



# Test Report

Product Name	Booktop
Model No	M1022XX , R1022XX(X=0-9;A-Z or Blank)
FCC ID.	JCK-M1022
Transmitter Module	Atheros / AR5B91

Applicant	GIGA-BYTE TECHNOLOGY CO., LTD
Address	5FL., No. 6, Bau Chiang Road, Hsin-Tien, Taipei-Hsien, Taiwan, R.O.C.

Date of Receipt	Feb. 26, 2009
Issue Date	Mar. 18, 2009
Report No.	093005R-RFUSP05V01
Version	V1.0

The test results relate only to the samples tested.  
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# Test Report Certification

Issue Date: Mar. 18, 2009

Report No.: 093005R-RFUSP05V01



Accredited by NIST (NVLAP)  
NVLAP Lab Code: 200533-0

Product Name	Booktop
Applicant	GIGA-BYTE TECHNOLOGY CO., LTD
Address	5FL., No. 6, Bau Chiang Road, Hsin-Tien, Taipei-Hsien, Taiwan, R.O.C.
Manufacturer	GIGA-BYTE TECHNOLOGY CO., LTD
Model No.	M1022XX , R1022XX(X=0-9;A-Z or Blank)
Rated Voltage	AC 120V/60Hz
Working Voltage	AC 100-240V / 50-60Hz
Trade Name	GIGABYTE
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007 ANSI C63.4: 2003
Test Result	Complied



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Documented By : Rita Huang  
(Engineering Adm. Specialist / Rita Huang)



Tested By : Johnson Liao  
( Engineer / Johnson Liao )

Approved By : Vincent Lin  
( Manager / Vincent Lin)



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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Booktop
Trade Name	GIGABYTE
Model No.	M1022XX , R1022XX(X=0-9;A-Z or Blank)
FCC ID.	JCK-M1022
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: 6.5-135Mbps
Type of Modulation	802.11b:DSSS DBPSK, DQPSK, CCK 802.11g/n:OFDM BPSK, QPSK, 16QAM, 64QAM
Antenna Type	PIFA
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
Power Adapter	MFR: DELTA, M/N: ADP-36EH C Input: AC 100-240V, 50-60Hz, 1A Output: DC 12V, 3A Cable Out: Non-shielded, 1.8m Power Cord: Non-shielded, 1.8m

#### Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	ARISTOTLE	RFA-02-P23-70B-350-R RFA-02-P23-70-300-L	-5.0 dBi for 2.4 GHz

## 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		

## 802.11n-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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		

## Note:

1. The EUT is a Booktop ,Contains functions and so on WLAN and Bluetooth, this report for 2.4G WLAN.
2. The EUT is including two models for different marketing requirement.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. 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 6.5Mbps and 、 802.11n(40M-BW) is 13.5Mbps)
5. 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
6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

## 1.2. Operational Description

The EUT is a Booktop with 11 channels. This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11g).

The device provided of eight kinds of transmitting speed 6.5,13,19.5,26,39,52,58.5 and 65Mbps in 802.11n(20M-BW) mode and 13.5,27,40.5,54,81,108,121.5 and 135 Mbps(40M-BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n), the IEEE 802.11n is Multiple In, Multiple Out” (MIMO) technology and two antennas to support 1(Transmit) \* 2(Receive) MIMO technology.

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function.

This Booktop, compliant with IEEE 802.11b and IEEE 802.11g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the Booktop Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g/n network.

Test Mode:	Mode 1: Transmitter (802.11b 1Mbps)
	Mode 2: Transmitter (802.11g 6Mbps)
	Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW)
	Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW)

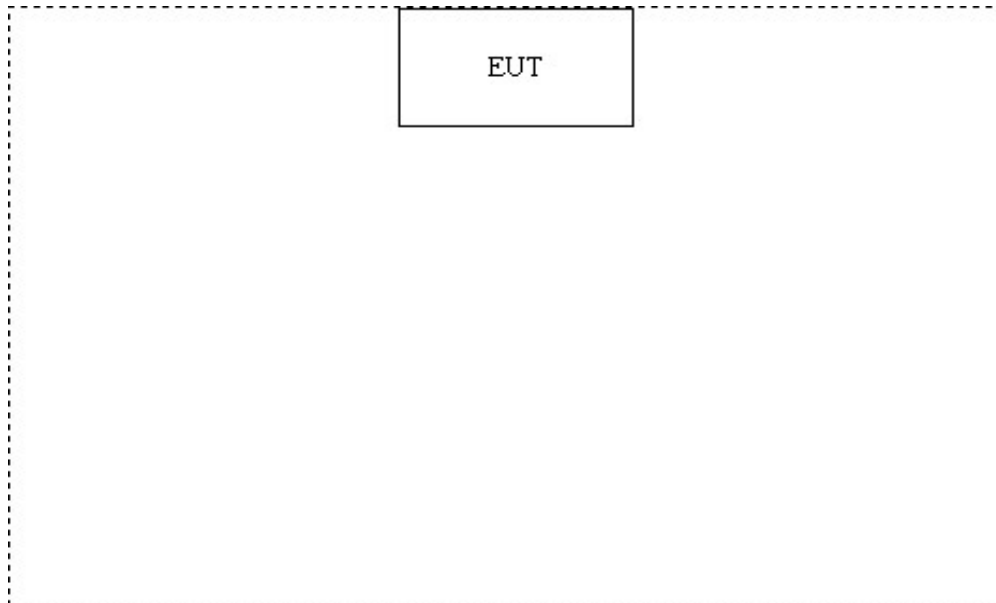
**1.3. Tested System Details**

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)	N/A	N/A	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A	N/A

**1.4. Configuration of Tested System**



**1.5. EUT Exercise Software**

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute “ART.exe” on the EUT.
- (3) Configure the test mode, the test channel, and the data rate to start the continuous transmit
- (4) 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://tw.quietek.com/modules/myalbum/>  
 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



Accreditation on NVLAP  
 NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation  
 Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,  
 Lin-Kou Shiang, Taipei,  
 Taiwan, R.O.C.  
 TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789  
 E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014



## 2. Conducted Emission

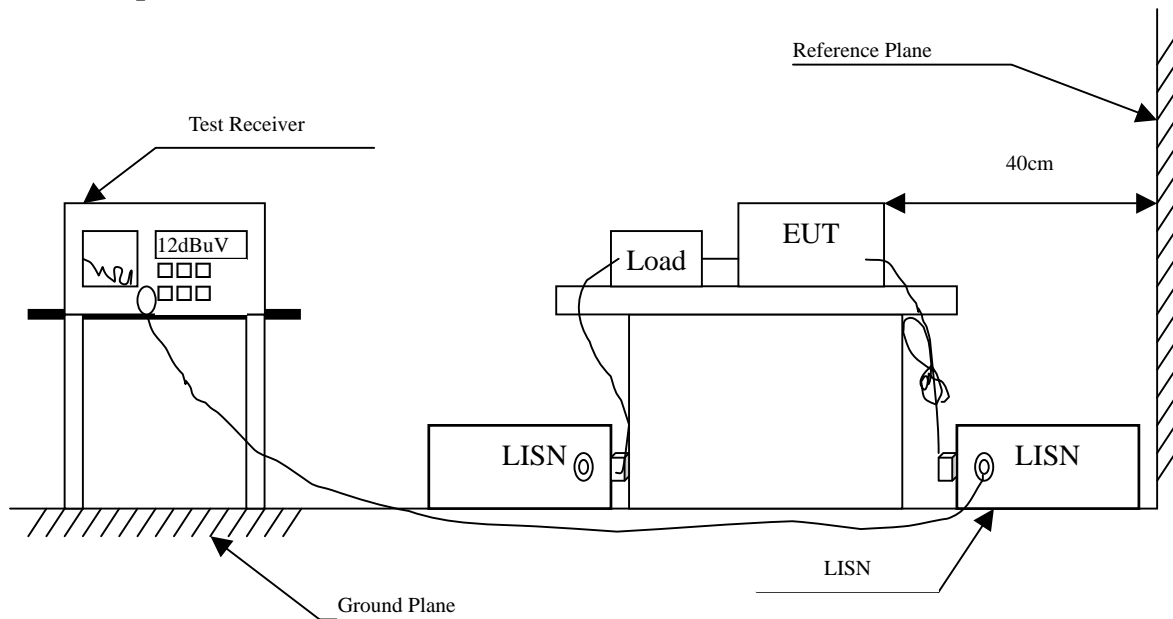
### 2.1. Test Equipment

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

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

### 2.2. Test Setup



**2.3. Limits**

<b>FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit</b>		
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 C63.4: 2003 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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.185	9.719	38.000	47.719	-17.281	65.000
0.212	9.698	34.940	44.638	-19.591	64.229
0.295	9.652	26.380	36.032	-25.825	61.857
0.783	9.650	16.550	26.200	-29.800	56.000
3.209	9.690	18.370	28.060	-27.940	56.000
11.736	9.870	17.510	27.380	-32.620	60.000
<b>Average</b>					
0.185	9.719	23.700	33.419	-21.581	55.000
0.212	9.698	25.020	34.718	-19.511	54.229
0.295	9.652	17.060	26.712	-25.145	51.857
0.783	9.650	10.140	19.790	-26.210	46.000
3.209	9.690	10.270	19.960	-26.040	46.000
11.736	9.870	11.560	21.430	-28.570	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.189	9.724	36.350	46.074	-18.812	64.886
0.295	9.662	24.360	34.022	-27.835	61.857
0.685	9.650	16.940	26.590	-29.410	56.000
3.162	9.690	15.980	25.670	-30.330	56.000
11.990	9.870	13.620	23.490	-36.510	60.000
20.310	10.020	8.990	19.010	-40.990	60.000
<b>Average</b>					
0.189	9.724	23.220	32.944	-21.942	54.886
0.295	9.662	14.660	24.322	-27.535	51.857
0.685	9.650	11.570	21.220	-24.780	46.000
3.162	9.690	9.690	19.380	-26.620	46.000
11.990	9.870	7.710	17.580	-32.420	50.000
20.310	10.020	3.890	13.910	-36.090	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.197	9.709	34.120	43.829	-20.828	64.657
0.306	9.650	23.510	33.160	-28.383	61.543
0.771	9.648	17.610	27.258	-28.742	56.000
3.095	9.690	17.220	26.910	-29.090	56.000
11.677	9.870	17.010	26.880	-33.120	60.000
29.837	10.220	13.770	23.990	-36.010	60.000
<b>Average</b>					
0.197	9.709	21.010	30.719	-23.938	54.657
0.306	9.650	12.690	22.340	-29.203	51.543
0.771	9.648	9.780	19.428	-26.572	46.000
3.095	9.690	9.830	19.520	-26.480	46.000
11.677	9.870	11.160	21.030	-28.970	50.000
29.837	10.220	8.390	18.610	-31.390	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.212	9.708	33.130	42.838	-21.391	64.229
0.357	9.654	18.180	27.834	-32.252	60.086
0.771	9.668	17.690	27.358	-28.642	56.000
1.310	9.670	15.170	24.840	-31.160	56.000
3.400	9.690	14.580	24.270	-31.730	56.000
13.654	9.950	14.520	24.470	-35.530	60.000
<b>Average</b>					
0.212	9.708	23.660	33.368	-20.861	54.229
0.357	9.654	9.910	19.564	-30.522	50.086
0.771	9.668	11.740	21.408	-24.592	46.000
1.310	9.670	9.210	18.880	-27.120	46.000
3.400	9.690	8.590	18.280	-27.720	46.000
13.654	9.950	8.520	18.470	-31.530	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.224	9.690	32.730	42.420	-21.466	63.886
0.326	9.650	22.110	31.760	-29.211	60.971
0.697	9.630	15.760	25.390	-30.610	56.000
4.037	9.700	17.510	27.210	-28.790	56.000
11.931	9.870	16.220	26.090	-33.910	60.000
27.560	10.180	9.770	19.950	-40.050	60.000
<b>Average</b>					
0.224	9.690	22.600	32.290	-21.596	53.886
0.326	9.650	14.450	24.100	-26.871	50.971
0.697	9.630	8.240	17.870	-28.130	46.000
4.037	9.700	10.420	20.120	-25.880	46.000
11.931	9.870	10.430	20.300	-29.700	50.000
27.560	10.180	4.480	14.660	-35.340	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.220	9.703	31.370	41.073	-22.927	64.000
0.443	9.645	18.210	27.855	-29.774	57.629
0.732	9.655	19.210	28.865	-27.135	56.000
3.349	9.690	14.320	24.010	-31.990	56.000
13.853	9.950	14.350	24.300	-35.700	60.000
29.529	10.220	10.900	21.120	-38.880	60.000
<b>Average</b>					
0.220	9.703	22.880	32.583	-21.417	54.000
0.443	9.645	12.950	22.595	-25.034	47.629
0.732	9.655	12.330	21.985	-24.015	46.000
3.349	9.690	8.370	18.060	-27.940	46.000
13.853	9.950	8.270	18.220	-31.780	50.000
29.529	10.220	5.490	15.710	-34.290	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.170	9.740	25.360	35.100	-30.329	65.429
0.236	9.682	31.280	40.962	-22.581	63.543
0.341	9.650	19.920	29.570	-30.973	60.543
0.744	9.639	15.900	25.539	-30.461	56.000
3.107	9.690	17.440	27.130	-28.870	56.000
13.560	9.940	16.090	26.030	-33.970	60.000
<b>Average</b>					
0.170	9.740	2.930	12.670	-42.759	55.429
0.236	9.682	22.400	32.082	-21.461	53.543
0.341	9.650	11.700	21.350	-29.193	50.543
0.744	9.639	7.560	17.199	-28.801	46.000
3.107	9.690	9.720	19.410	-26.590	46.000
13.560	9.940	10.110	20.050	-29.950	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 : Booktop  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.185	9.727	22.660	32.388	-32.612	65.000
0.244	9.689	31.160	40.849	-22.465	63.314
0.353	9.655	20.070	29.725	-30.475	60.200
0.767	9.667	16.210	25.877	-30.123	56.000
2.880	9.690	14.940	24.630	-31.370	56.000
13.392	9.930	13.170	23.100	-36.900	60.000
<b>Average</b>					
0.185	9.727	3.210	12.938	-42.062	55.000
0.244	9.689	23.460	33.149	-20.165	53.314
0.353	9.655	13.650	23.305	-26.895	50.200
0.767	9.667	10.510	20.177	-25.823	46.000
2.880	9.690	9.480	19.170	-26.830	46.000
13.392	9.930	7.280	17.210	-32.790	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

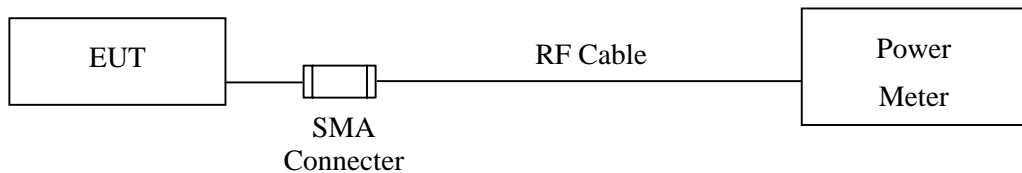
The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Power Meter	Anritsu	ML2495A/6K00003357	May, 2008
X Power Sensor	Anritsu	MA2491A/034457	May, 2008

Note: 1. All instruments are calibrated every one year.  
 2. The test instruments marked by “X” are used to measure the final test results.

#### 3.2. Test Setup

Conducted Measurement



#### 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 Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

#### 3.5. Uncertainty

± 1.27 dB

### 3.6. Test Result of Peak Power Output

Product : Booktop  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps)

Cable Loss=0.5dB		Peak Power Output				Required Limit
Channel No.	Frequency (MHz)	Data Rate				
		1	2	5.5	11	
1	2412.00	18.56	18.52	18.20	18.30	1Watt= 30 dBm
6	2437.00	18.46	--	--	--	1Watt= 30 dBm
11	2462.00	18.00	--	--	--	1Watt= 30 dBm

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

Product : Booktop  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps)

Cable Loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		6	9	12	18	24	36	48	54	
1	2412.00	19.00	18.45	18.47	18.88	18.87	18.73	18.66	18.92	1Watt= 30 dBm
6	2437.00	18.81	--	--	--	--	--	--	--	1Watt= 30 dBm
11	2462.00	18.81	--	--	--	--	--	--	--	1Watt= 30 dBm

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

Product : Booktop  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW)

Cable Loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		6.5	13	19.5	26	39	52	58.5	65	
1	2412.00	18.3	18.86	18.4	18.38	18.2	18.86	18.86	18.92	1Watt= 30 dBm
6	2437.00	--	--	--	--	--	--	--	19.20	1Watt= 30 dBm
11	2462.00	--	--	--	--	--	--	--	18.62	1Watt= 30 dBm

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

Product : Booktop  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW)

Cable Loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		13.5	27	40.5	54	81	108	121.5	135	
1	2422.00	18.68	18.45	18.43	18.31	18.62	18.06	18.52	18.38	1Watt= 30 dBm
4	2437.00	18.60	--	--	--	--	--	--	--	1Watt= 30 dBm
7	2452.00	18.15	--	--	--	--	--	--	--	1Watt= 30 dBm

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



#### 4. Radiated Emission

##### 4.1. Test Equipment

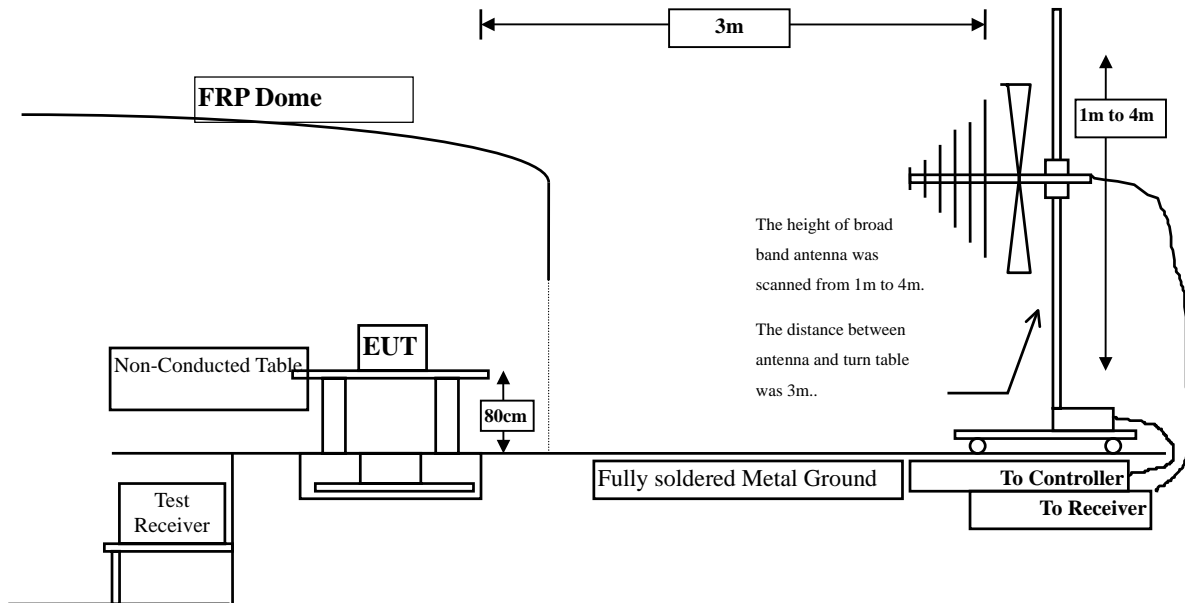
The following test equipment are used during the radiated emission test:

Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Aug., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2008
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

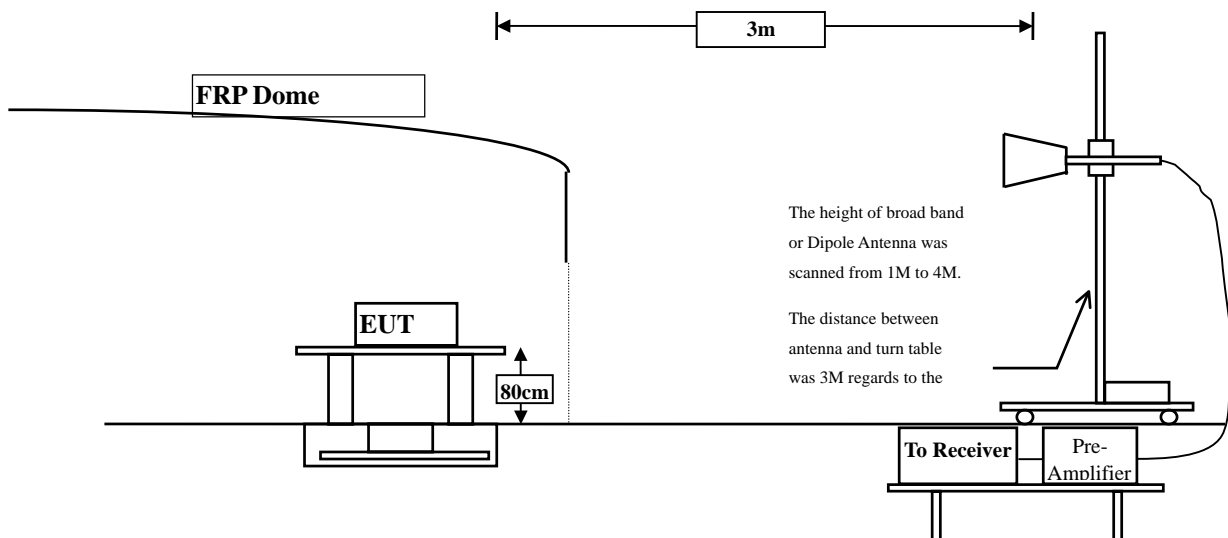
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with "X" are used to measure the final test results.

## 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.

<b>FCC Part 15 Subpart C Paragraph 15.209(a) Limits</b>		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

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

#### 4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 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 C63.4:2003 on radiated measurement.

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

Radiated emission measurements below 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 beamwidth of the antenna.

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

The frequency range from 30MHz to 10th harmonics is checked.

#### 4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Radiated Emission

Product : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	3.723	47.540	51.263	-22.737	74.000
7236.000	9.439	38.880	48.319	-25.681	74.000
9648.000	11.829	38.740	50.569	-23.431	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	3.723	47.890	51.613	-22.387	74.000
7236.000	9.439	40.900	50.339	-23.661	74.000
9648.000	11.829	39.630	51.459	-22.541	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	3.893	45.590	49.482	-24.518	74.000
7311.000	9.624	37.670	47.294	-26.706	74.000
9748.000	11.805	36.830	48.636	-25.364	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	3.893	46.550	50.442	-23.558	74.000
7311.000	9.624	38.310	47.934	-26.066	74.000
9748.000	11.805	37.460	49.266	-24.734	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2462 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	4.075	44.480	48.555	-25.445	74.000
7386.000	9.812	35.680	45.492	-28.508	74.000
9848.000	11.819	35.890	47.709	-26.291	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	4.075	45.480	49.555	-24.445	74.000
7386.000	9.812	38.100	47.912	-26.088	74.000
9848.000	11.819	36.300	48.119	-25.881	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
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**Horizontal**

**Peak Detector:**

4824.000	3.723	40.460	44.183	-29.817	74.000
7236.000	9.439	36.340	45.779	-28.221	74.000
9648.000	11.829	36.040	47.869	-26.131	74.000

**Average**

**Detector:**

--

**Vertical**

**Peak Detector:**

4824.000	3.723	36.920	40.643	-33.357	74.000
7236.000	9.439	35.170	44.609	-29.391	74.000
9648.000	11.829	35.820	47.649	-26.351	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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	3.893	39.290	43.182	-30.818	74.000
7311.000	9.624	34.430	44.054	-29.946	74.000
9748.000	11.805	35.560	47.366	-26.634	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	3.893	38.730	42.622	-31.378	74.000
7311.000	9.624	36.570	46.194	-27.806	74.000
9748.000	11.805	36.000	47.806	-26.194	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2462 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	4.075	38.990	43.065	-30.935	74.000
7386.000	9.812	34.990	44.802	-29.198	74.000
9848.000	11.819	35.290	47.109	-26.891	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	4.075	37.780	41.855	-32.145	74.000
7386.000	9.812	34.010	43.822	-30.178	74.000
9848.000	11.819	35.620	47.439	-26.561	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	3.723	40.320	44.043	-29.957	74.000
7236.000	9.439	34.720	44.159	-29.841	74.000
9648.000	11.829	36.170	47.999	-26.001	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	3.723	40.370	44.093	-29.907	74.000
7236.000	9.439	36.310	45.749	-28.251	74.000
9648.000	11.829	36.100	47.929	-26.071	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
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**Horizontal**

**Peak Detector:**

4824.000	3.723	40.370	44.093	-29.907	74.000
7236.000	9.439	35.540	44.979	-29.021	74.000
9648.000	11.829	35.860	47.689	-26.311	74.000

**Average**

**Detector:**

--

**Vertical**

**Peak Detector:**

4824.000	3.723	37.600	41.323	-32.677	74.000
7236.000	9.439	35.590	45.029	-28.971	74.000
9648.000	11.829	36.220	48.049	-25.951	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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2462 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	4.075	39.260	43.335	-30.665	74.000
7386.000	9.812	35.000	44.812	-29.188	74.000
9848.000	11.819	35.960	47.779	-26.221	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	4.075	38.370	42.445	-31.555	54.000
7386.000	9.812	36.110	45.922	-28.078	74.000
9848.000	11.819	35.890	47.709	-26.291	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2422MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4844.000	3.788	38.100	41.888	-32.112	74.000
7266.000	9.517	35.950	45.467	-28.533	74.000
9688.000	11.818	36.480	48.298	-25.702	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4844.000	3.788	38.600	42.388	-31.612	74.000
7266.000	9.517	35.100	44.617	-29.383	74.000
9688.000	11.818	35.720	47.538	-26.462	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	3.893	37.560	41.452	-32.548	74.000
7311.000	9.624	34.150	43.774	-30.226	74.000
9748.000	11.805	35.090	46.896	-27.104	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	3.893	36.330	40.222	-33.778	74.000
7311.000	9.624	34.390	44.014	-29.986	74.000
9748.000	11.805	36.380	48.186	-25.814	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2452 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4904.000	4.002	36.300	40.302	-33.698	74.000
7356.000	9.747	33.920	43.667	-30.333	74.000
9808.000	11.795	35.340	47.135	-26.865	74.000
<b>Average Detector:</b>					
--					
<b>Vertical</b>					
<b>Peak Detector:</b>					
4904.000	4.002	37.500	41.502	-32.498	74.000
7356.000	9.747	34.110	43.857	-30.143	74.000
9808.000	11.795	35.780	47.575	-26.425	74.000
<b>Average Detector:</b>					
--					

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. “ \* ”, 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 : Booktop  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
237.580	-8.063	40.896	32.833	-13.167	46.000
299.660	-4.061	35.202	31.141	-14.859	46.000
480.080	-0.784	30.848	30.064	-15.936	46.000
600.360	3.455	26.758	30.213	-15.787	46.000
720.640	3.021	28.556	31.577	-14.423	46.000
901.060	5.134	31.697	36.831	-9.169	46.000
<b>Vertical</b>					
264.740	-8.110	32.408	24.298	-21.702	46.000
365.620	-2.667	26.211	23.544	-22.456	46.000
515.000	-1.596	27.432	25.836	-20.164	46.000
720.640	-0.589	28.768	28.179	-17.821	46.000
798.240	2.435	36.581	39.016	-6.984	46.000
961.200	6.724	28.778	35.502	-18.498	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. “ \* ”, 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 : Booktop  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
480.080	-0.784	30.479	29.695	-16.305	46.000
600.360	3.455	25.691	29.146	-16.854	46.000
720.640	3.021	28.551	31.572	-14.428	46.000
800.180	4.773	28.750	33.523	-12.477	46.000
901.060	5.134	30.544	35.678	-10.322	46.000
961.200	5.914	30.249	36.163	-17.837	54.000
<b>Vertical</b>					
264.740	-8.110	32.351	24.241	-21.759	46.000
365.620	-2.667	25.706	23.039	-22.961	46.000
515.000	-1.596	25.503	23.907	-22.093	46.000
720.640	-0.589	28.113	27.524	-18.476	46.000
798.240	2.435	32.982	35.417	-10.583	46.000
961.200	6.724	28.938	35.662	-18.338	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. “ \* ”, 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 : Booktop  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
235.640	-8.899	40.867	31.969	-14.031	46.000
299.660	-4.061	35.190	31.129	-14.871	46.000
480.080	-0.784	28.411	27.627	-18.373	46.000
600.360	3.455	26.938	30.393	-15.607	46.000
720.640	3.021	28.786	31.807	-14.193	46.000
901.060	5.134	31.652	36.786	-9.214	46.000
<b>Vertical</b>					
264.740	-8.110	31.649	23.539	-22.461	46.000
480.080	-4.814	27.841	23.027	-22.973	46.000
720.640	-0.589	27.966	27.377	-18.623	46.000
800.180	2.433	32.302	34.735	-11.265	46.000
840.920	2.570	28.478	31.048	-14.952	46.000
961.200	6.724	28.336	35.060	-18.940	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. “ \* ”, 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 : Booktop  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2437 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
243.400	-6.818	39.618	32.800	-13.200	46.000
480.080	-0.784	30.179	29.395	-16.605	46.000
600.360	3.455	26.074	29.529	-16.471	46.000
720.640	3.021	28.992	32.013	-13.987	46.000
798.240	4.775	28.803	33.578	-12.422	46.000
901.060	5.134	31.532	36.666	-9.334	46.000
<b>Vertical</b>					
264.740	-8.110	33.244	25.134	-20.866	46.000
365.620	-2.667	26.294	23.627	-22.373	46.000
515.000	-1.596	25.855	24.259	-21.741	46.000
720.640	-0.589	28.573	27.984	-18.016	46.000
800.180	2.433	37.088	39.521	-6.479	46.000
961.200	6.724	28.891	35.615	-18.385	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. “ \* ”, 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.

**5. RF antenna conducted test**

**5.1. Test Equipment**

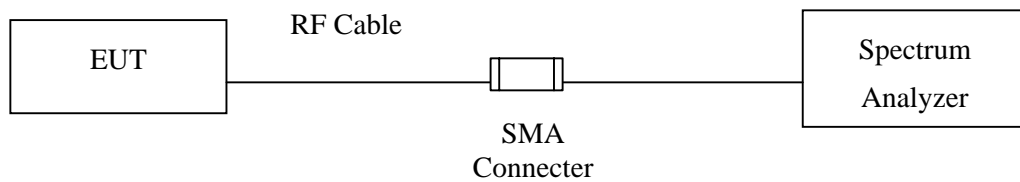
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Nov, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2008

- 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 Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

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

## 5.5. Uncertainty

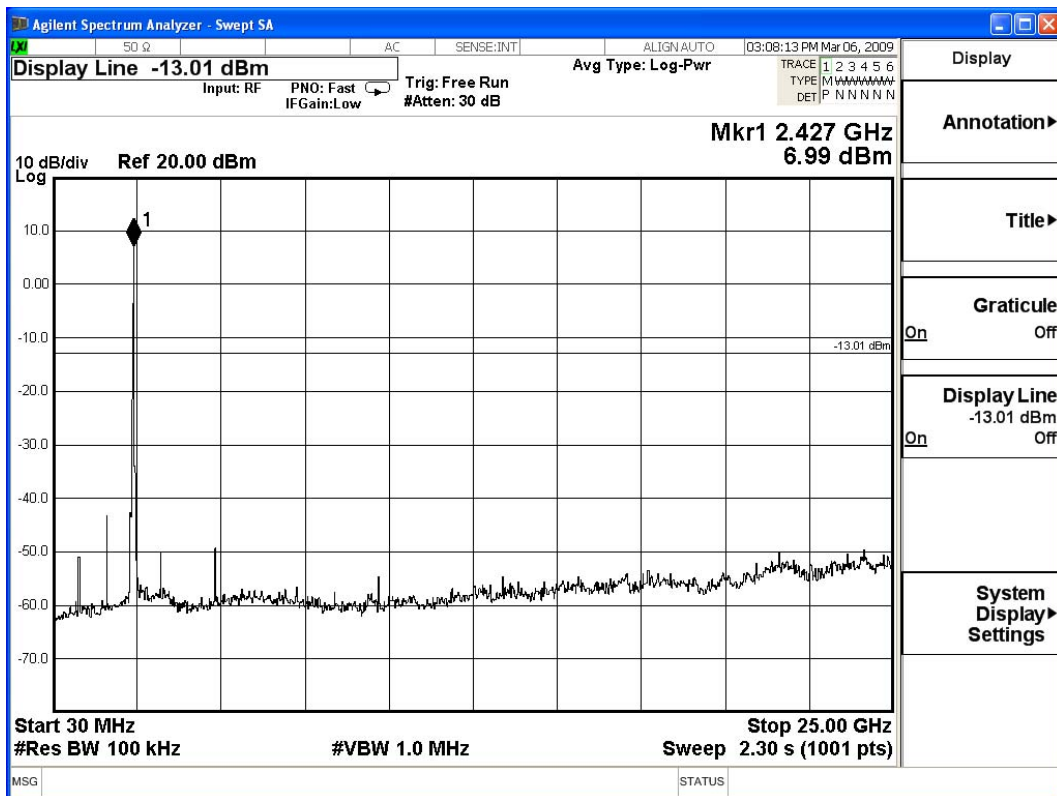
The measurement uncertainty

Conducted is defined as  $\pm 1.27\text{dB}$

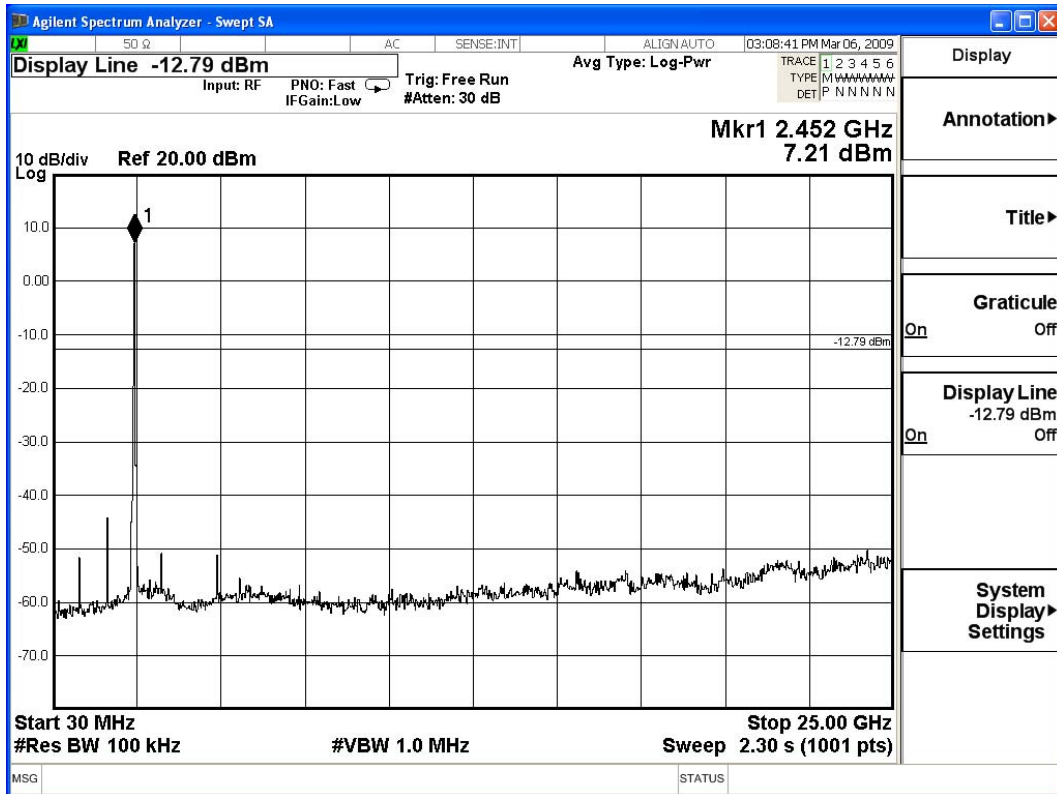
**5.6. Test Result of RF antenna conducted test**

Product : Booktop  
 Test Item : RF antenna conducted test  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps)

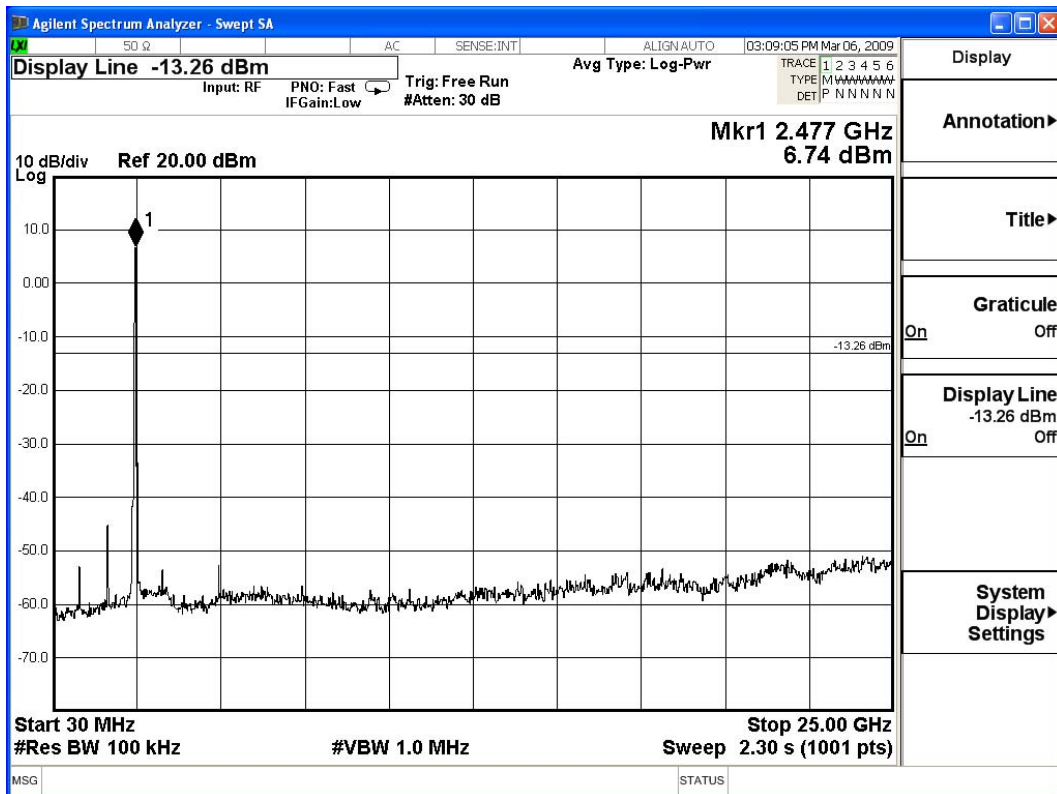
**Channel 01 (2412MHz) 30-25GHz**



**Channel 06 (2437MHz) 30-25GHz**



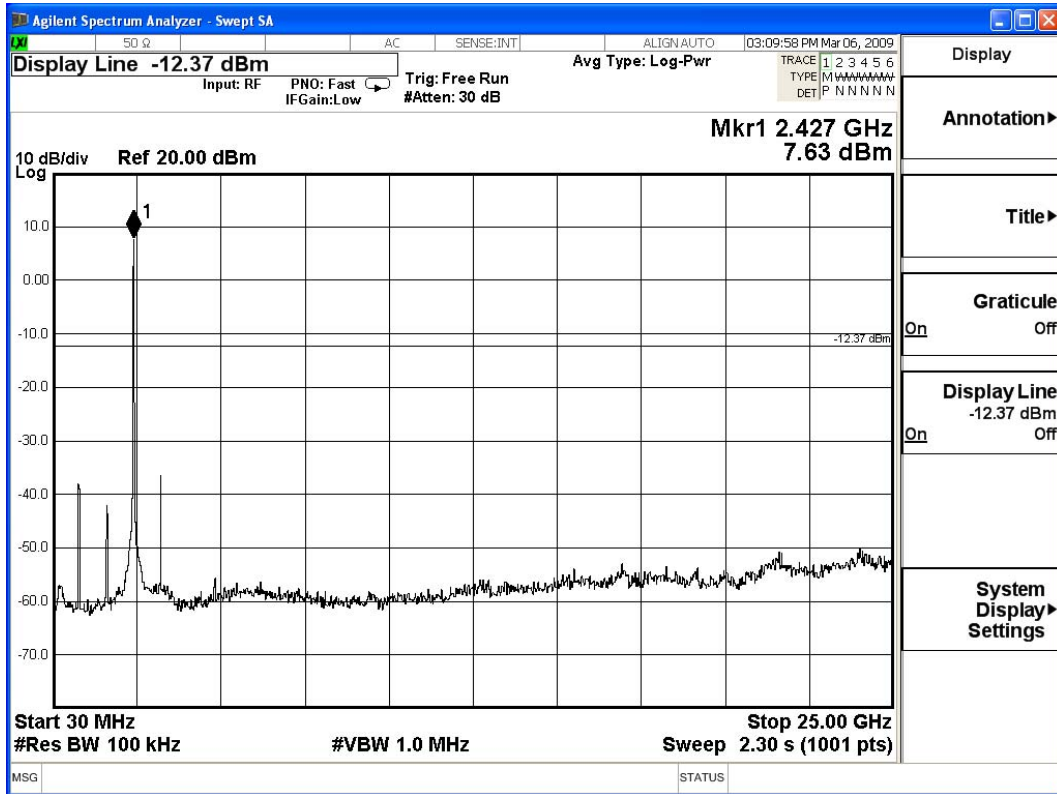
**Channel 11 (2462MHz) 30-25GHz**



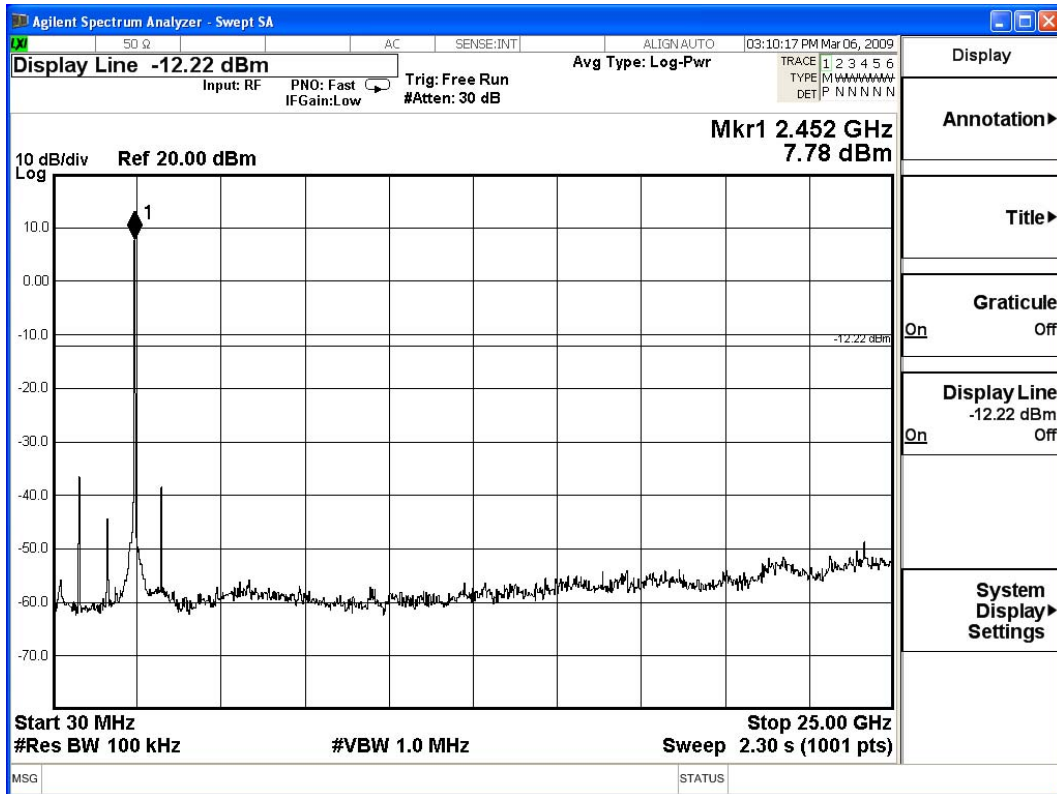


Product : Booktop  
 Test Item : RF Antenna Conducted Spurious  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps)

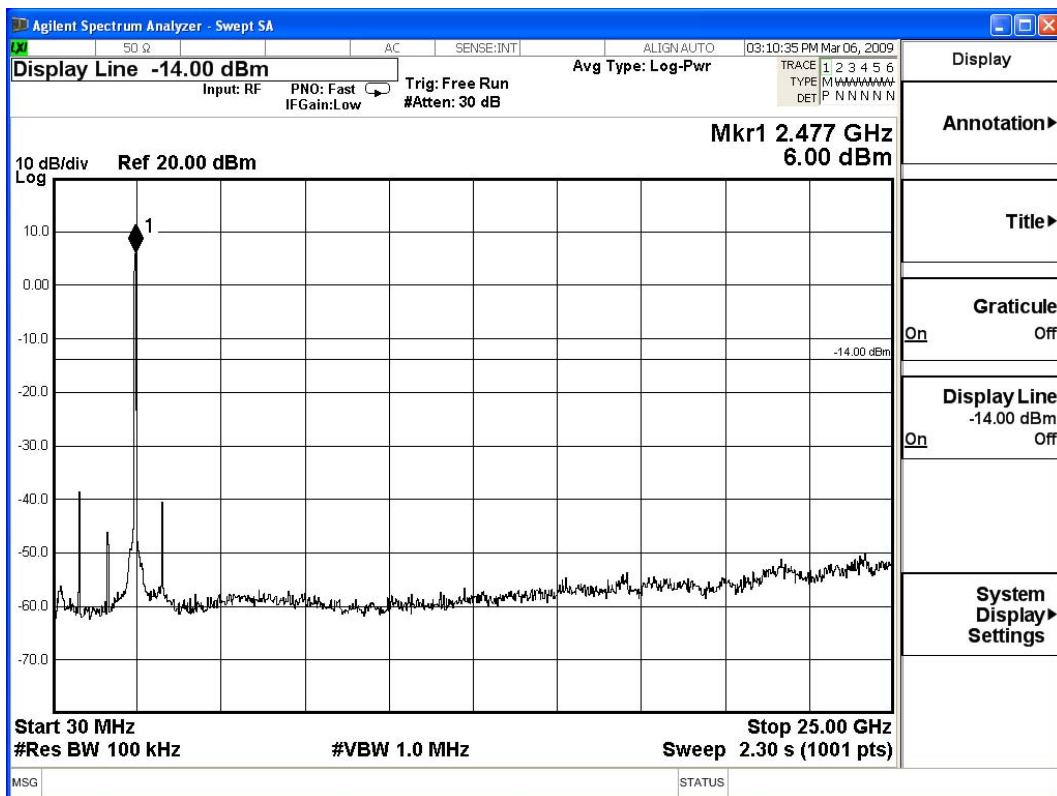
**Channel 01 (2412MHz) 30-25GHz**



**Channel 06 (2437MHz) 30-25GHz**

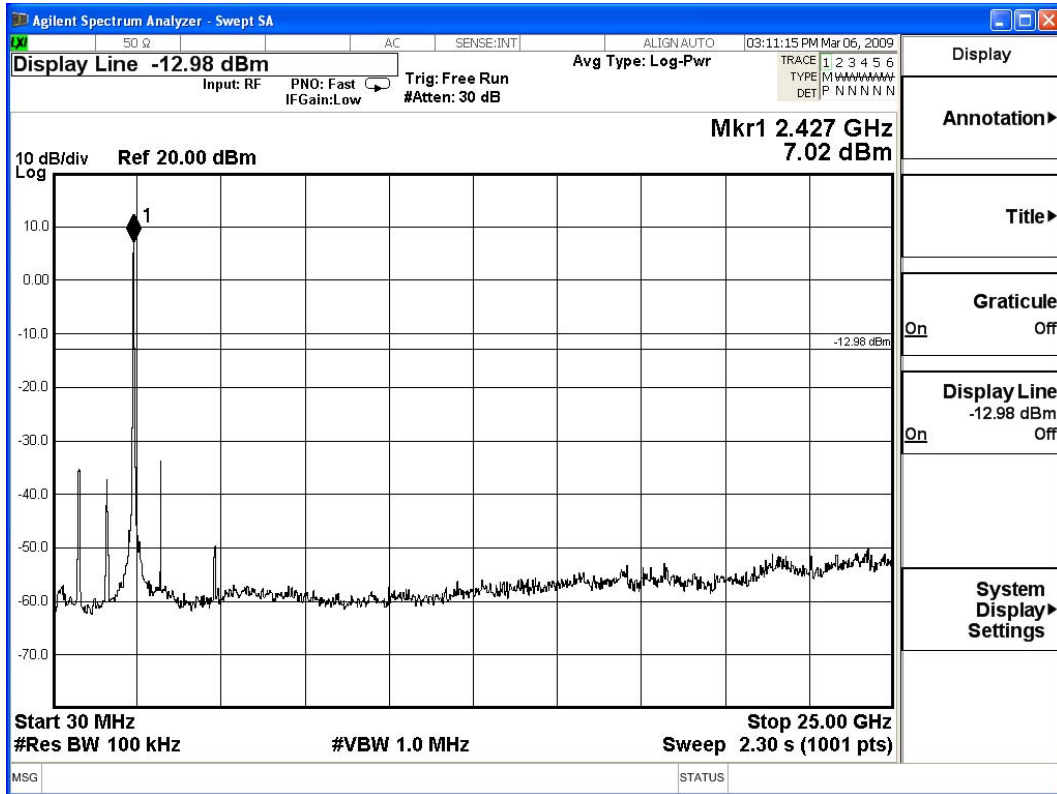


**Channel 11 (2462MHz) 30-25GHz**

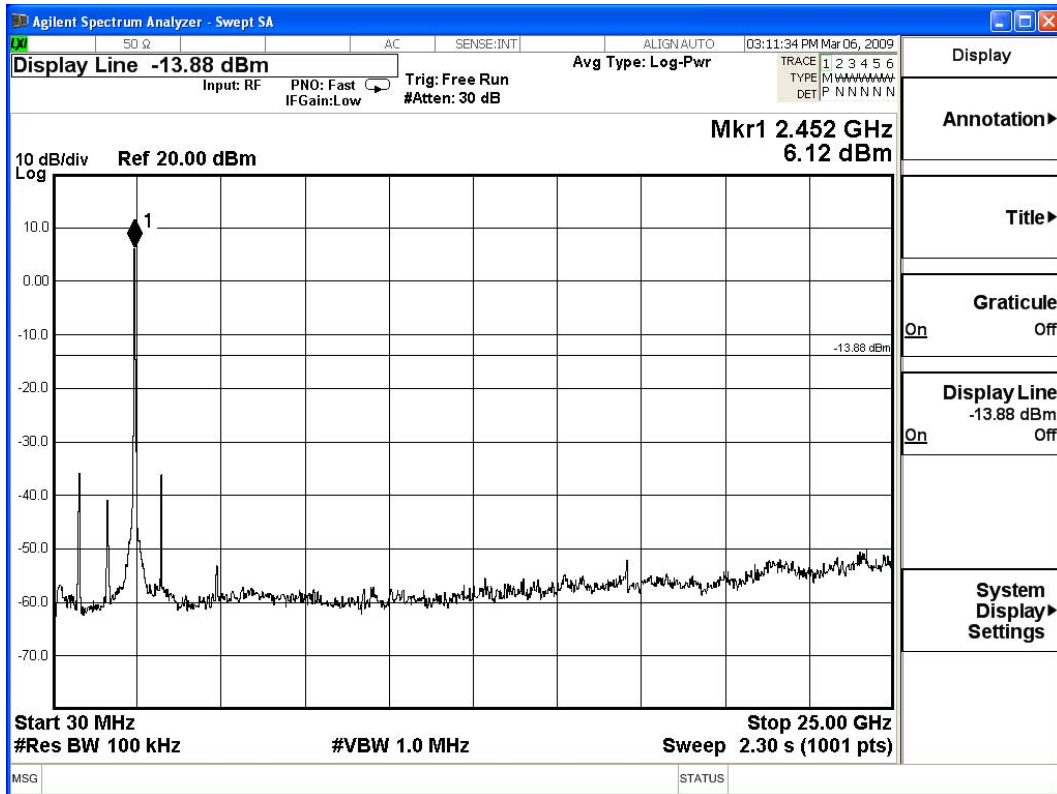


Product : Booktop  
 Test Item : RF Antenna Conducted Spurious  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW)

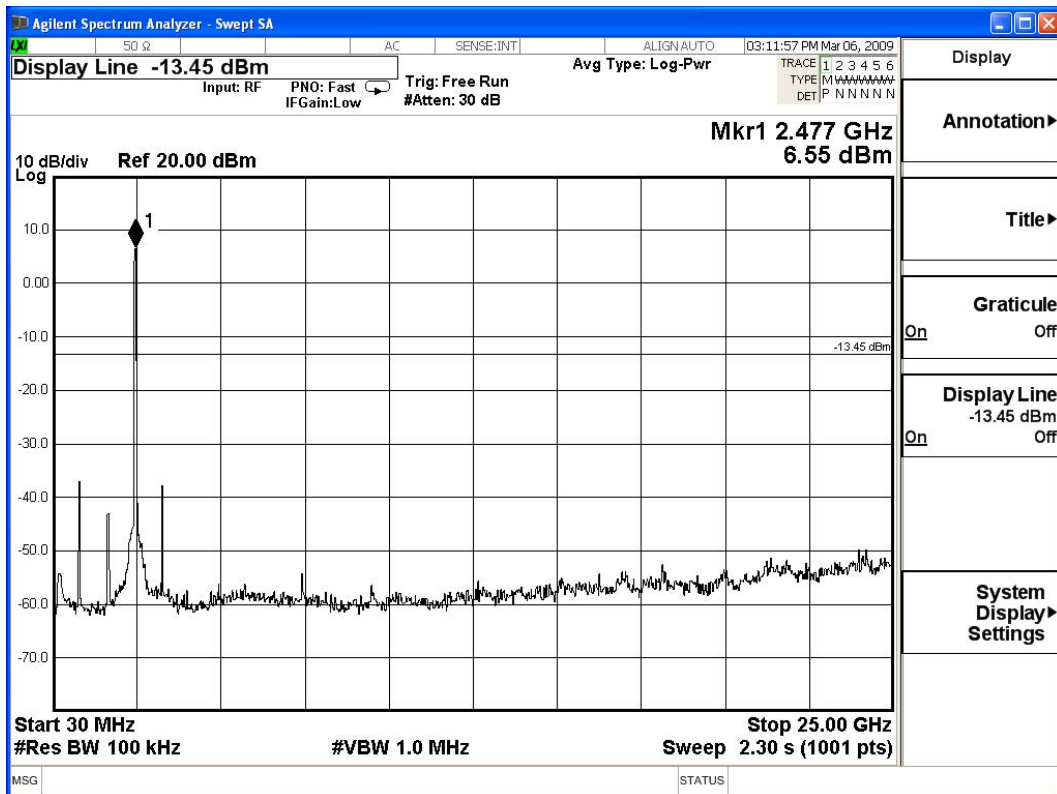
**Channel 01 (2412MHz) 30-25GHz**



**Channel 06 (2437MHz) 30-25GHz**

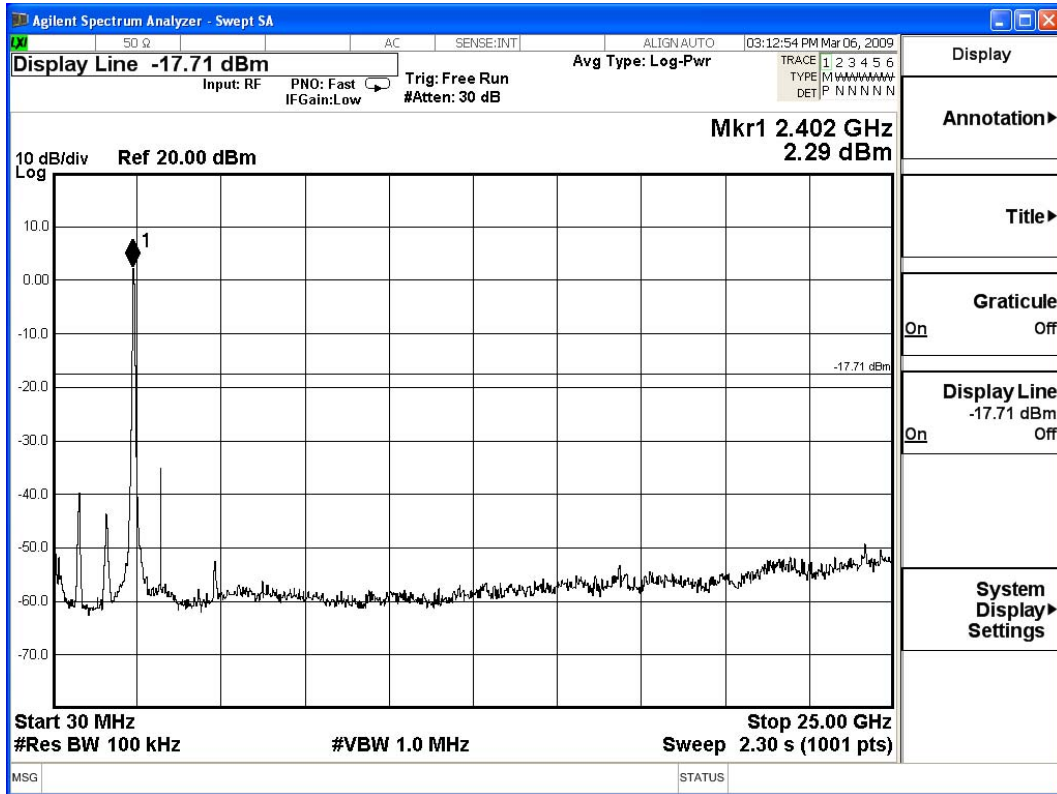


**Channel 11 (2462MHz) 30-25GHz**

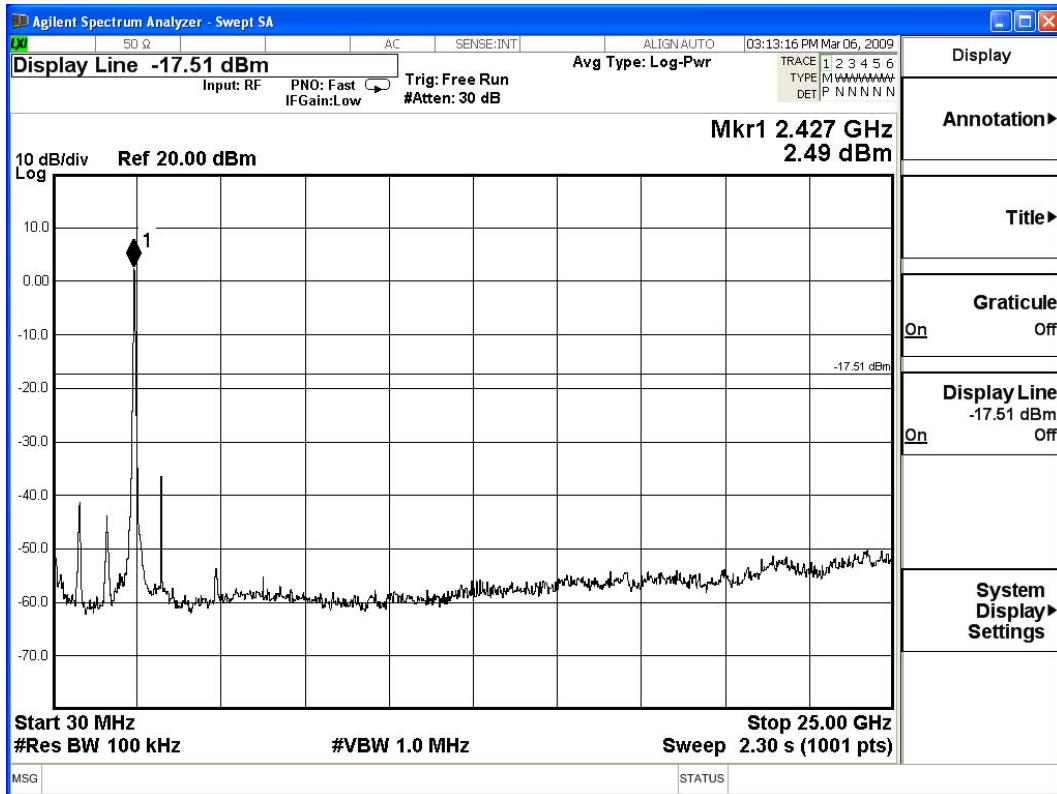


Product : Booktop  
 Test Item : RF Antenna Conducted Spurious  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW)

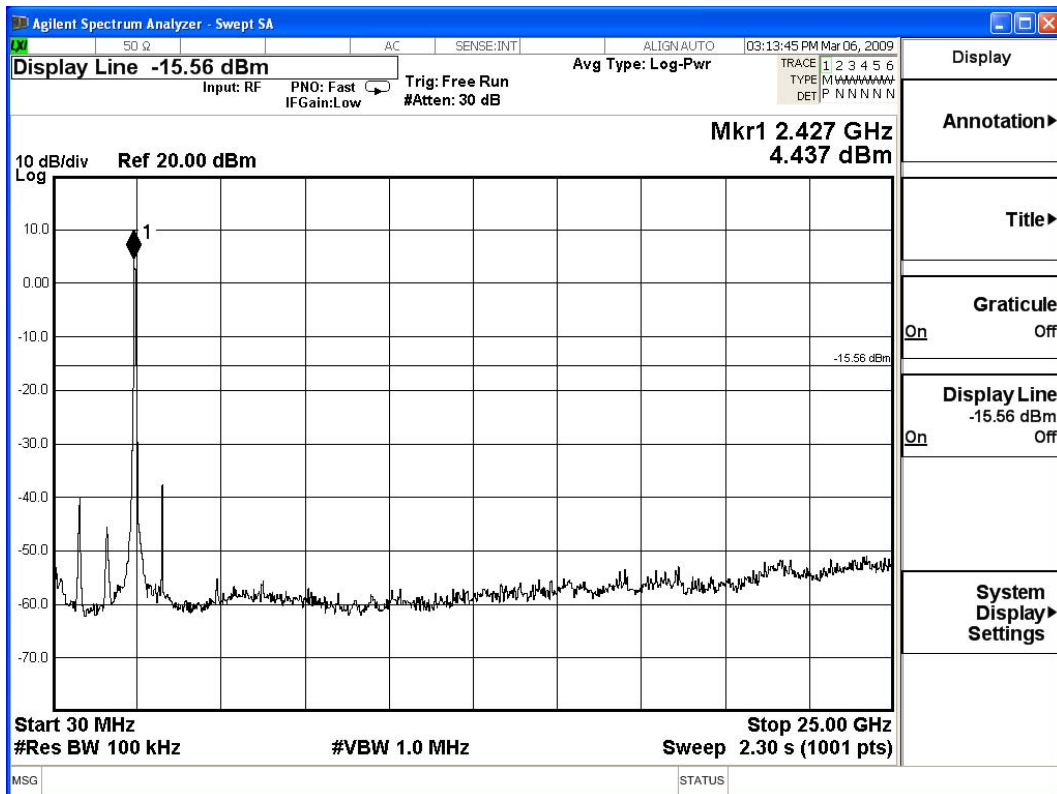
**Channel 01 (2422MHz) 30-25GHz**



**Channel 04 (2437MHz) 30-25GHz**



**Channel 07 (2452MHz) 30-25GHz**



## 6. Band Edge

### 6.1. Test Equipment

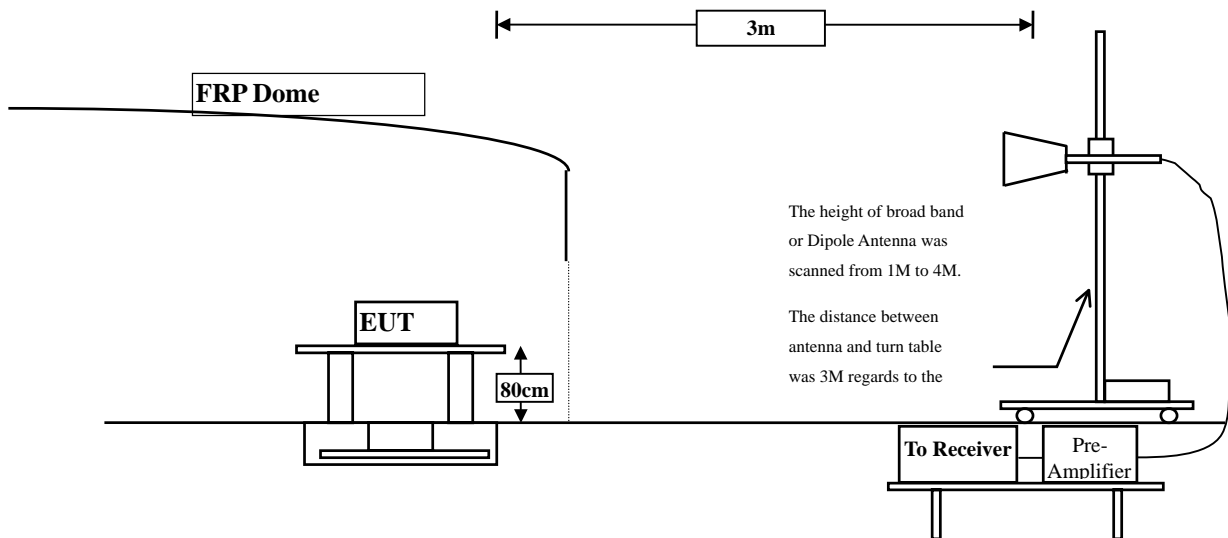
The following test equipments are used during the band edge tests:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X Horn Antenna	Schwarzbeck	BBHA9120D/D305	Aug., 2008
	X Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2009
	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 C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 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 C63.4:2003 on radiated measurement.

#### **6.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz



### 6.6. Test Result of Band Edge

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

#### 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)	2385.800	-2.398	57.253	54.855	74.00	54.00	Pass
01 (Average)	2385.800	-2.398	47.692	45.294	74.00	54.00	Pass

Figure Channel 01: Horizontal (Peak)

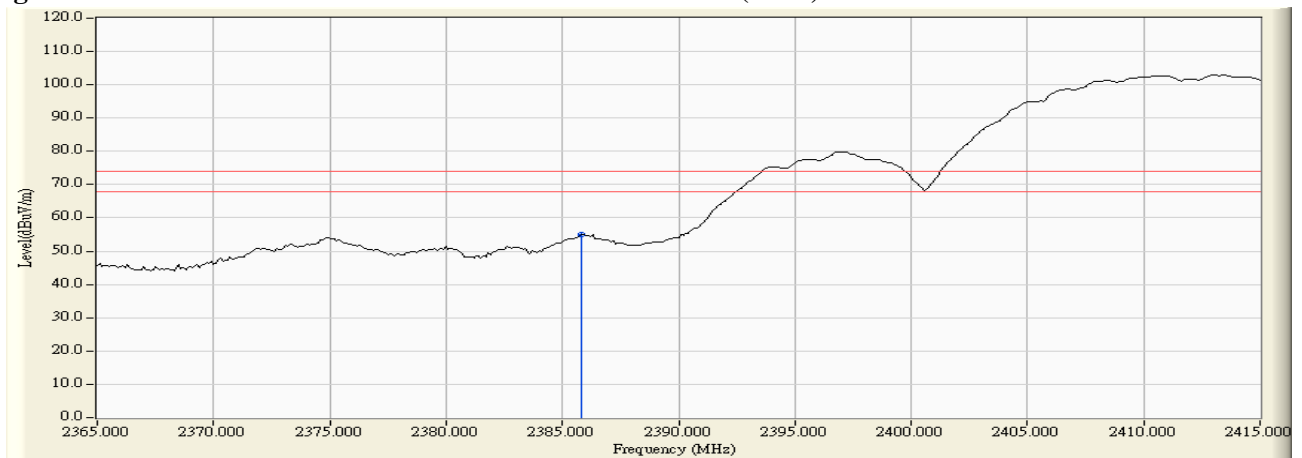
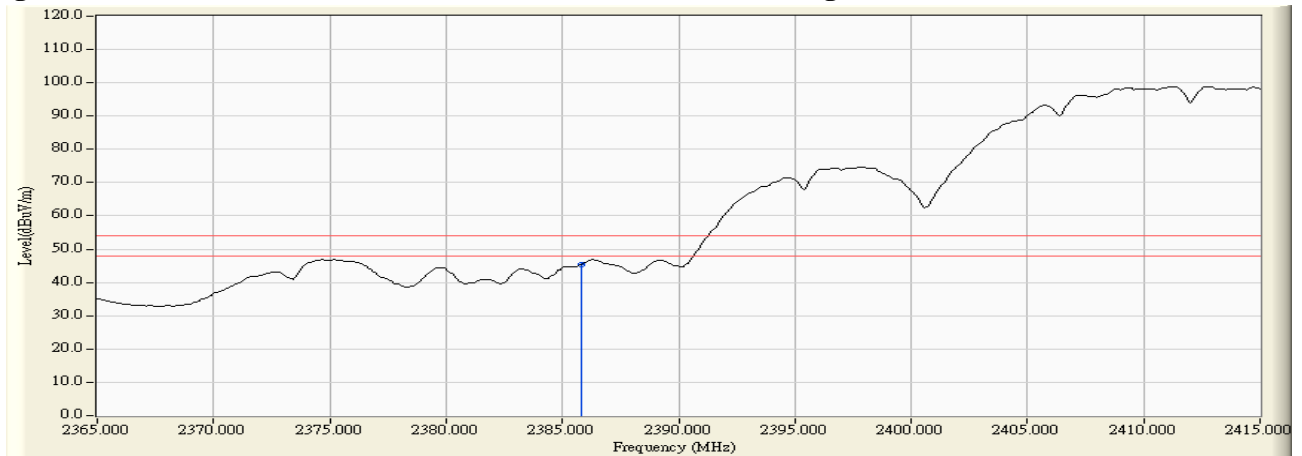


Figure Channel 01: Horizontal (Average)



Note:

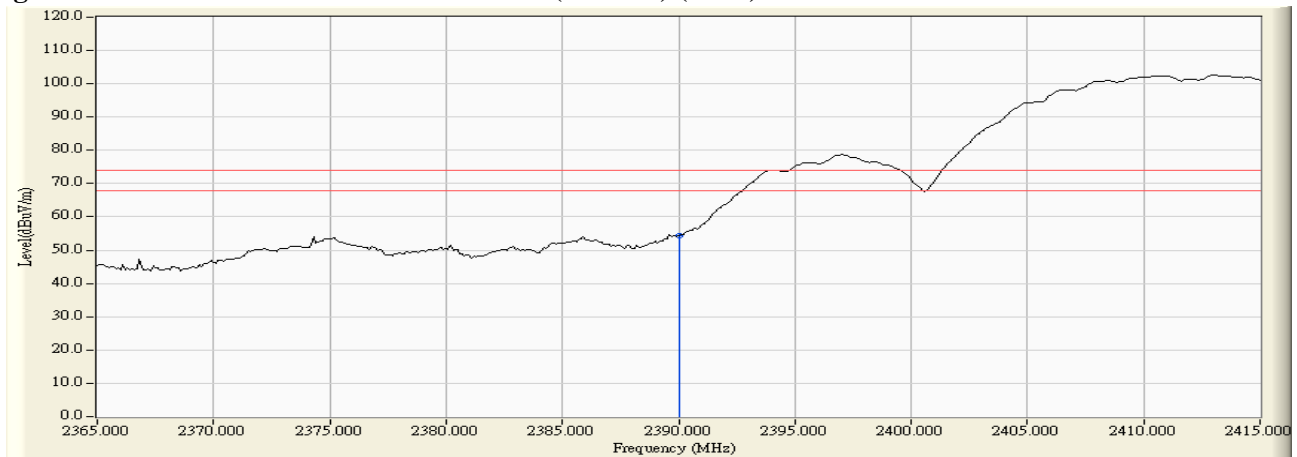
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

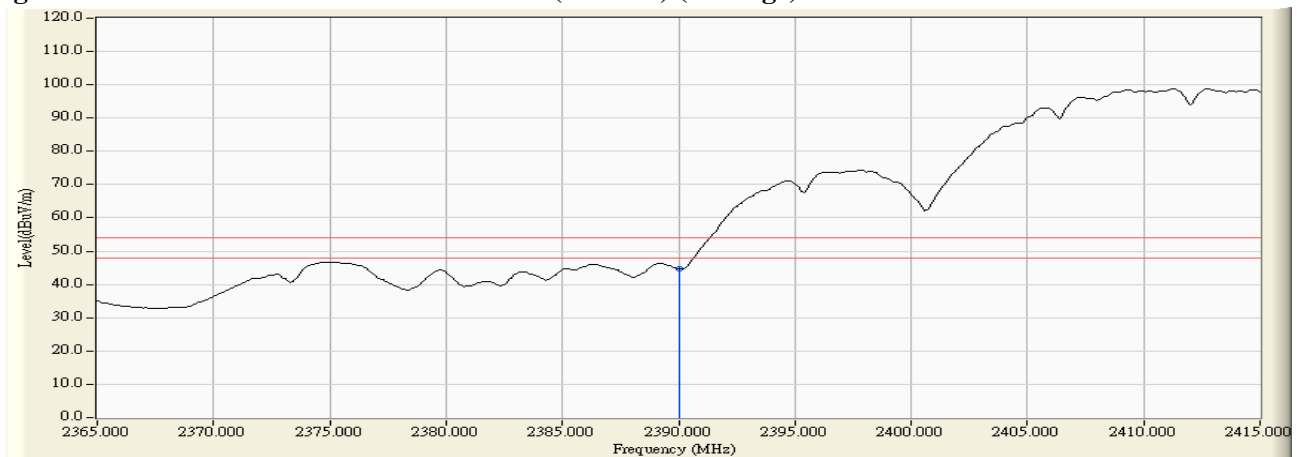
**RF Radiated Measurement (Vertical):**

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	-2.378	56.746	54.369	74.00	54.00	Pass
01 (Average)	2390.000	-2.378	47.015	44.638	74.00	54.00	Pass

**Figure Channel 01: (Vertical) (Peak)**



**Figure Channel 01: (Vertical) (Average)**



**Note:**

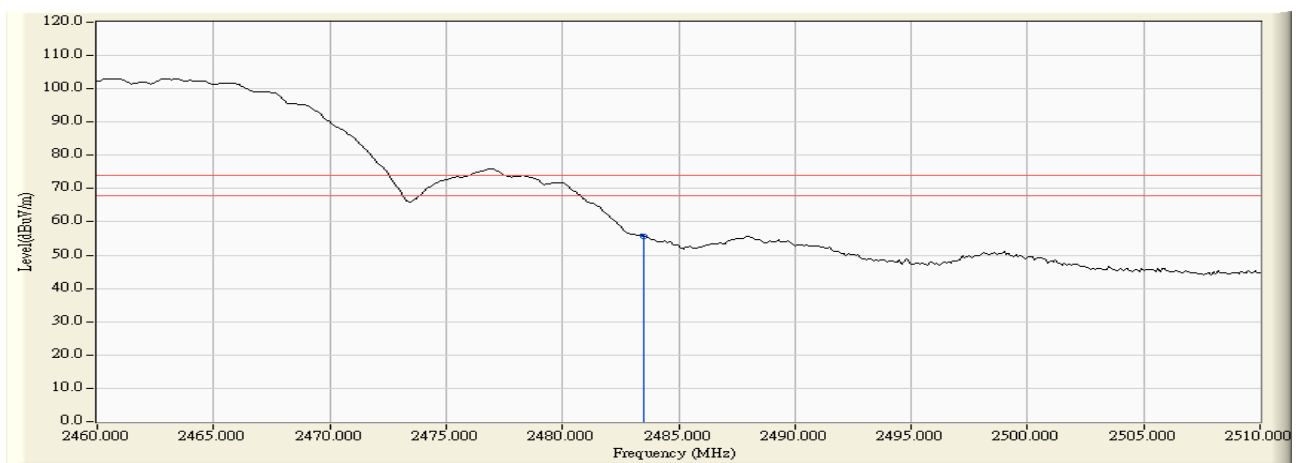
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2462MHz)

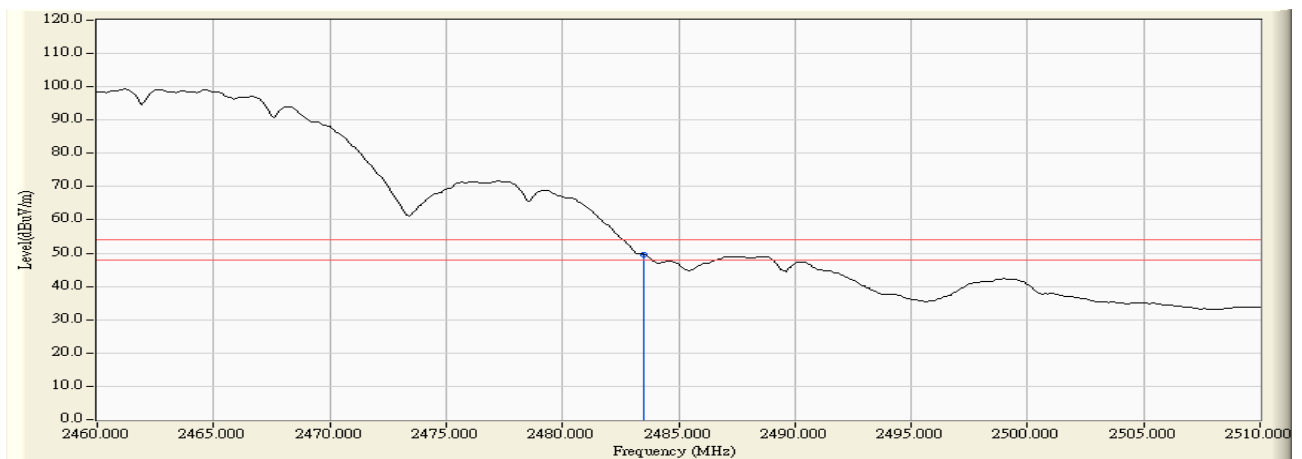
**RF Radiated Measurement (Horizontal):**

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)	2483.500	-1.937	57.655	55.718	74.00	54.00	Pass
11(Average)	2483.500	-1.937	51.552	49.615	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Figure Channel 11: Horizontal (Average)**



**Note:**

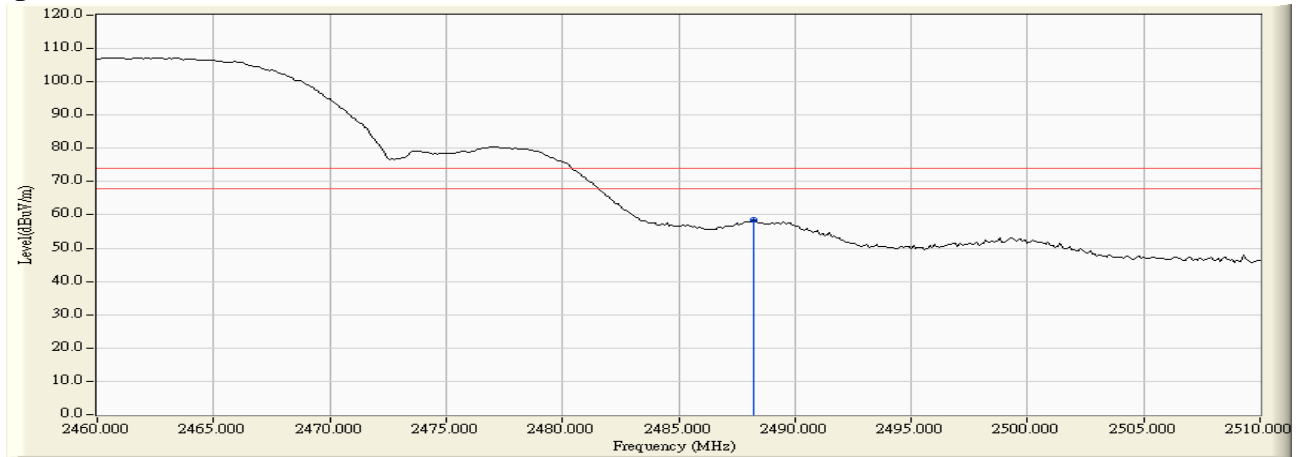
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2462MHz)

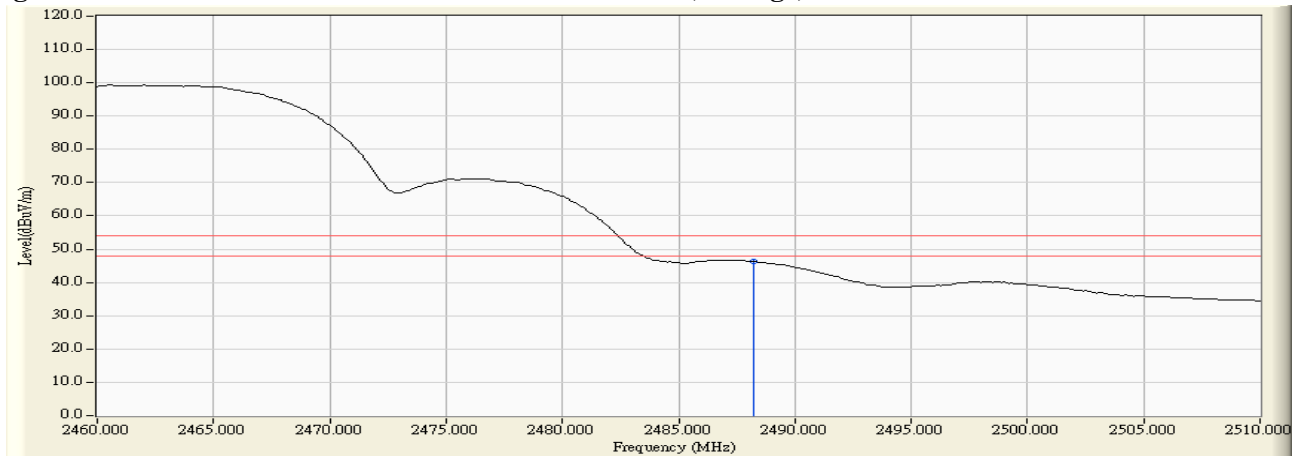
**RF Radiated Measurement (Vertical):**

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)	2488.200	-1.922	60.458	58.536	74.00	54.00	Pass
11(Average)	2488.200	-1.922	48.214	46.292	74.00	54.00	Pass

**Figure Channel 11: Vertical (Peak)**



**Figure Channel 11: Vertical (Average)**



**Note:**

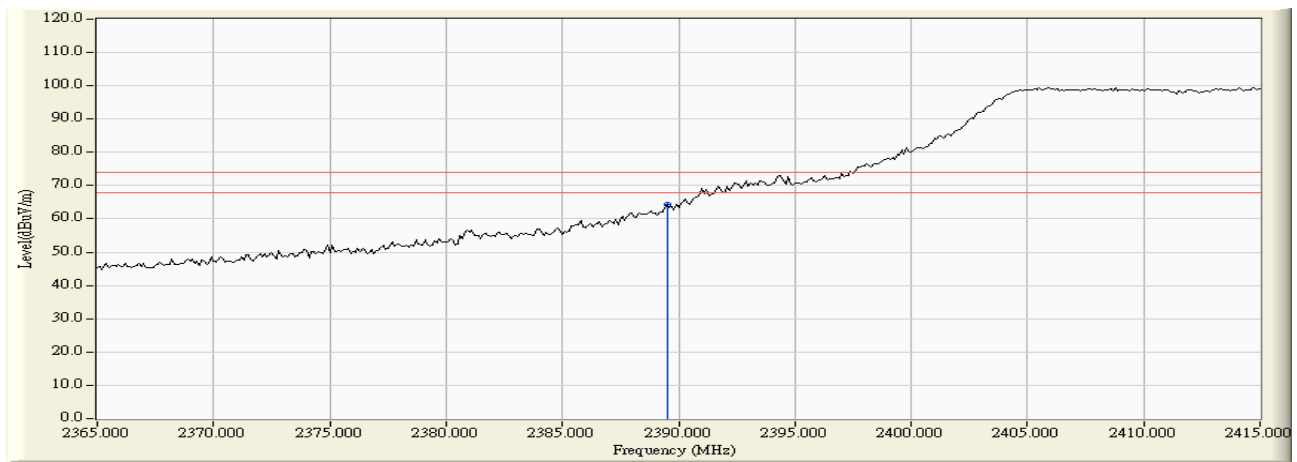
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2412MHz)

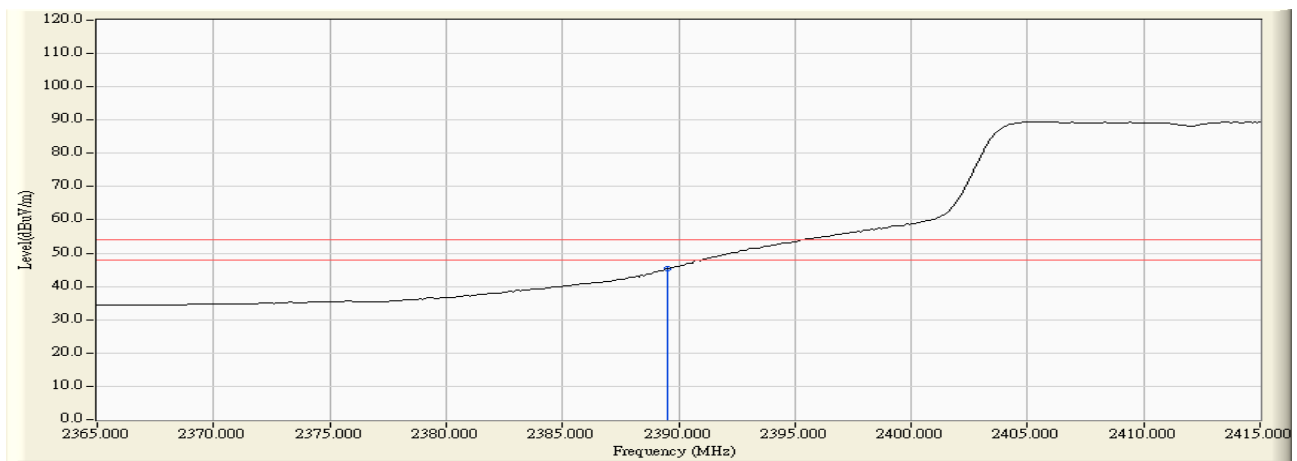
**RF Radiated Measurement (Horizontal):**

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)	2389.500	-2.379	66.792	64.412	74.00	54.00	Pass
01 (Average)	2389.500	-2.379	47.624	45.244	74.00	54.00	Pass

**Figure Channel 01: Horizontal (Peak)**



**Figure Channel 01: Horizontal (Average)**



**Note:**

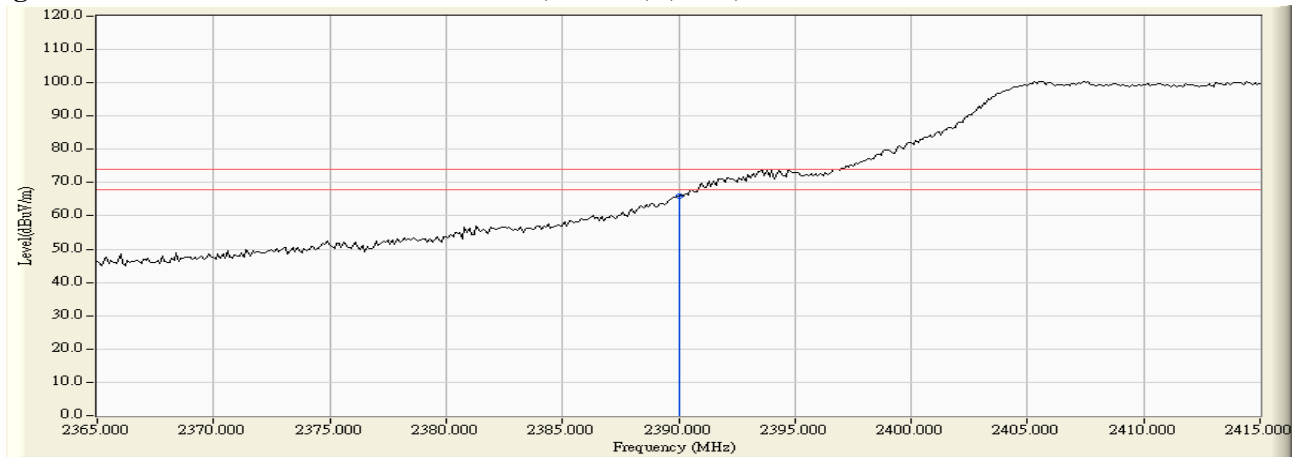
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2412MHz)

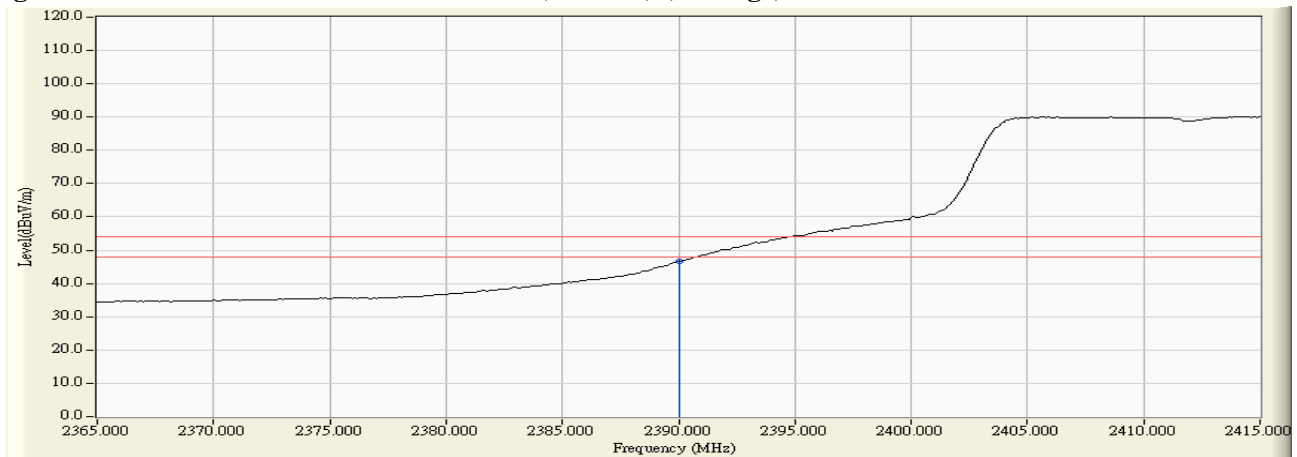
**RF Radiated Measurement (Vertical):**

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	-2.378	68.421	66.044	74.00	54.00	Pass
01 (Average)	2390.000	-2.378	48.979	46.602	74.00	54.00	Pass

**Figure Channel 01: (Vertical) (Peak)**



**Figure Channel 01: (Vertical) (Average)**



**Note:**

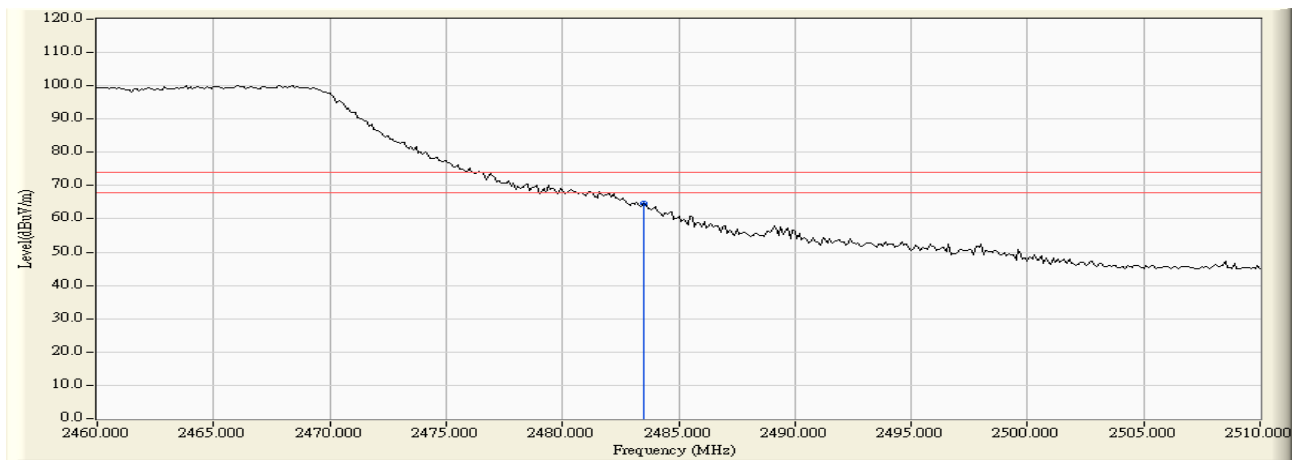
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2462MHz)

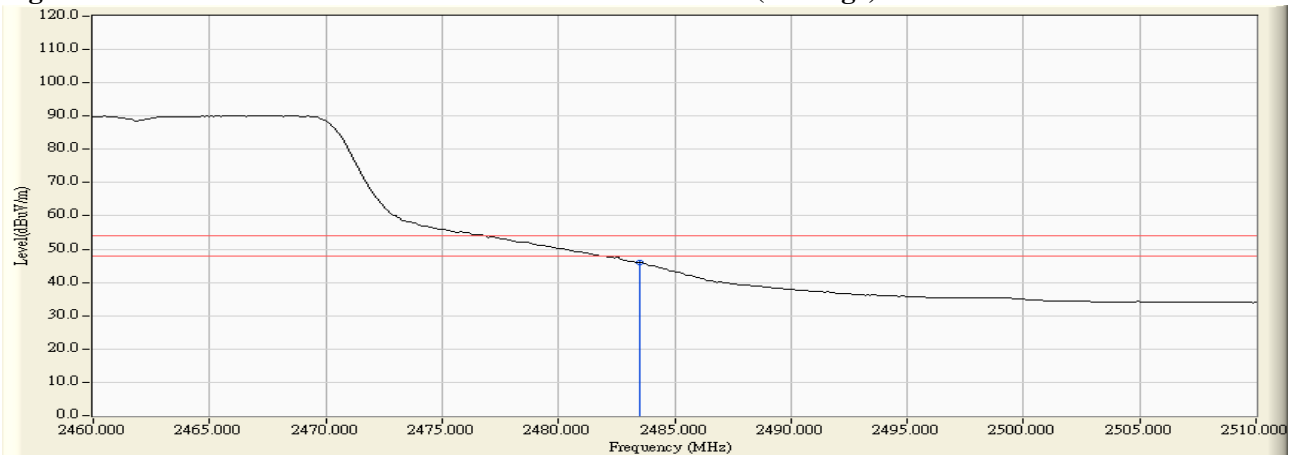
**RF Radiated Measurement (Horizontal):**

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)	2483.500	-1.937	66.559	64.622	74.00	54.00	Pass
11 (Average)	2483.500	-1.937	47.865	45.928	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Figure Channel 11: Horizontal (Average)**



**Note:**

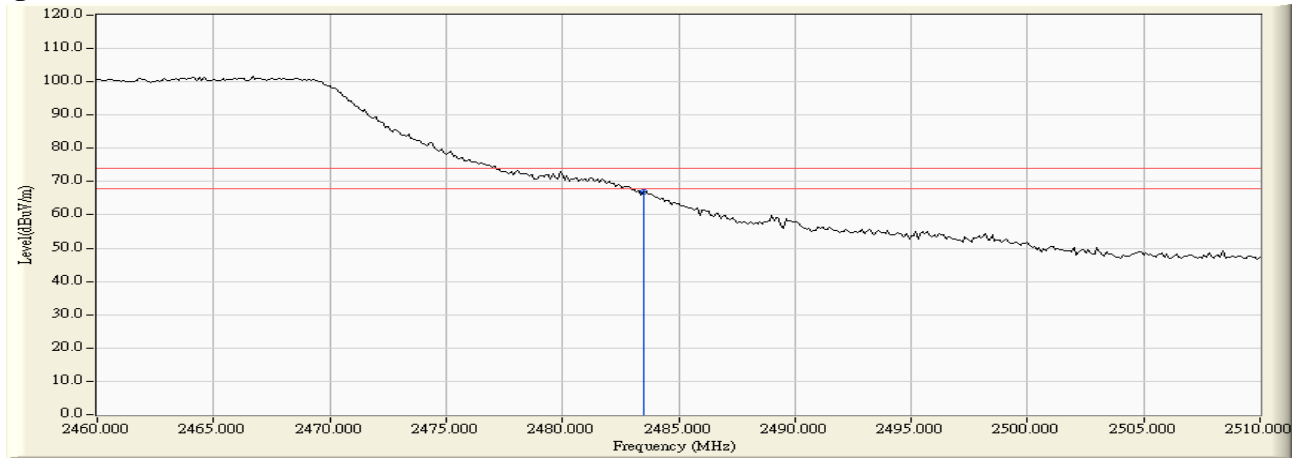
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2462MHz)

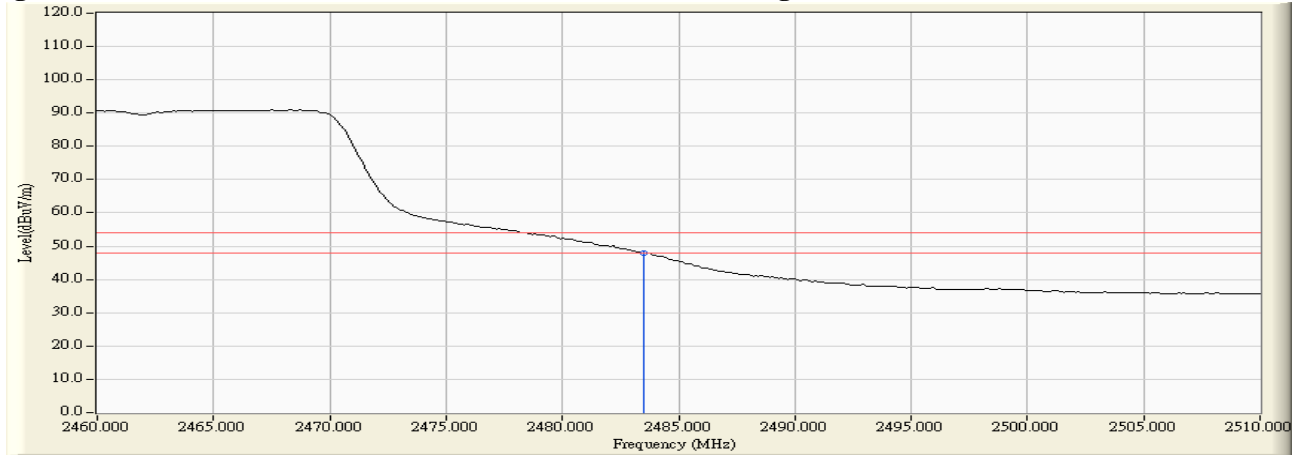
**RF Radiated Measurement (Vertical):**

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)	2483.500	-1.937	68.893	66.956	74.00	54.00	Pass
11(Average)	2483.500	-1.937	49.870	47.933	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.

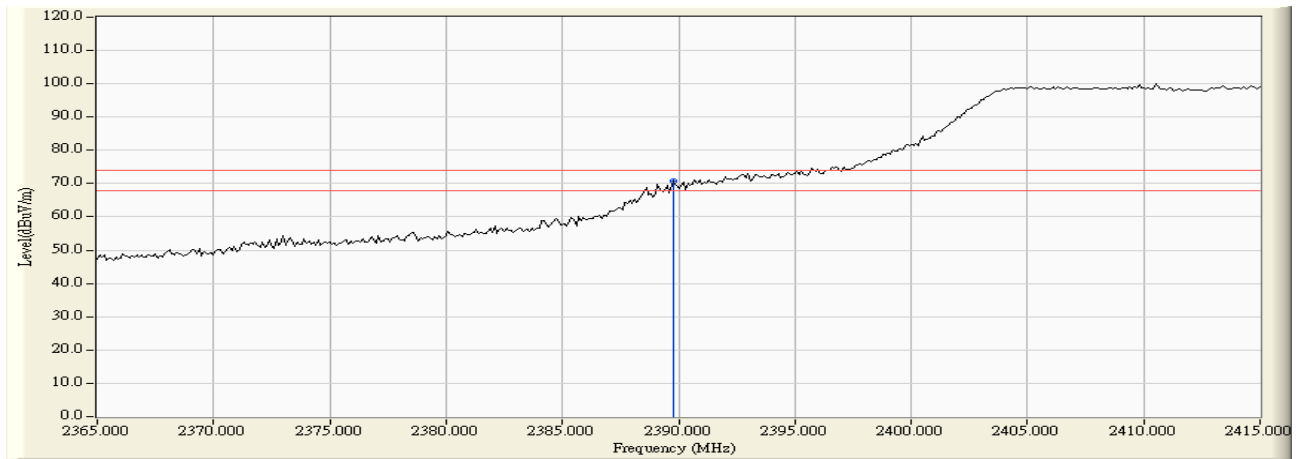


Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2412MHz)

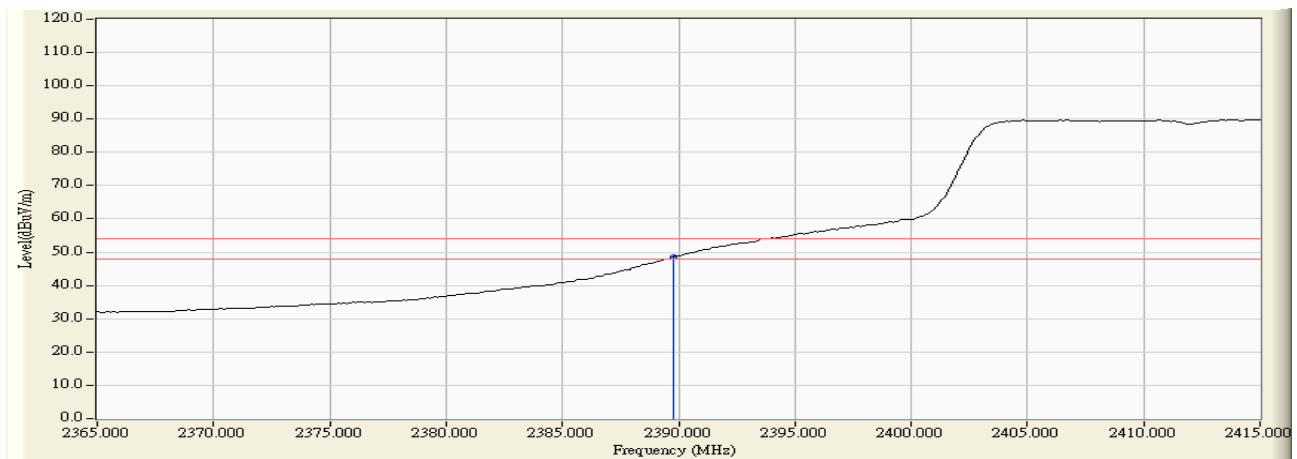
**RF Radiated Measurement (Horizontal):**

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)	2389.800	-2.378	73.195	70.817	74.00	54.00	Pass
01 (Average)	2389.800	-2.378	50.947	48.569	74.00	54.00	Pass

**Figure Channel 01: Horizontal (Peak)**



**Figure Channel 01: Horizontal (Average)**



**Note:**

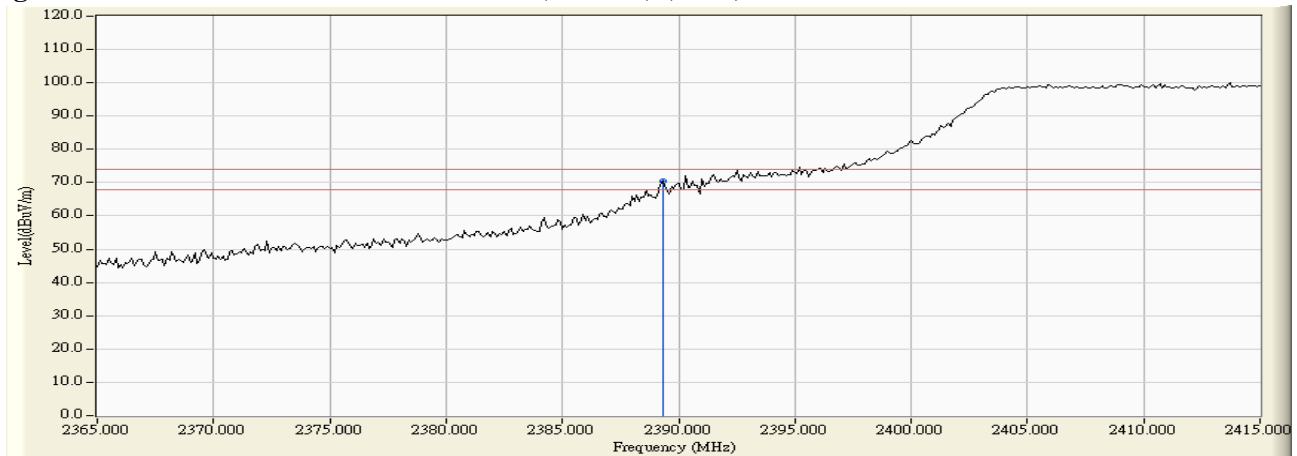
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2412MHz)

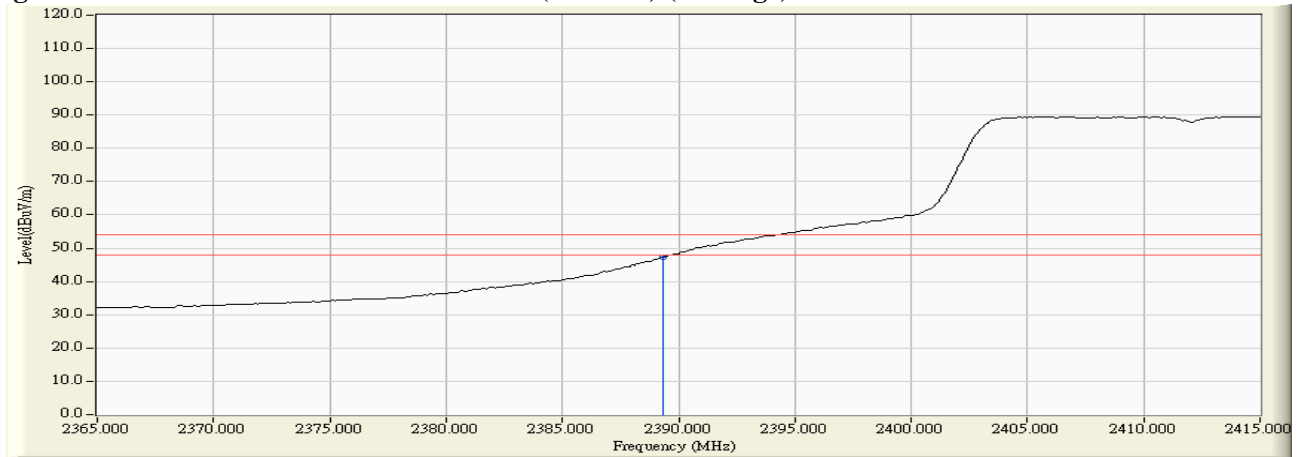
**RF Radiated Measurement (Vertical):**

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)	2389.300	-2.381	72.949	70.568	74.00	54.00	Pass
01 (Average)	2389.300	-2.381	49.700	47.319	74.00	54.00	Pass

**Figure Channel 01: (Vertical) (Peak)**



**Figure Channel 01: (Vertical) (Average)**



**Note:**

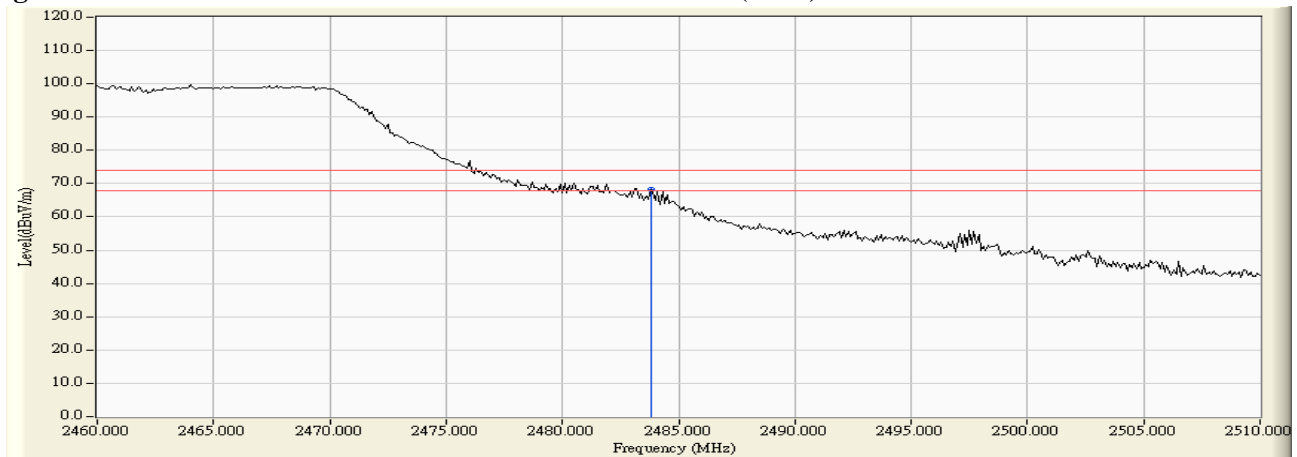
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2462MHz)

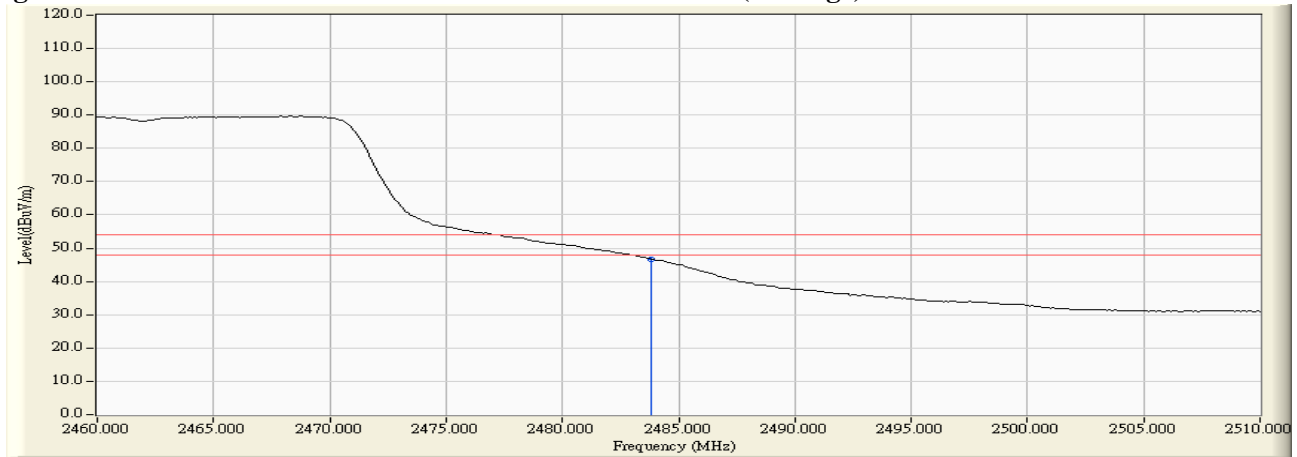
**RF Radiated Measurement (Horizontal):**

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)	2483.800	-1.936	70.228	68.292	74.00	54.00	Pass
11 (Average)	2483.800	-1.936	48.732	46.796	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Figure Channel 11: Horizontal (Average)**



**Note:**

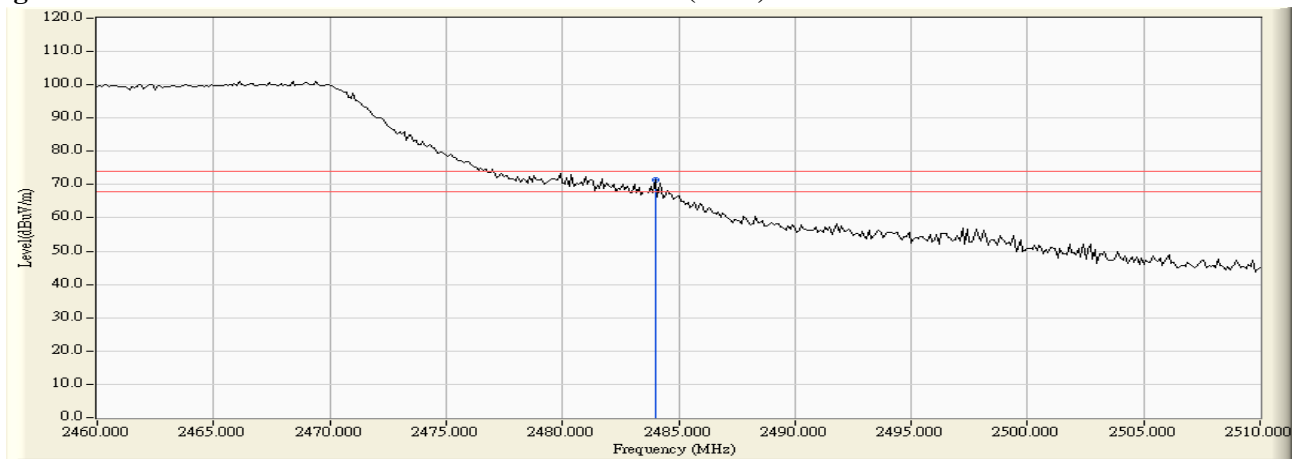
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS7 65Mbps 20M-BW) (2462MHz)

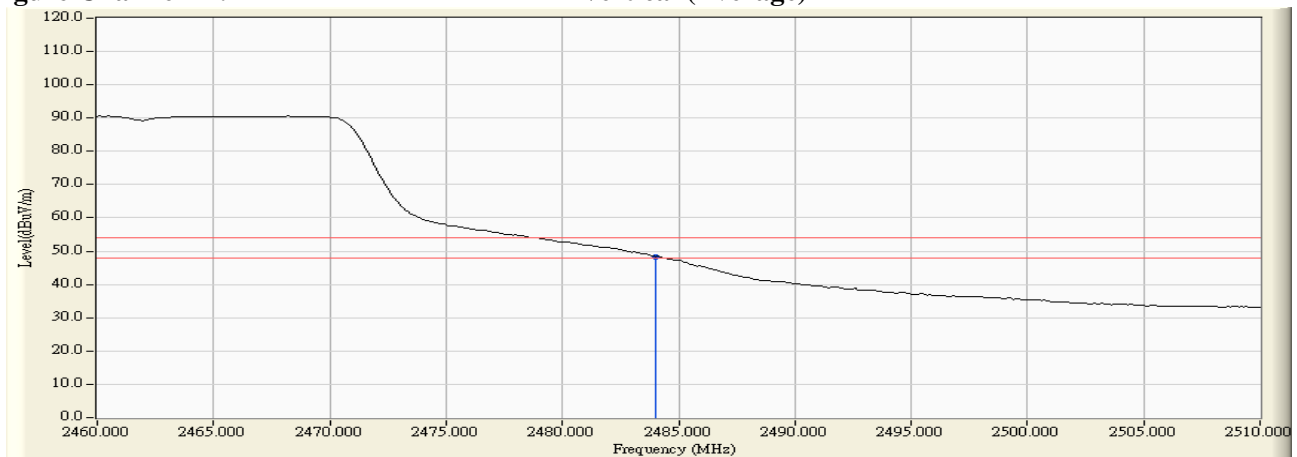
**RF Radiated Measurement (Vertical):**

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)	2484.000	-1.935	73.230	71.295	74.00	54.00	Pass
11 (Average)	2484.000	-1.935	50.318	48.383	74.00	54.00	Pass

**Figure Channel 11: Vertical (Peak)**



**Figure Channel 11: Vertical (Average)**



**Note:**

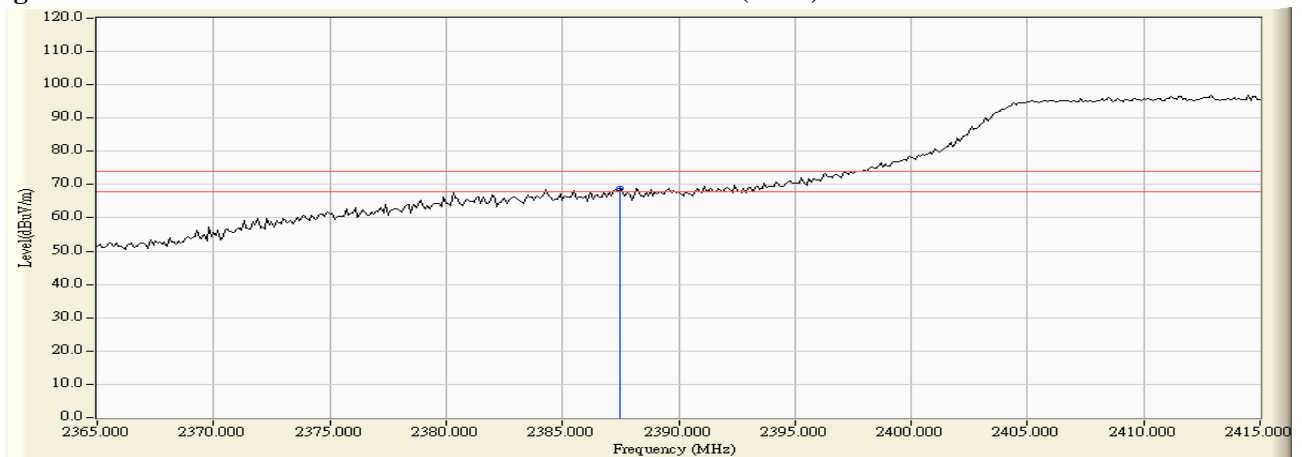
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2422MHz)

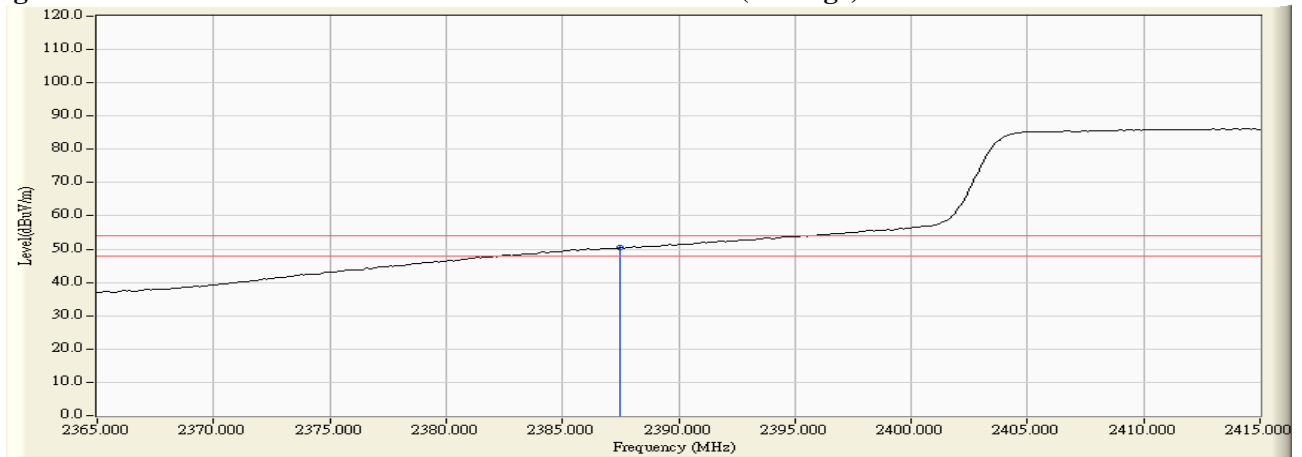
**RF Radiated Measurement (Horizontal):**

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)	2387.500	-2.390	71.237	68.848	74.00	54.00	Pass
01 (Average)	2387.500	-2.390	52.775	50.386	74.00	54.00	Pass

**Figure Channel 01: Horizontal (Peak)**



**Figure Channel 01: Horizontal (Average)**



**Note:**

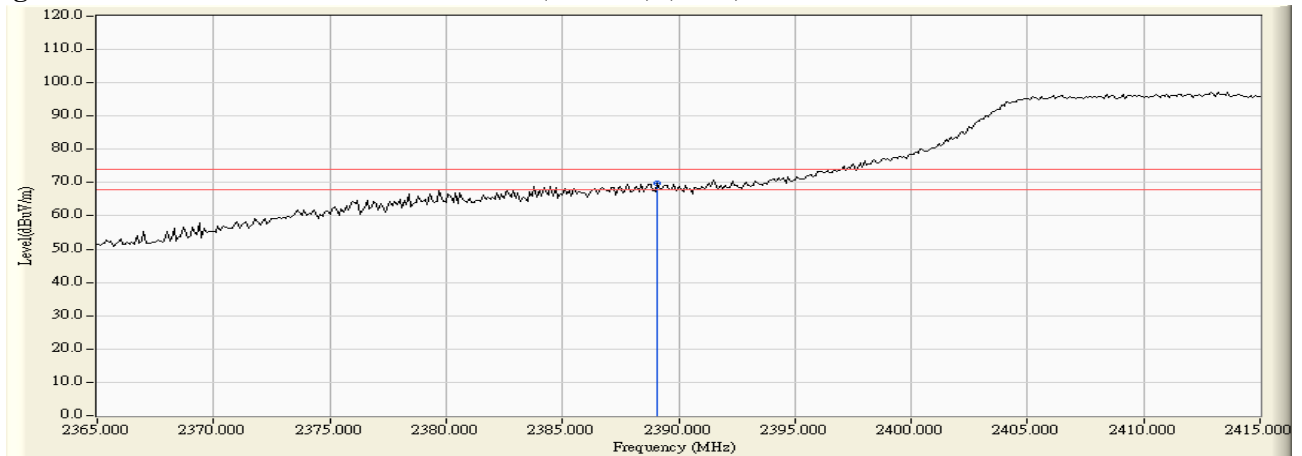
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2422MHz)

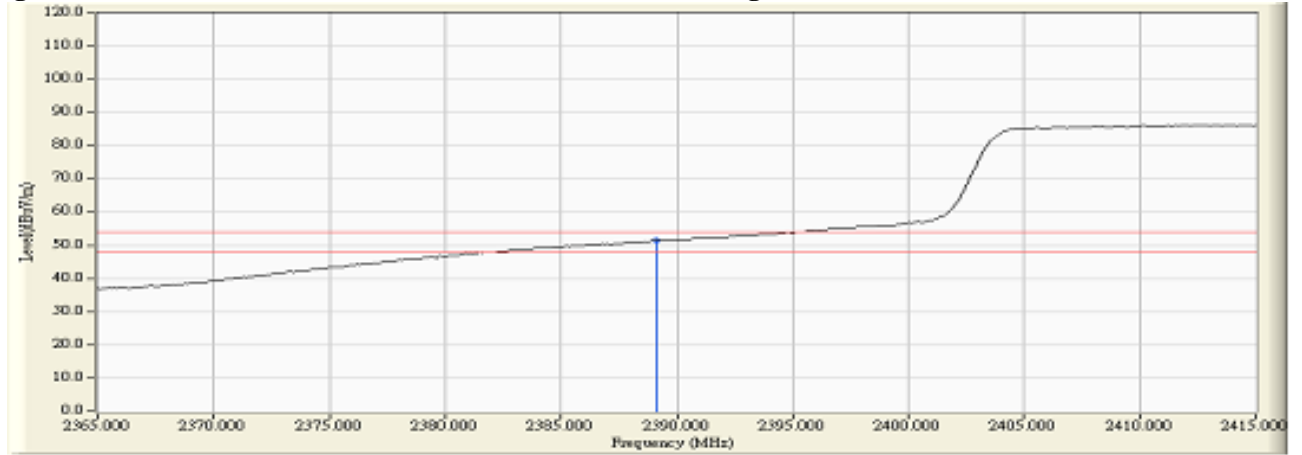
**RF Radiated Measurement (Vertical):**

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)	2389.100	-2.382	72.300	69.918	74.00	54.00	Pass
01 (Average)	2389.100	-2.382	53.791	51.409	74.00	54.00	Pass

**Figure Channel 01: (Vertical) (Peak)**



**Figure Channel 01: (Vertical) (Average)**



**Note:**

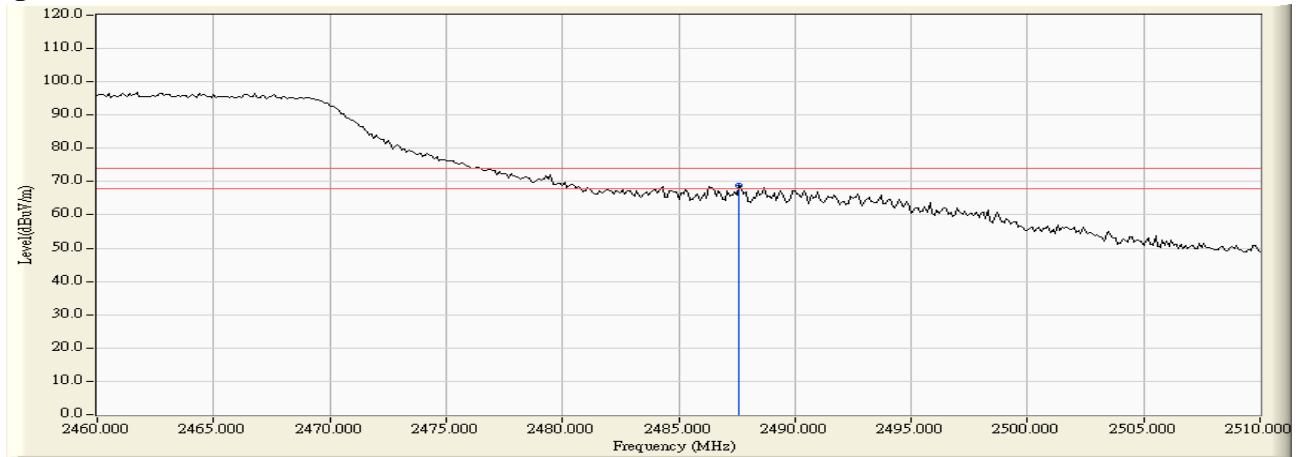
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2452MHz)

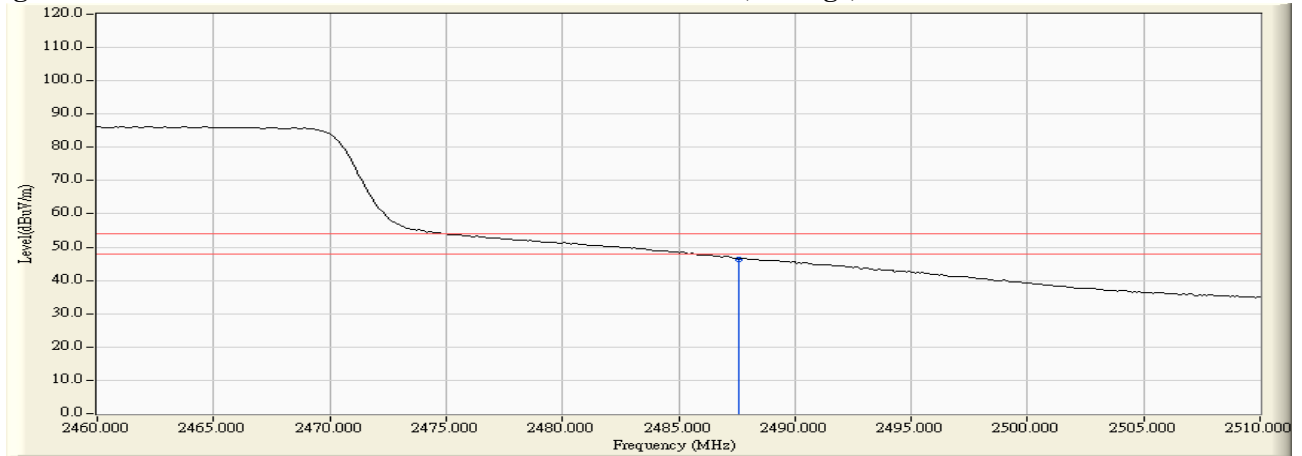
**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
07 (Peak)	2487.600	-1.925	70.724	68.800	74.00	54.00	Pass
07 (Average)	2487.600	-1.925	48.326	46.402	74.00	54.00	Pass

**Figure Channel 07: Horizontal (Peak)**



**Figure Channel 07: Horizontal (Average)**



**Note:**

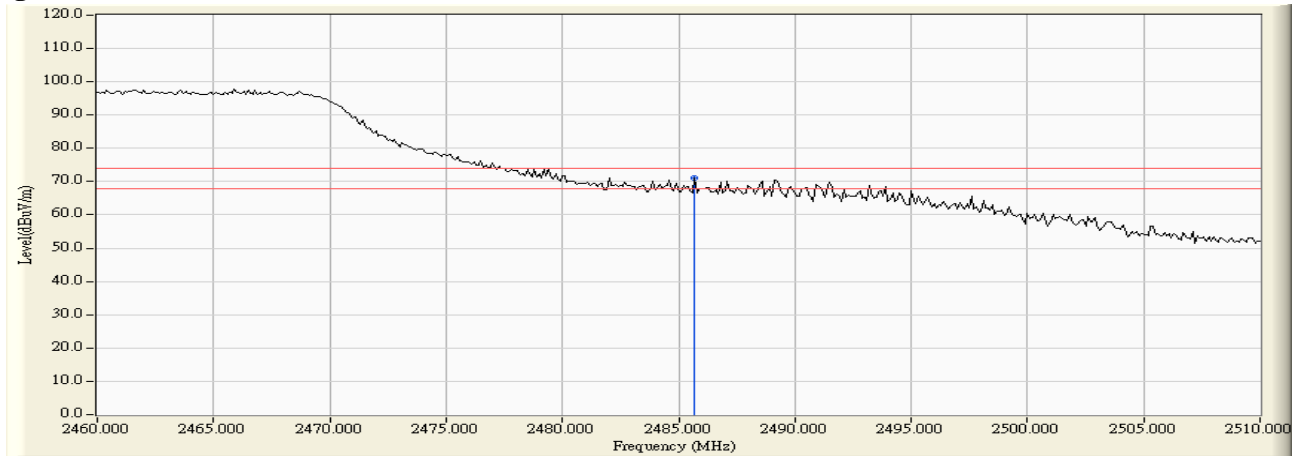
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading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

Product : Booktop  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS7 13.5Mbps 40M-BW) (2452MHz)

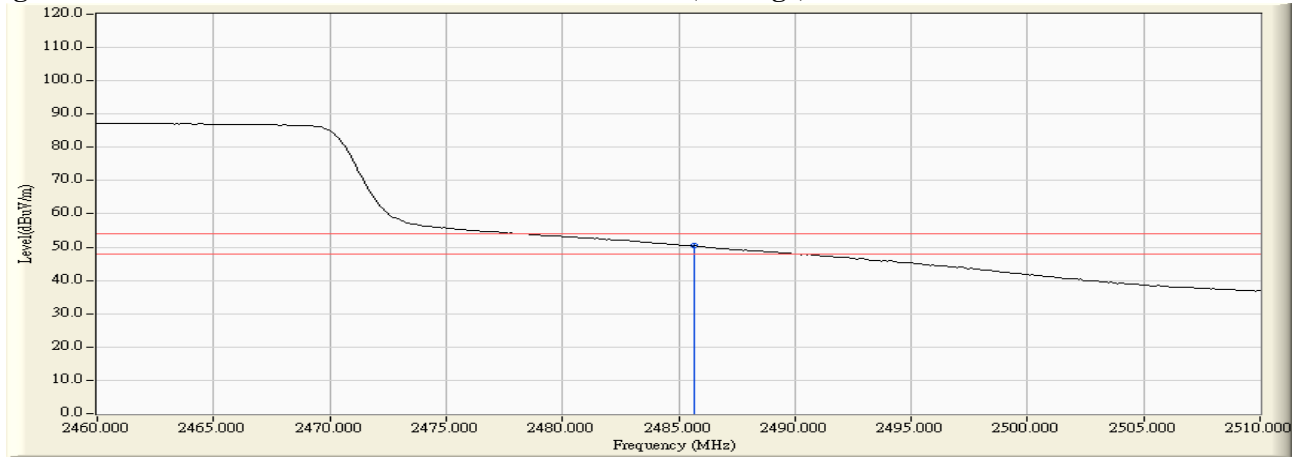
**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
07 (Peak)	2485.700	-1.929	72.947	71.017	74.00	54.00	Pass
07 (Average)	2485.700	-1.929	52.314	50.384	74.00	54.00	Pass

**Figure Channel 07: Vertical (Peak)**



**Figure Channel 07: 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.