	34.534	32.508	-13.492	46.000
817.640	3.272	34.699	37.971	-8.029	46.000
912.700	1.762	34.476	36.238	-9.762	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report
8. No emission found between lowest internal used/generated frequency to 30MHz.

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Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(2) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
194.900	-11.012	46.968	35.956	-7.544	43.500
336.520	-3.860	37.889	34.029	-11.971	46.000
528.580	1.848	34.380	36.228	-9.772	46.000
625.580	1.770	36.759	38.529	-7.471	46.000
782.720	4.325	35.096	39.421	-6.579	46.000
912.700	6.132	33.642	39.774	-6.226	46.000
Vertical					
61.040	-4.316	35.126	30.810	-9.190	40.000
194.900	-9.322	46.147	36.825	-6.675	43.500
472.320	-4.613	38.369	33.756	-12.244	46.000
687.660	2.444	31.245	33.689	-12.311	46.000
782.720	3.035	37.954	40.989	-5.011	46.000
928.220	6.203	32.236	38.439	-7.561	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(2) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
97.900	-7.650	43.451	35.800	-7.700	43.500
194.900	-11.012	47.561	36.549	-6.951	43.500
336.520	-3.860	37.005	33.145	-12.855	46.000
460.680	1.589	32.522	34.111	-11.889	46.000
625.580	1.770	37.216	38.986	-7.014	46.000
848.680	5.776	35.372	41.147	-4.853	46.000
Vertical					
57.160	-4.403	38.266	33.863	-6.137	40.000
194.900	-9.322	45.799	36.477	-7.023	43.500
472.320	-4.613	39.831	35.218	-10.782	46.000
782.720	3.035	37.631	40.666	-5.334	46.000
848.680	1.066	38.459	39.524	-6.476	46.000
941.800	6.585	29.941	36.526	-9.474	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(3) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
398.600	-2.268	31.253	28.985	-17.015	46.000
497.540	-0.273	33.181	32.908	-13.092	46.000
598.420	3.991	27.986	31.977	-14.023	46.000
697.360	3.171	31.460	34.631	-11.369	46.000
806.000	4.968	32.987	37.955	-8.045	46.000
897.180	5.182	29.249	34.431	-11.569	46.000
Vertical					
398.600	-4.678	35.042	30.364	-15.636	46.000
497.540	-1.393	32.886	31.493	-14.507	46.000
598.420	-2.979	33.193	30.214	-15.786	46.000
697.360	1.311	33.144	34.455	-11.545	46.000
798.240	2.808	32.837	35.645	-10.355	46.000
897.180	2.332	29.637	31.969	-14.031	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(3) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
398.600	-2.268	31.529	29.261	-16.739	46.000
497.540	-0.273	32.233	31.960	-14.040	46.000
598.420	3.991	27.694	31.685	-14.315	46.000
697.360	3.171	31.694	34.865	-11.135	46.000
806.000	4.968	32.069	37.037	-8.963	46.000
897.180	5.182	29.400	34.582	-11.418	46.000
Vertical					
99.840	-0.021	30.666	30.645	-12.855	43.500
398.600	-4.678	34.634	29.956	-16.044	46.000
497.540	-1.393	33.196	31.803	-14.197	46.000
697.360	1.311	33.659	34.970	-11.030	46.000
798.240	2.808	32.754	35.562	-10.438	46.000
897.180	2.332	28.936	31.268	-14.732	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(3) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
299.660	-3.585	40.059	36.474	-9.526	46.000
460.680	1.589	33.590	35.179	-10.821	46.000
600.360	3.977	30.714	34.691	-11.309	46.000
848.680	5.776	34.007	39.782	-6.218	46.000
901.060	5.591	34.109	39.700	-6.300	46.000
949.560	6.695	28.858	35.553	-10.447	46.000
Vertical					
249.220	-7.634	41.801	34.167	-11.833	46.000
398.600	-4.678	38.820	34.142	-11.858	46.000
499.480	-0.852	33.504	32.652	-13.348	46.000
751.680	2.850	35.259	38.109	-7.891	46.000
899.120	3.063	37.138	40.201	-5.799	46.000
967.020	8.071	28.578	36.649	-17.351	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps)-Adapter(4) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
194.900	-11.012	47.415	36.403	-7.097	43.500
282.200	-5.211	37.794	32.583	-13.417	46.000
472.320	0.637	34.162	34.799	-11.201	46.000
625.580	1.770	37.736	39.506	-6.494	46.000
802.120	5.091	36.061	41.152	-4.848	46.000
912.700	6.132	34.010	40.142	-5.858	46.000
Vertical					
107.600	-0.318	36.273	35.955	-7.545	43.500
224.000	-8.699	41.584	32.885	-13.115	46.000
472.320	-4.613	40.868	36.255	-9.745	46.000
662.440	-2.026	34.534	32.508	-13.492	46.000
817.640	3.272	34.699	37.971	-8.029	46.000
912.700	1.762	34.476	36.238	-9.762	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(4) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
198.780	-10.661	30.841	20.180	-23.320	43.500
297.720	-3.633	30.711	27.079	-18.921	46.000
398.600	-2.268	32.266	29.998	-16.002	46.000
596.480	4.017	28.659	32.676	-13.324	46.000
796.300	5.161	27.606	32.767	-13.233	46.000
897.180	5.182	28.268	33.450	-12.550	46.000
Vertical					
198.780	-8.221	33.490	25.269	-18.231	43.500
297.720	-7.143	31.684	24.542	-21.458	46.000
365.620	-2.179	27.903	25.724	-20.276	46.000
460.680	-3.221	25.460	22.239	-23.761	46.000
596.480	-3.113	33.050	29.937	-16.063	46.000
749.740	2.510	28.755	31.265	-14.735	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Bar Code Printer
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(4) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
198.780	-10.661	29.952	19.291	-24.209	43.500
297.720	-3.633	28.755	25.123	-20.877	46.000
497.540	-0.273	36.676	36.403	-9.597	46.000
598.420	3.991	28.726	32.717	-13.283	46.000
697.360	3.171	29.906	33.077	-12.923	46.000
897.180	5.182	27.832	33.014	-12.986	46.000
Vertical					
198.780	-8.221	32.181	23.960	-19.540	43.500
249.220	-7.634	31.082	23.448	-22.552	46.000
344.280	-3.171	29.950	26.780	-19.220	46.000
596.480	-3.113	32.251	29.138	-16.862	46.000
749.740	2.510	29.642	32.152	-13.848	46.000
844.800	3.181	25.210	28.391	-17.609	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

5. RF antenna conducted test

5.1. Test Equipment

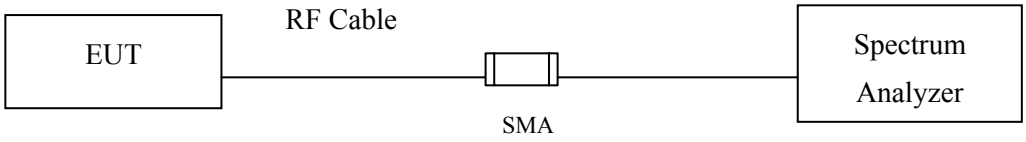
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2014

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

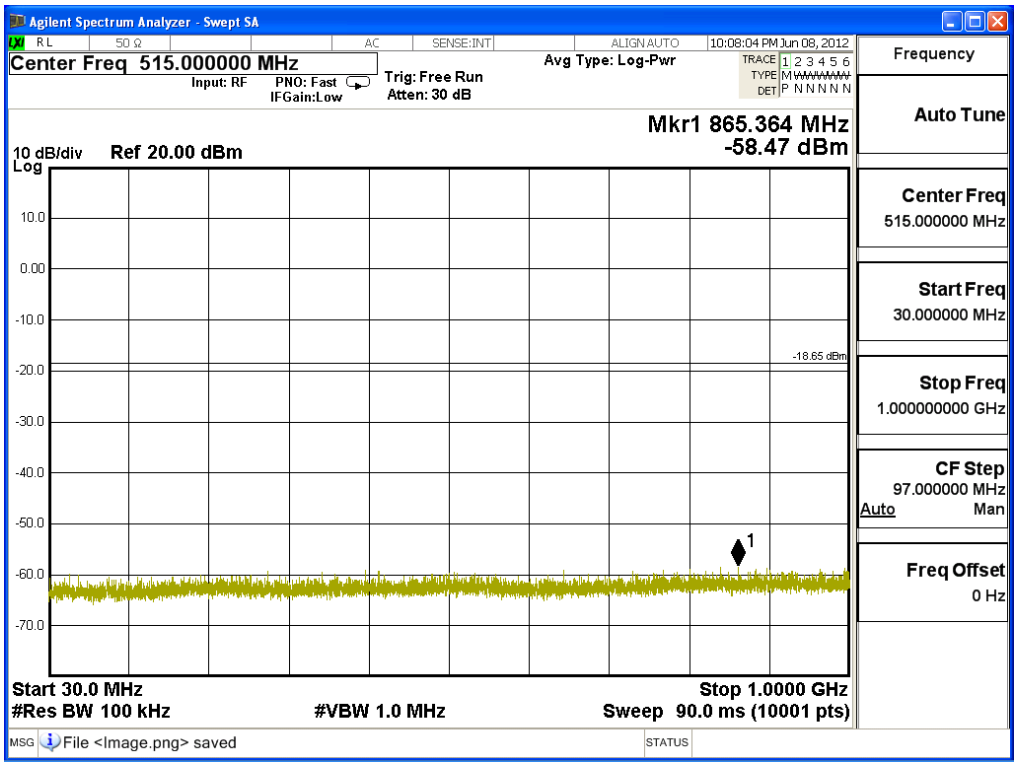
5.5. Uncertainty

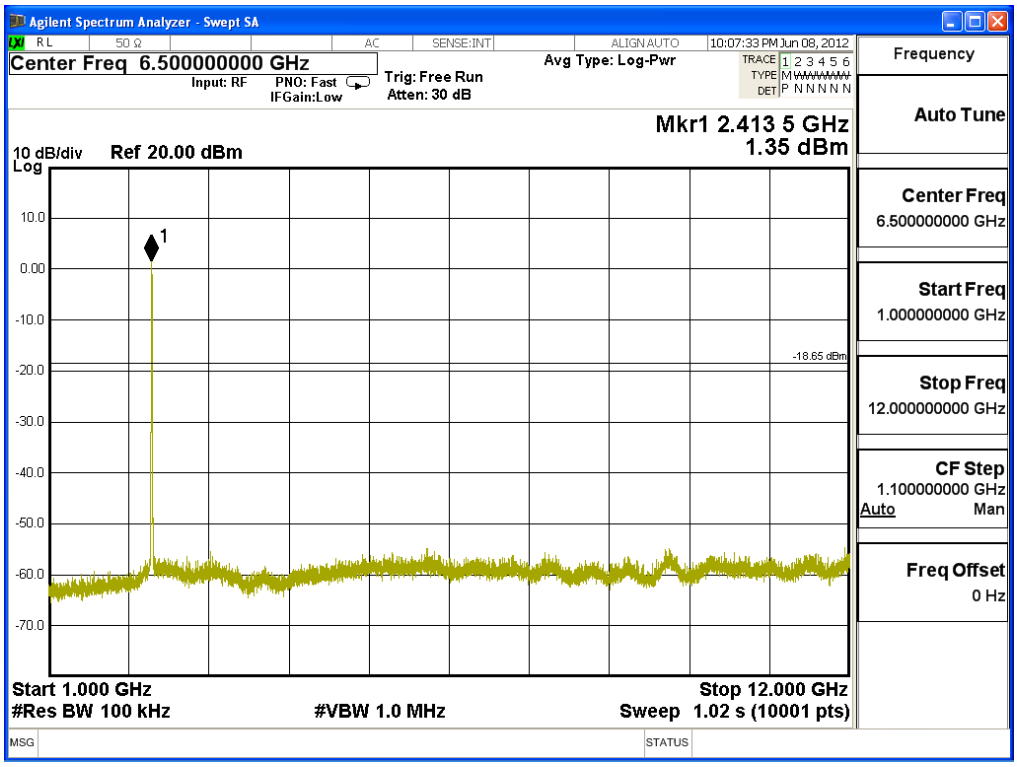
The measurement uncertainty
Conducted is defined as ± 1.27dB

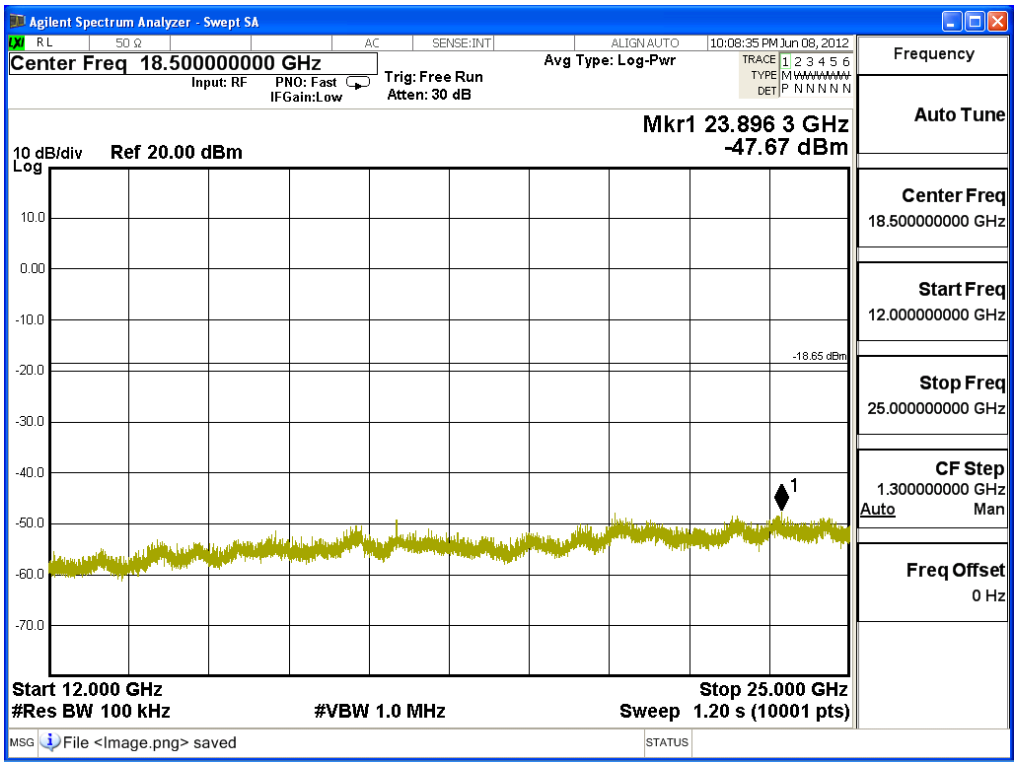
5.6. Test Result of RF antenna conducted test

Product : Bar Code Printer
Test Item : RF antenna conducted test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1)

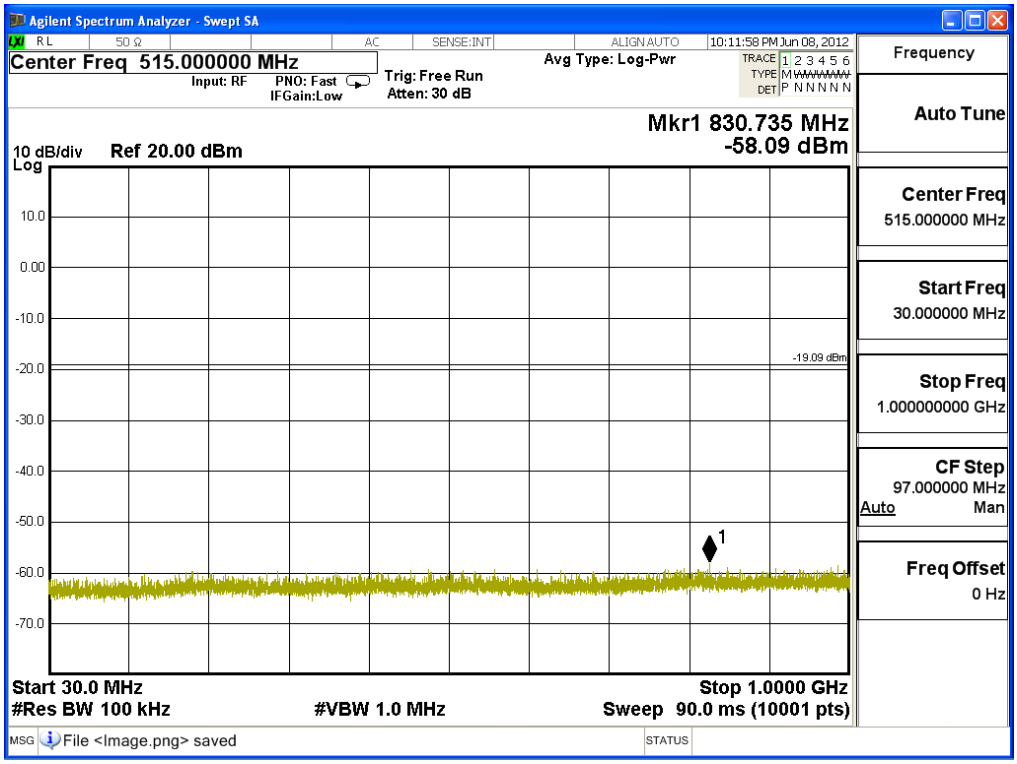
Channel 01 (2412MHz)

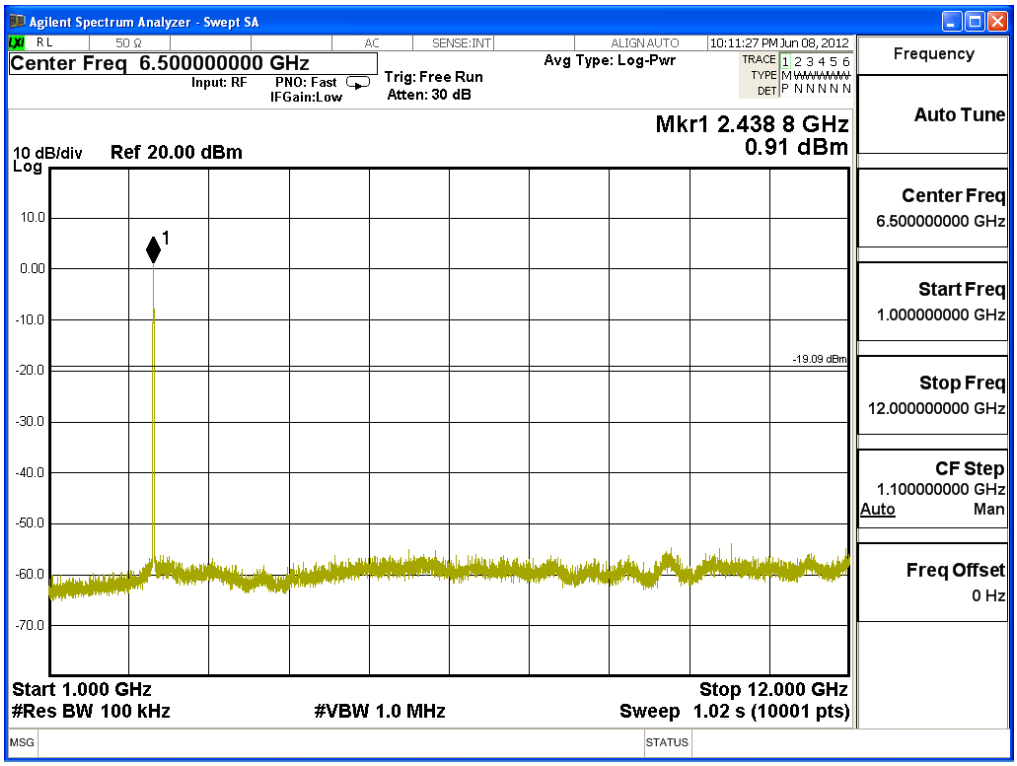


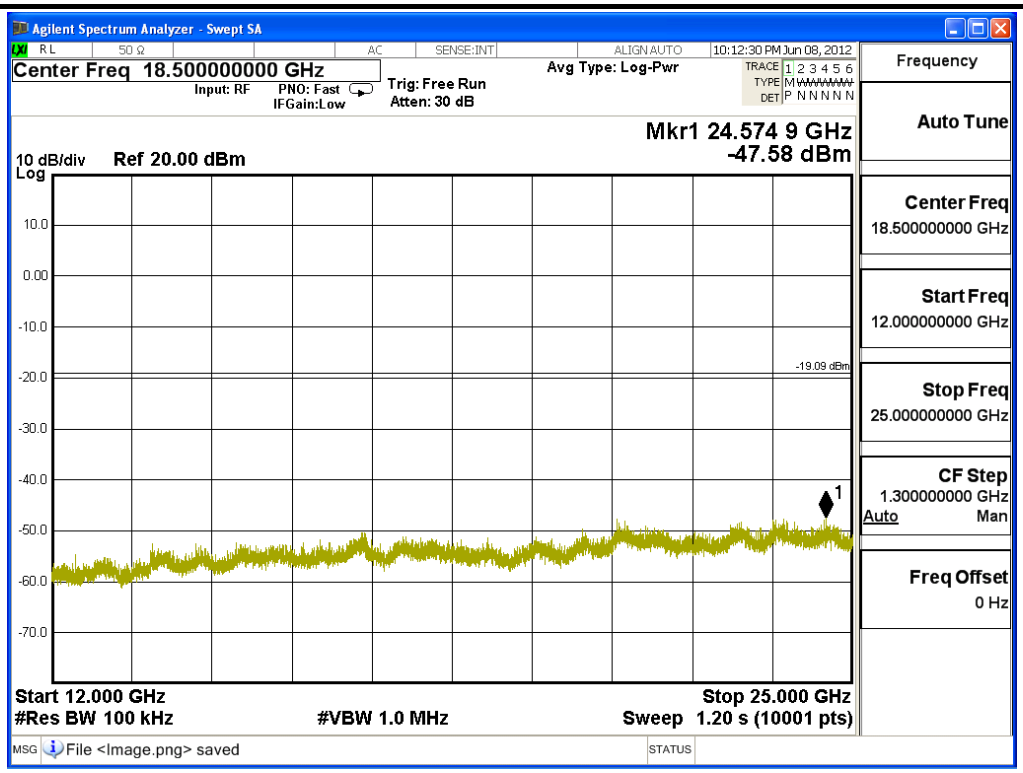

Agilent Spectrum Analyzer - Swept SA
Center Freq 6.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
10:07:33 PM Jun 08, 2012
Mkr1 2.413 5 GHz
1.35 dBm
10 dB/div
Log
Ref 20.00 dBm
-18.65 dBm
Start 1.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 12.000 GHz
Sweep 1.02 s (10001 pts)
Frequency
Auto Tune
Center Freq
6.500000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
12.000000000 GHz
CF Step
1.100000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
10:08:35 PM Jun 08, 2012
Mkr1 23.896 3 GHz
-47.67 dBm
10 dB/div
Log
Ref 20.00 dBm
-18.65 dBm
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
File <Image.png> saved
STATUS

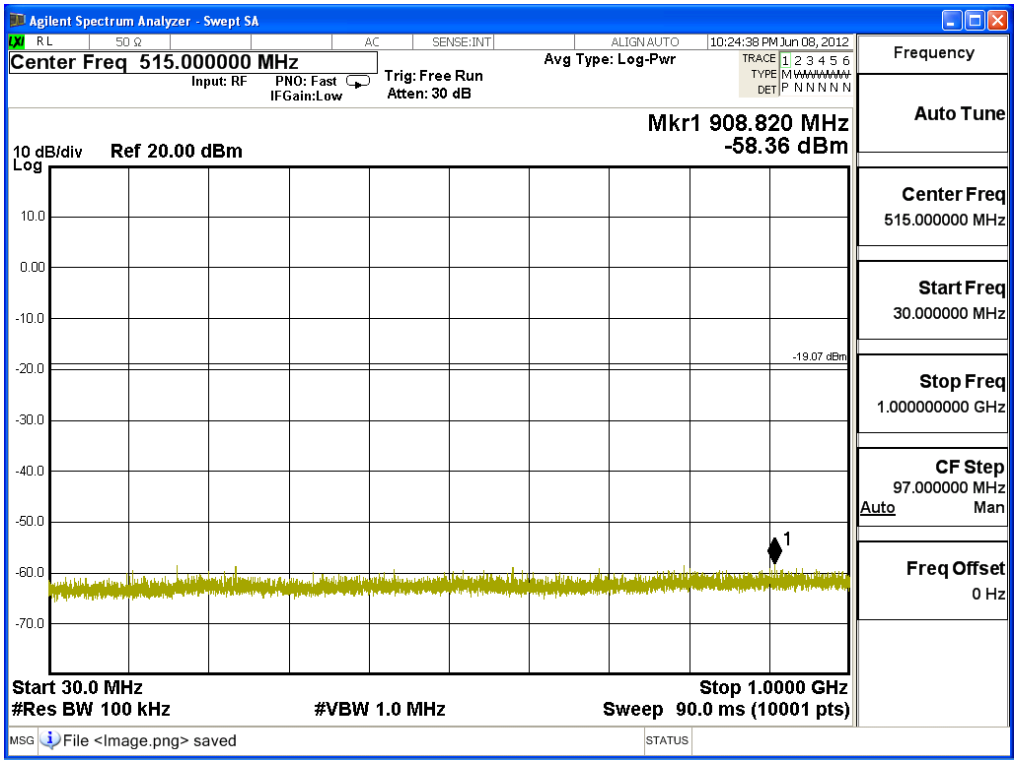
Channel 06 (2437MHz)

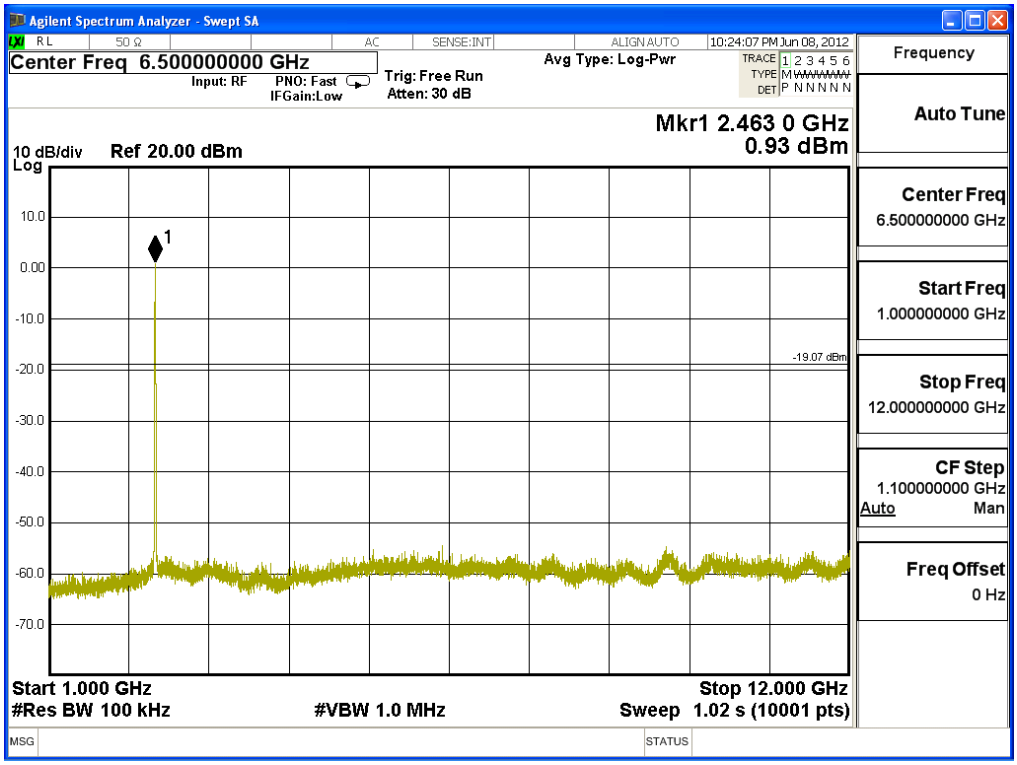


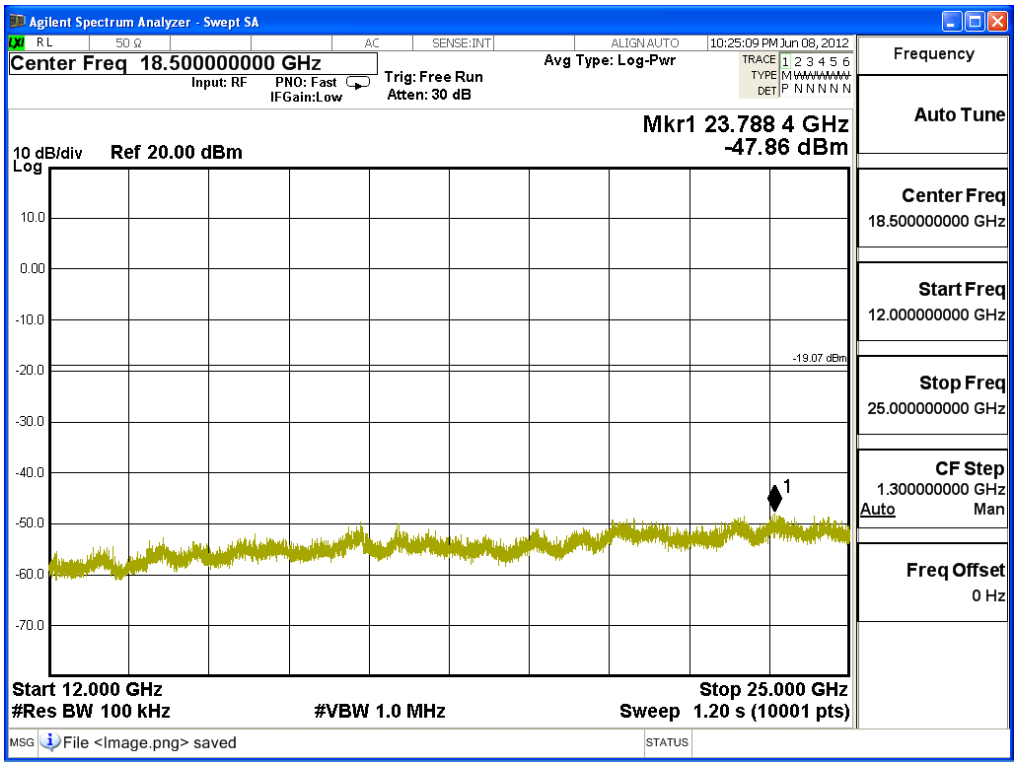



Agilent Spectrum Analyzer - Swept SA
RL
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:12:30 PM Jun 08, 2012
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 24.574 9 GHz
-47.58 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.09 dBm
1
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
MSG
File <Image.png> saved
STATUS
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

Channel 11 (2462MHz)

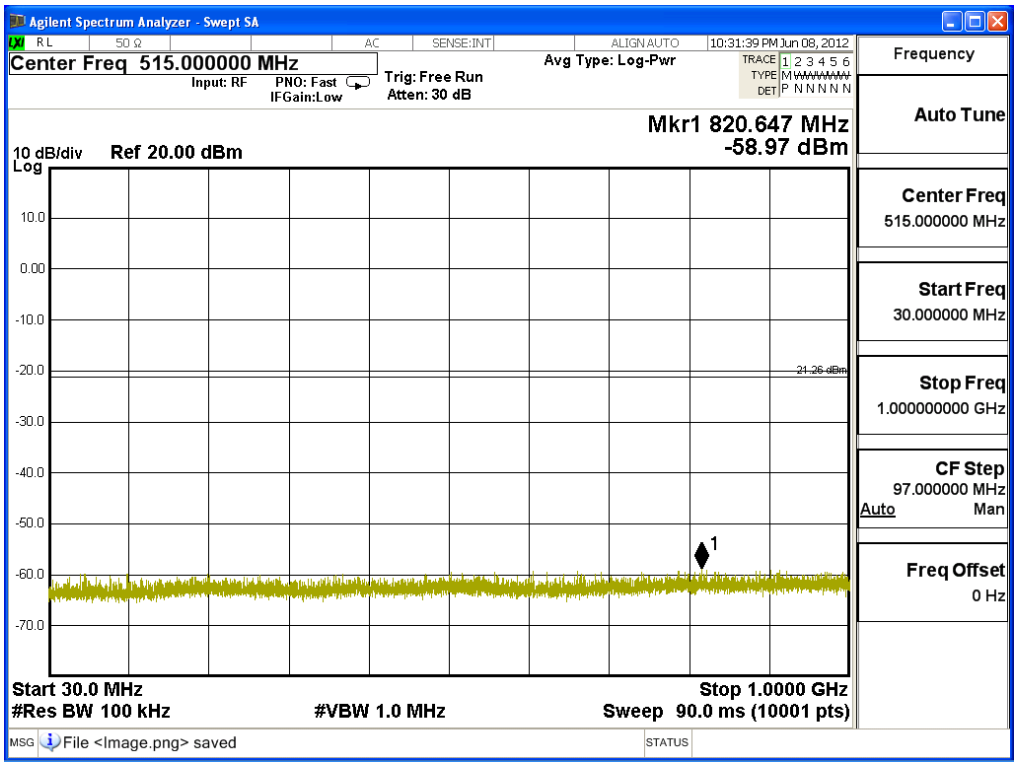


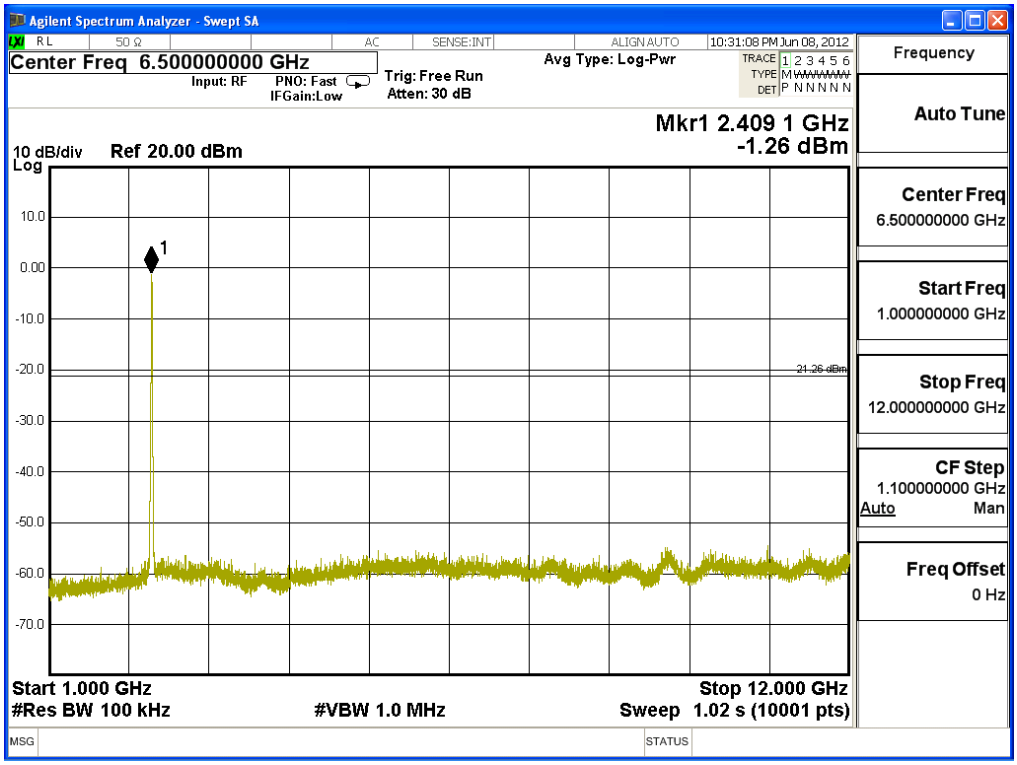


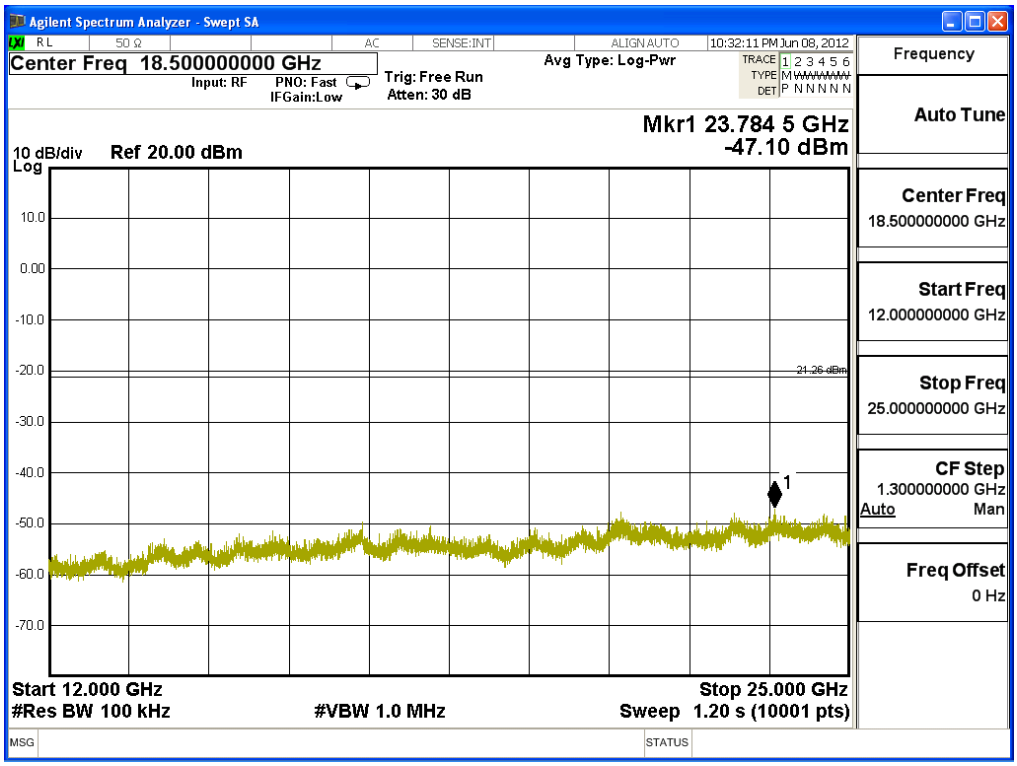

Agilent Spectrum Analyzer - Swept SA
RL
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:25:09 PM Jun 08, 2012
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 23.788 4 GHz
-47.86 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.07 dBm
1
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
MSG
File <Image.png> saved
STATUS
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

Product : Bar Code Printer
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1)

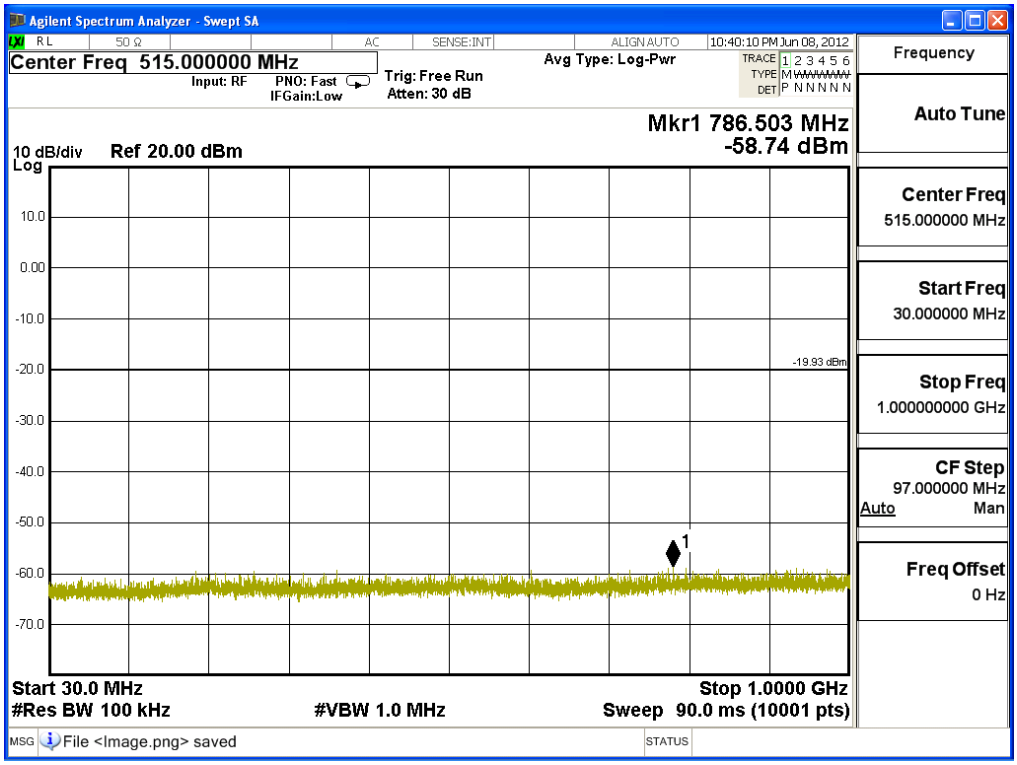
Channel 01 (2412MHz)

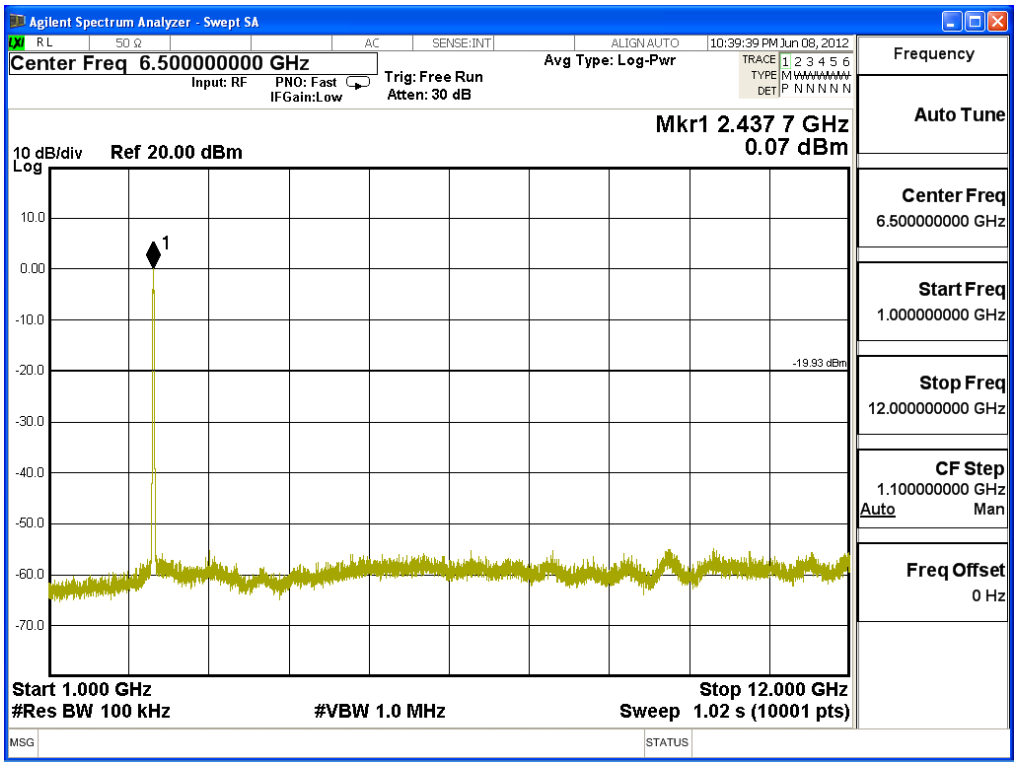


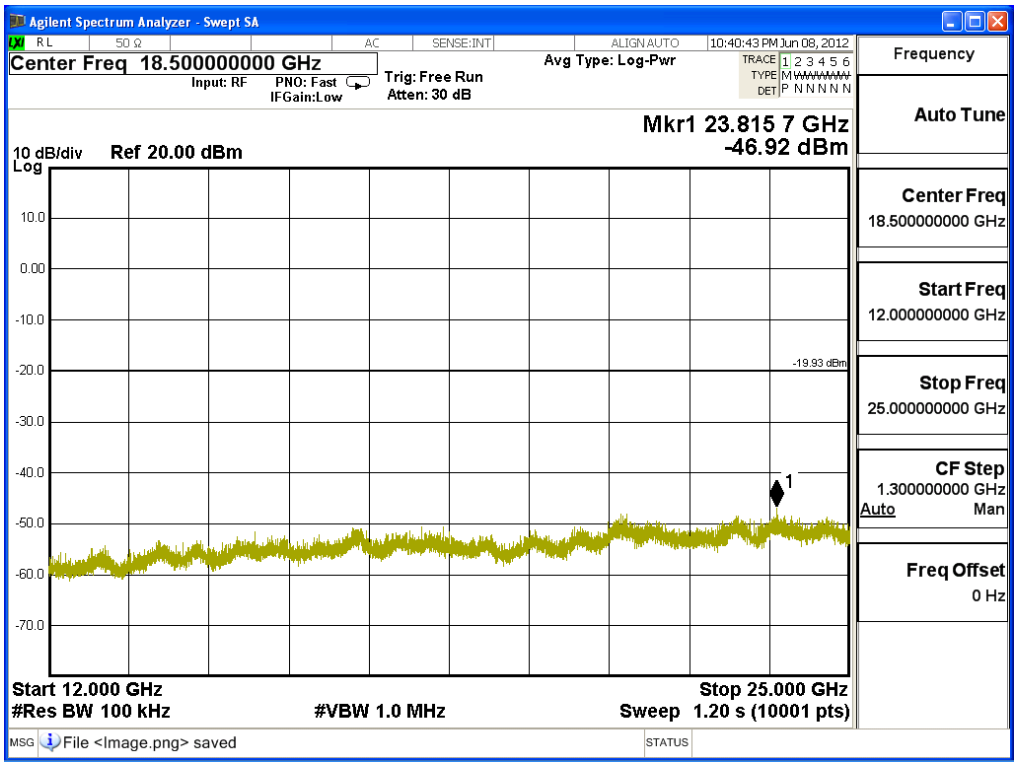

Agilent Spectrum Analyzer - Swept SA
Center Freq 6.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
10:31:08 PM Jun 08, 2012
Mkr1 2.409 1 GHz
-1.26 dBm
10 dB/div
Log
Ref 20.00 dBm
21.26 dBm
Start 1.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 12.000 GHz
Sweep 1.02 s (10001 pts)
Frequency
Auto Tune
Center Freq
6.500000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
12.000000000 GHz
CF Step
1.100000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
10:32:11 PM Jun 08, 2012
Mkr1 23.784 5 GHz
-47.10 dBm
10 dB/div
Log
Ref 20.00 dBm
21.26 dBm
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

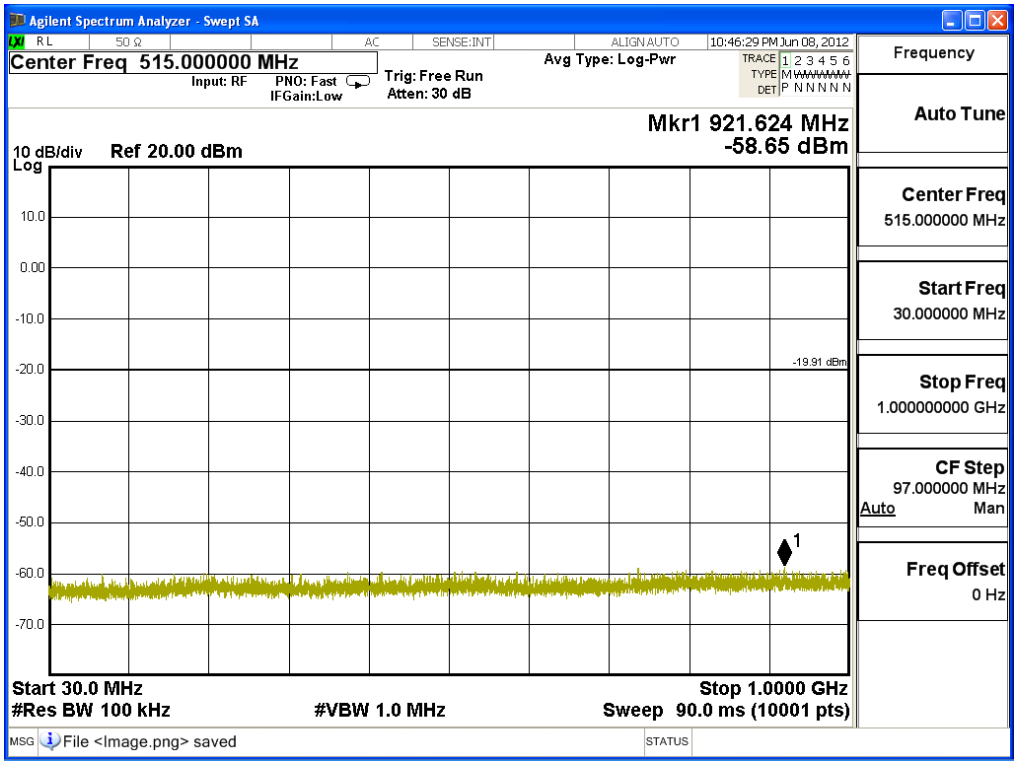
Channel 06 (2437MHz)

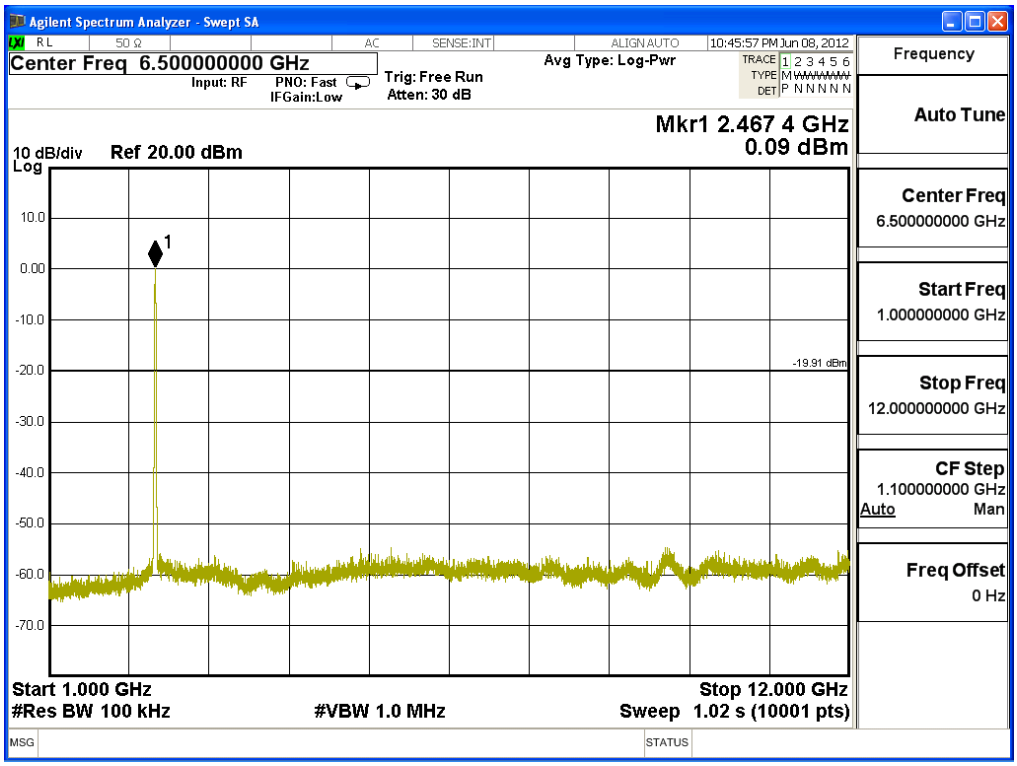


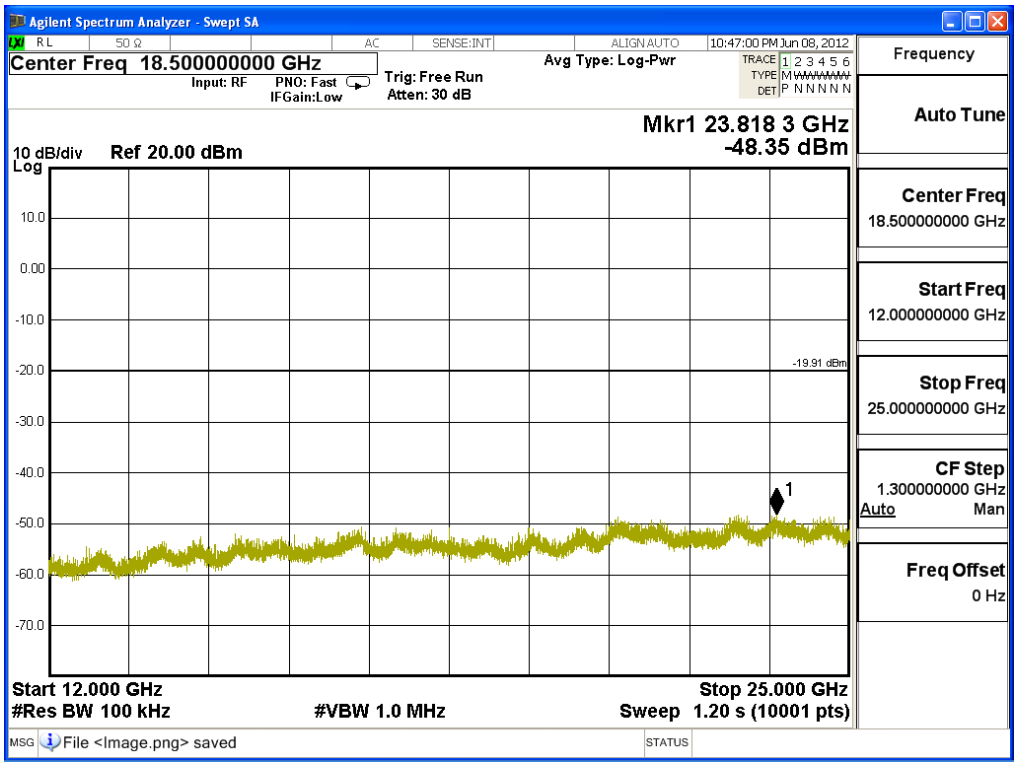



Agilent Spectrum Analyzer - Swept SA
RL
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:40:43 PM Jun 08, 2012
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 23.815 7 GHz
-46.92 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.93 dBm
1
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
MSG
File <Image.png> saved
STATUS
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

Channel 11 (2462MHz)

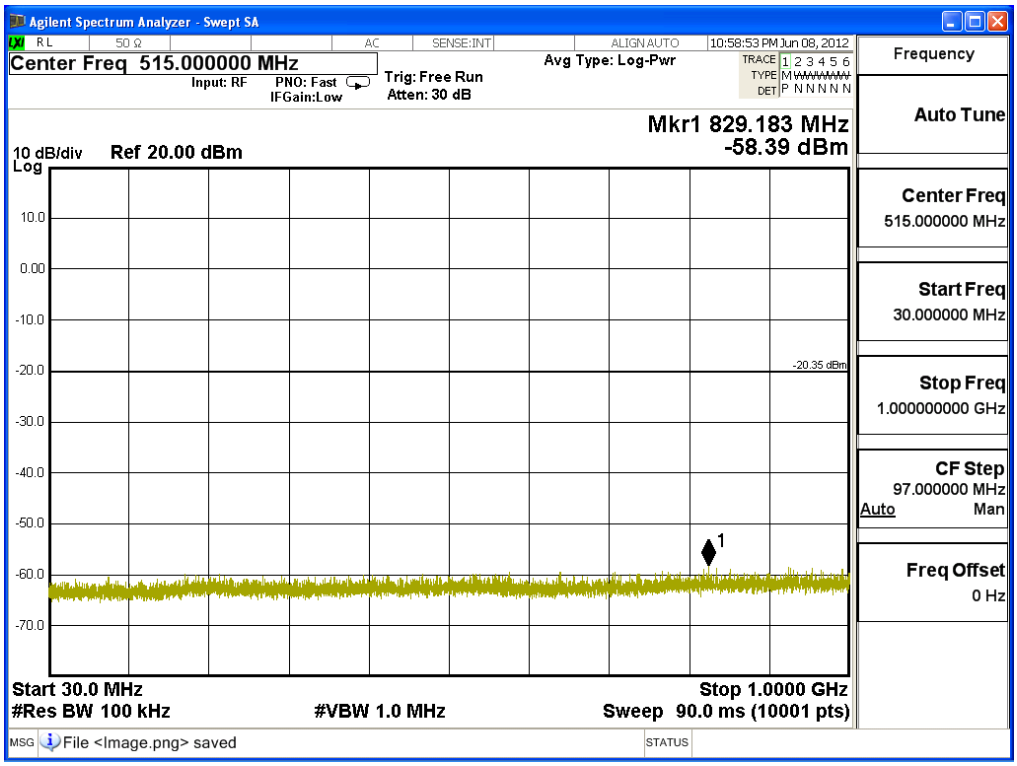


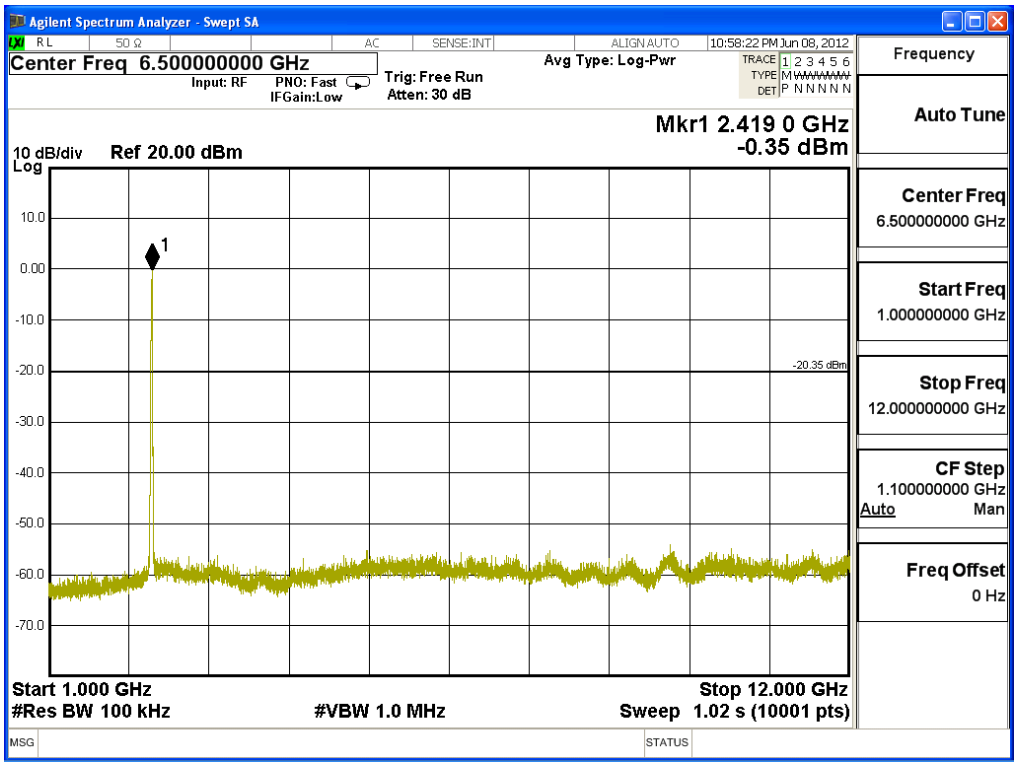


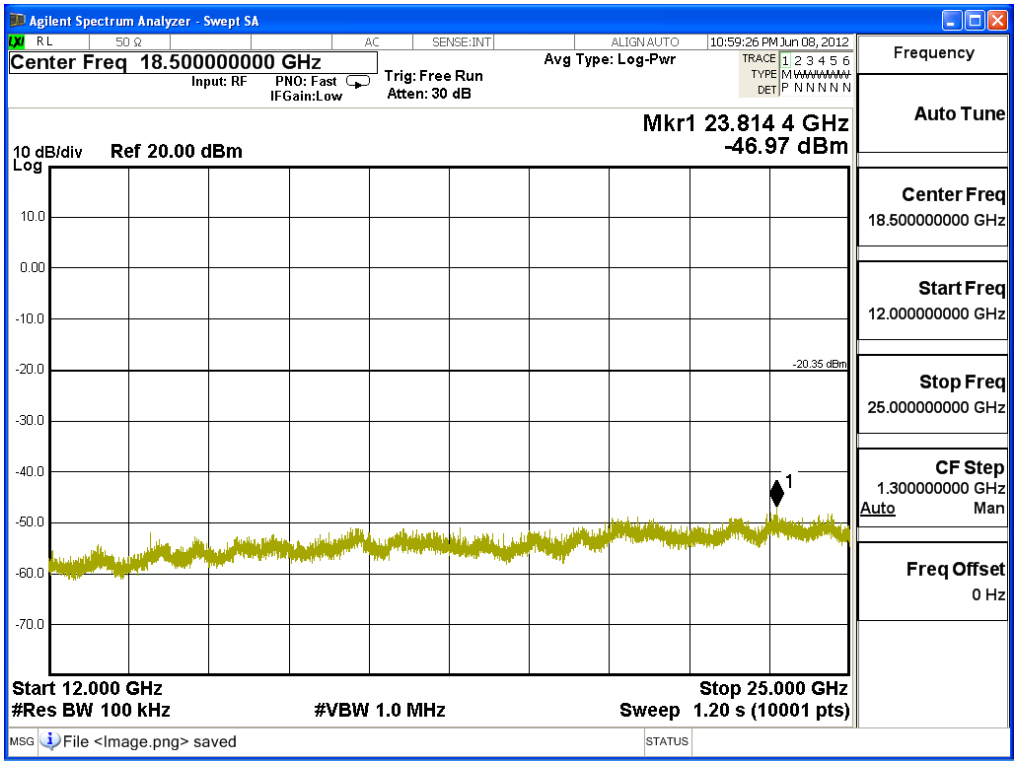

Agilent Spectrum Analyzer - Swept SA
RL
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:47:00 PM Jun 08, 2012
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 23.818 3 GHz
-48.35 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.91 dBm
1
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
MSG
File <Image.png> saved
STATUS
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

Product : Bar Code Printer
Test Item : RF Antenna Conducted Spurious
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1)

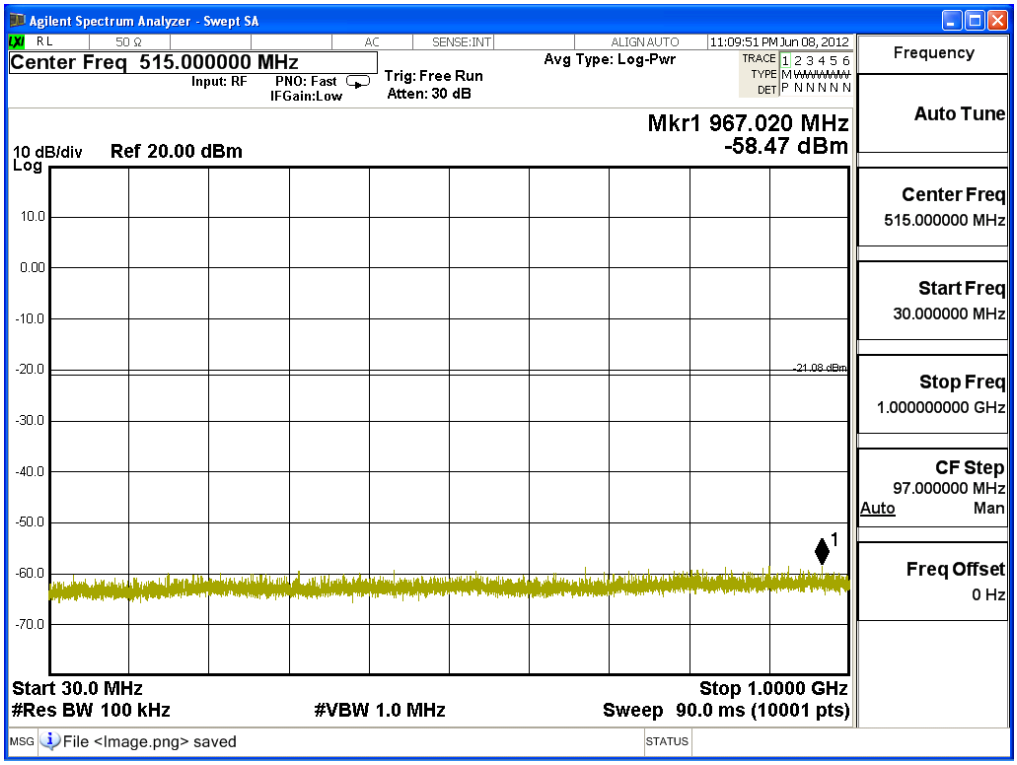
Channel 01 (2412MHz)

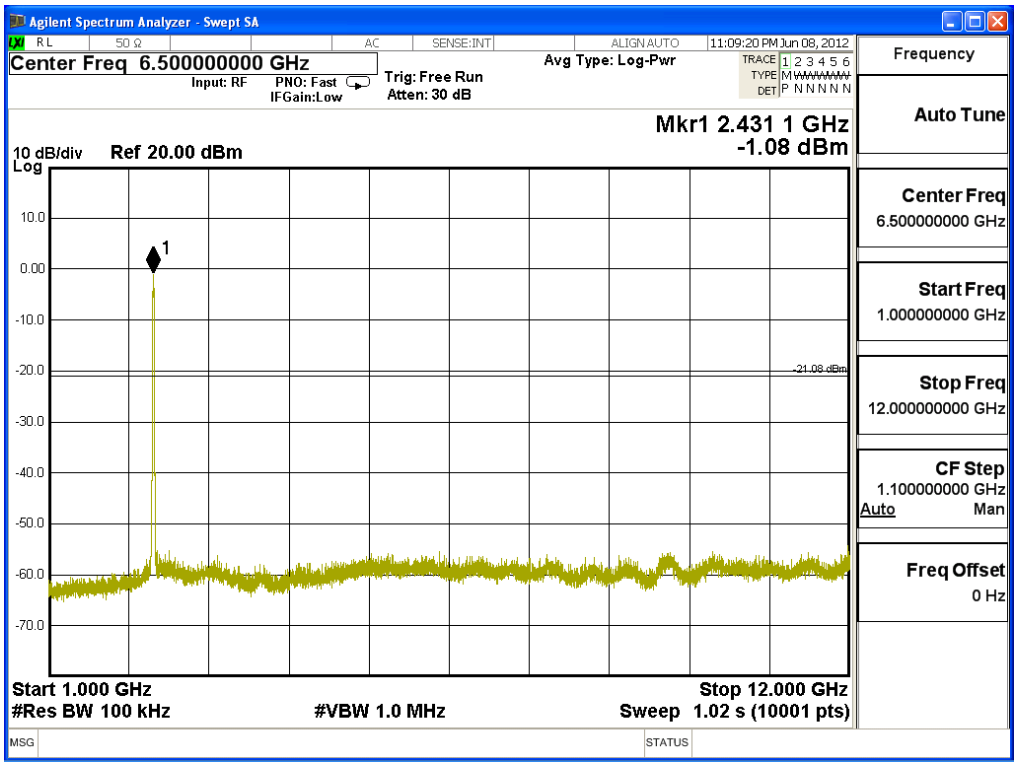


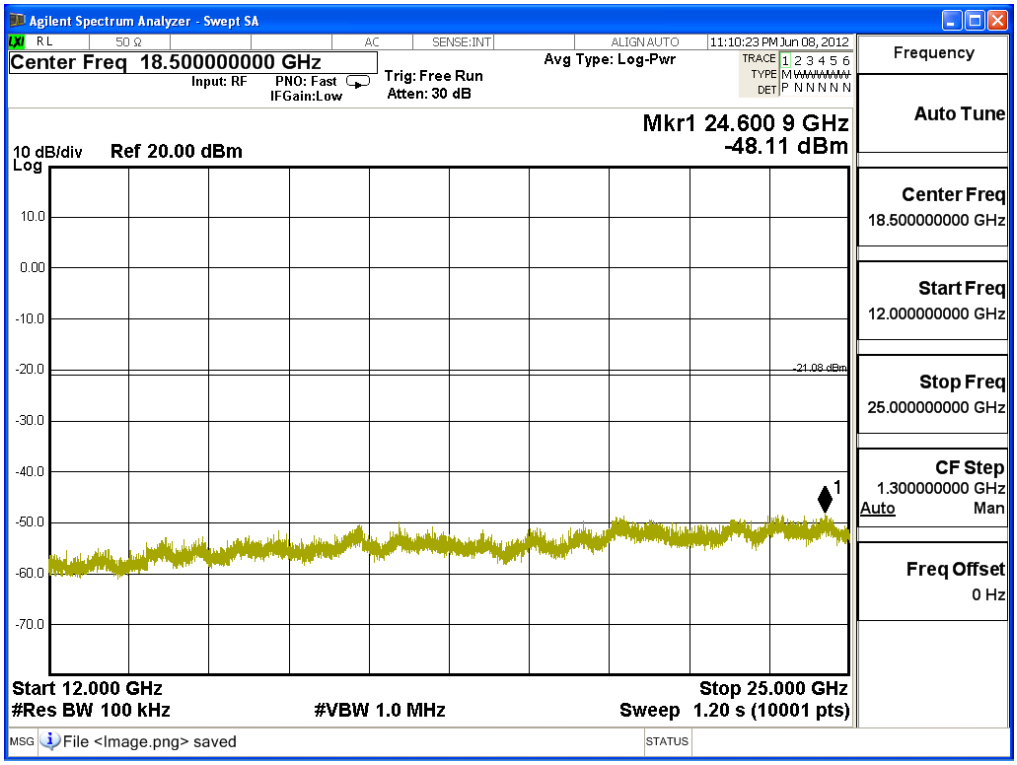

Agilent Spectrum Analyzer - Swept SA
Center Freq 6.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
10:58:22 PM Jun 08, 2012
Mkr1 2.419 0 GHz
-0.35 dBm
10 dB/div
Log
Ref 20.00 dBm
-20.35 dBm
Start 1.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 12.000 GHz
Sweep 1.02 s (10001 pts)
Frequency
Auto Tune
Center Freq
6.500000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
12.000000000 GHz
CF Step
1.100000000 GHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
10:59:26 PM Jun 08, 2012
Mkr1 23.814 4 GHz
-46.97 dBm
10 dB/div
Log
Ref 20.00 dBm
-20.35 dBm
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
File <Image.png> saved
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

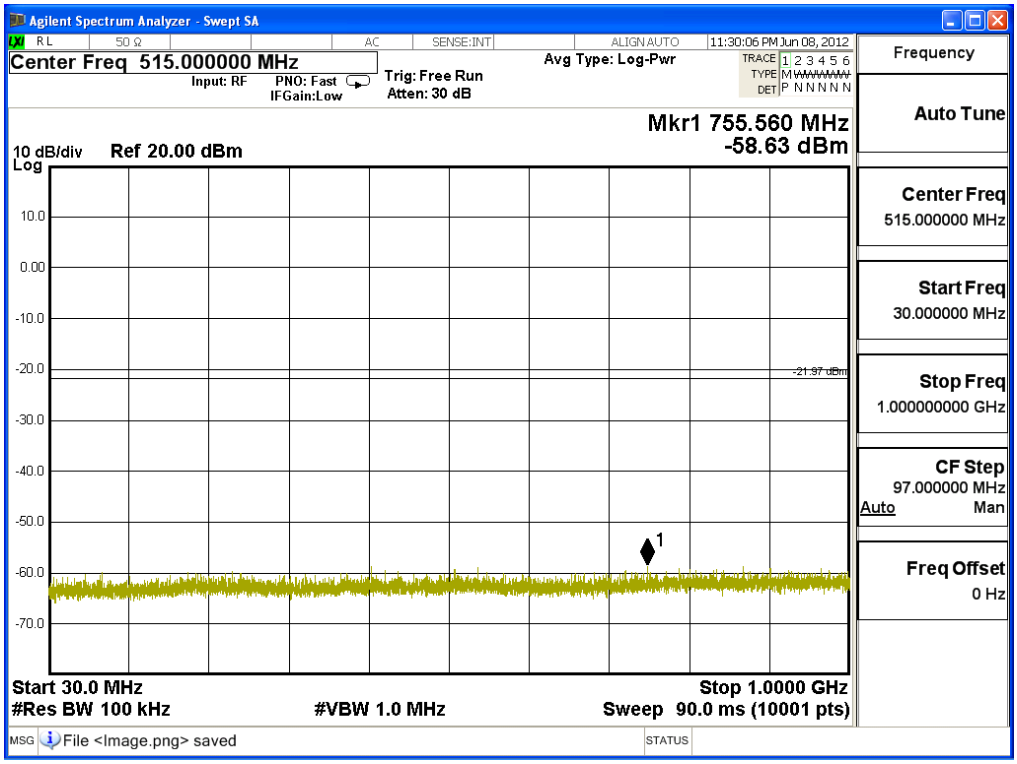
Channel 06 (2437MHz)

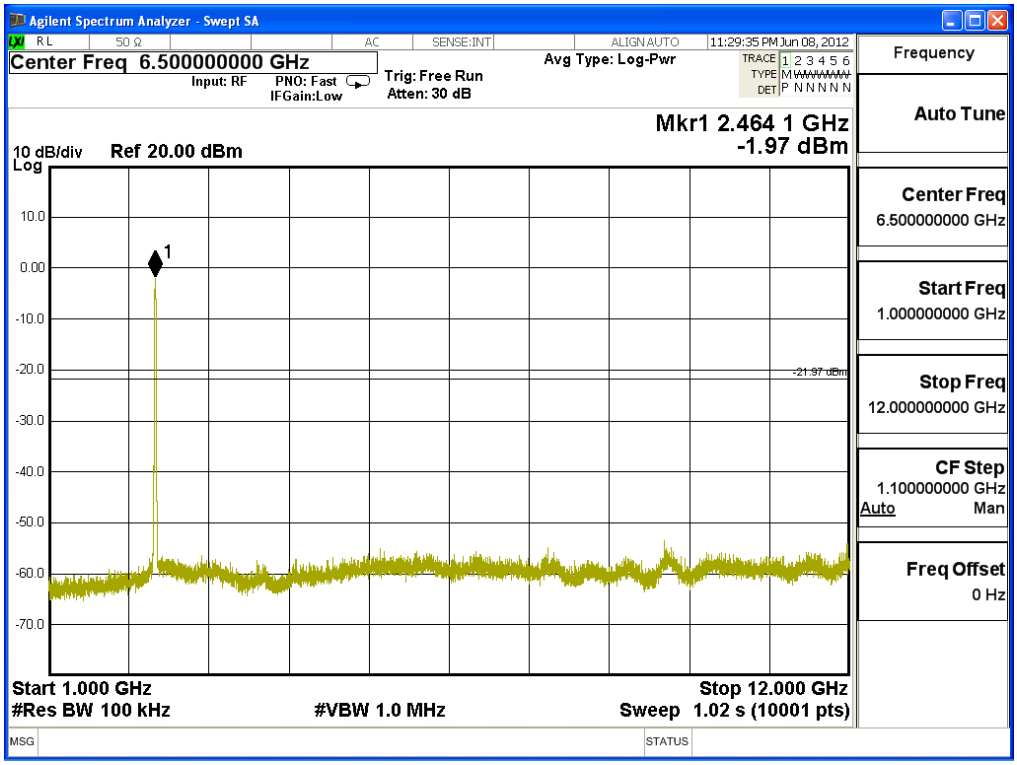


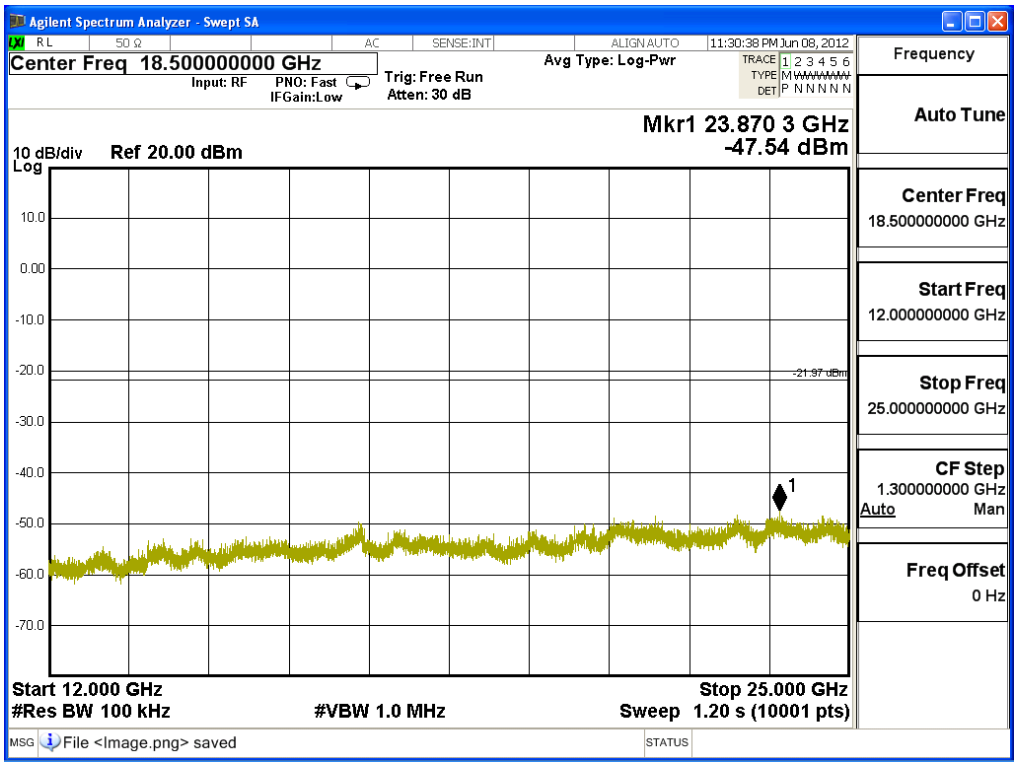



Agilent Spectrum Analyzer - Swept SA
RL
50 Ω
AC
SENSE:INT
ALIGN AUTO
11:10:23 PM Jun 08, 2012
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 24.600 9 GHz
-48.11 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-21.08 dBm
1
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
MSG
File <Image.png> saved
STATUS
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

Channel 11 (2462MHz)






Agilent Spectrum Analyzer - Swept SA
RL
50 Ω
AC
SENSE:INT
ALIGN AUTO
11:30:38 PM Jun 08, 2012
Center Freq 18.500000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
TRACE 1 2 3 4 5 6
TYPE M
DET P N N N N N
Mkr1 23.870 3 GHz
-47.54 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-21.97 dBm
1
Start 12.000 GHz
#Res BW 100 kHz
#VBW 1.0 MHz
Stop 25.000 GHz
Sweep 1.20 s (10001 pts)
MSG
File <Image.png> saved
STATUS
Frequency
Auto Tune
Center Freq
18.500000000 GHz
Start Freq
12.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
1.300000000 GHz
Auto
Man
Freq Offset
0 Hz

6. Band Edge

6.1. Test Equipment

RF Radiated Measurement:

The following test equipments are used during the band edge tests:

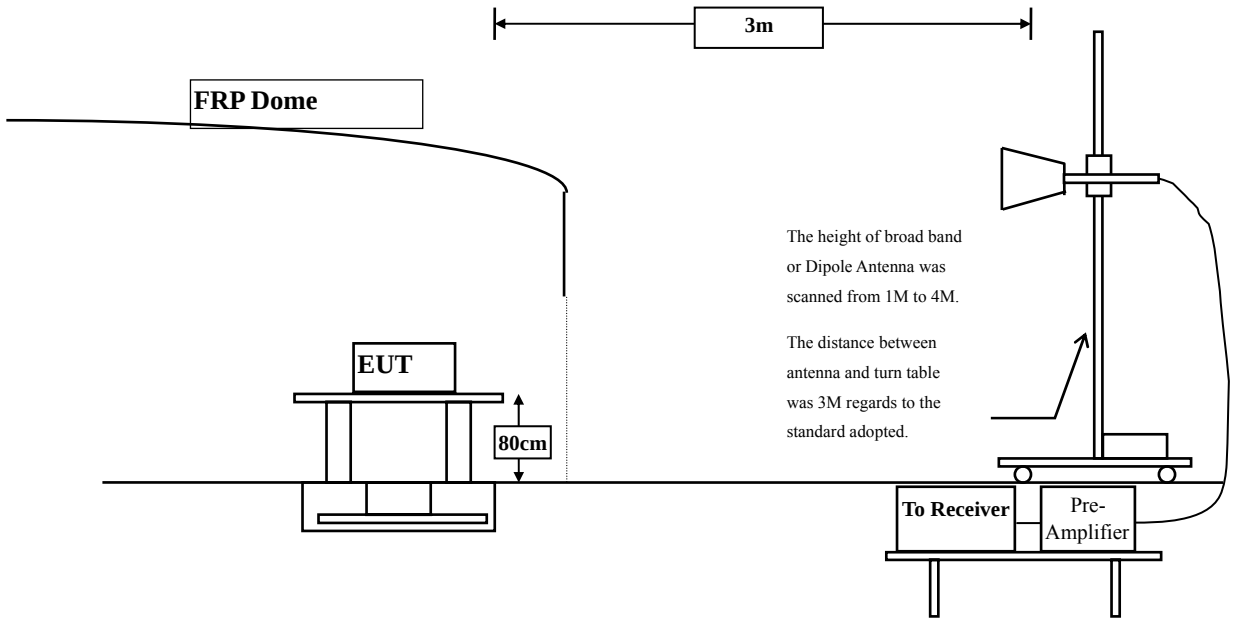
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2014
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2014
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All instruments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup

RF Radiated Measurement:



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2009 on radiated measurement.

6.5. Uncertainty

± 3.9 dB above 1GHz
± 3.8 dB below 1GHz

6.6. Test Result of Band Edge

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2388.800	31.505	24.791	56.295	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	23.511	55.020	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	34.366	65.927	--	--	--
01 (Peak)	2413.000	31.646	71.065	102.711	--	--	--
01 (Average)	2390.000	31.509	12.316	43.825	74.00	54.00	Pass
01 (Average)	2400.000	31.561	29.145	60.706	--	--	--
01 (Average)	2411.400	31.634	67.289	98.923	--	--	--

Figure Channel 01: Horizontal (Peak)

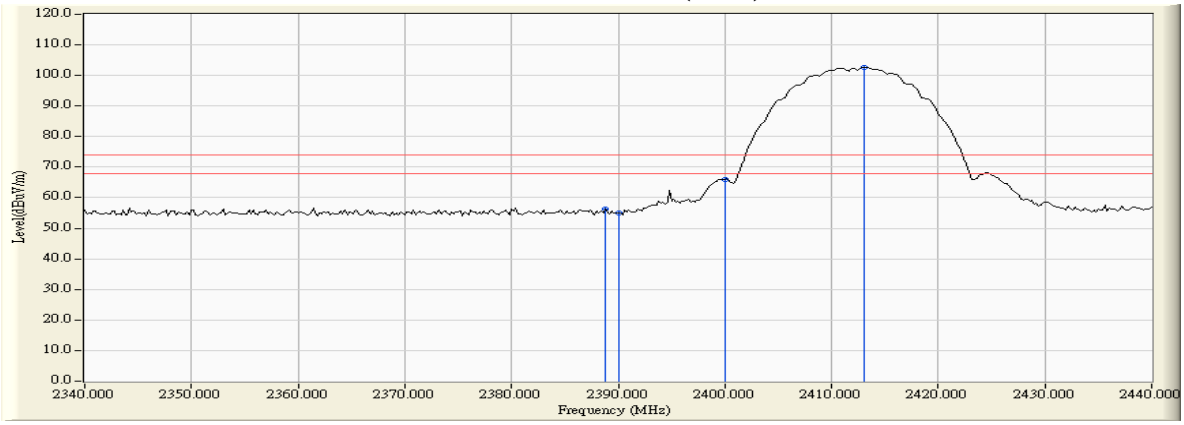
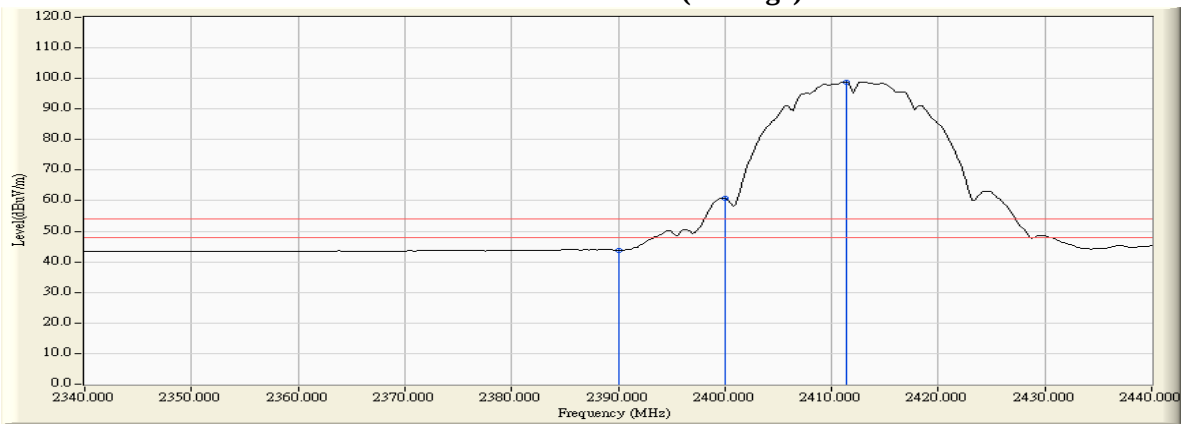


Figure Channel 01: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	30.915	24.947	55.862	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	33.922	64.834	--	--	--
01 (Peak)	2413.000	30.956	70.418	101.374	--	--	--
01 (Average)	2390.000	30.915	12.304	43.219	74.00	54.00	Pass
01 (Average)	2400.000	30.912	28.059	58.971	--	--	--
01 (Average)	2412.800	30.955	66.615	97.570	--	--	--

Figure Channel 01: Vertical (Peak)

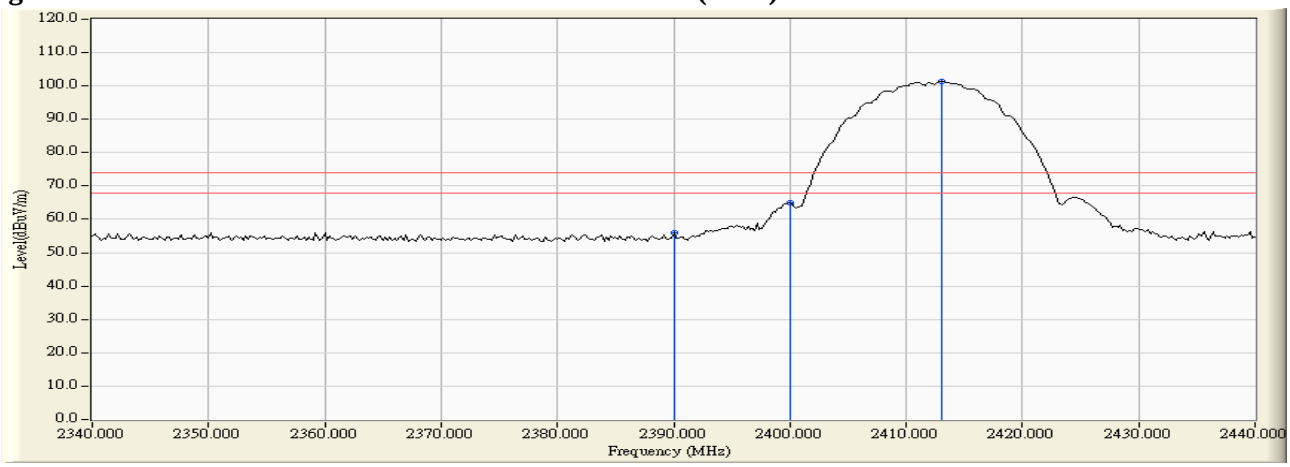
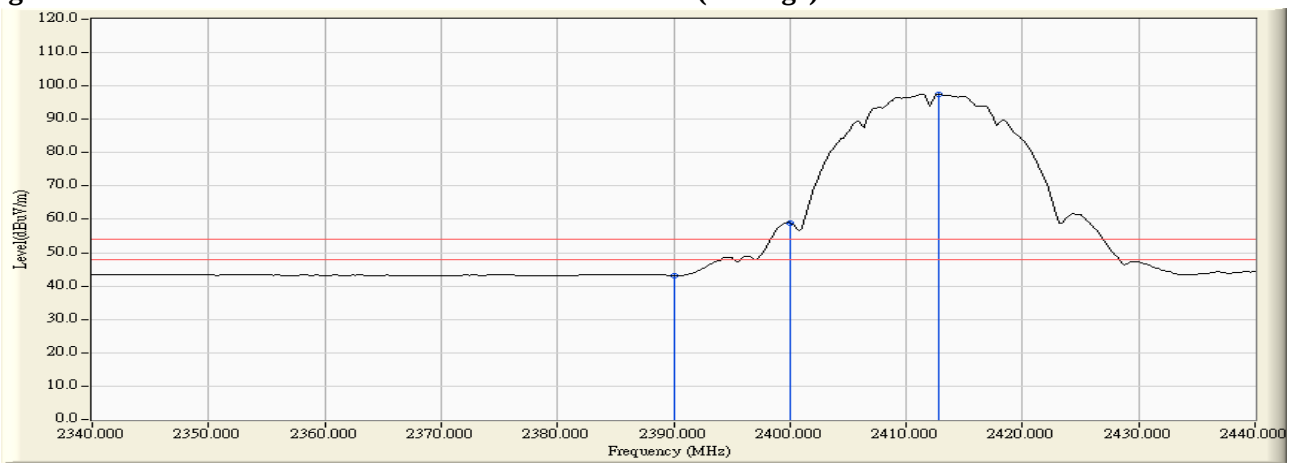


Figure Channel 01: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	32.026	72.151	104.177	--	--	--
11 (Peak)	2483.500	32.182	24.887	57.069	74.00	54.00	Pass
11 (Peak)	2493.100	32.255	26.158	58.413	74.00	54.00	Pass
11 (Average)	2461.300	32.014	68.546	100.560	--	--	--
11 (Average)	2483.500	32.182	13.286	45.468	74.00	54.00	Pass
11 (Average)	2487.300	32.211	14.451	46.662	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

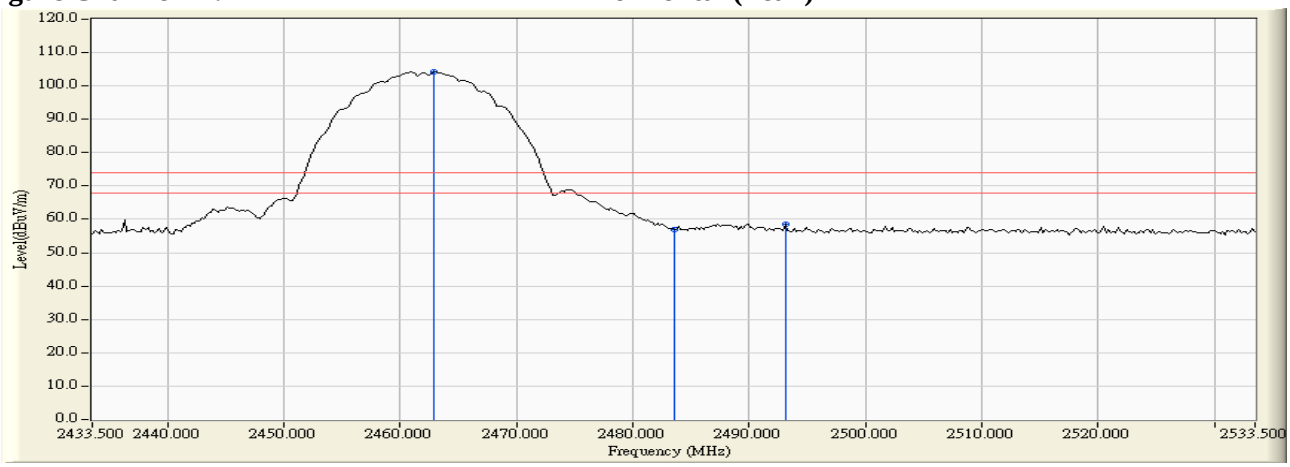
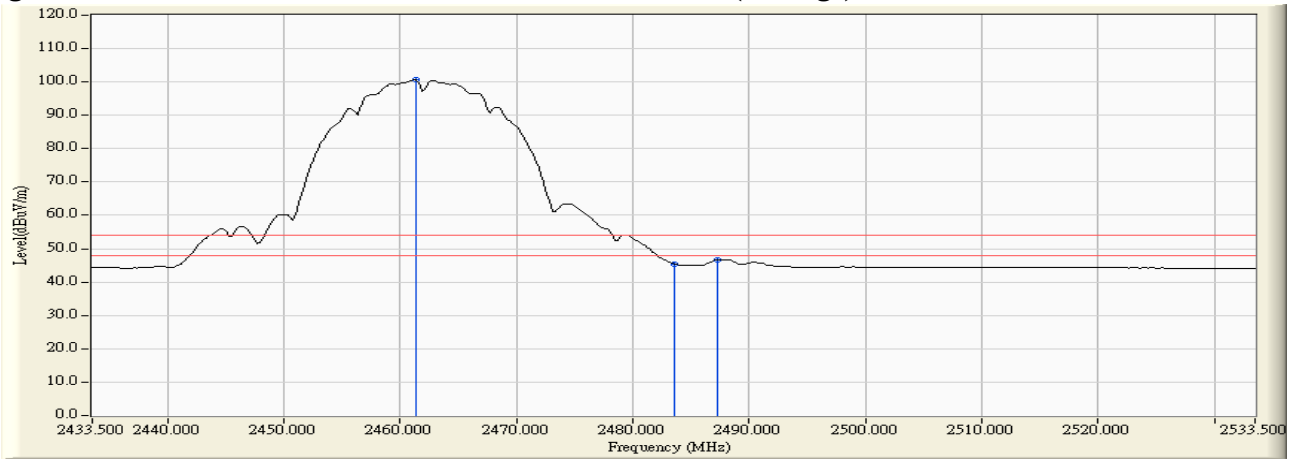


Figure Channel 11: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) -Adapter(1)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2462.900	31.296	70.298	101.594	--	--	--
11 (Peak)	2483.500	31.435	23.657	55.092	74.00	54.00	Pass
11 (Peak)	2487.700	31.463	25.797	57.261	74.00	54.00	Pass
11 (Average)	2461.100	31.285	66.693	97.977	--	--	--
11 (Average)	2483.500	31.435	12.912	44.347	74.00	54.00	Pass
11 (Average)	2487.900	31.465	13.891	45.356	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

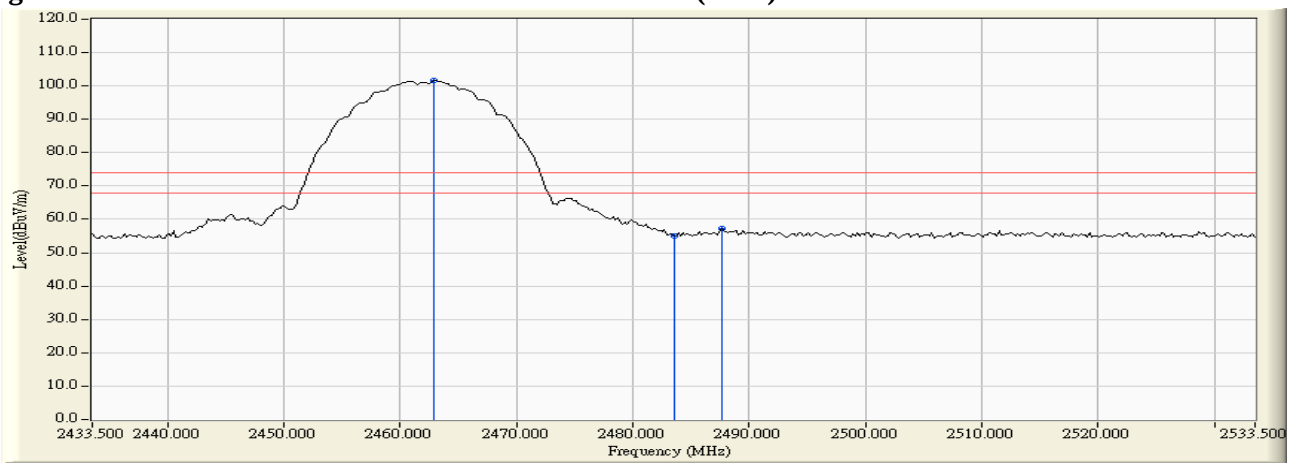
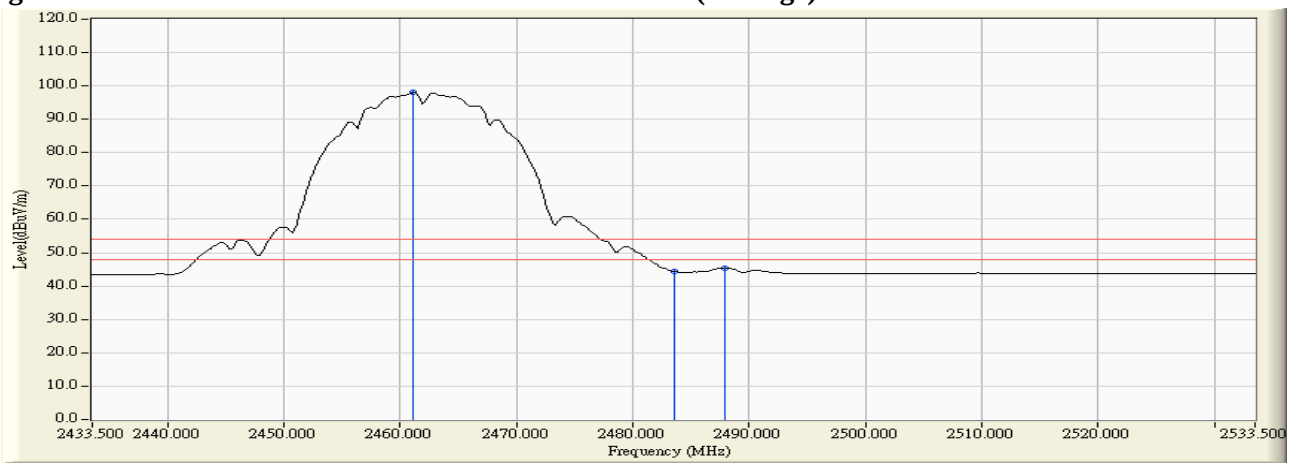


Figure Channel 11: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	31.509	32.239	63.748	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	50.628	82.189	--	--	--
01 (Peak)	2415.200	31.662	71.344	103.007	--	--	--
01 (Average)	2390.000	31.509	16.126	47.635	74.00	54.00	Pass
01 (Average)	2400.000	31.561	26.098	57.659	--	--	--
01 (Average)	2416.200	31.671	62.494	94.164	--	--	--

Figure Channel 01: Horizontal (Peak)

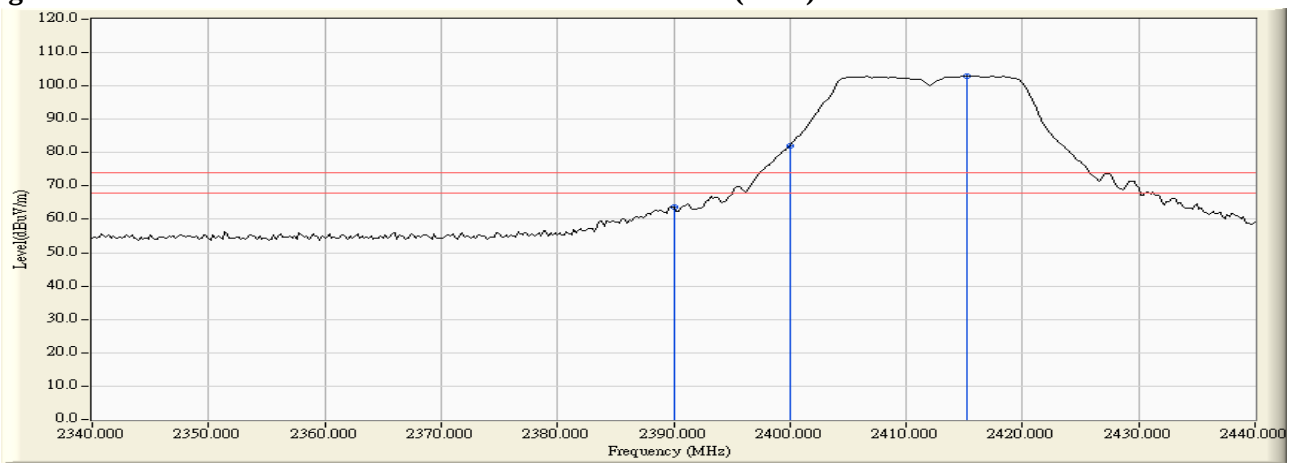
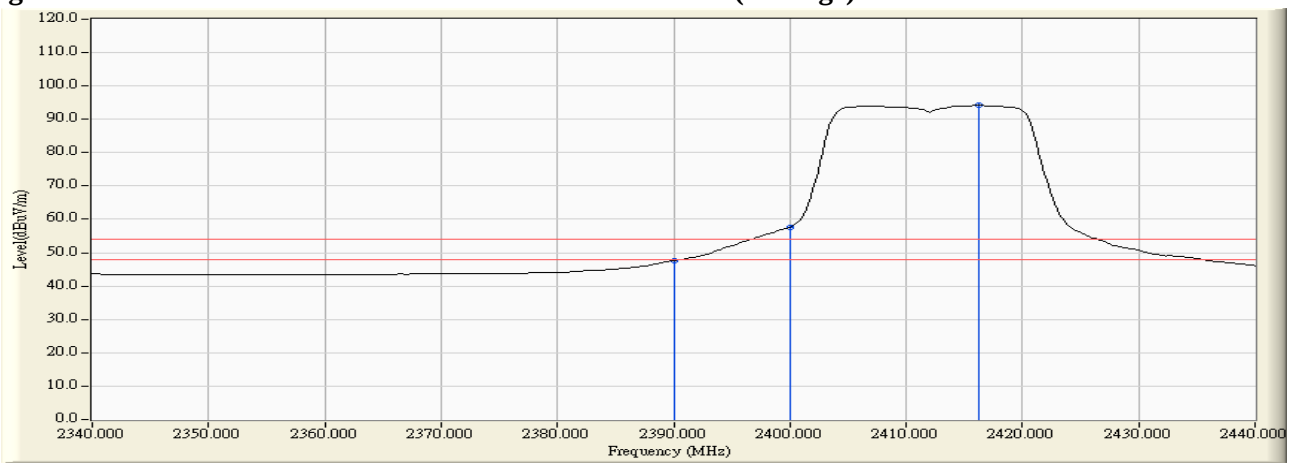


Figure Channel 01: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2389.000	30.920	31.396	62.316	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	31.213	62.128	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	49.566	80.478	--	--	--
01 (Peak)	2415.200	30.971	69.902	100.873	--	--	--
01 (Average)	2390.000	30.915	15.767	46.682	74.00	54.00	Pass
01 (Average)	2400.000	30.912	25.035	55.947	--	--	--
01 (Average)	2416.200	30.978	61.038	92.016	--	--	--

Figure Channel 01: Vertical (Peak)

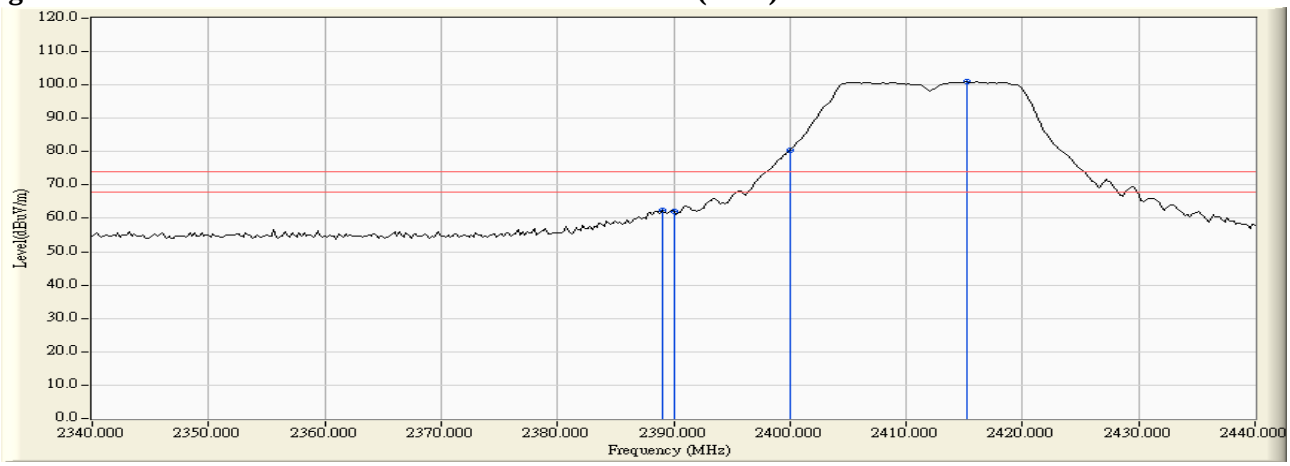
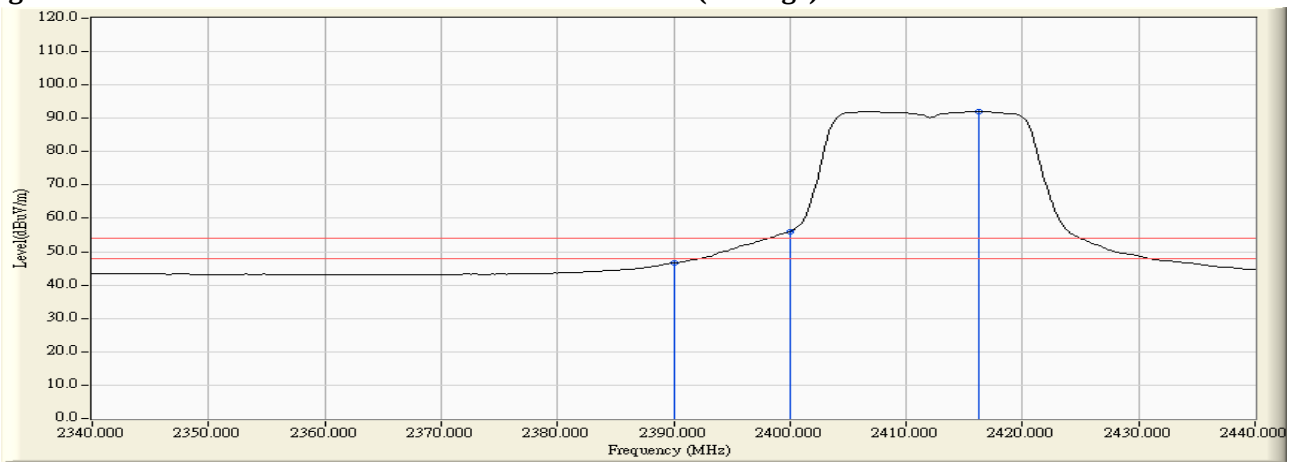


Figure Channel 01: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2468.500	32.068	71.560	103.628	--	--	--
11 (Peak)	2483.500	32.182	33.881	66.063	74.00	54.00	Pass
11 (Average)	2467.700	32.063	62.359	94.421	--	--	--
11 (Average)	2483.500	32.182	18.666	50.848	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

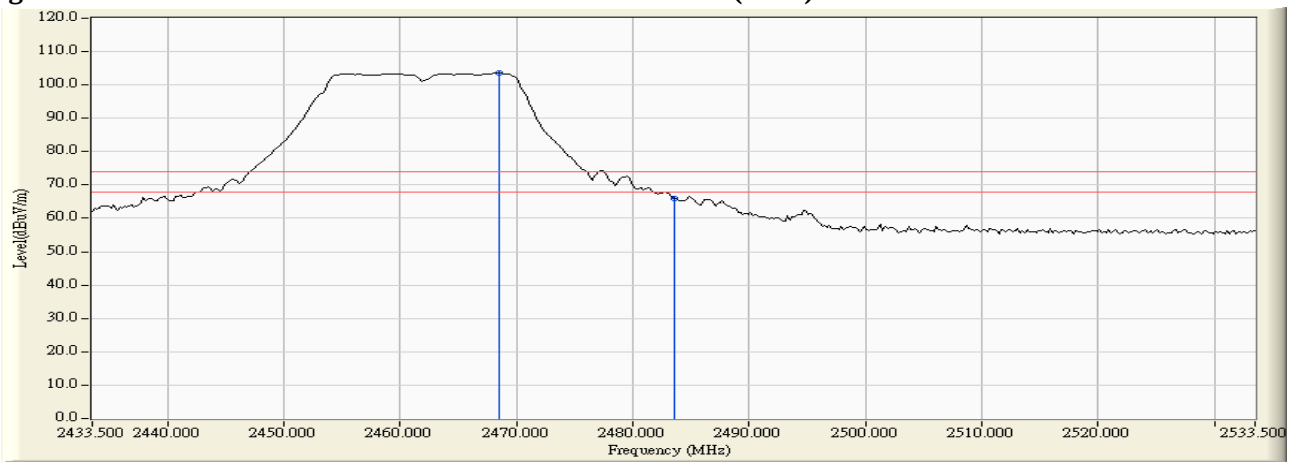
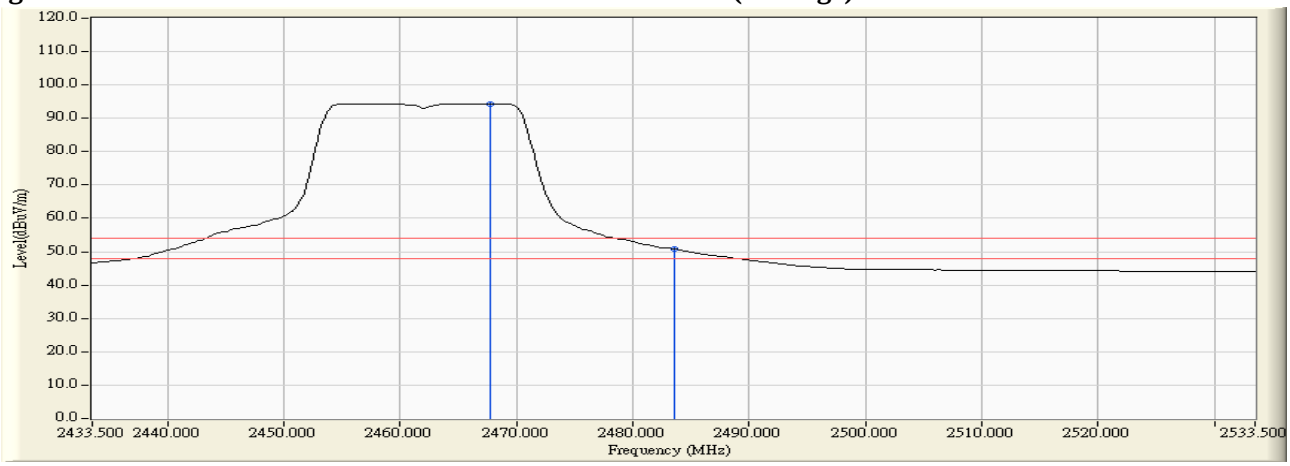


Figure Channel 11: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) -Adapter(1)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2468.500	31.334	70.141	101.475	--	--	--
11 (Peak)	2483.500	31.435	31.767	63.202	74.00	54.00	Pass
11 (Peak)	2484.900	31.445	32.554	63.999	74.00	54.00	Pass
11 (Average)	2467.700	31.329	61.001	92.330	--	--	--
11 (Average)	2483.500	31.435	17.372	48.807	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

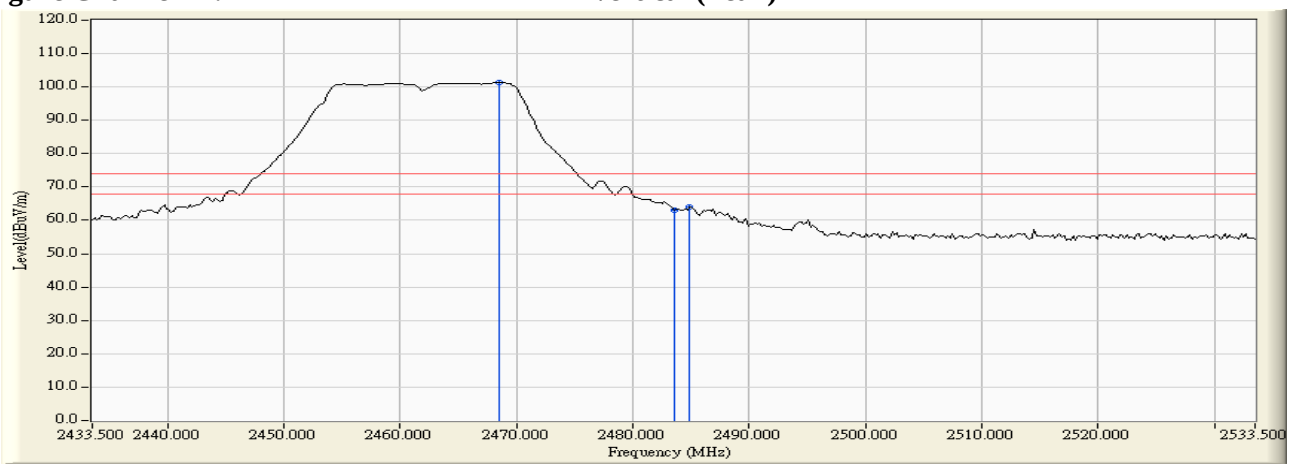
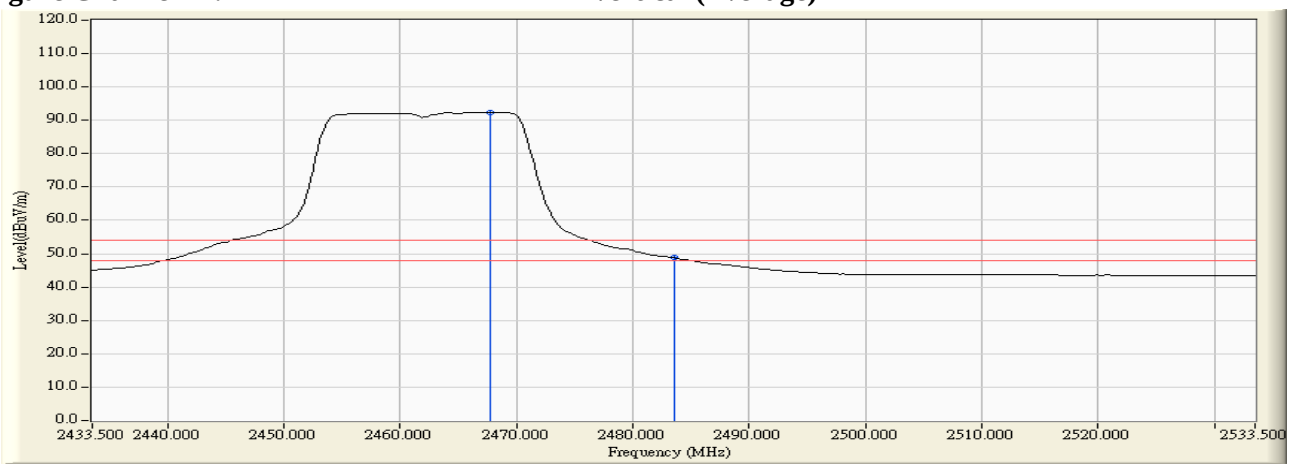


Figure Channel 11: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	31.509	30.743	62.252	74.00	54.00	Pass
01 (Peak)	2400.000	31.561	49.679	81.240	--	--	--
01 (Peak)	2409.000	31.618	70.210	101.828	--	--	--
01 (Average)	2390.000	31.509	14.785	46.294	74.00	54.00	Pass
01 (Average)	2400.000	31.561	24.236	55.797	--	--	--
01 (Average)	2415.200	31.662	60.387	92.050	--	--	--

Figure Channel 01: Horizontal (Peak)

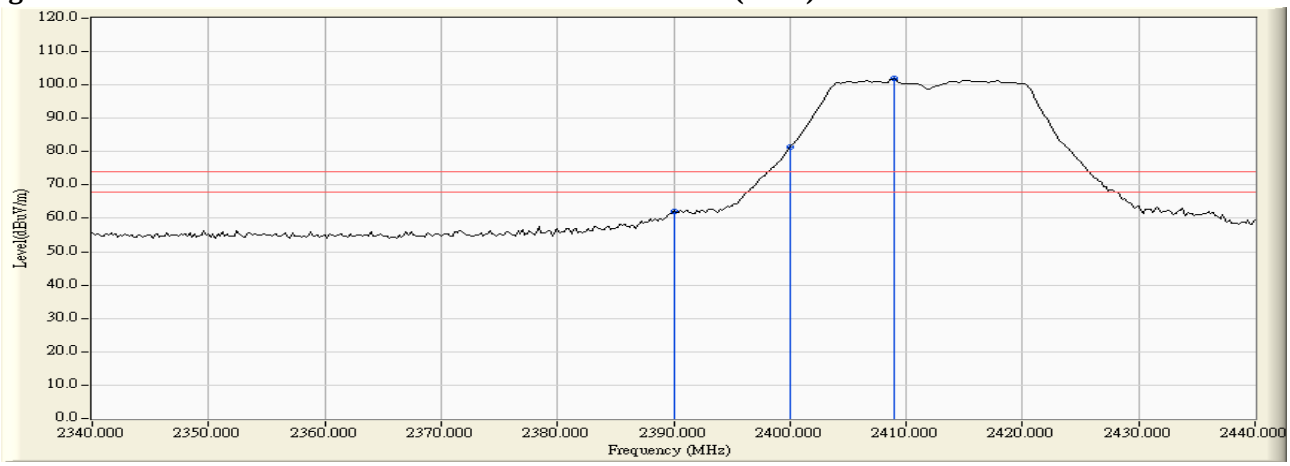
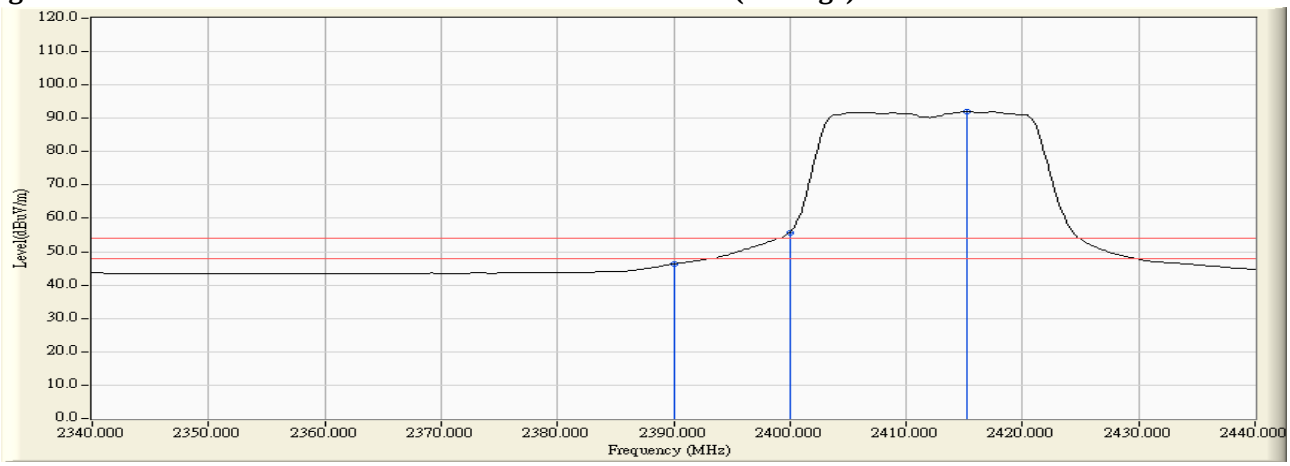


Figure Channel 01: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	30.915	31.320	62.235	74.00	54.00	Pass
01 (Peak)	2400.000	30.912	49.890	80.802	--	--	--
01 (Peak)	2409.000	30.937	70.145	101.082	--	--	--
01 (Average)	2390.000	30.915	15.049	45.964	74.00	54.00	Pass
01 (Average)	2400.000	30.912	24.203	55.115	--	--	--
01 (Average)	2415.200	30.971	60.302	91.273	--	--	--

Figure Channel 01: Vertical (Peak)

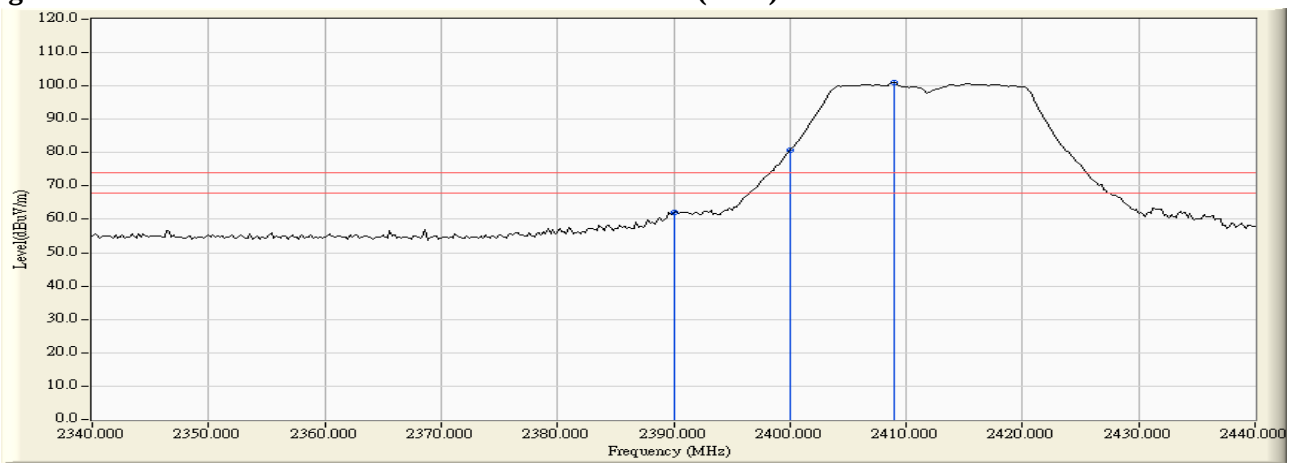
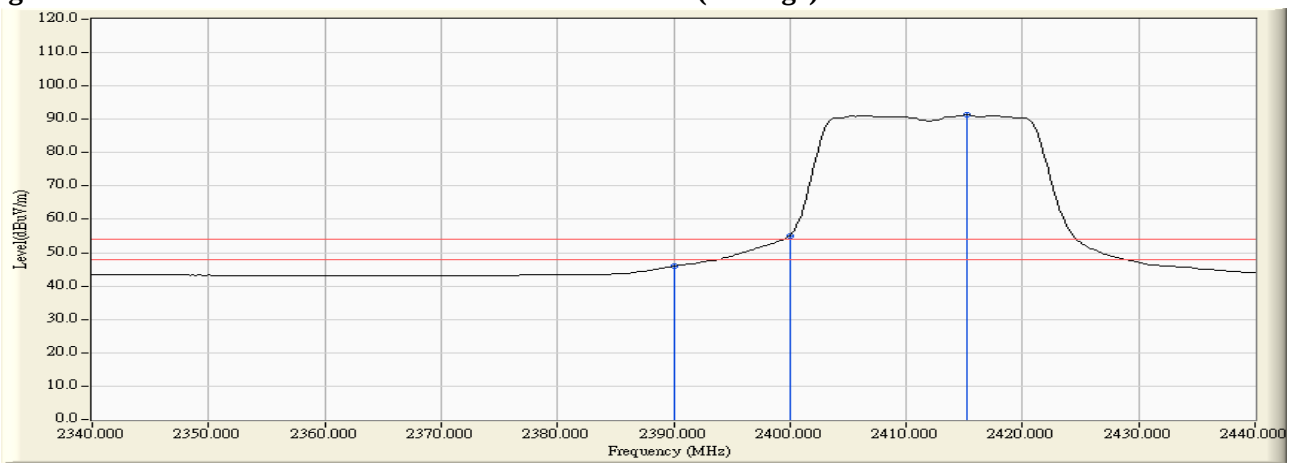


Figure Channel 01: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2458.900	31.997	71.212	103.208	--	--	--
11 (Peak)	2483.500	32.182	30.781	62.963	74.00	54.00	Pass
11 (Peak)	2485.700	32.198	32.973	65.172	74.00	54.00	Pass
11 (Average)	2467.500	32.061	60.985	93.046	--	--	--
11 (Average)	2483.500	32.182	16.863	49.045	74.00	54.00	Pass

Figure Channel 11: Horizontal (Peak)

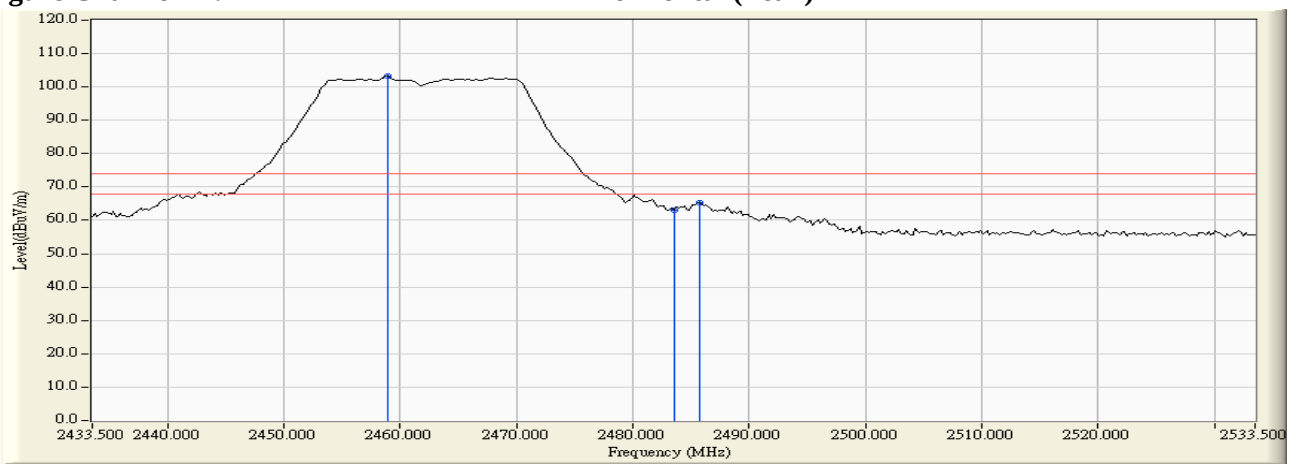
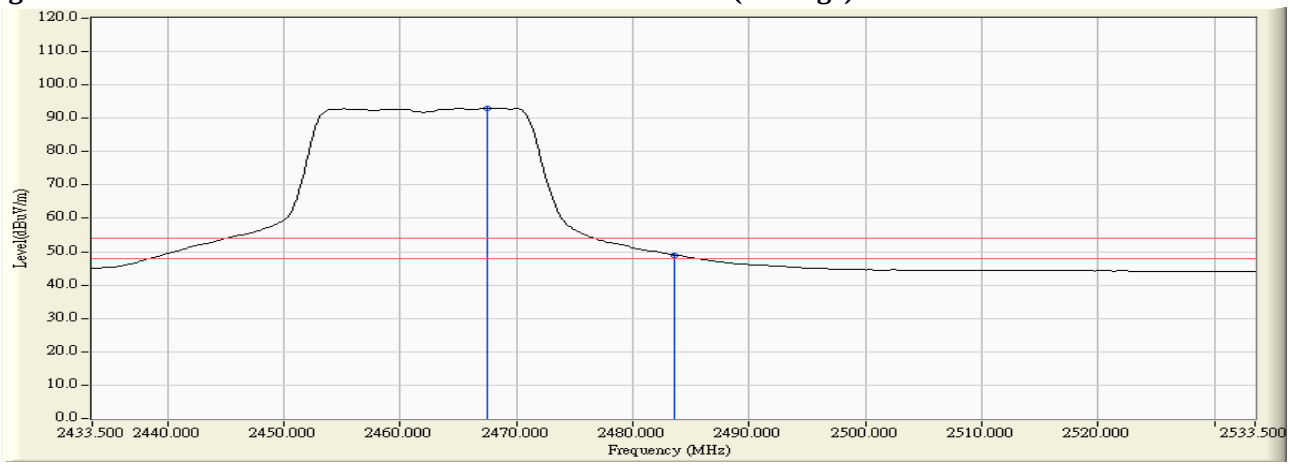


Figure Channel 11: Horizontal (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Bar Code Printer
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) -Adapter(1)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2458.900	31.270	70.315	101.584	--	--	--
11 (Peak)	2483.500	31.435	29.378	60.813	74.00	54.00	Pass
11 (Peak)	2485.700	31.450	31.633	63.083	74.00	54.00	Pass
11 (Average)	2467.500	31.327	60.059	91.386	--	--	--
11 (Average)	2483.500	31.435	16.021	47.456	74.00	54.00	Pass

Figure Channel 11: Vertical (Peak)

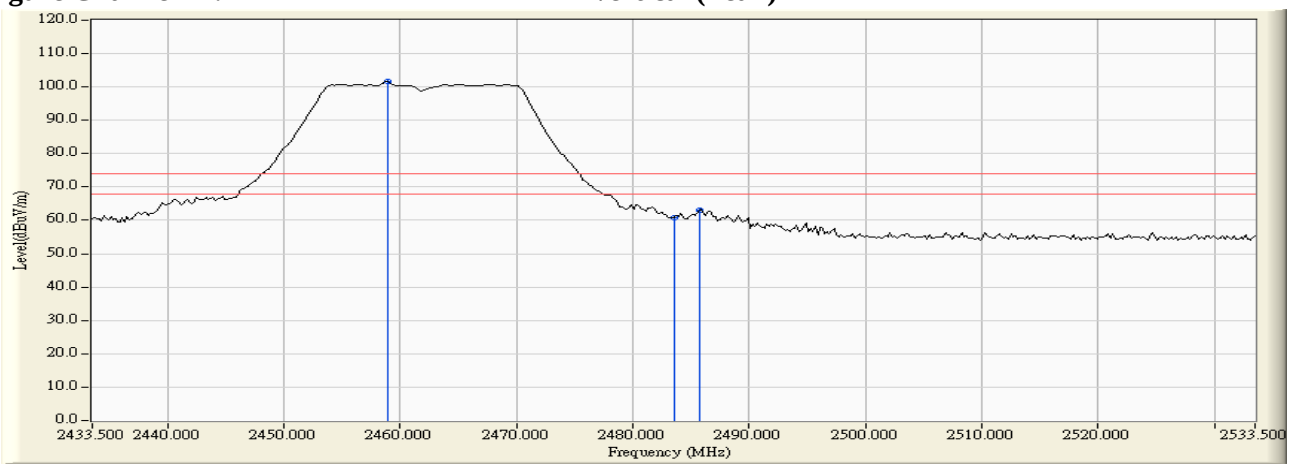
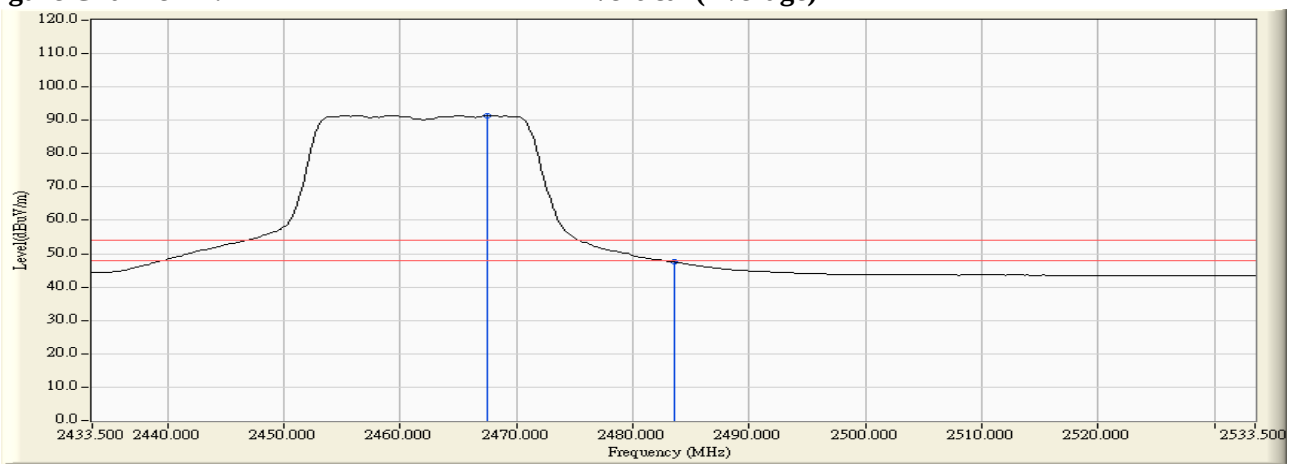


Figure Channel 11: Vertical (Average)



Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. Occupied Bandwidth

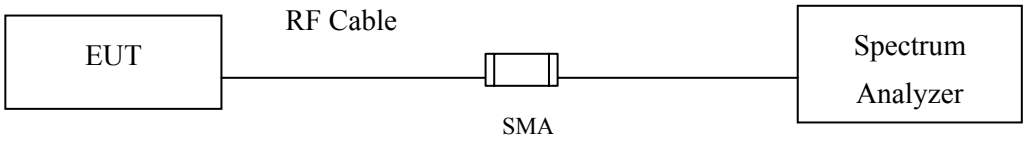
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2014

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

7.2. Test Setup



7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009; tested according to DTS test procedure of 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 1-5% of the emission bandwidth, VBW≥3*RBW

7.5. Uncertainty

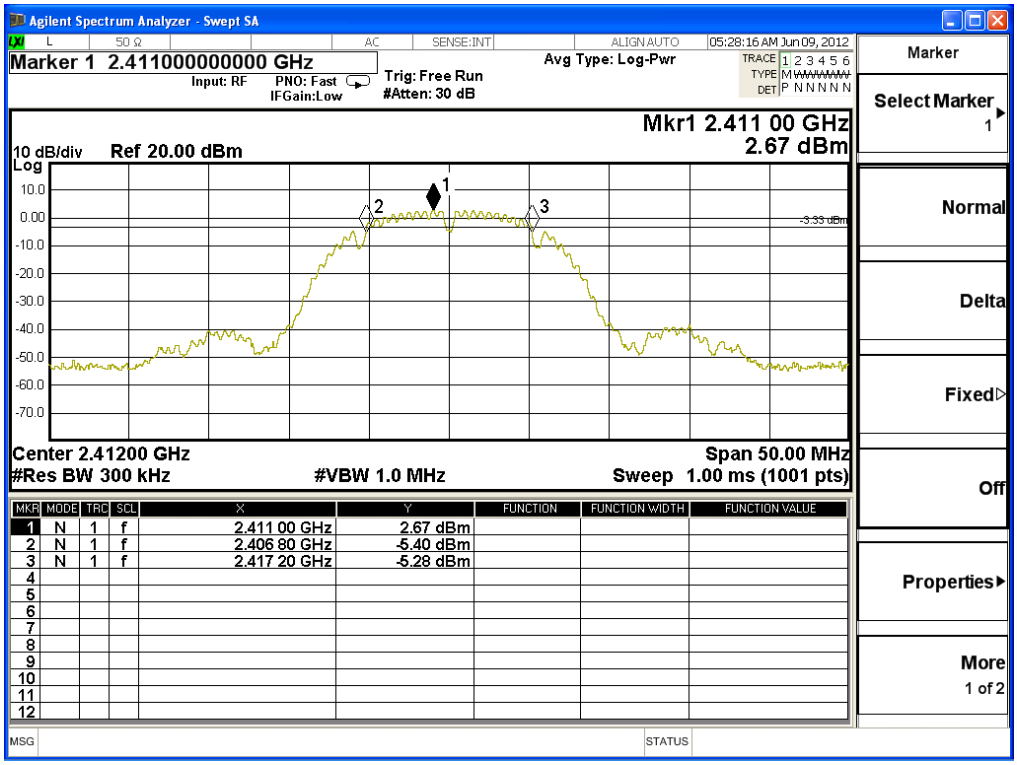
± 150Hz

7.6. Test Result of Occupied Bandwidth

Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	10400	>500	Pass

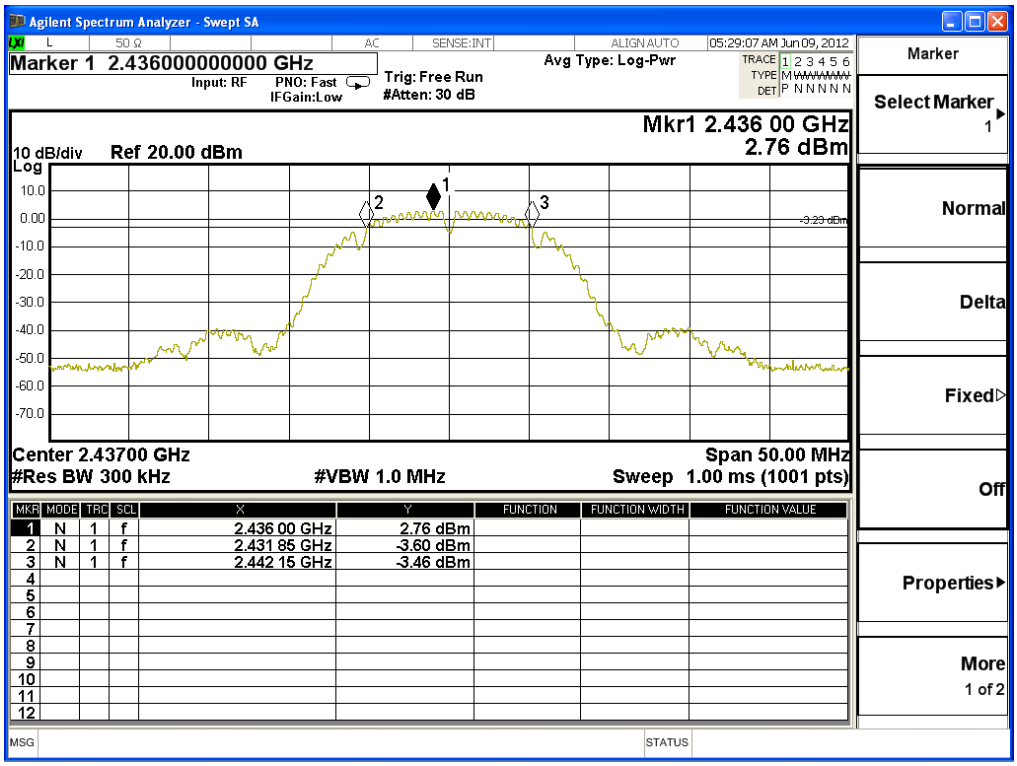
Figure Channel 1:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	10300	>500	Pass

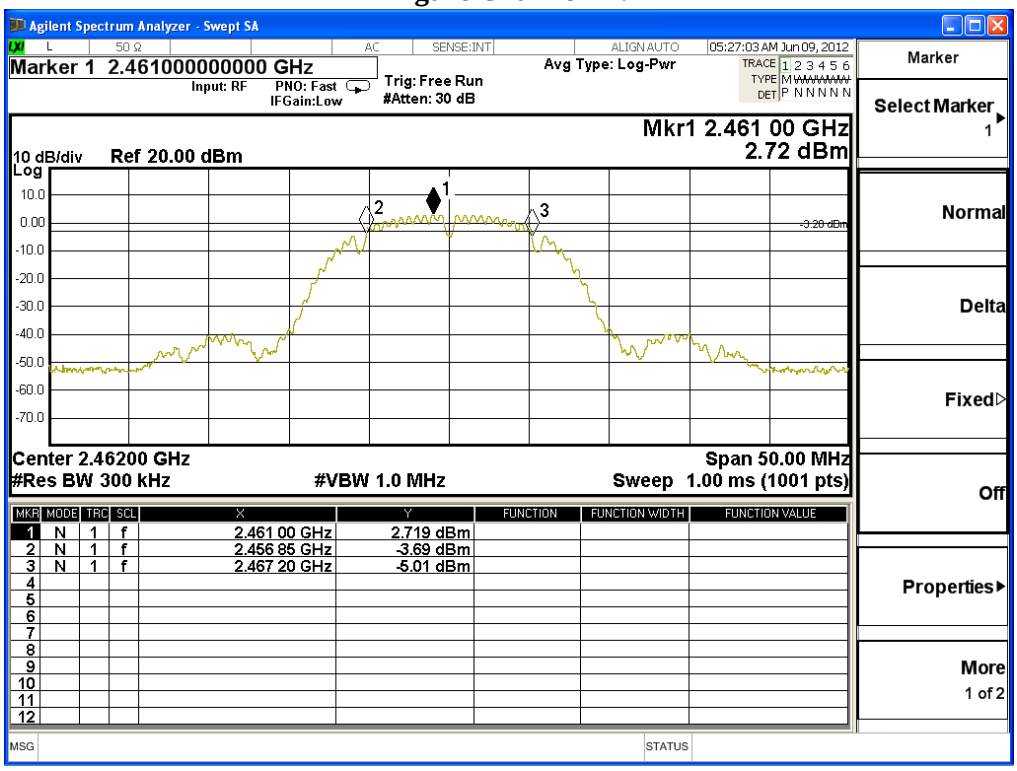
Figure Channel 6:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	10350	>500	Pass

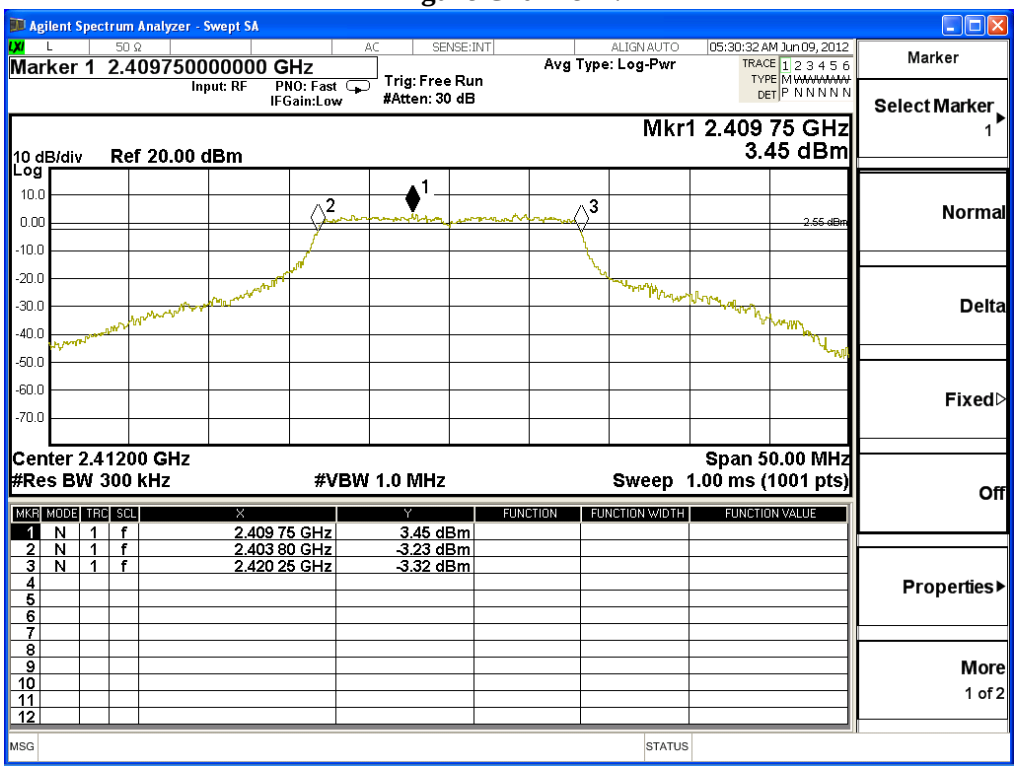
Figure Channel 11:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	16450	>500	Pass

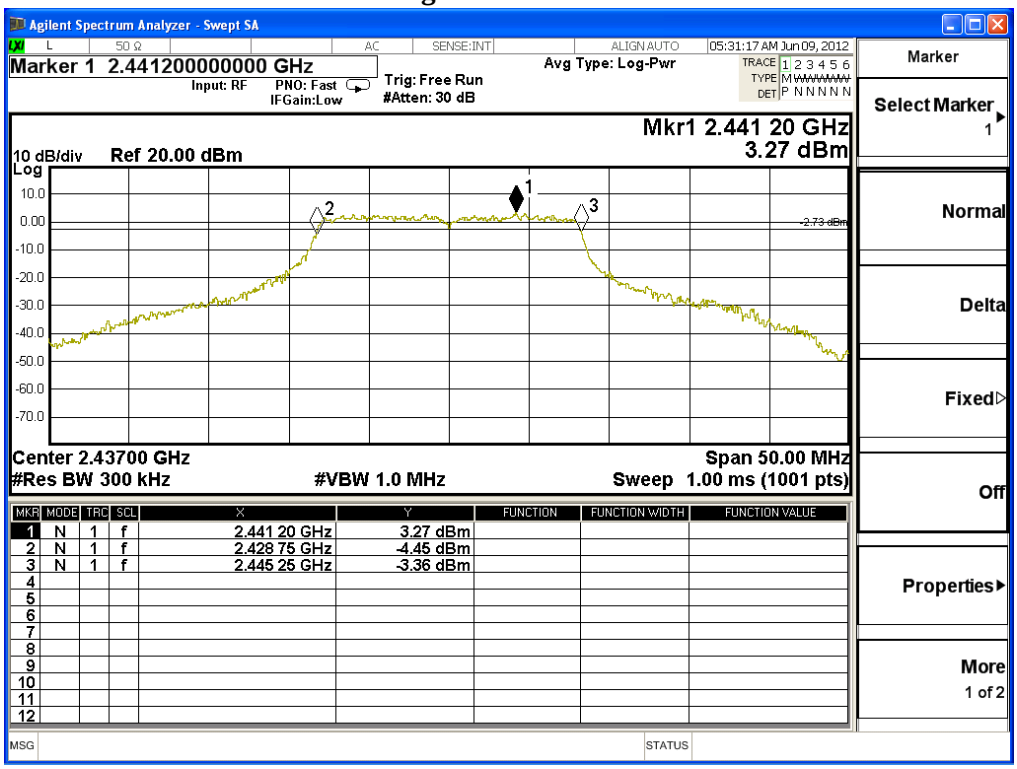
Figure Channel 1:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	16500	>500	Pass

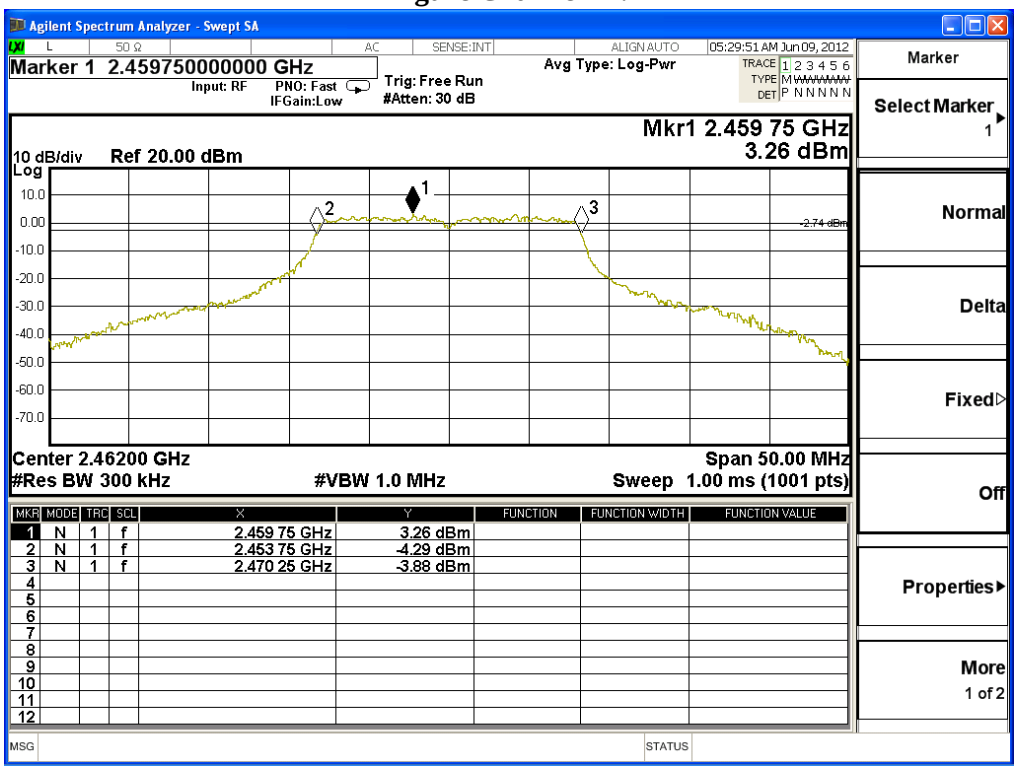
Figure Channel 6:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	16500	>500	Pass

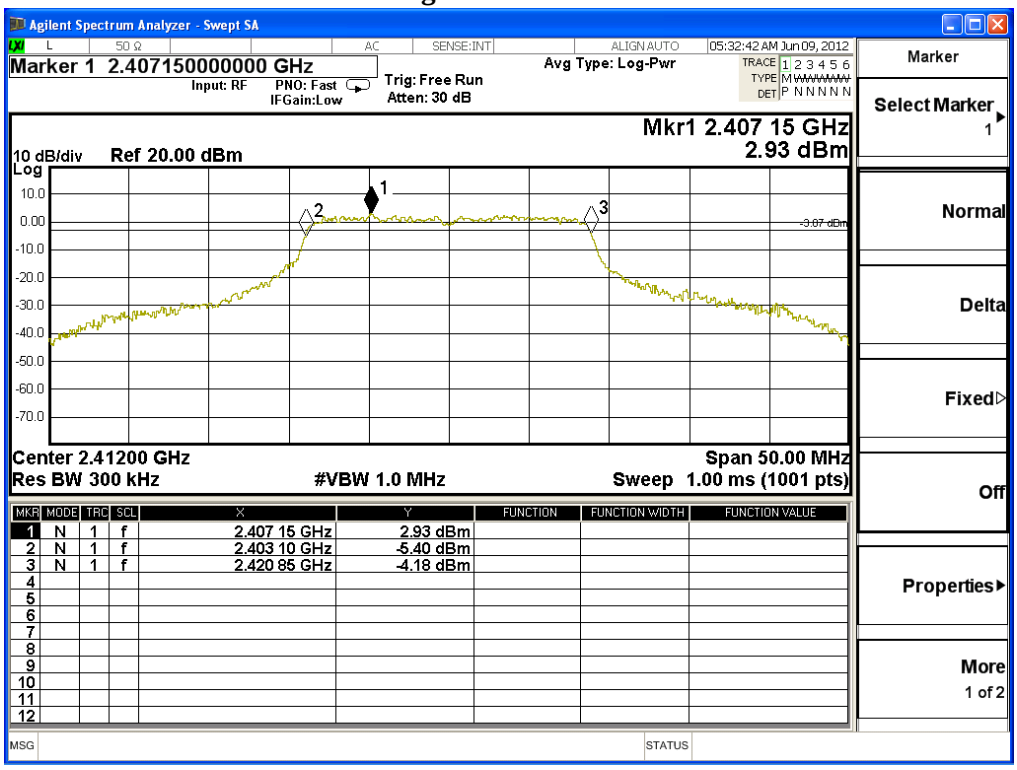
Figure Channel 11:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	17750	>500	Pass

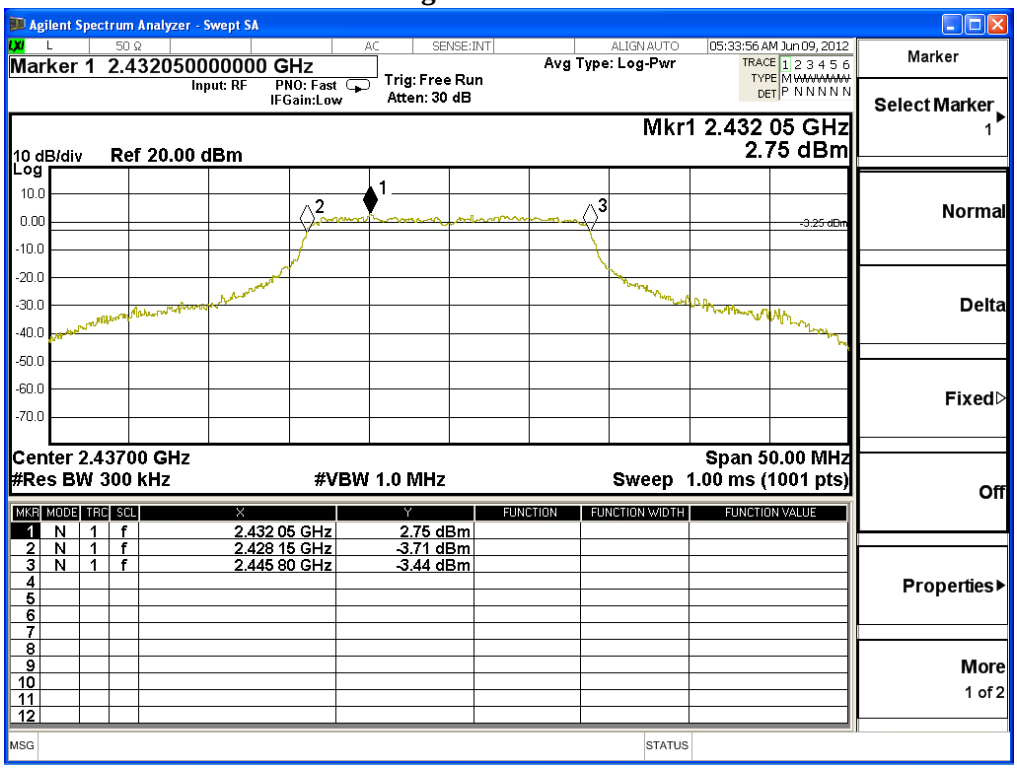
Figure Channel 1:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	17650	>500	Pass

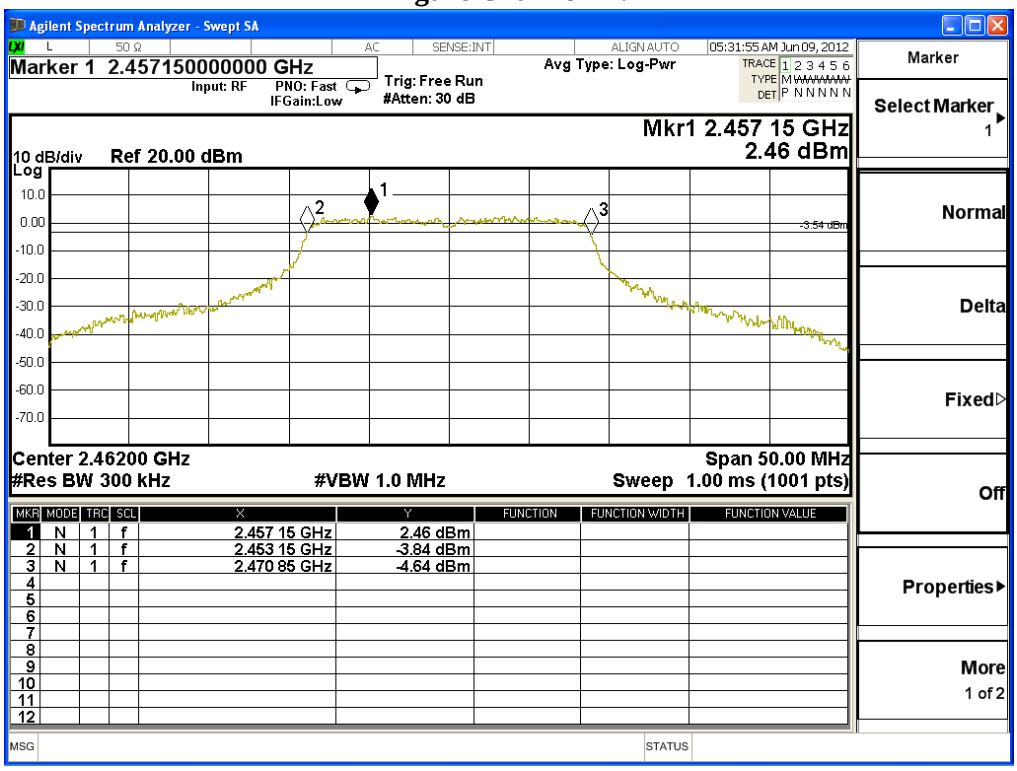
Figure Channel 6:



Product : Bar Code Printer
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	17700	>500	Pass

Figure Channel 11:



8. Power Density

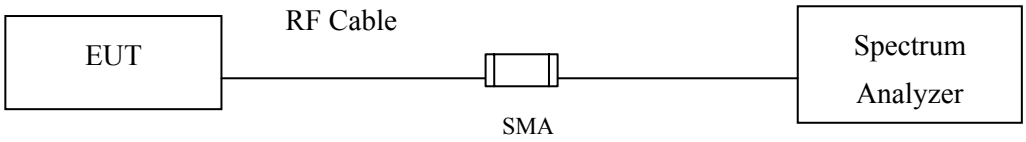
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2014

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

8.2. Test Setup



8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009; tested according to DTS test procedure of KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

The maximum power spectral density using KDB 558074 section 10.2 PKPSD (peak PSD) method.

8.5. Uncertainty

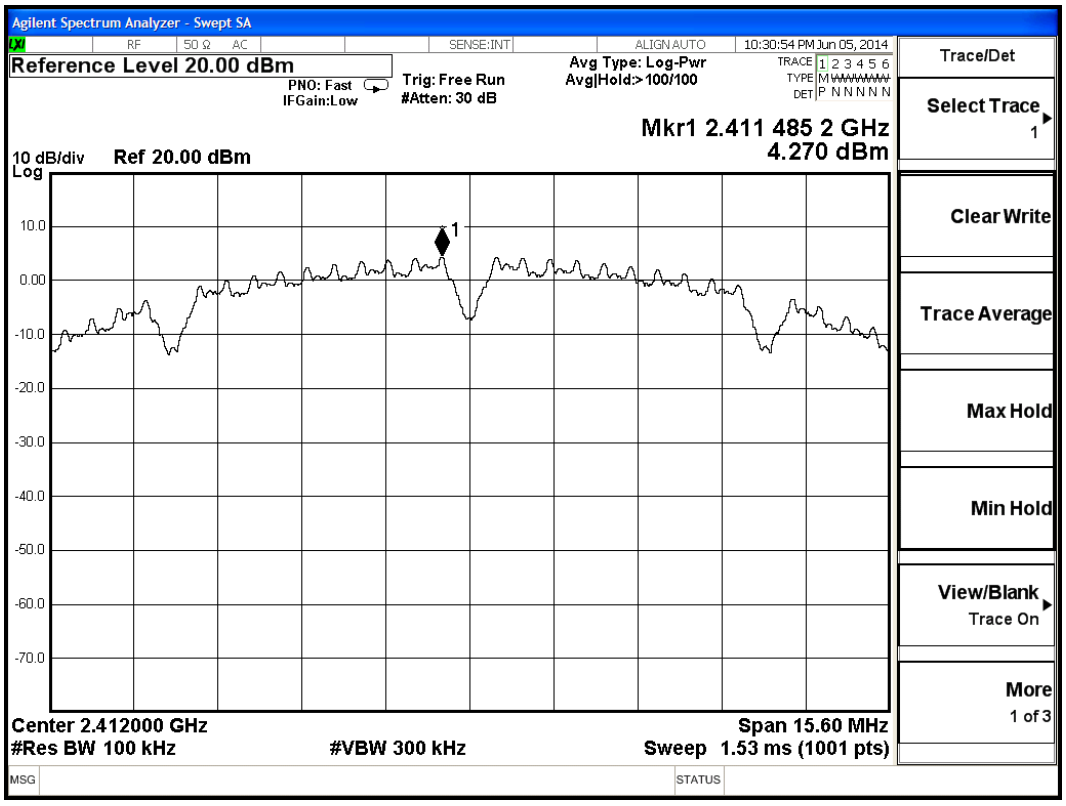
± 1.27 dB

8.6. Test Result of Power Density

Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2412MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	4.270	< 8dBm	Pass

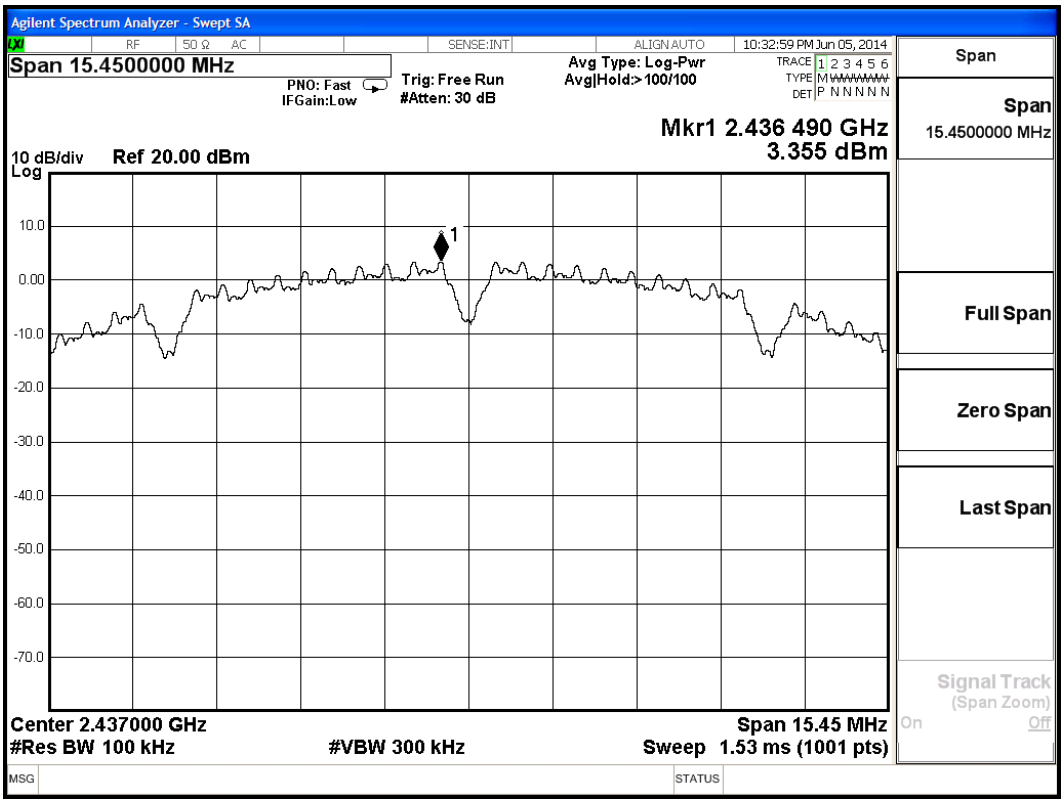
Figure Channel 1:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2437MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	3.355	< 8dBm	Pass

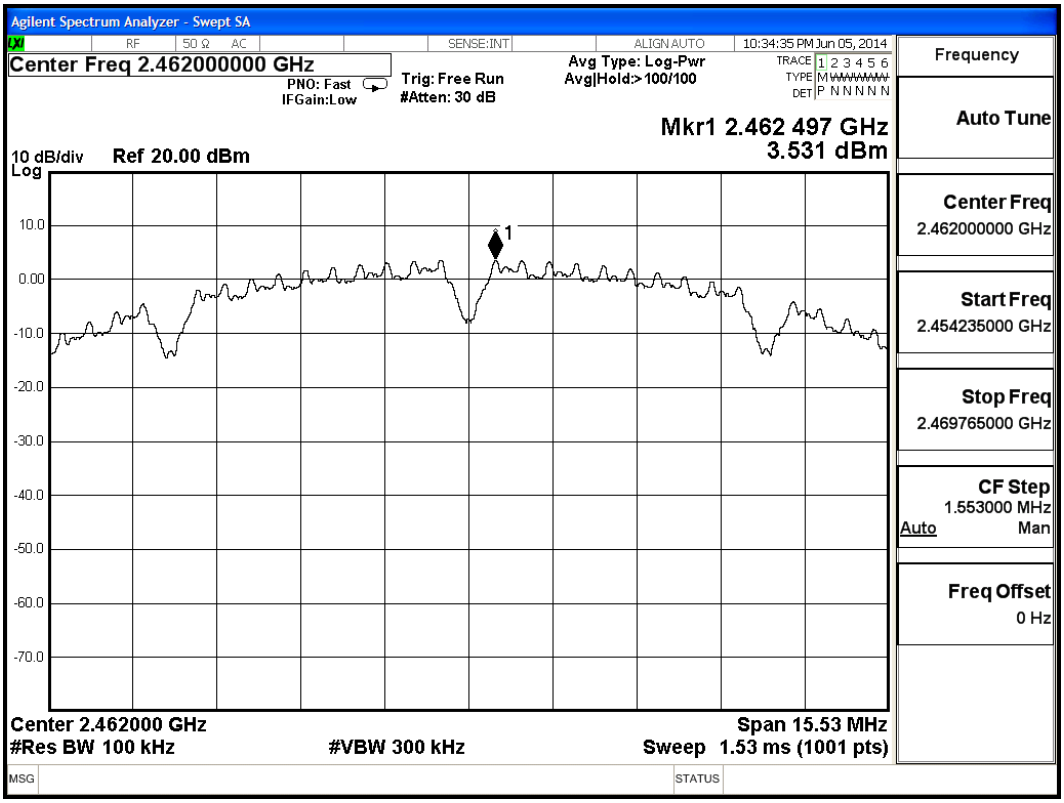
Figure Channel 6:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (2462MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	3.531	< 8dBm	Pass

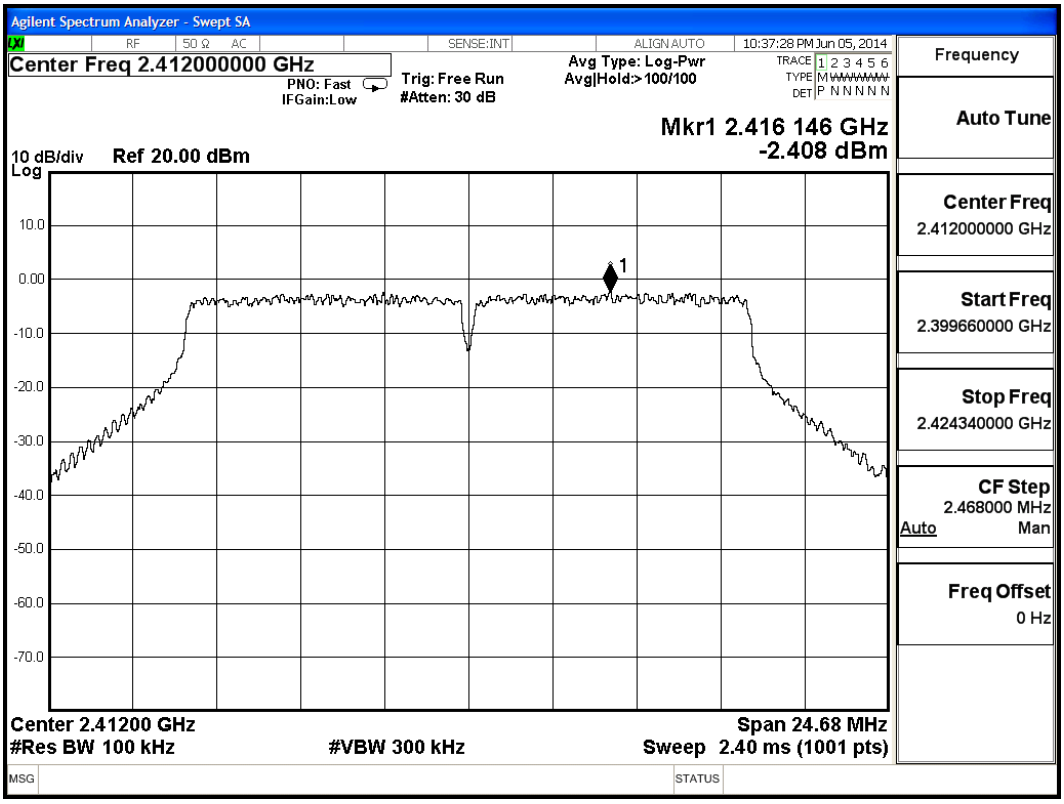
Figure Channel 11:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2412MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-2.408	< 8dBm	Pass

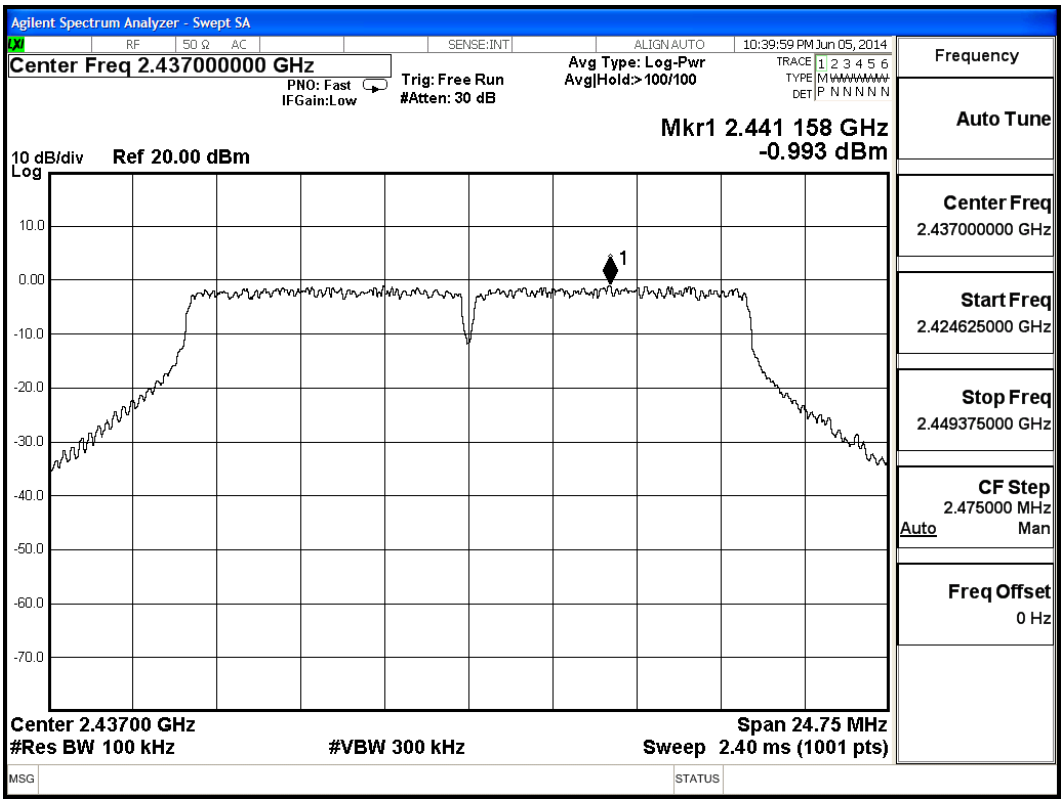
Figure Channel 1:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2437MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-0.993	< 8dBm	Pass

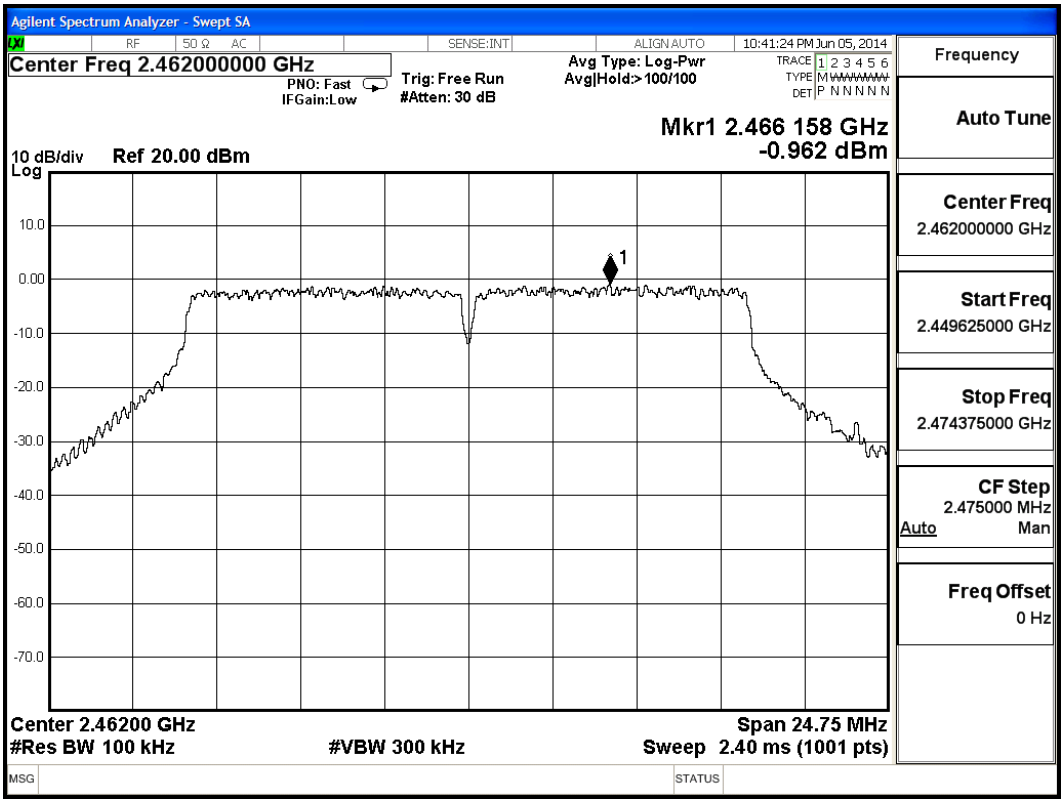
Figure Channel 6:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (2462MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-0.962	< 8dBm	Pass

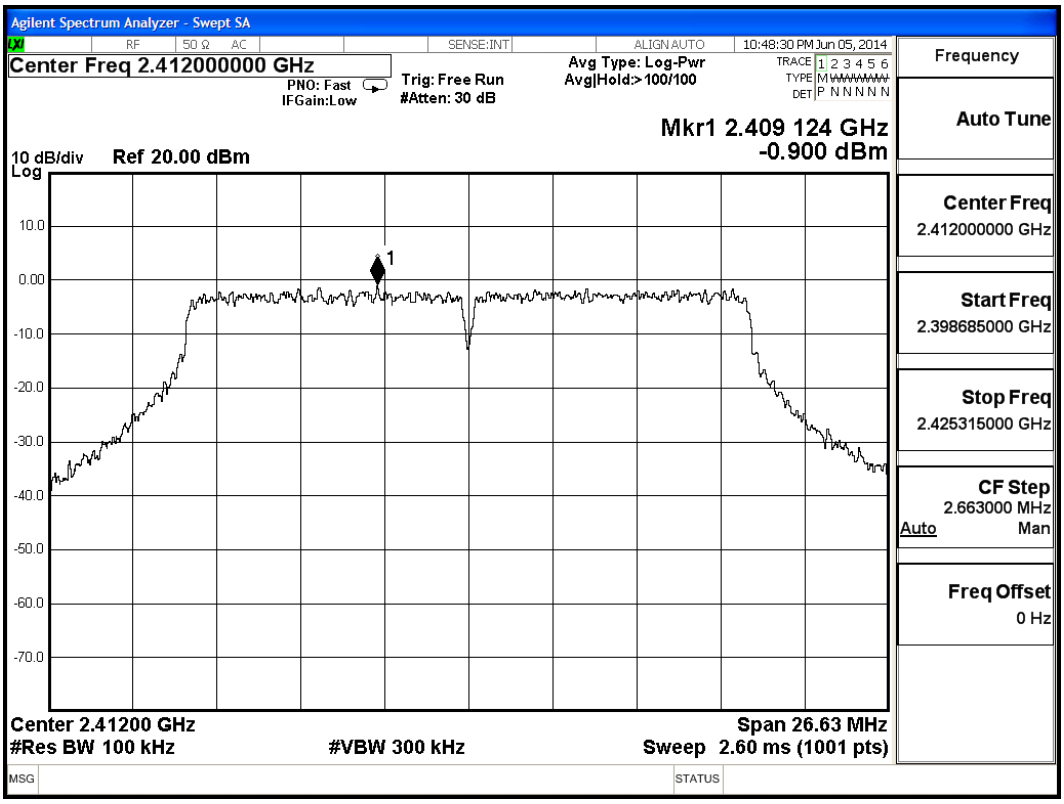
Figure Channel 11:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-0.900	< 8dBm	Pass

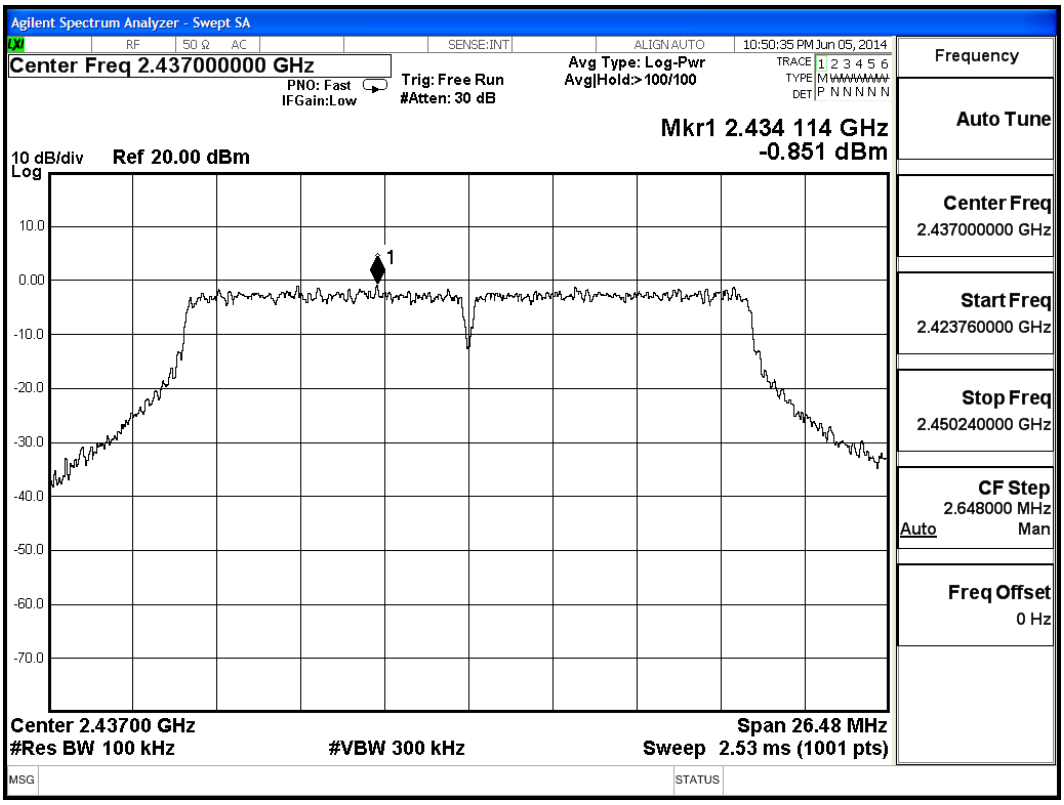
Figure Channel 1:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-0.851	< 8dBm	Pass

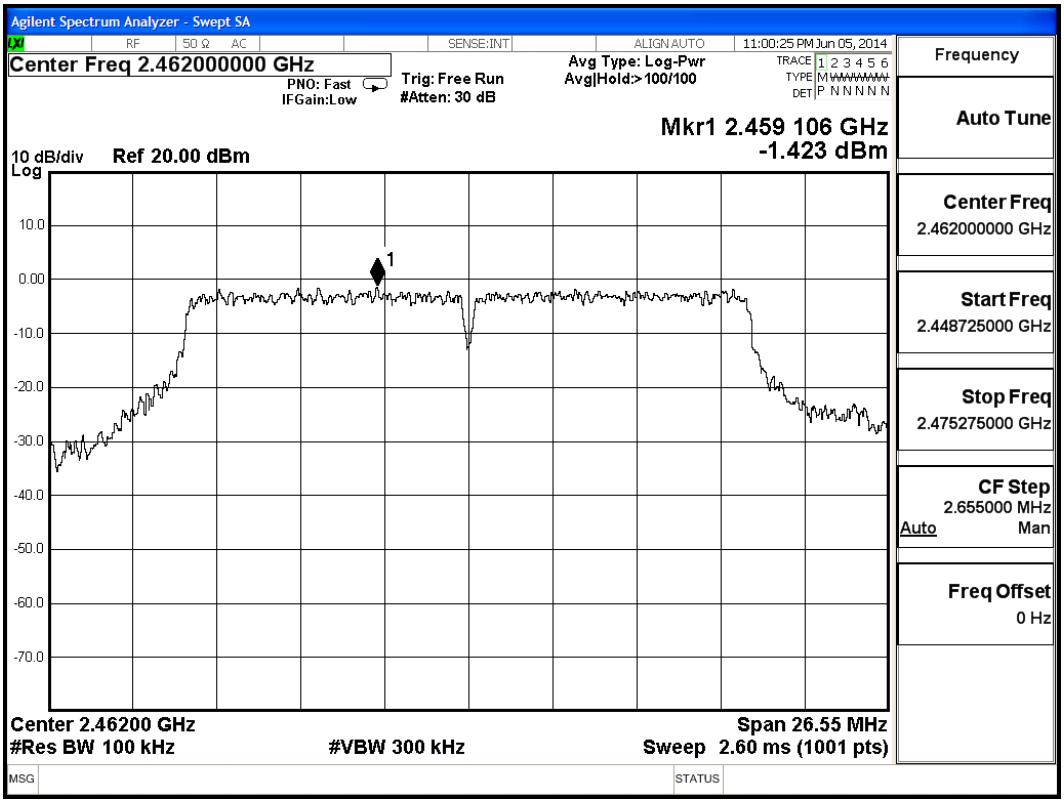
Figure Channel 6:



Product : Bar Code Printer
Test Item : Power Density Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz) -Adapter(1)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-1.423	< 8dBm	Pass

Figure Channel 11:



9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs