FCC TEST REPORT

REPORT NO.:SE08FCI0A2R

MODEL NO.: W54U

RECEIVED: Apr 09, 2008

TESTED: Apr 09, 2008 to Apr 16, 2008

APPLICANT: SHENZHEN TENDA TECHNOLOGY CO.,LTD

ADDRESS: 3F, Moso Industrial Building, NO.1031, Liming Road, Xili Town, Nanshan District, Shenzhen, P.R. CHINA

ISSUED BY: SHENZHEN SETEK TECHNOLOGY CO., LTD.

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Prepared for	:	SHENZHEN TENDA TECHNOLOGY CO.,LTD
Address	:	3F, Moso Industrial Building, NO.1031, Liming Road, Xili Town, Nanshan District, Shenzhen, P.R. CHINA
Product	:	54M Wireless USB Adapter
Model No.	:	W54U
Trademark	:	Tenda
Test Standard	:	FCC Part 15 Paragraph 15.207, Paragraph 15.209 and Paragraph 15.247
Prepared by	:	SHENZHEN SETEK TECHNOLOGY CO., LTD.
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Prepared by	:	(Engineer)
Reviewer by	:	(Project Engineer)
Approved by	:	(Manager)

Report Number	:	SE08FCI0A2R
Date of Test	:	Apr 09, 2008 to Apr 16, 2008
Date of Report	:	Apr 16, 2008

The device described above is tested by SHENZHEN SETEK TECHNOLOGY CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report applies to above tested sample only and shall not be reproduced in part without written approval of SHENZHEN SETEK TECHNOLOGY CO., LTD.

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APPENDIX I (Photos of EUT) (2 Pages)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

Applicant	:	SHENZHEN TENDA TECHNOLOGY CO.,LTD
Address	:	3F, Moso Industrial Building, NO.1031, Liming Road, Xili Town, Nanshan District, Shenzhen, P.R. CHINA
Manufacturer	:	SHENZHEN TENDA TECHNOLOGY CO.,LTD
Address	:	3F, Moso Industrial Building, NO.1031, Liming Road, Xili Town, Nanshan District, Shenzhen, P.R. CHINA
EUT	:	54M Wireless USB Adapter
Model Number	:	W54U
Description of Antenna	:	fixed, built-in antenna, 2.0dBi
Power Supply	:	from USB port of PC
Operation Frequency	:	802.11b mode: 2412 MHz ~ 2462 MHz 802.11g mode: 2412 MHz ~ 2462 MHz
Number of Channels	:	11
Type of Modulation	:	802.11b mode: CCK 802.11g mode: OFDM
Transmit Data Rate	:	802.11b: 11Mbps(CCK) with fall back rates of 5.5, 2, and 1Mbps; 802.11g: 54Mbps(OFDM) with fall back rates of 48/36/24/18/12/9/6 Mbps
Received	:	Apr 09, 2008
Date of Test	:	Apr 09, 2008 to Apr 16, 2008

1.2.Description Of Test Modes

The EUT has been tested under operating condition.
Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 11Mbps data rate (worst case) are chosen for the final testing.
IEEE802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 54Mbps data rate (worst case) are chosen for the final testing.

1.3.Description of Support Device

PC	:	Manufacturer: DELL M/N: E157FPc S/N: 53SM12X CCC,FCC,VCCI,GS,S,CE
Monitor	:	Manufacturer: SAMSUNG M/N: 710MP [R]S S/N: MH17HVY500468F CCC,SA,UL
Mouse	:	Manufacturer: DELL M/N: M056UOA S/N: F1101WOS CE, VCCI,FCC,GS,UL
Keyboard	:	Manufacturer: DELL M/N: SK-8135 S/N: CN-0DJ340-71616683-01U6 VCCI,CE, FCC

1.4.Summary of test results

FCC Rules	Description Of Test	Result
15.203/15.247(b)/(c)	Antenna Requirement	Pass
15.207	Conducted Emission	Pass
15.247	6dB Bandwidth	Pass
15.247(b)(1)	Maximum Peak Output Power	Pass
15.247(c)	Band Edges Emission	Pass
15.247(d)	Peak Power Spectral Density	Pass
15.247(d)	Spurious Radiated Emission	Pass

1.5. List of Measuring Equipments Used

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4408B	MY44210575	May 29,2007	1 Year
2.	Test Receiver	Rohde & Schwarz	ESIB26	100234	May 29,2007	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	142	May 29,2007	1 Year
4.	Loop Antenna	EMCO	6502	00042960	Dec 11,2007	1 Year
5.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	May 29,2007	1 Year
6.	Cable	Schwarzbeck	AK9513(1m)	CR RX2	May 29,2007	1 Year
7.	Cable	Schwarzbeck	AK9513(10m)	AC RX1	May 29,2007	1 Year
8.	Cable	Rosenberger	N/A(6m)	CR RX1	May 29,2007	1 Year
9.	Cable	Rosenberger	N/A(10m)	FP2RX2	May 29,2007	1 Year
9.	DC Power Filter	MPE	23872C	N/A	May 29,2007	1 Year
10.	Single Phase Power Line Filter	MPE	23332C	N/A	May 29,2007	1 Year
11.	3 Phase Power Line Filter	MPE	23333C	N/A	May 29,2007	1 Year
12.	Signal Generator	HP	8648A	3625U00573	May 29,2007	1 Year
13.	Test Receiver	Rohde & Schwarz	ESCS30	100350	May 29,2007	1 Year
14.	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	May 29,2007	1 Year
15.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	May 29,2007	1 Year
16.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	May 29,2007	1 Year

1.6. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC – Registration No.: 966959

SHENZHEN SETEK TECHNOLOGY CO., LTD, the EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission.

1.7.Measurement Uncertainty

Radiation Uncertainty	:	Ur = ±3.84dB
Conduction Uncertainty	:	Uc = ±2.72dB

2. ANTENNA REQUIREMENT

2.1. Standard Applicable

Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so
that a broken antenna can be replaced by the user, but the use of a standard antenna James or electrical connector is prohibited.

Section 15.247(b)/(c):

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the
antenna exceeds 6 dBi.

If the intentional radiator is used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output
power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the
antenna exceeds 6 dBi.

2.2. Antenna Connected Construction

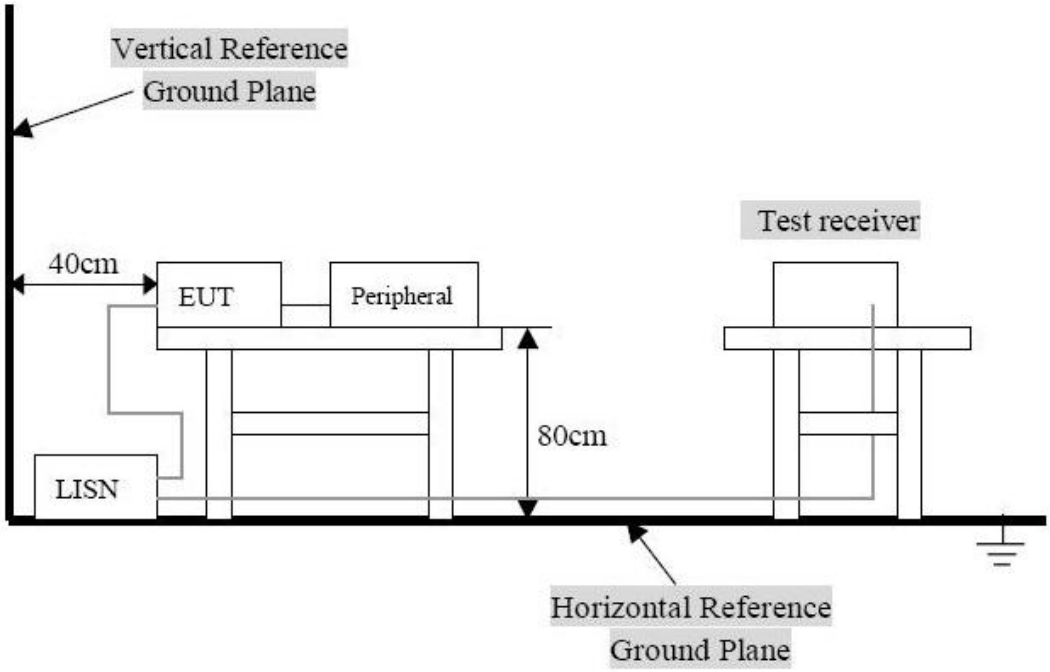
The antenna connector is designed with permanent attachment and no consideration of replacement.

3. POWER LINE CONDUCTED MEASUREMENT

3.1.Test Equipment

See section 1.4.

3.2.Block Diagram of Test Setup



Remark: 1. The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC 15.207 limits.

3.3.Power Line Conducted Emission Measurement Limits(Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4.Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

EUT	54M Wireless USB Adapter
Model Number	W54U

3.5.Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 2.2.
3.5.2. Turn on the power of all equipment.
3.5.3. Let the EUT work in test mode (Normal) and measure it.

3.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm-coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9KHz.

The frequency range from 150KHz to 30 MHz is investigated.

3.7.Power Line Conducted Emission Measurement Results

PASS

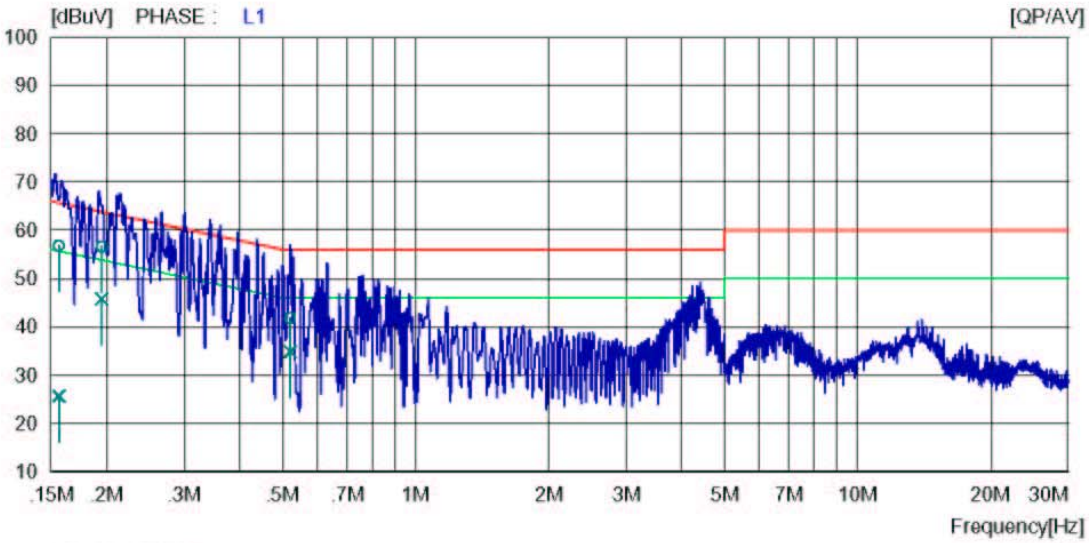
2008-04-14 16:24:50

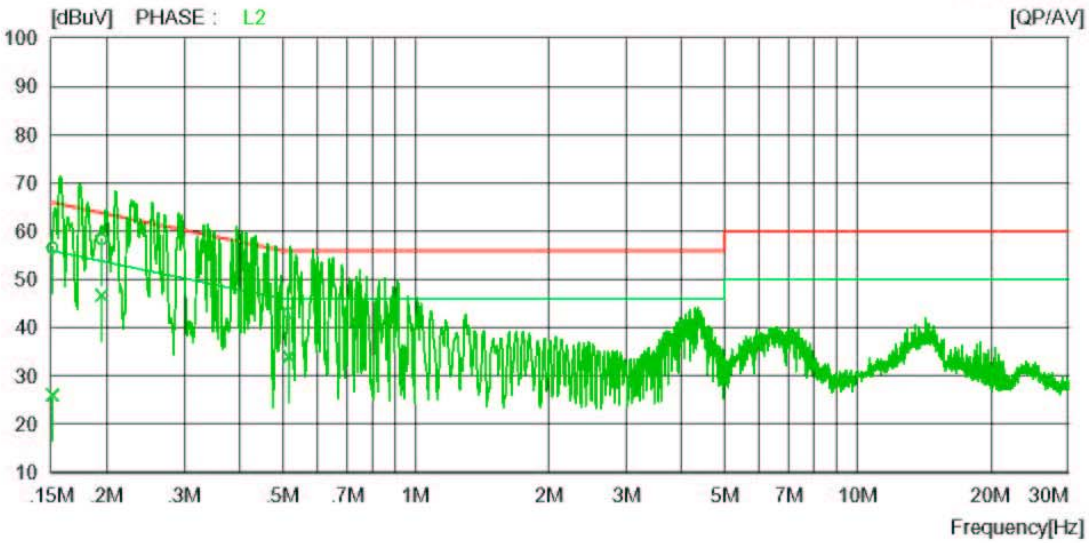
Conducted Emission

Date : 2008-04-14 16:24:43

Trade Name	:	TENDA	Document No.	:	
Model Name	:	54M Wireless USB Adapter	Power Supply	:	AC230V/50Hz
Serial No.	:		Temp/Humi	:	27deg / 69%RH
Test condition	:	Normal	Operator	:	Eliy zhang
Memo	:	M/N:W54U			

LIMIT : EN55022(QP)
EN55022(AV)





2008-04-14 16:24:51

Conducted Emission

Date : 2008-04-14 16:24:43

Trade Name	:	TENDA	Document No.	:	
Model Name	:	54M Wireless USB Adapter	Power Supply	:	AC230V/50Hz
Serial No.	:		Temp/Humi	:	27deg / 69%RH
Test condition	:	Normal	Operator	:	Eliy zhang

Memo : M/N:W54U

LIMIT : EN55022(QP)
EN55022(AV)

NO	FREQ	READING		C.FACTOR	RESULT		LIMIT		MARGIN		PHASE
		QP	AV		QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15600	46.7	15.5	10.1	56.8	25.6	65.7	55.7	8.9	30.1	L1
2	0.19500	46.5	35.7	10.1	56.6	45.8	63.8	53.8	7.2	8.0	L1
3	0.52100	31.7	24.7	10.1	41.8	34.8	56.0	46.0	14.2	11.2	L1
4	0.15100	46.5	15.9	10.1	56.6	26.0	65.9	55.9	9.3	29.9	L2
5	0.19500	48.2	36.7	10.1	58.3	46.8	63.8	53.8	5.5	7.0	L2
6	0.51700	32.9	23.9	10.1	43.0	34.0	56.0	46.0	13.0	12.0	L2

4. 6DB BANDWIDTH

4.1 Applicable Standard

Section 15.247:
For the direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

4.2 EUT Setup

Spectrum

4.3 Test Equipment List and Details

See section 1.4.

4.4 Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Set the spectrum analyzer as RBW = 100kHz, VBW = RBW, Span = 20MHz, Sweep = auto.
3. Set Detector to Peak, Trace to Max Hold and Sweep Time is Auto.
4. Mark the peak frequency and –6dB (upper and lower) frequency.
5. Repeat above 1~3 points for the middle and highest channel of the EUT.

4.5 Test Result

Temperature (℃) : 22~23	EUT: 54M Wireless USB Adapter
Humidity (%RH): 50~54	M/N: W54U
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx/Rx Mode
Test data: Apr 09, 2008	Test engineer: James

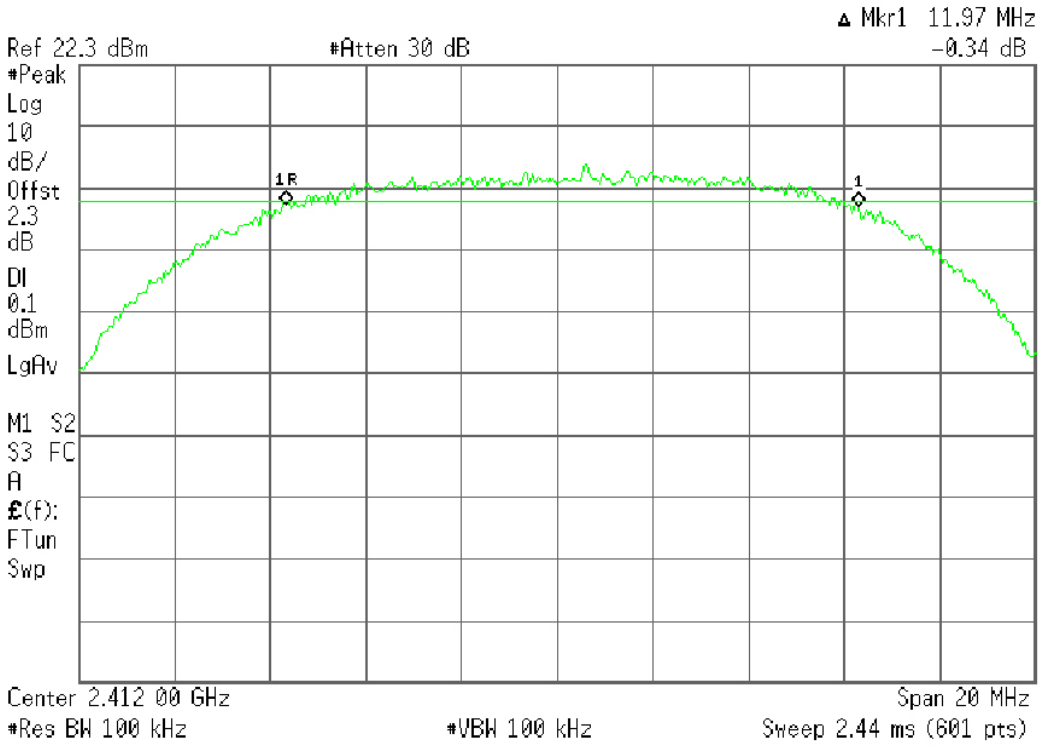
Test mode: IEEE 802.11b

Channel No.	Frequency (MHz)	6dB Bandwidth (kHz)	Min. Limit (kHz)
LOW	2412	11970	>500
MID	2437	11770	>500
HIG	2462	12100	>500

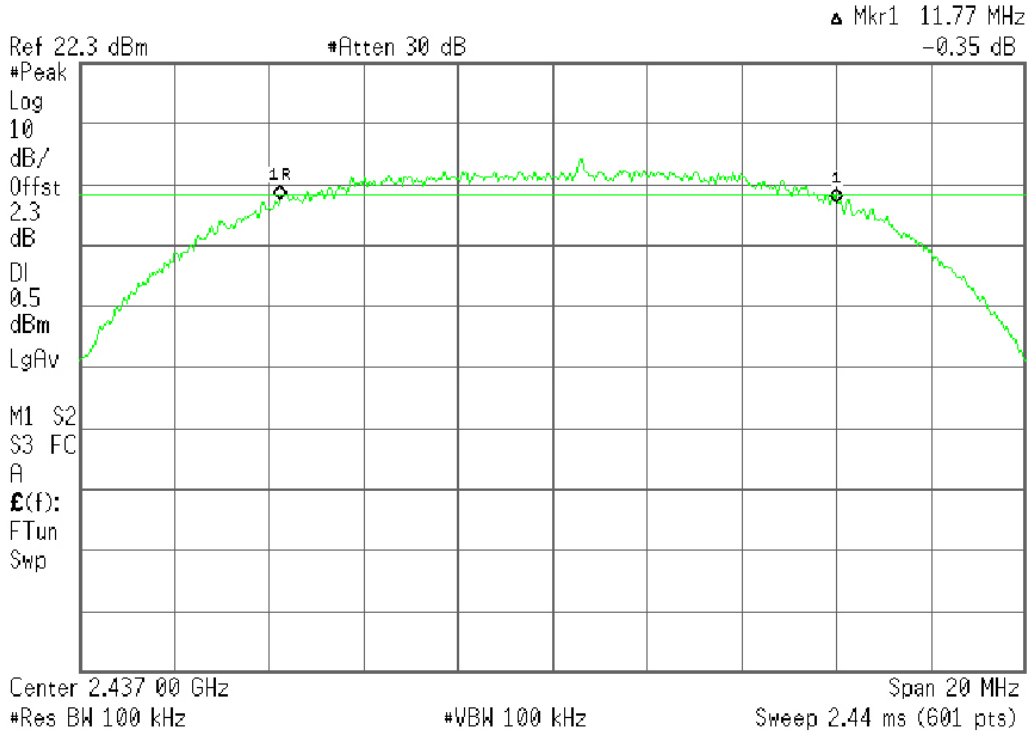
Test mode: IEEE 802.11g

Channel No.	Frequency (MHz)	6dB Bandwidth (kHz)	Min. Limit (kHz)
LOW	2412	16530	>500
MID	2437	16530	>500
HIG	2462	16570	>500

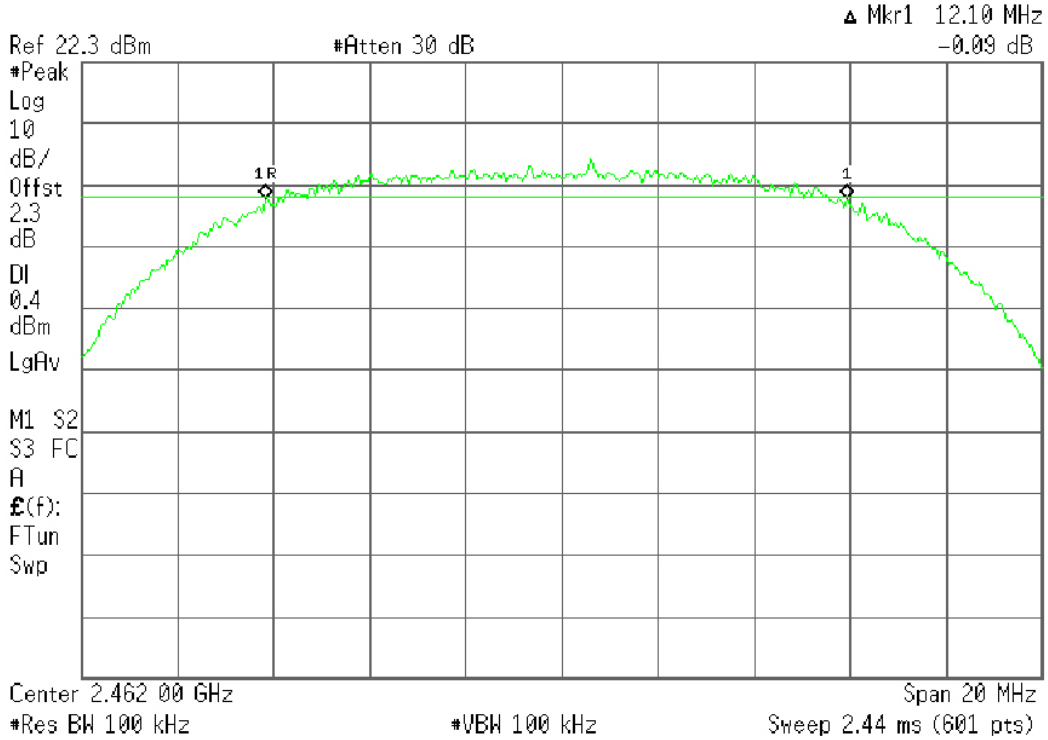
802.11b mode
Channel Low：



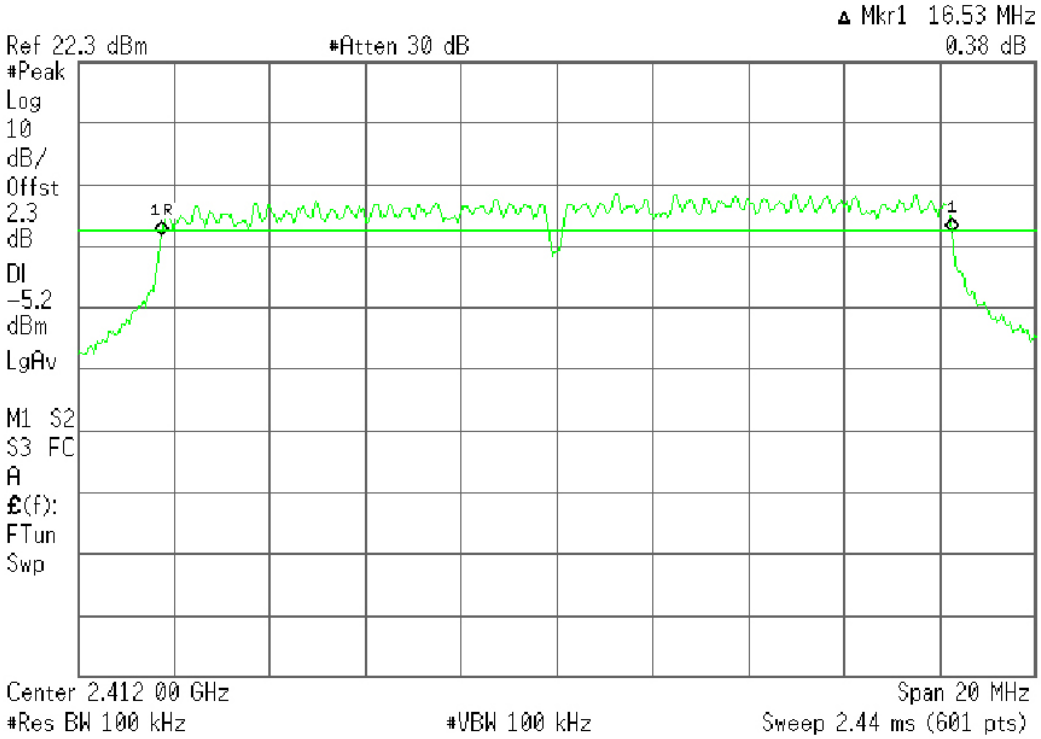
Channel MID：



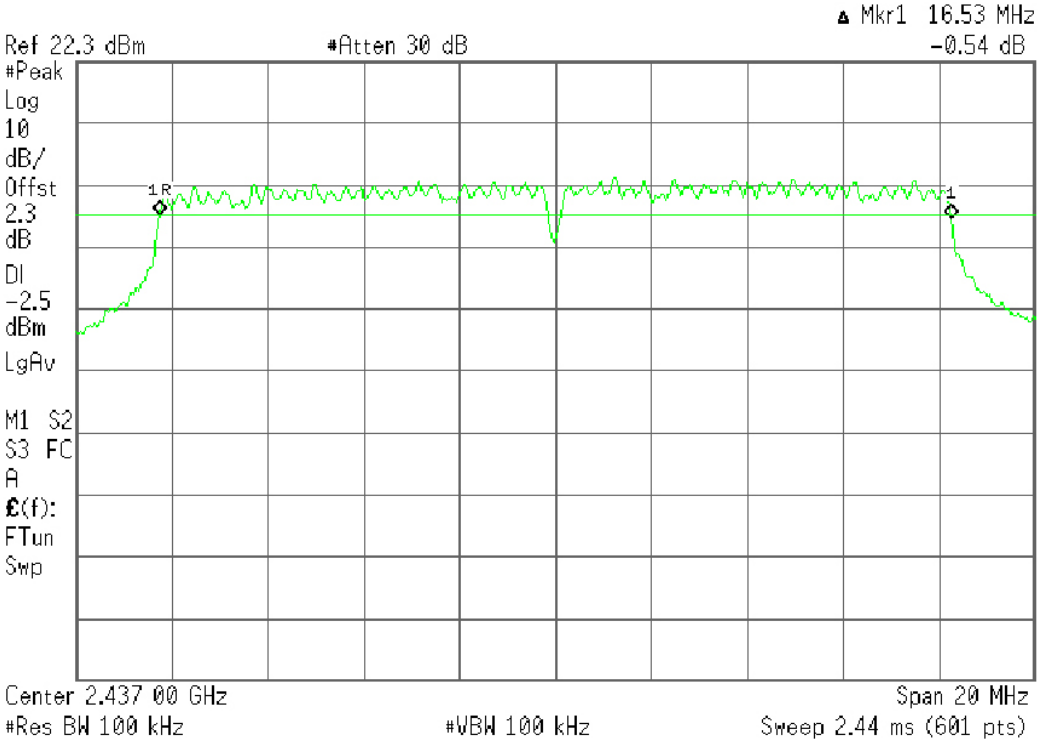
Channel HIG：



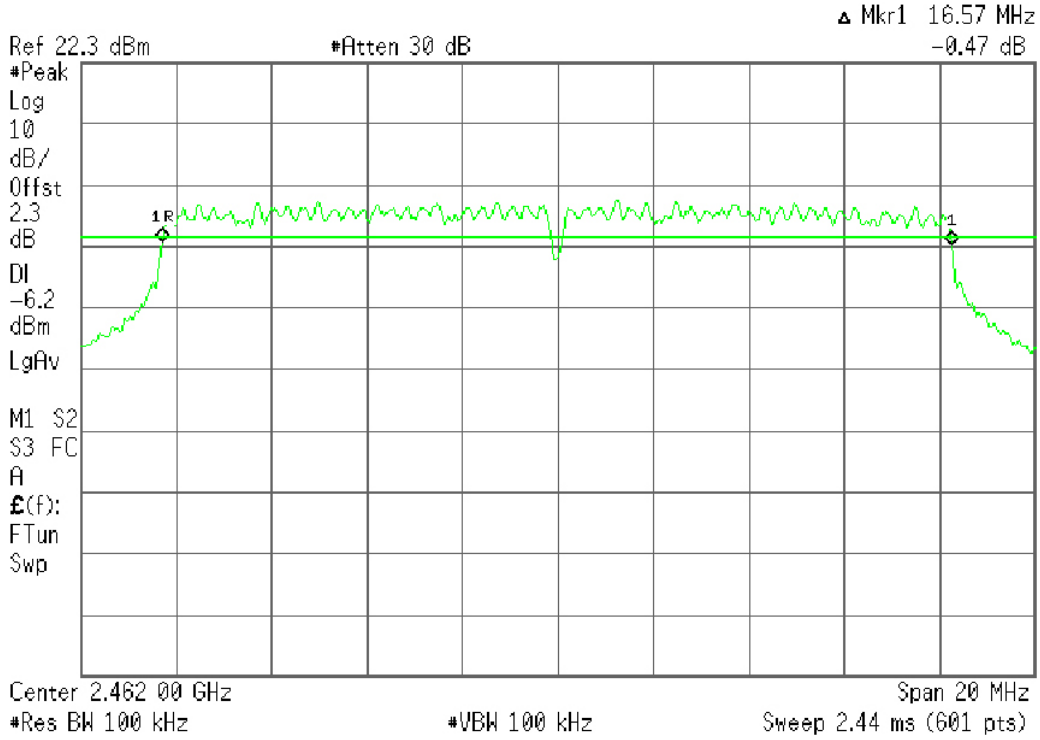
802.11g mode
Channel Low：



Channel MID：



Channel HIG：


Ref 22.3 dBm
#Atten 30 dB
Mkr1 16.57 MHz
-0.47 dB
#Peak
Log
10
dB/
Offst
2.3
dB
Dl
-6.2
dBm
LgAv
M1 S2
S3 FC
A
£(f):
FTun
Swp
1R
1
Center 2.462 00 GHz
Span 20 MHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 2.44 ms (601 pts)

5. TEST OF MAXIMUM PEAK OUTPUT POWER

5.1 Applicable Standard

Section 15.247:

The maximum peak output power of the intentional radiator shall not exceed the following:

1. For systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 watt.
2. Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2 EUT Setup

Spectrum

5.3 Test Equipment List and Details

See section 1.4.

5.4 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:
   Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
   RBW > the 6 dB bandwidth of the emission being measured
   VBW ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power. Plot the result on the screen of

spectrum analyzer.

5. Repeat above procedures until all frequencies measured were complete.

5.5 Test Result

PASS

Temperature (℃) : 22~23	EUT: 54M Wireless USB Adapter
Humidity (%RH): 50~54	M/N: W54U
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx/Rx Mode
Test data: Apr 13, 2008	Test engineer: James

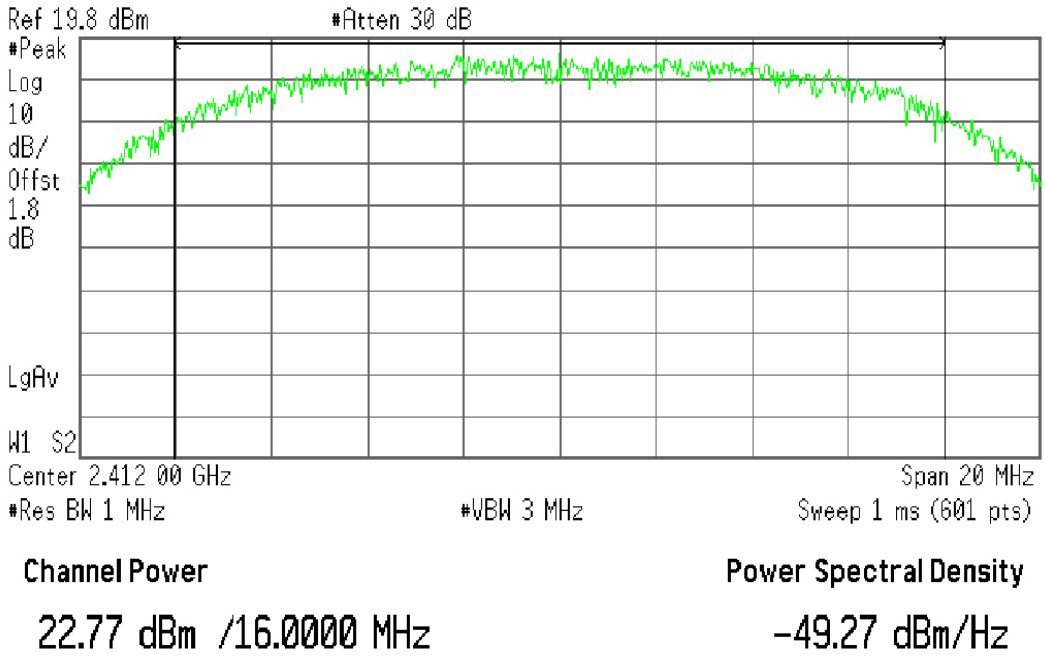
Test mode: IEEE 802.11b

Channel No.	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limits (W)
LOW	2412	22.77	0.18923	1
MID	2437	23.12	0.20512	
HIG	2462	23.11	0.20464	

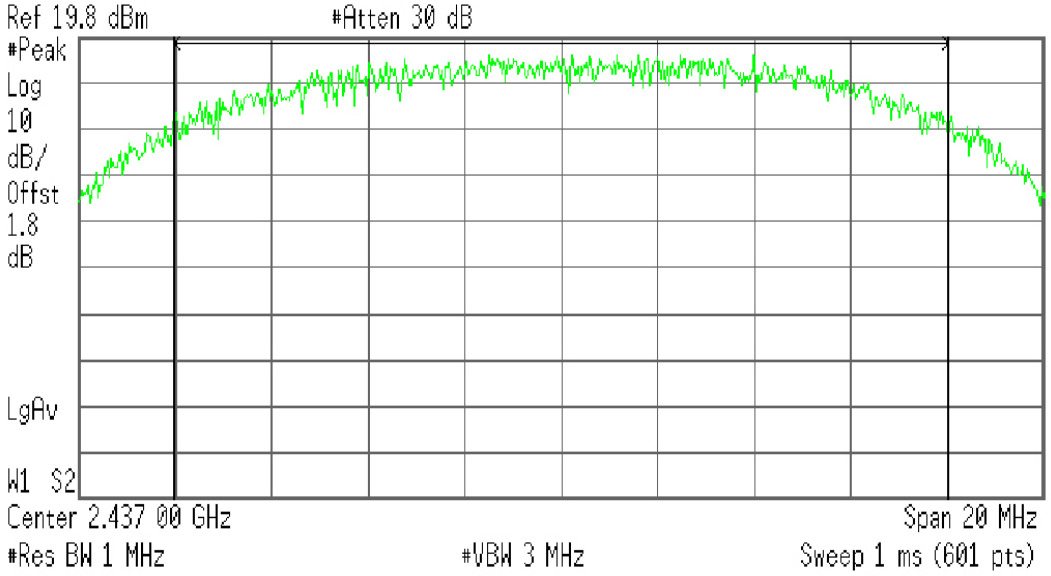
Test mode: IEEE 802.11g

Channel No.	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limits (W)
LOW	2412	20.81	0.12050	1
MID	2437	22.77	0.18923	
HIG	2462	19.81	0.09572	

802.11b mode: Channel Low

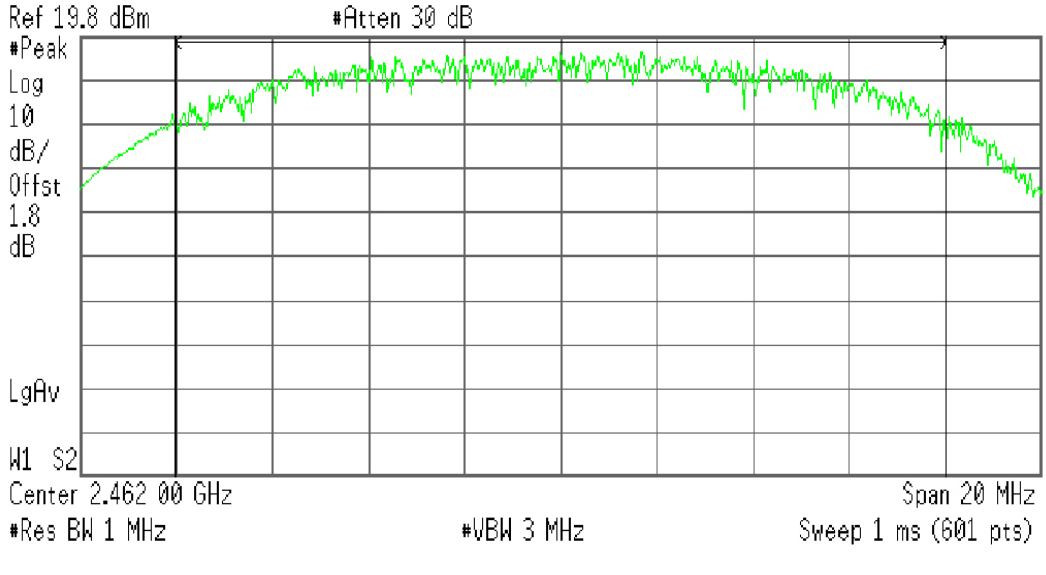


Channel MID



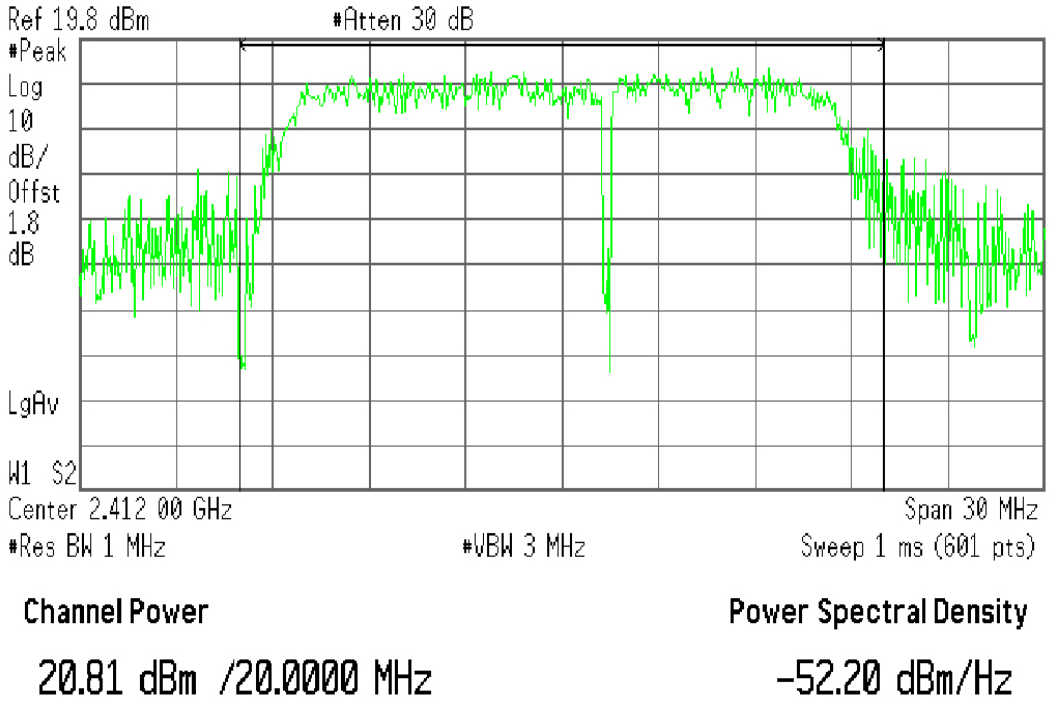
Channel Power	Power Spectral Density
23.12 dBm /16.0000 MHz	-48.92 dBm/Hz

Channel HIG

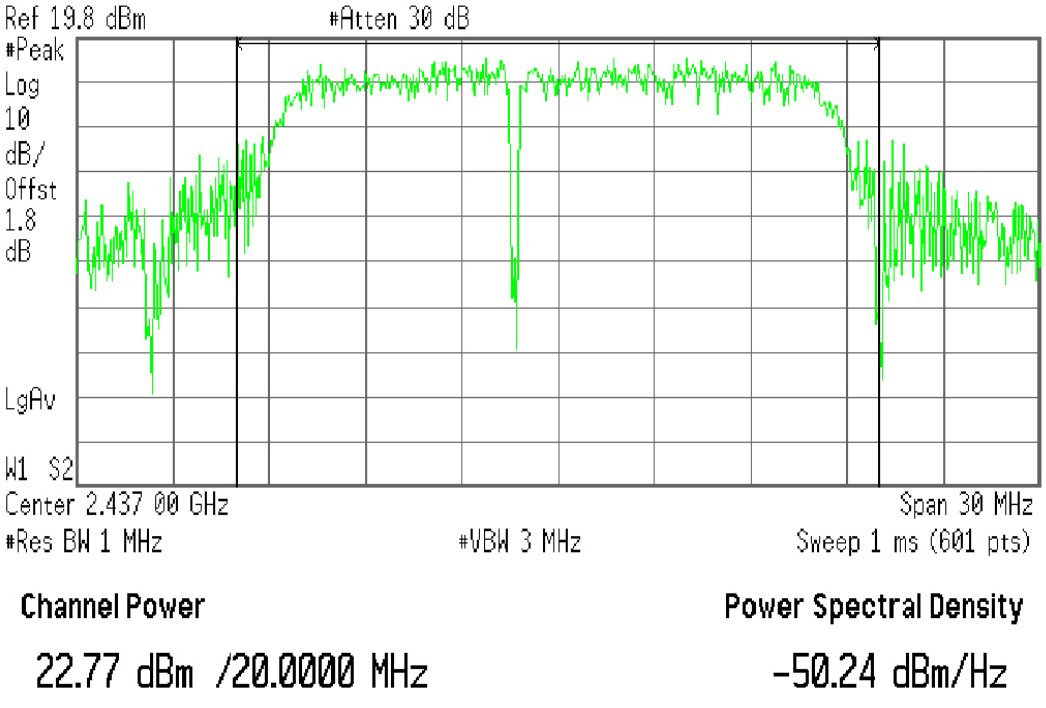


Channel Power	Power Spectral Density
23.11 dBm /16.0000 MHz	-48.93 dBm/Hz

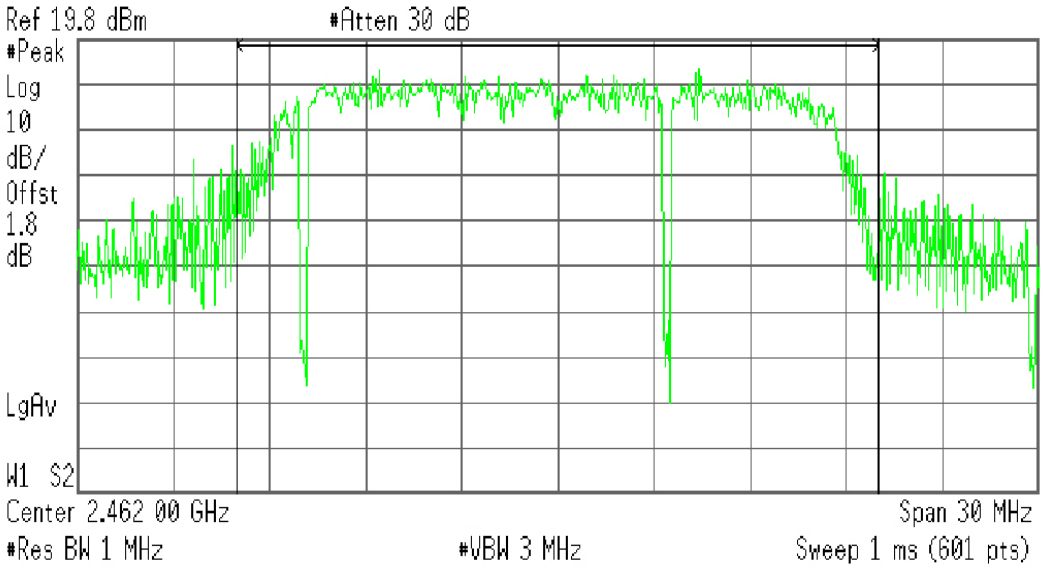
802.11g mode: Channel Low



Channel MID



Channel HIG



Channel Power

19.81 dBm /20.0000 MHz

Power Spectral Density

-53.20 dBm/Hz

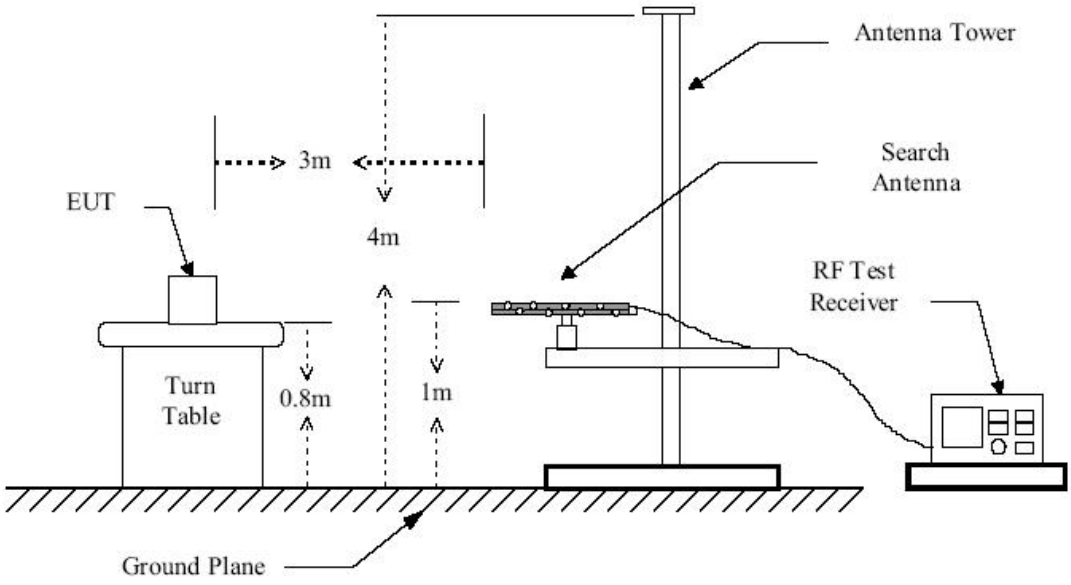
6. TEST OF BAND EDGES EMISSION

6.1 Applicable Standard

Section 15.247(c): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

6.2 EUT Setup

Radiated Measurement Setup



Conducted Measurement Setup

Spectrum

6.3 Test Equipment List and Details

See section 1.4.

6.4 Test Procedure

Conducted Measurement

1. The transmitter is set to the lowest channel.

2. The transmitter output was connected to the spectrum analyzer via a cable and cable loss is used as the offset of the spectrum analyzer.

3. Set both RBW and VBW of spectrum analyzer to 100KHz with convenient frequency span including 10MHz bandwidth from lower band edge. Then detector set to peak and max hold this trace.

4. The lowest band edges emission was measured and recorded.

5. The transmitter set to the highest channel and repeated 2~4.

Radiated Measurement

1. Configure the EUT according to ANSI C63.4.

2. The turntable was rotated by 360 degrees to determine the position of the highest radiation.

3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.

4. For band edge emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.

5. For band edge emission, use 10Hz VBW and 1MHz RBW for reading under AV and use 1MHz VBW and 1MKHz RBW for reading under PK.

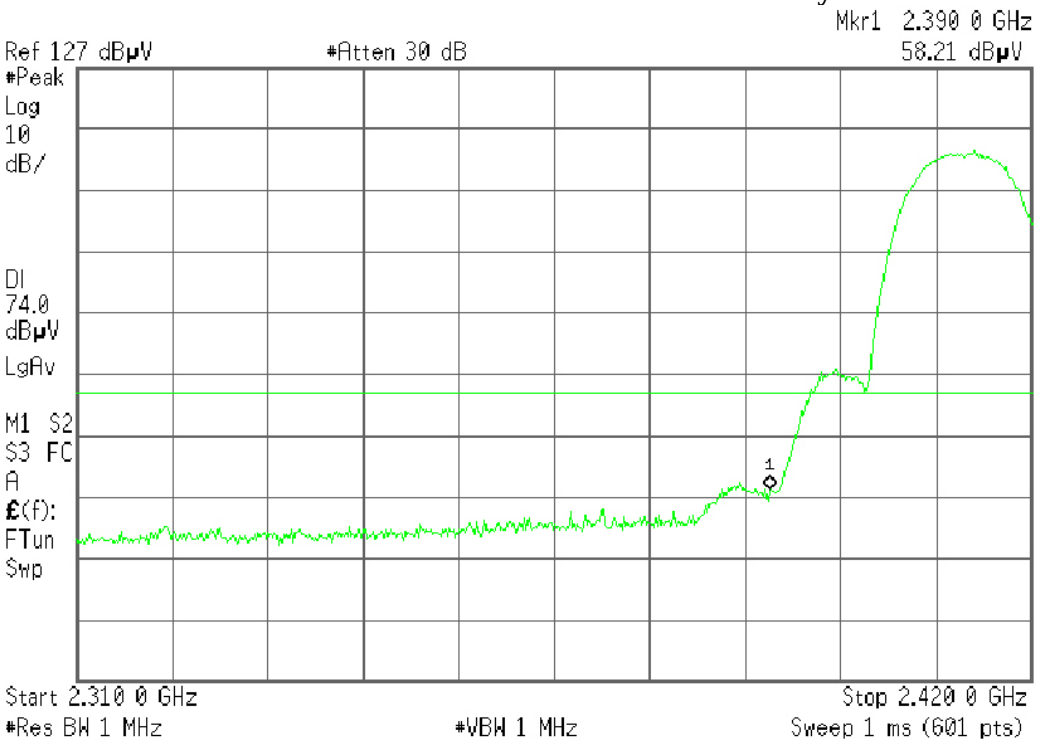
6.5 Test Result

PASS

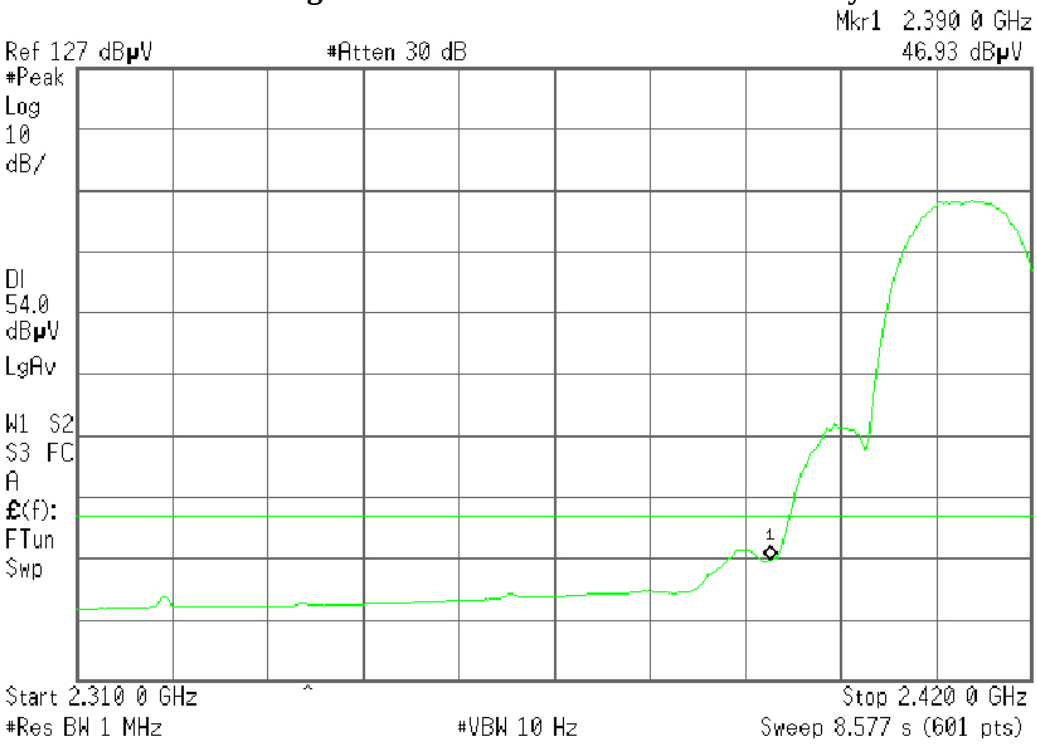
Temperature (℃) : 22~23	EUT: 54M Wireless USB Adapter
Humidity (%RH): 50~54	M/N: W54U
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx/Rx Mode
Test data: Apr 14, 2008	Test engineer: James

802.11b mode: Channel Low

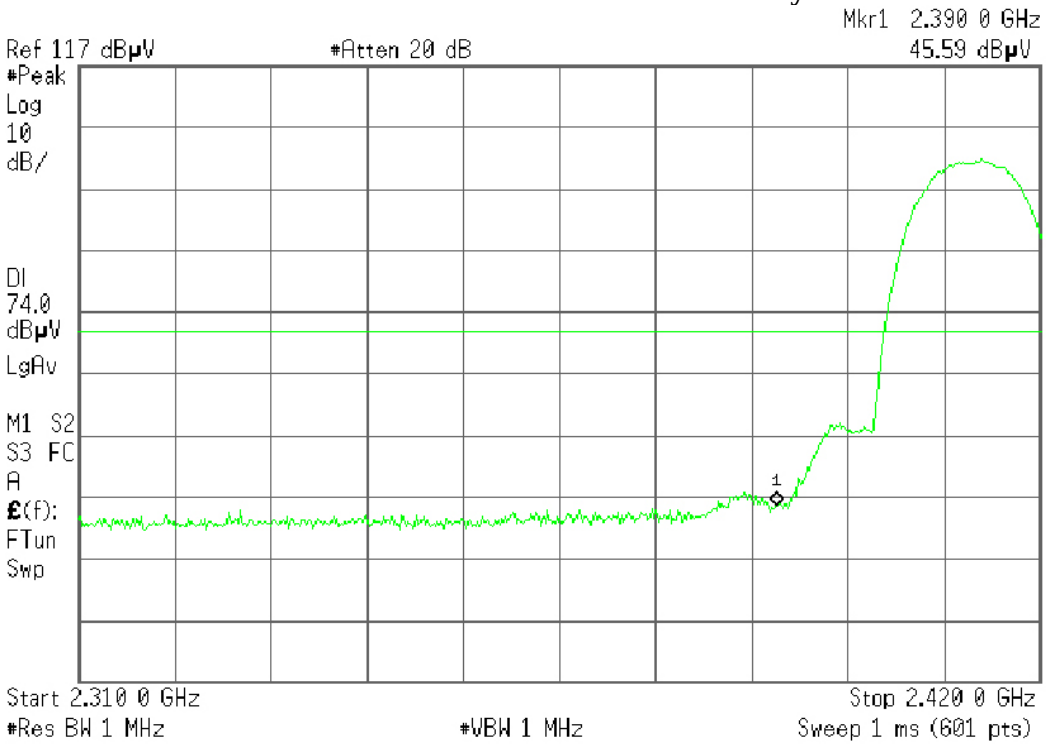
Detector mode: Peak **Polarity: Vertical**



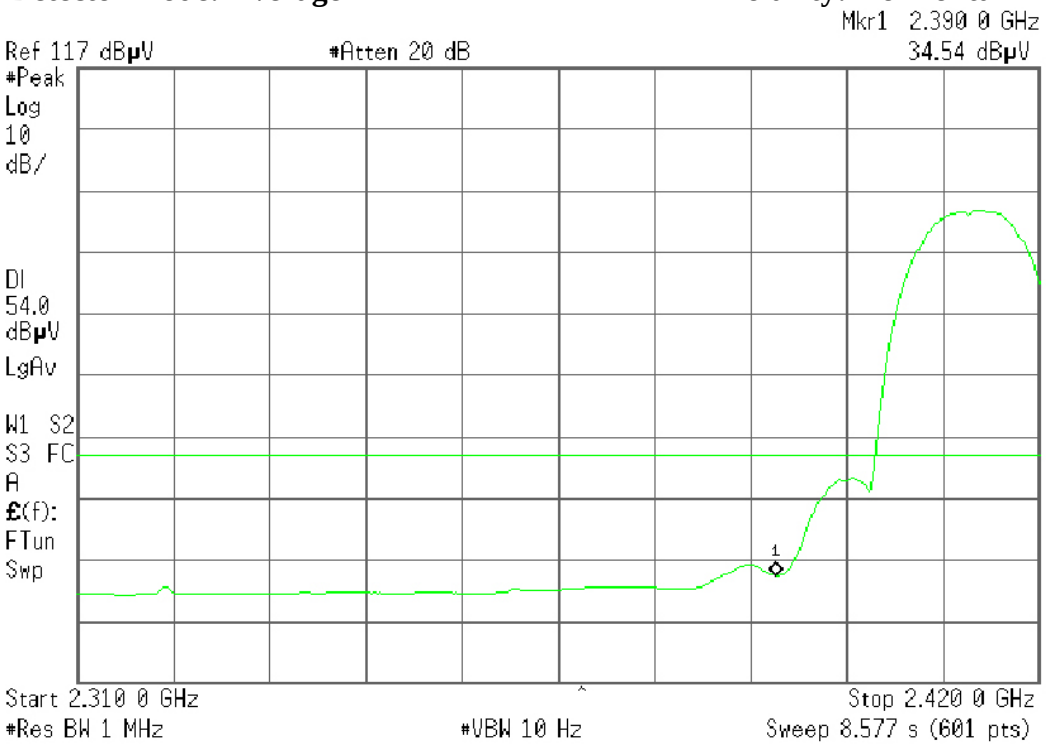
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

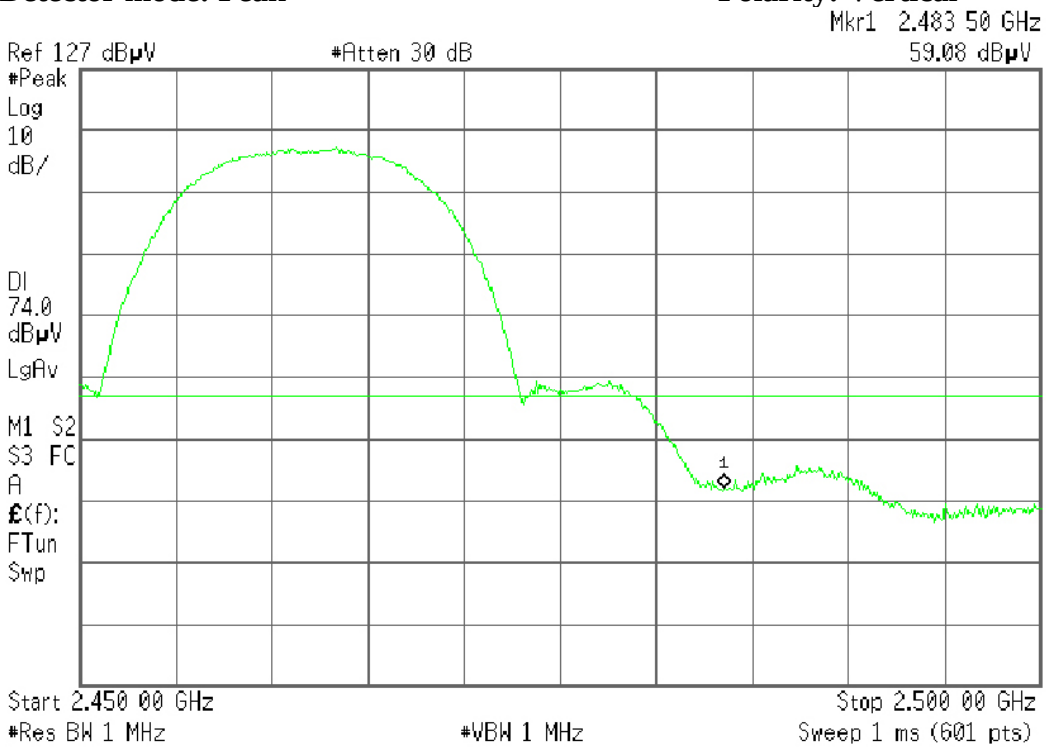


Detector mode: Average **Polarity: Horizontal**

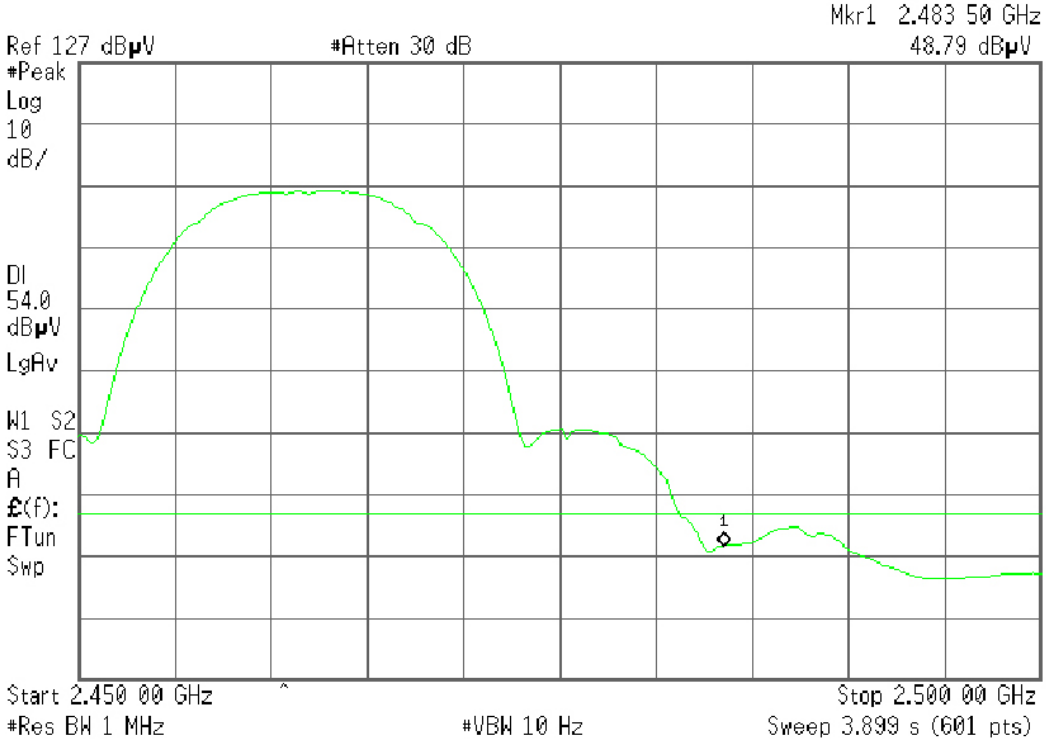


Channel High

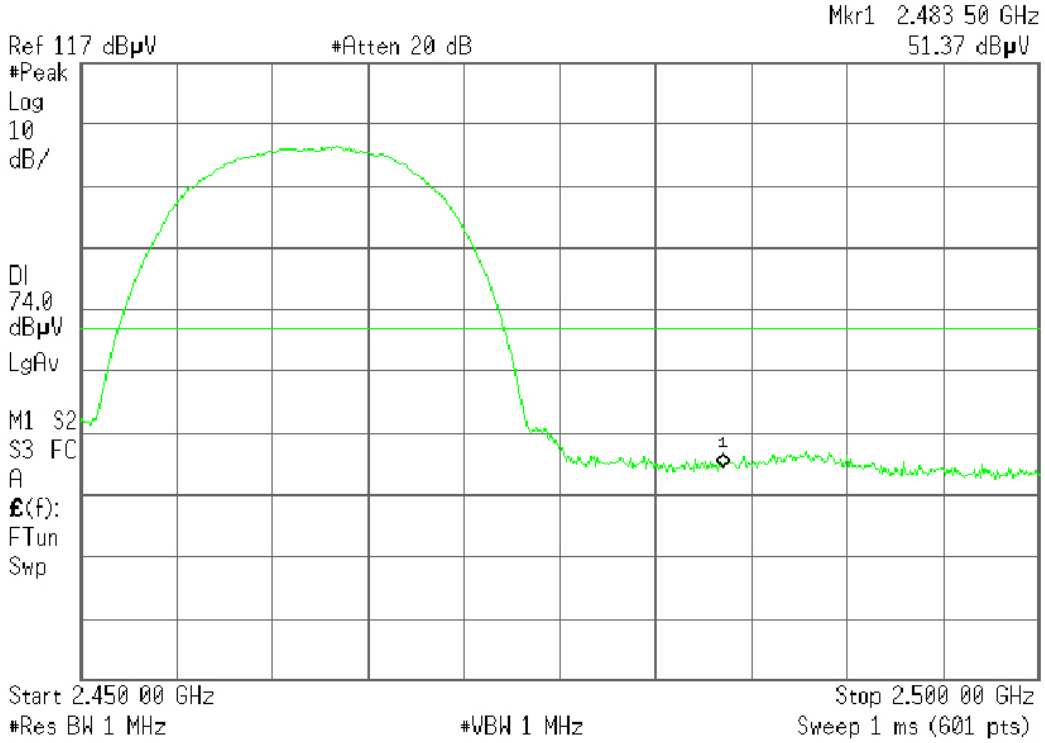
Detector mode: Peak **Polarity: Vertical**



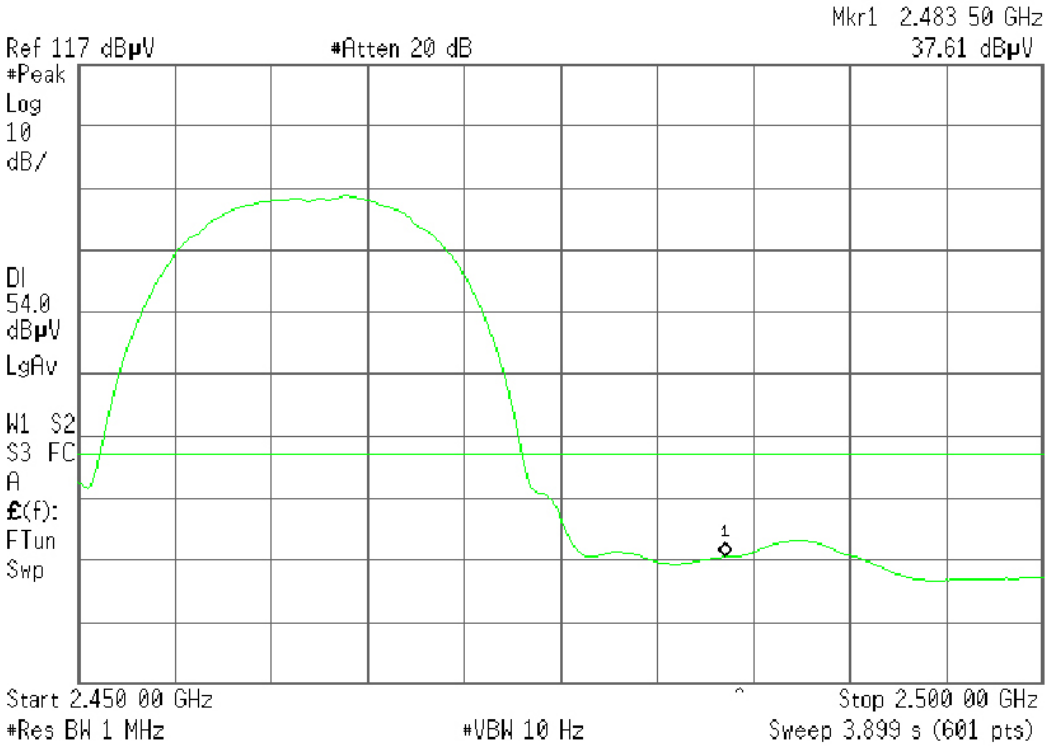
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

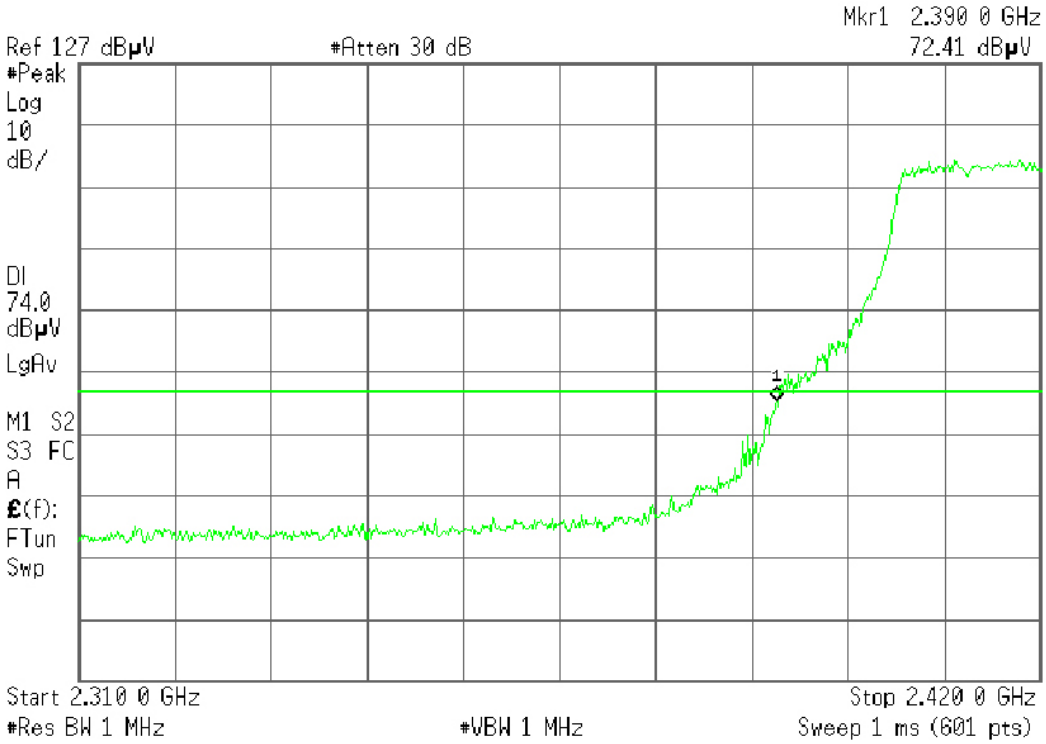


Detector mode: Average **Polarity: Horizontal**

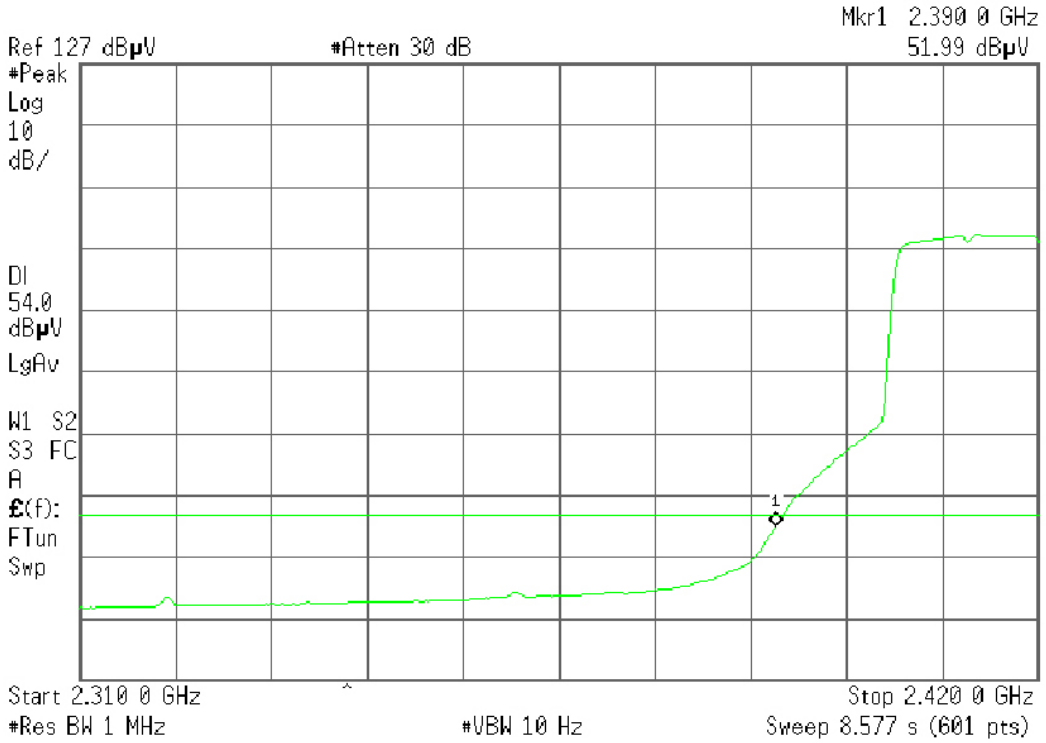


802.11g mode: Channel Low

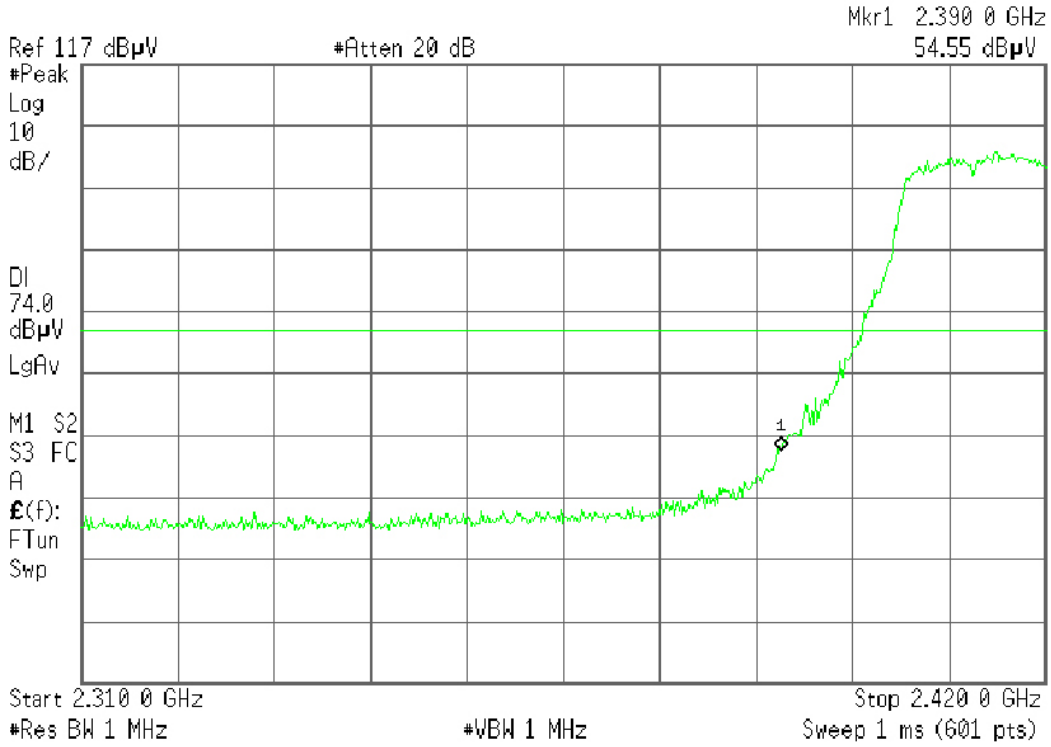
Detector mode: Peak **Polarity: Vertical**



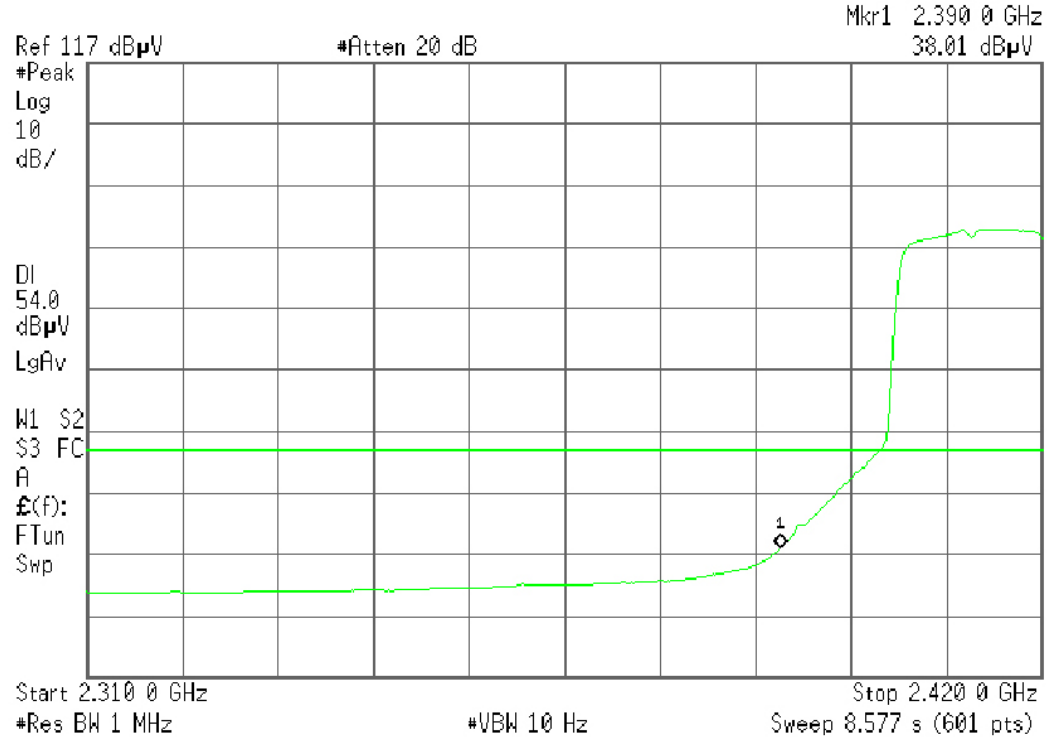
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

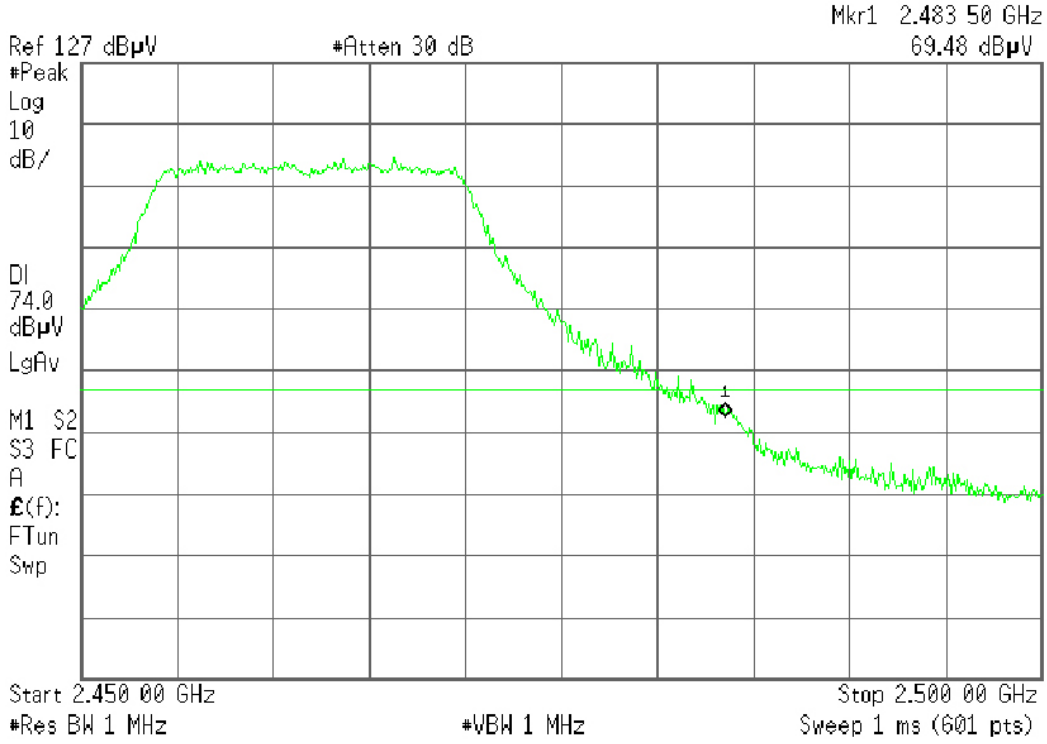


Detector mode: Average **Polarity: Horizontal**

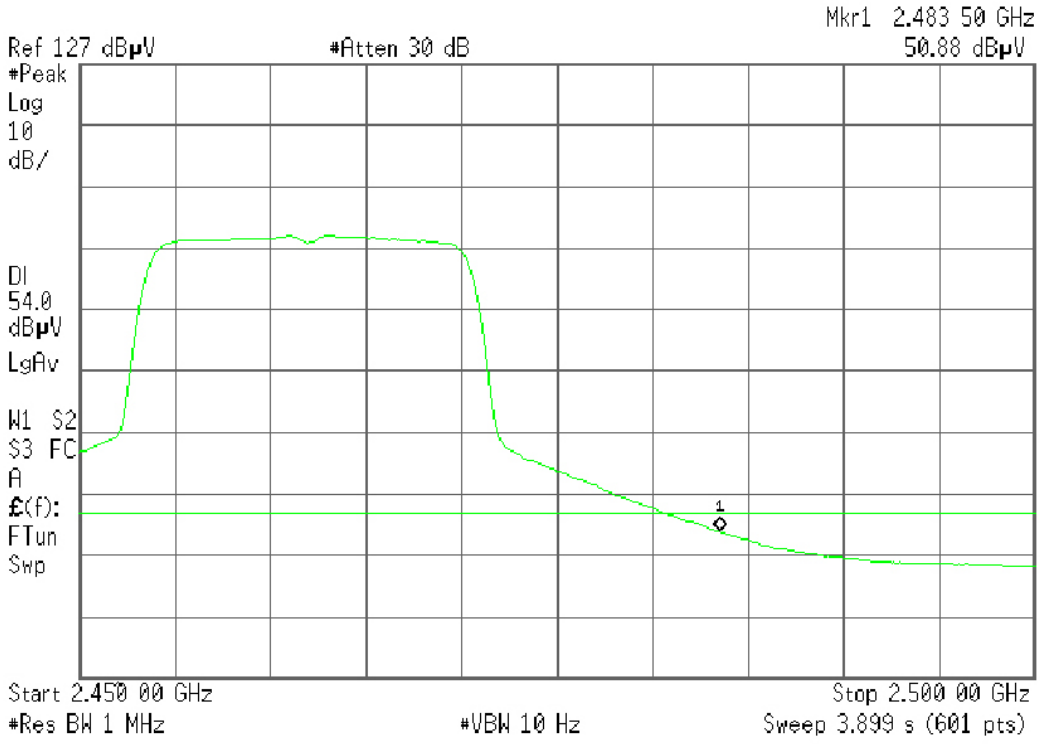


Channel High

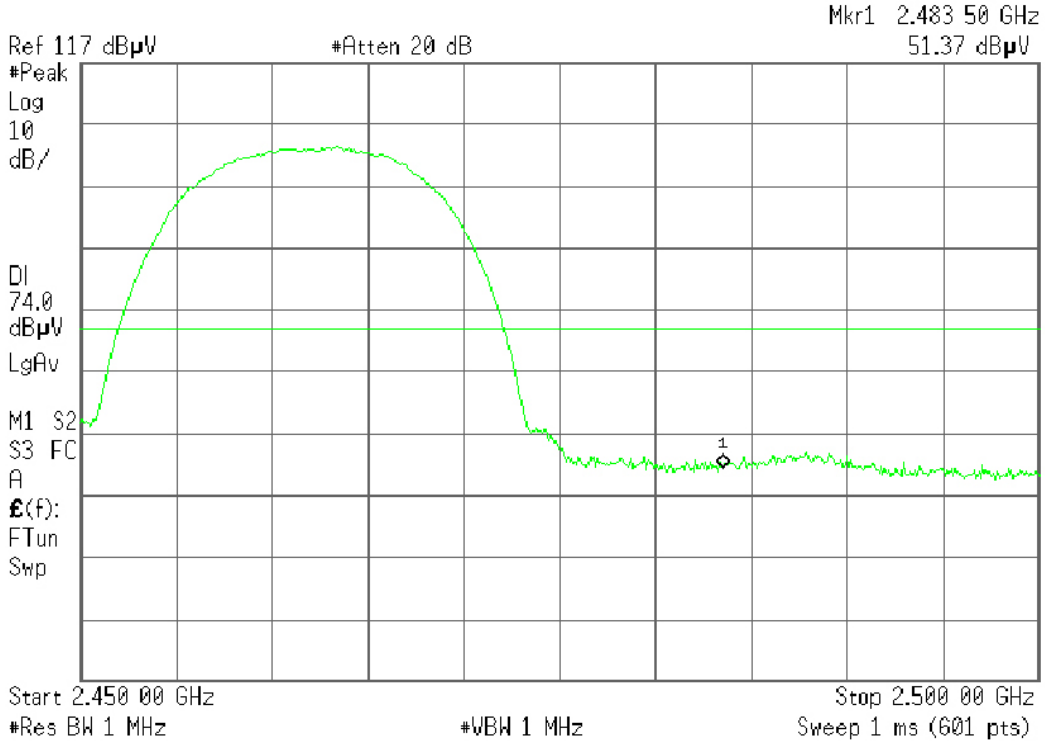
Detector mode: Peak **Polarity: Vertical**



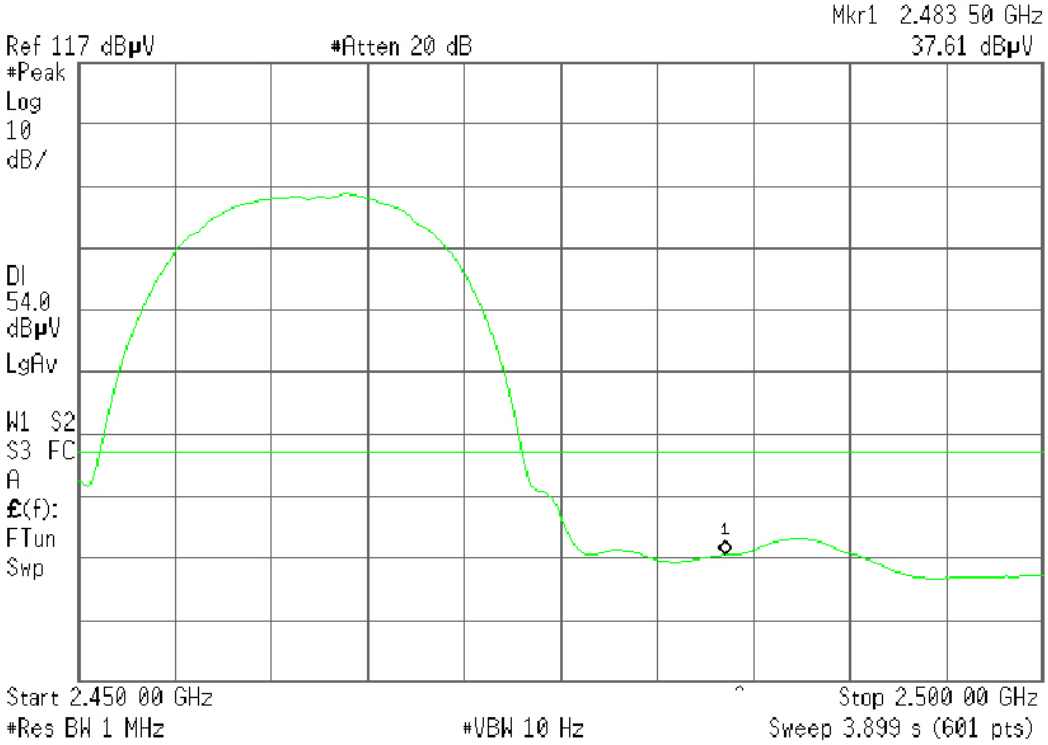
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**



7. PEAK POWER SPECTRAL DENSITY MEASUREMENT

7.1 Standard Applicable

According to 15.247(d), for digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.2 Test Equipment List and Details

See section 1.4.

7.3 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set EUT to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:
   Span = 300 kHz, centered on highest level appearing on spectral display
   RBW = 3 kHz
   VBW ≥ RBW
   Sweep = 100 s
   Detector function = peak
   Trace = max hold
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Plot the result on the screen of spectrum analyzer.
5. Repeat above procedures until all measured frequencies were complete.

7.4 Test Result

PASS

Temperature (℃) : 22~23	EUT: 54M Wireless USB Adapter
Humidity (%RH): 50~54	M/N: W54U
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx/Rx Mode
Test data: Apr 14, 2008	Test engineer: James

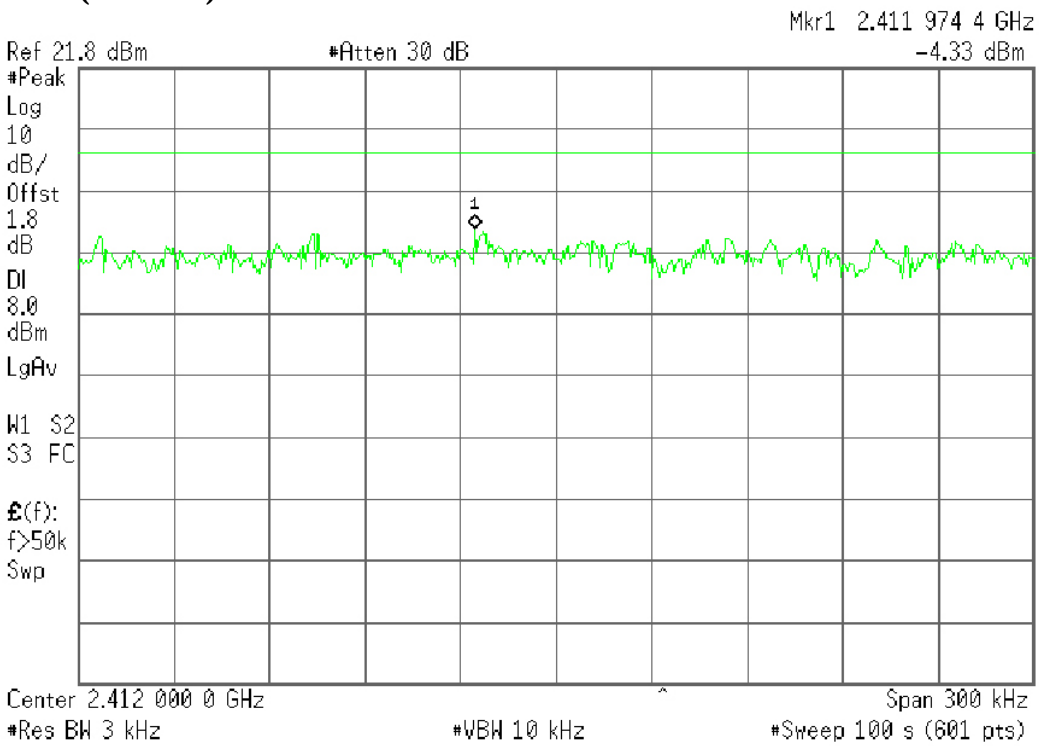
Test mode: IEEE 802.11b

Channel No.	Frequency (MHz)	PPSD (dBm)	Limit (dBm)
LOW	2412	-4.33	8
MID	2437	-4.85	
HIG	2462	-3.49	

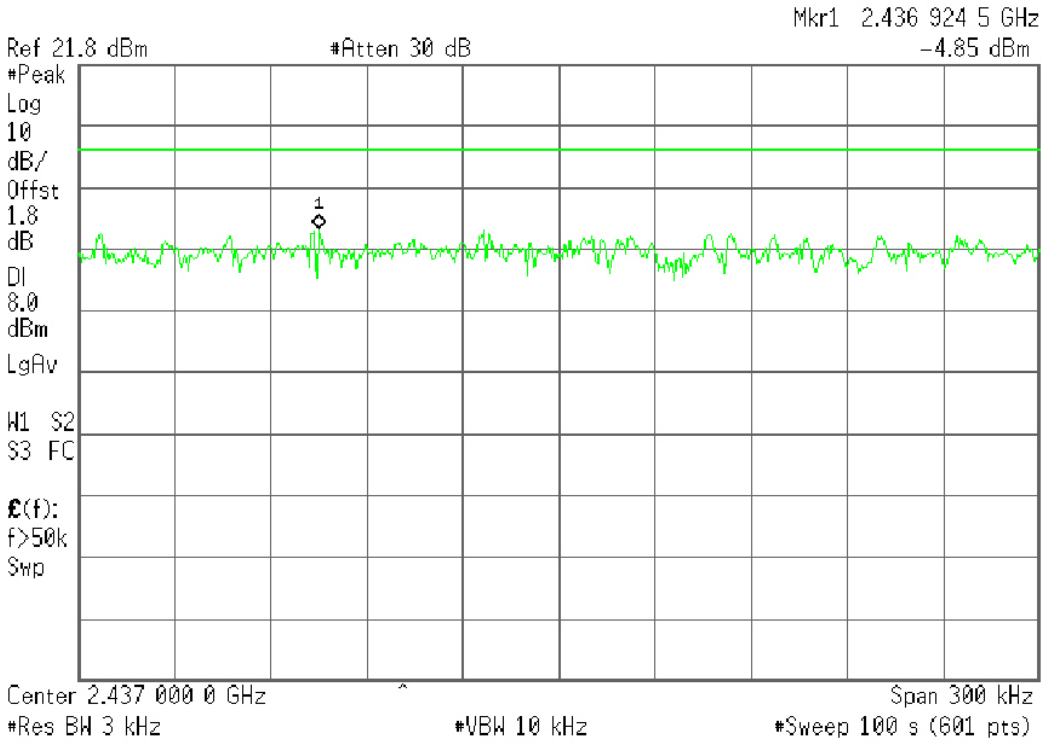
Test mode: IEEE 802.11g

Channel No.	Frequency (MHz)	PPSD (dBm)	Limits (dBm)
LOW	2412	-13.00	8
MID	2437	-5.45	
HIG	2462	-13.00	

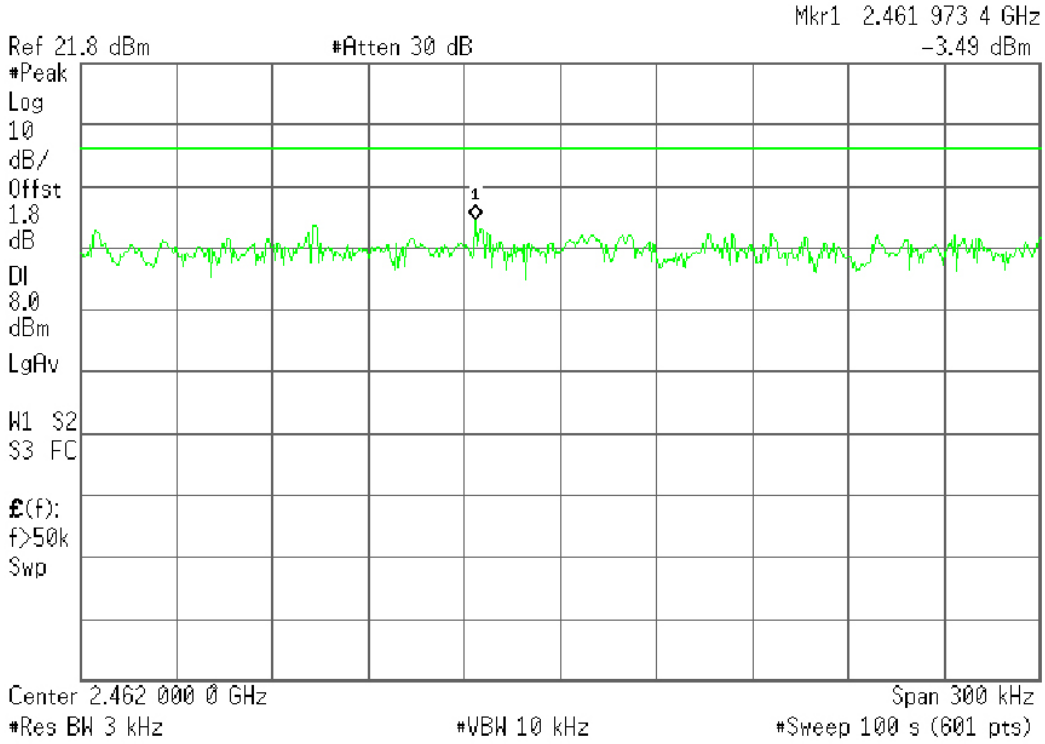
802.11b mode
PPSD (CH Low)



PPSD (CH MID)

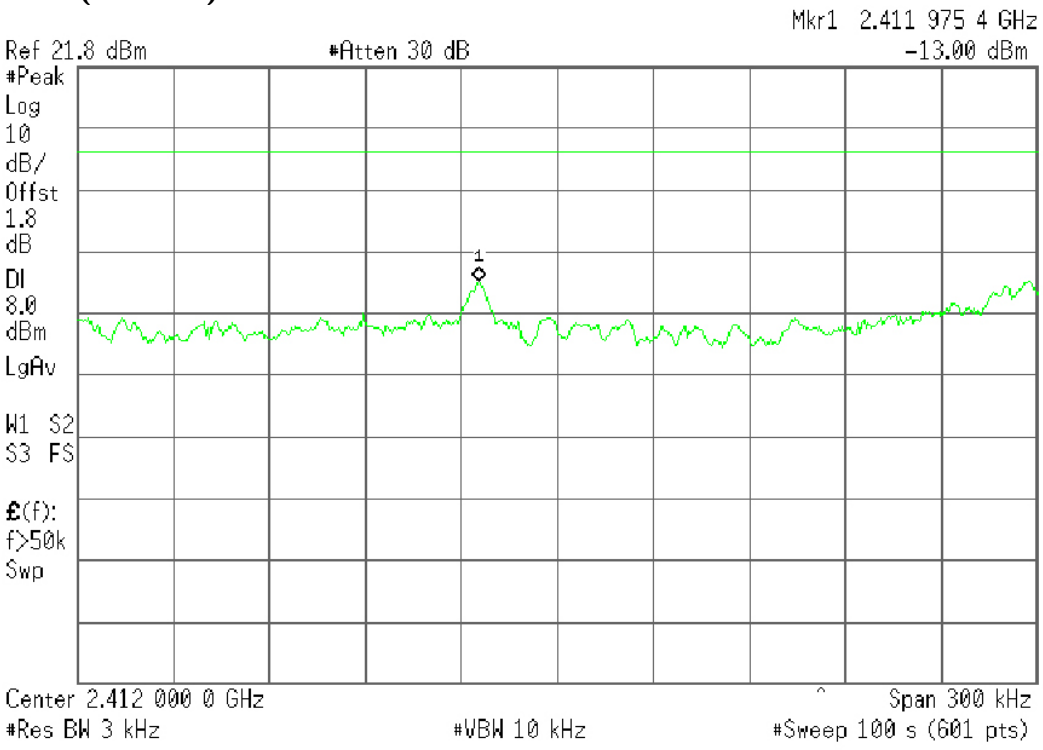


PPSD (CH HIG)

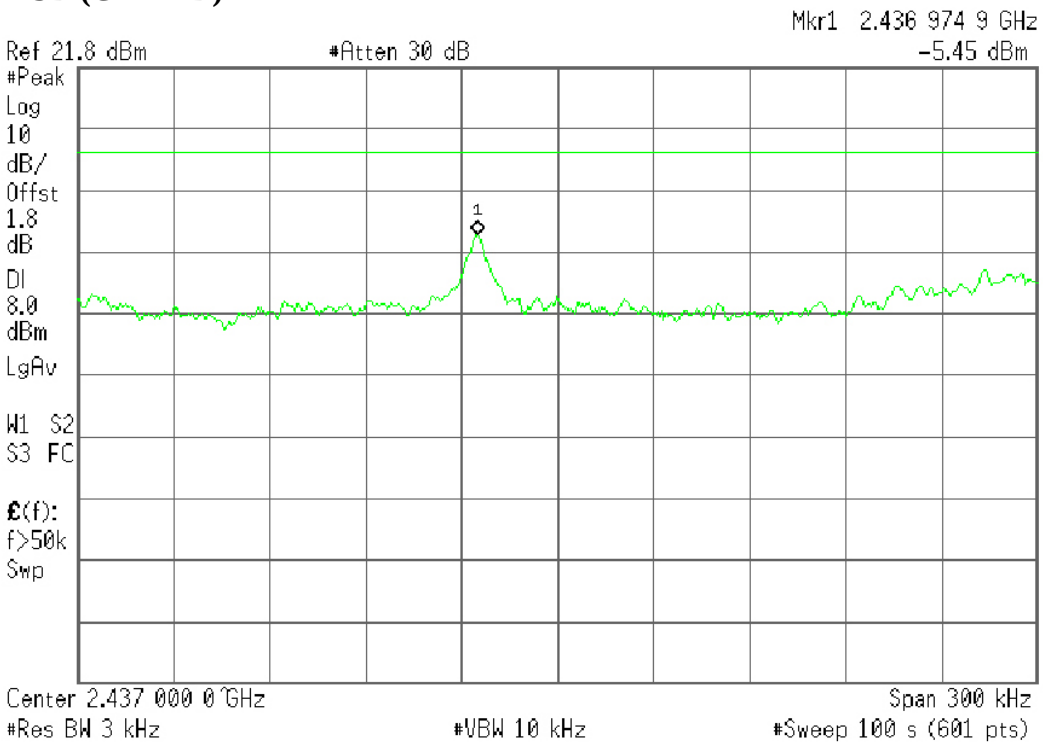


802.11g mode

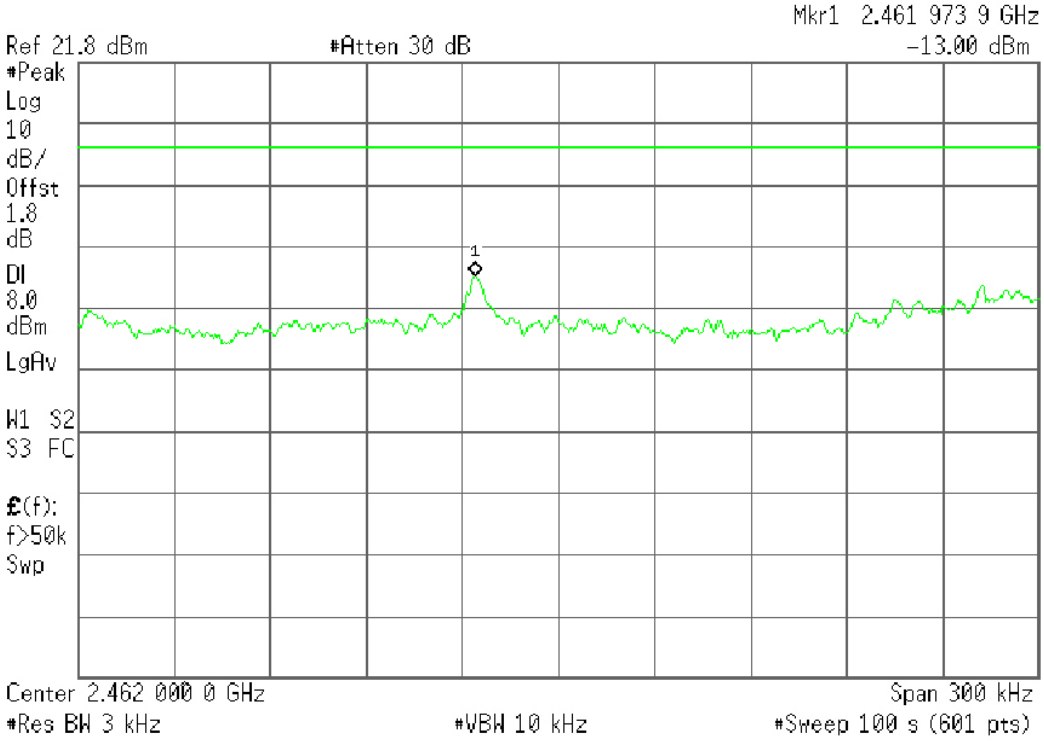
PPSD (CH Low)



PPSD (CH MID)



PPSD (CH HIG)


Mkr1 2.461 973 9 GHz
Ref 21.8 dBm
#Atten 30 dB
-13.00 dBm
#Peak
Log
10
dB/
Offst
1.8
dB
Dl
8.0
dBm
LgAv
W1 S2
S3 FC
£(f):
f>50k
Swp
1
Center 2.462 000 0 GHz
Span 300 kHz
#Res BW 3 kHz
#VBW 10 kHz
#Sweep 100 s (601 pts)

8. TEST OF SPURIOUS RADIATED EMISSION

8.1 Applicable Standard

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

8.2 EUT Setup

Radiated Measurement Setup

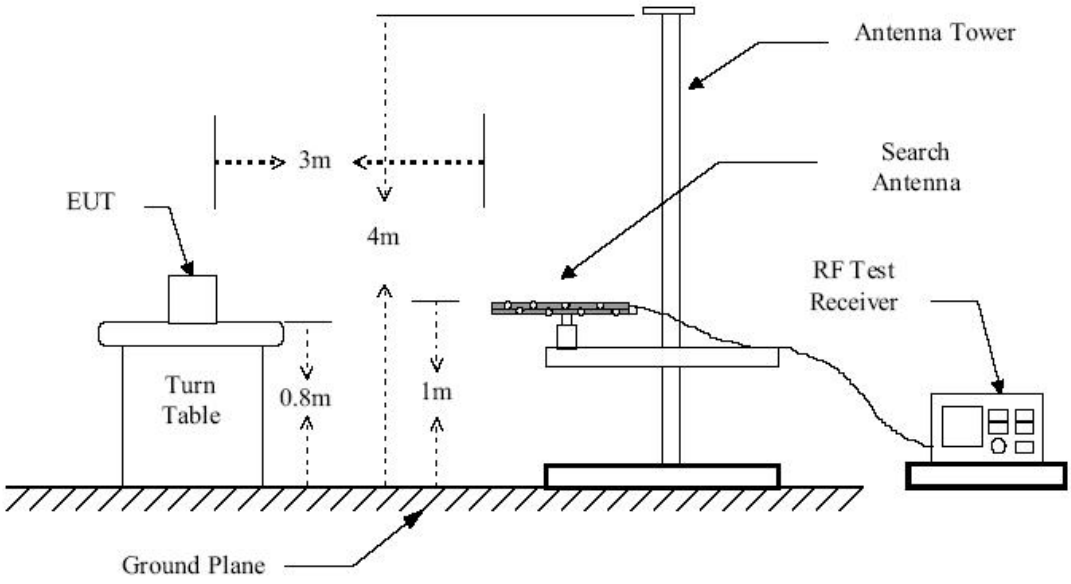


Figure 1 : Frequencies measured below 1 GHz configuration

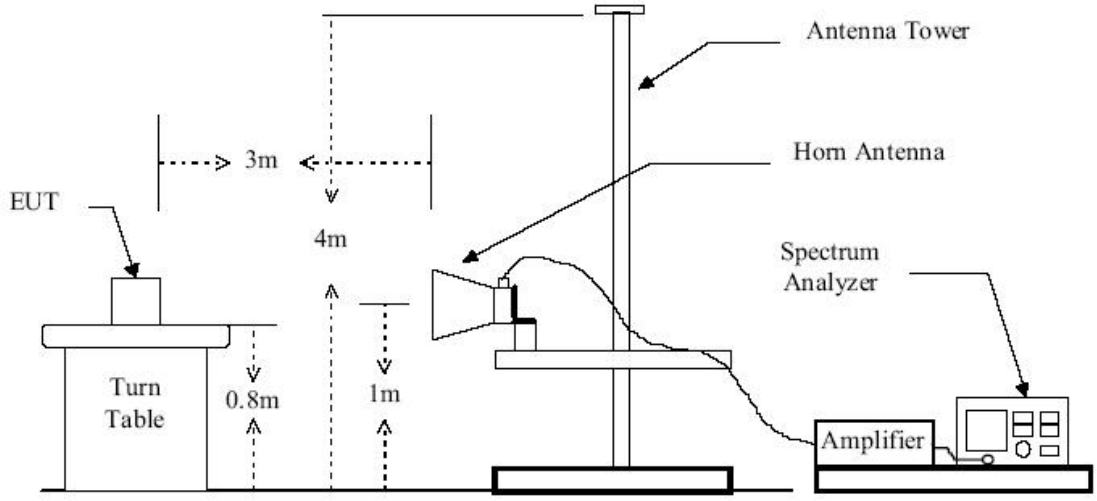


Figure 2 : Frequencies measured above 1 GHz configuration

Conducted Measurement Setup

Spectrum

8.3 Test Equipment List and Details

See section 1.4.

8.4 Test Procedure

Radiated Measurement

1. Configure the EUT according to ANSI C63.4.

2. The EUT was placed on the top of the turntable 0.8 meter above ground.

3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.

4. Power on the EUT and all the supporting units.

5. The turntable was rotated by 360 degrees to determine the position of the highest radiation.

6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.

7. For each suspected emission, the antenna tower was scanned (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.

8. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.

Conducted Measurement

1. For emission above 1GHz, conducted measurement method is used.
2. The transmitter is set to the lowest channel.
3. The transmitter output was connected to the spectrum analyzer via a cable and cable loss is used as the offset of the spectrum analyzer.
4. Set RBW to 100KHz and VBW to 100 KHz, Then detector set to peak and max hold this trace.
5. The lowest band edges emission was measured and recorded.
6. The transmitter set to the highest channel and repeated 2~4.

8.5 Test Result

Temperature (℃) : 22~23	EUT: 54M Wireless USB Adapter
Humidity (%RH): 50~54	M/N: W54U
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx/Rx Mode
Test data: Apr 16, 2008	Test engineer: James

Spurious Emission (30~1000MHz)

Maximum Frequency (MHz)	**Polarity and Level**		**Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Result dBuV/m**		
133.270	V	26.04	43.5	17.46
368.250	V	32.55	46.0	13.45
552.000	V	34.45	46.0	11.55
133.275	H	27.49	43.5	16.01
398.000	H	33.17	46.0	12.83
674.500	H	33.47	46.0	12.53

Remark: No further spurious emission found between the lowest internal used/generated frequency and 30 MHz.

Above 1 GHz

Operation Mode: IEEE 802.11b (CH Low)

Channel Low					
Maximum Frequency (MHz)	**Polarity and Level**		**AV Limit dBuV/m**	**Peak Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Peak Result dBuV/m**			
1480	V	47.21	54	74	6.79
4825	V	49.68	54	74	4.32
1796	H	42.41	54	74	11.59
4808	H	47.24	54	74	6.76
N/A	--	--	--	--	--
	--	--	--	--	--
Remark: Datas of measurement within this frequency range shown " -" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.					

Operation Mode: IEEE 802.11b (CH MID)

Channel MID					
Maximum Frequency (MHz)	**Polarity and Level**		**AV Limit dBuV/m**	**Peak Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Peak Result dBuV/m**			
1413	V	47.07	54	74	6.93
4875	V	48.90	54	74	5.10
1653	H	48.23	54	74	5.77
4867	H	47.28	54	74	6.72
N/A	--	--	--	--	--
	--	--	--	--	--
Remark: Datas of measurement within this frequency range shown " -" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.					

Operation Mode: IEEE 802.11b (CH HIG)

Channel HIG					
Maximum Frequency (MHz)	**Polarity and Level**		**AV Limit dBuV/m**	**Peak Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Peak Result dBuV/m**			
1376	V	46.56	54	74	7.44
4925	V	47.56	54	74	6.44
1646	H	48.40	54	74	5.60
4875	H	47.23	54	74	6.77
N/A	--	--	--	--	--
	--	--	--	--	--
Remark: Datas of measurement within this frequency range shown " -" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.					

Operation Mode: IEEE 802.11g (CH Low)

Channel Low					
Maximum Frequency (MHz)	**Polarity and Level**		**AV Limit dBuV/m**	**Peak Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Peak Result dBuV/m**			
1656	V	48.14	54	74	5.86
4908	V	47.97	54	74	6.03
1506	H	47.68	54	74	6.32
4858	H	47.34	54	74	6.66
N/A	--	--	--	--	--
	--	--	--	--	--
Remark: Datas of measurement within this frequency range shown " -" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.					

Operation Mode: IEEE 802.11g (CH MID)

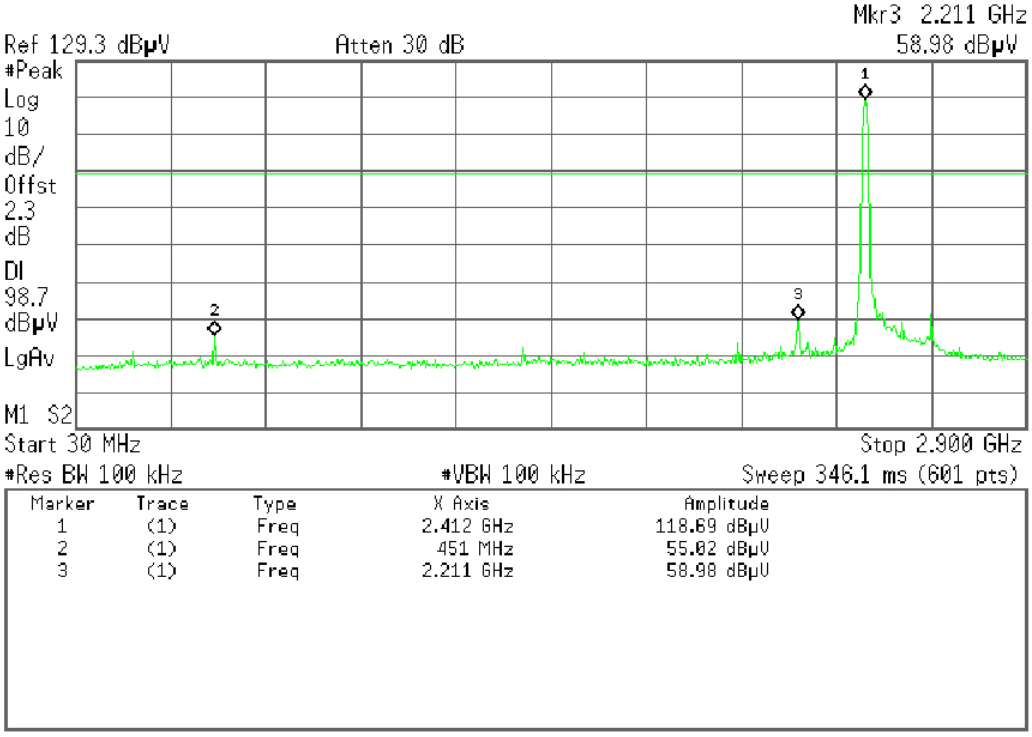
Channel MID					
Maximum Frequency (MHz)	**Polarity and Level**		**AV Limit dBuV/m**	**Peak Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Peak Result dBuV/m**			
1450	V	47.27	54	74	6.73
4875	V	48.19	54	74	5.81
1600	H	42.12	54	74	11.88
4950	H	46.98	54	74	7.02
N/A	--	--	--	--	--
	--	--	--	--	--
Remark: Datas of measurement within this frequency range shown " -" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.					

Operation Mode: IEEE 802.11g (CH HIG)

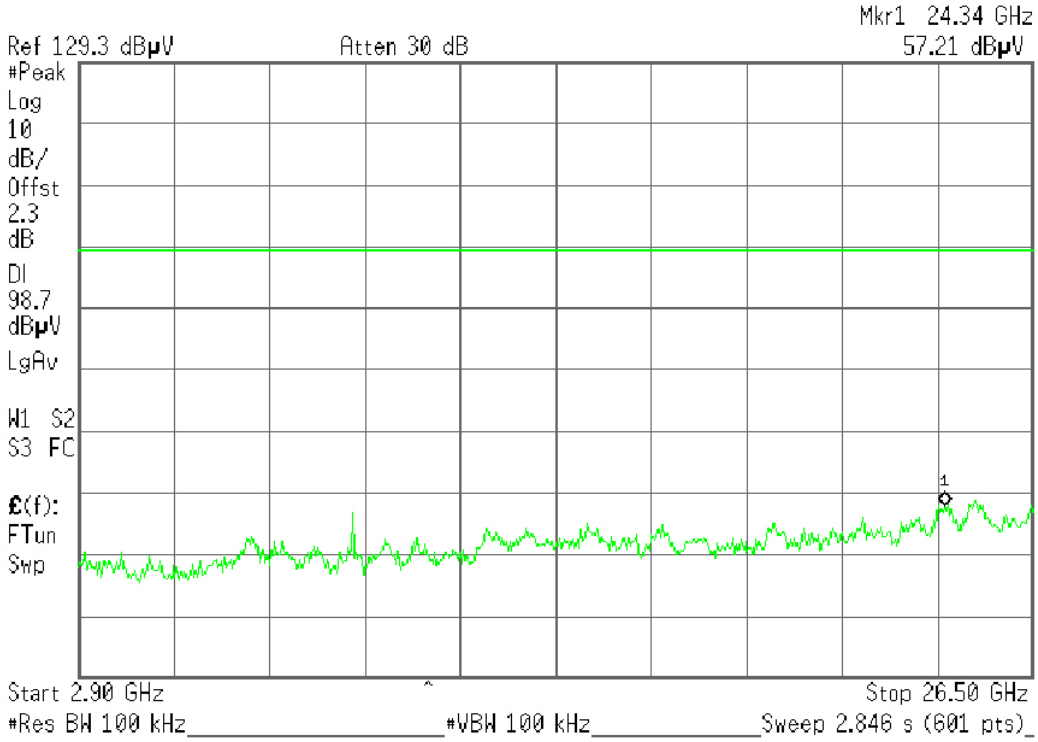
Channel HIG					
Maximum Frequency (MHz)	**Polarity and Level**		**AV Limit dBuV/m**	**Peak Limit dBuV/m**	**Margin dBuv/m**
	Polarity	**Peak Result dBuV/m**			
1570	V	47.59	54	74	6.41
4958	V	46.84	54	74	7.16
1983	H	43.83	54	74	10.17
4975	H	46.78	54	74	7.22
N/A	--	--	--	--	--
	--	--	--	--	--
Remark: Datas of measurement within this frequency range shown " -" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.					

CONDUCTED TEST RESULTS

802.11b mode (CH Low)
30MHz ~ 2.9GHz

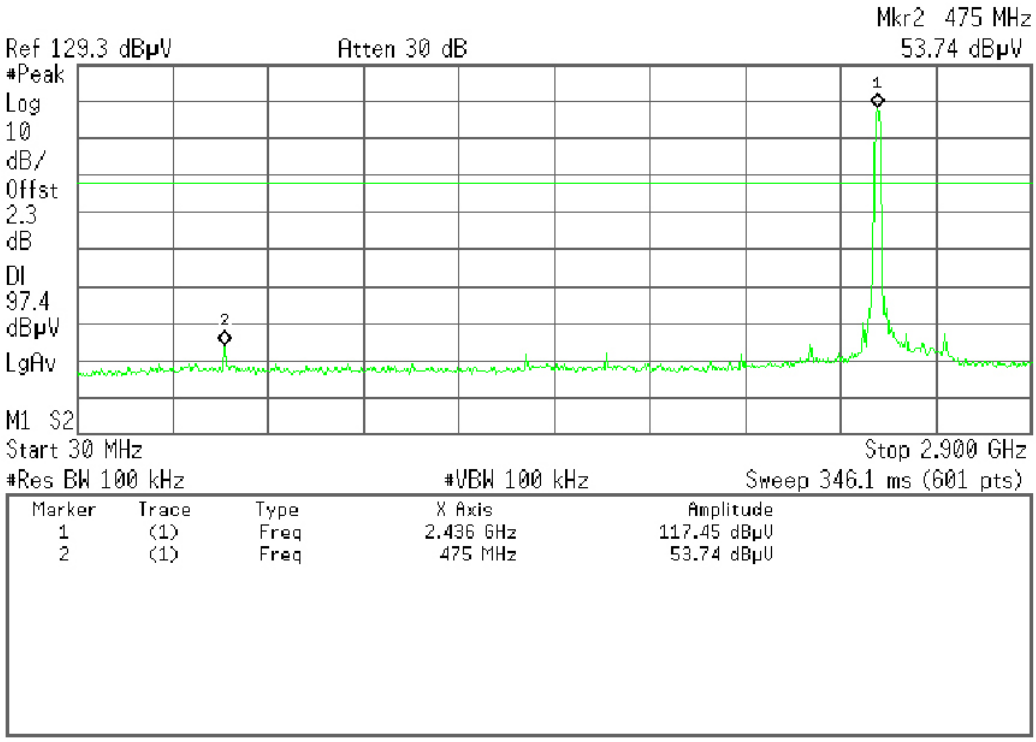


2.9GHz ~ 26.5GHz

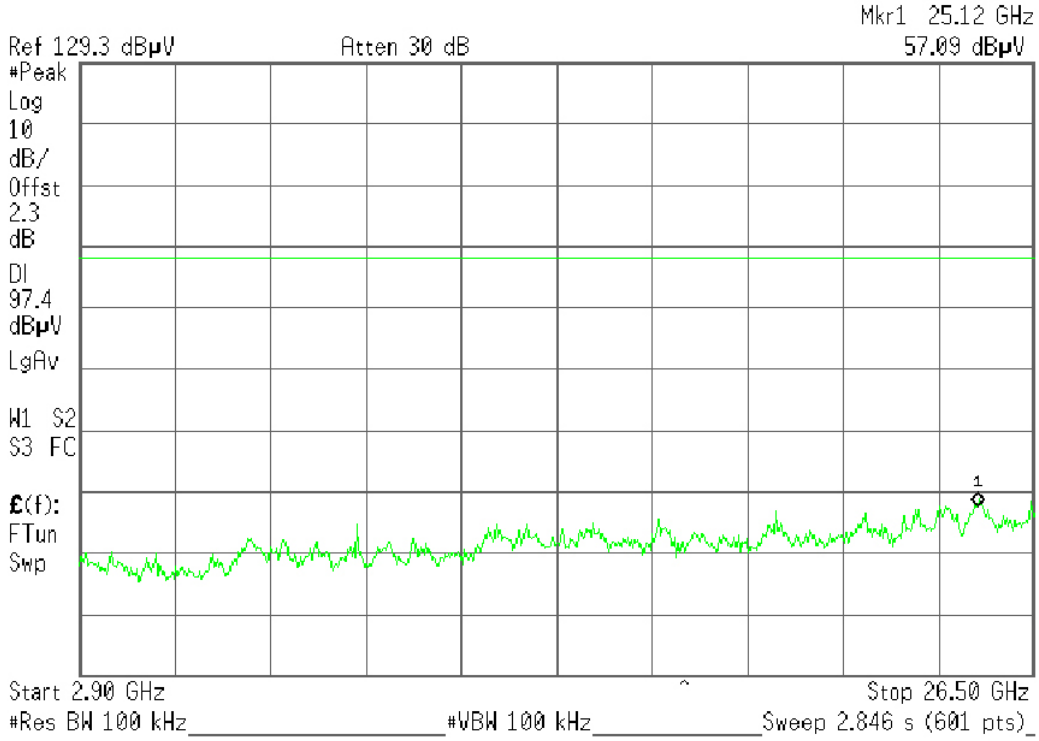


CH MID

30MHz ~ 2.9GHz

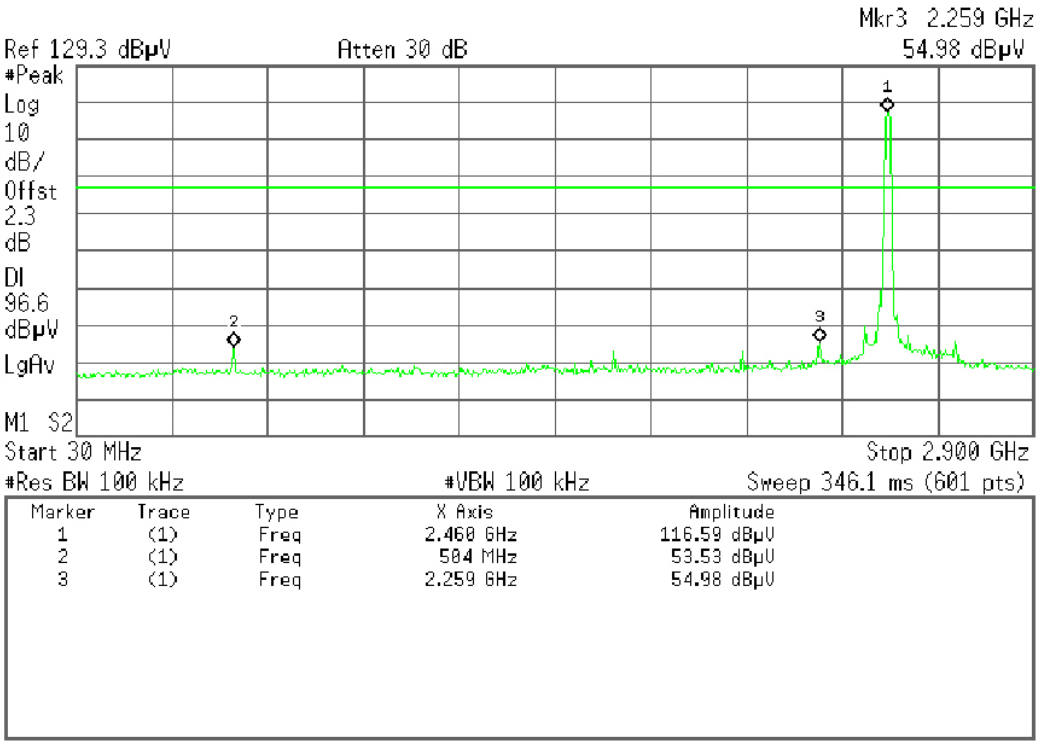


2.9GHz ~ 26.5GHz

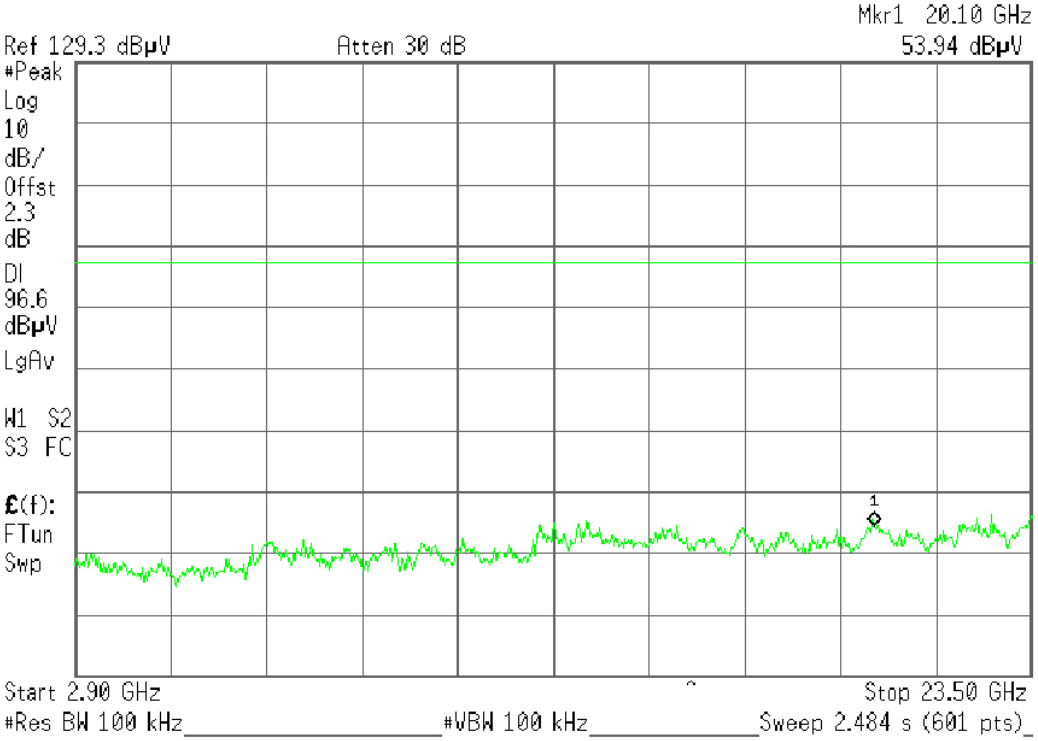


CH HIG

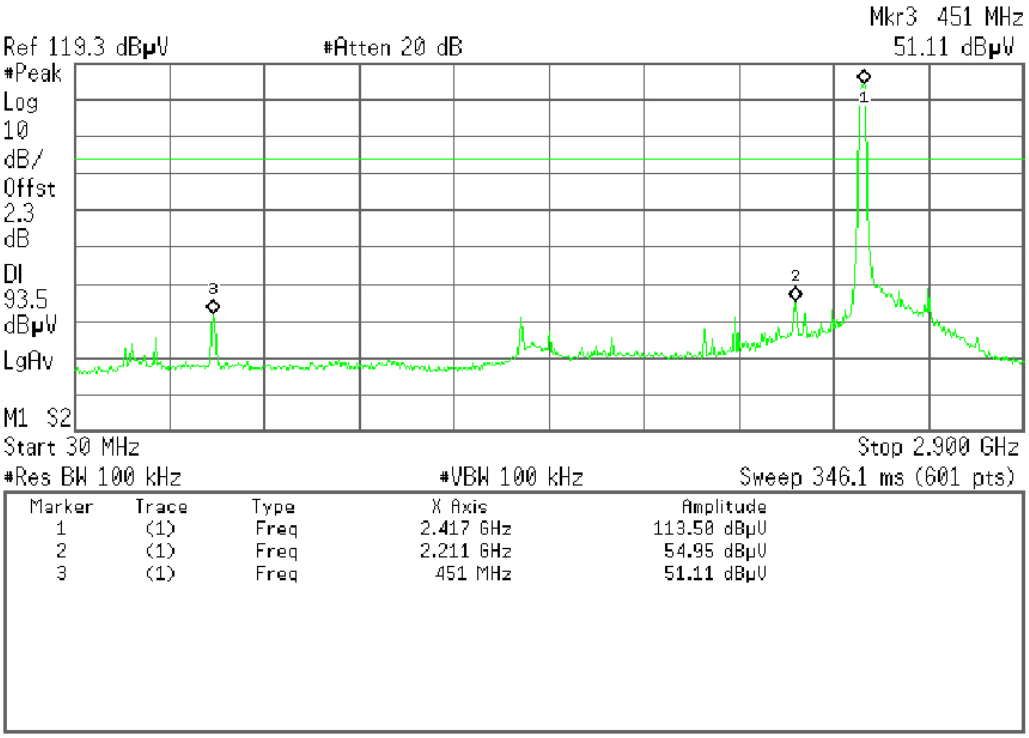
30MHz ~ 2.9GHz



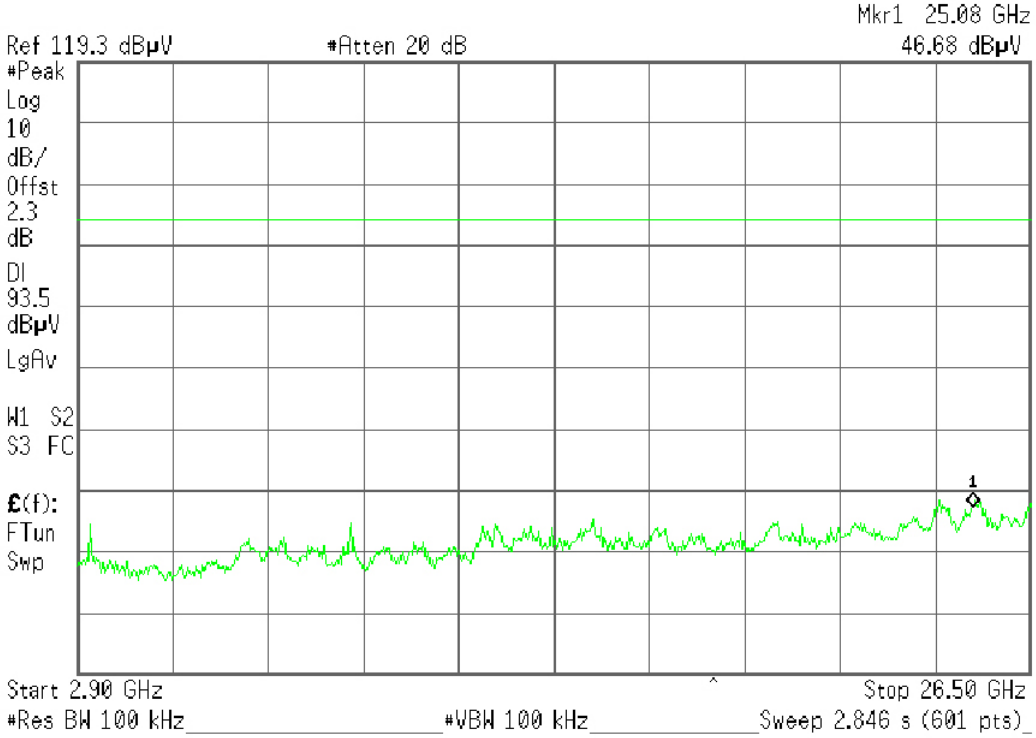
2.9GHz ~ 26.5GHz



802.11g mode (CH Low)
30MHz ~ 2.9GHz

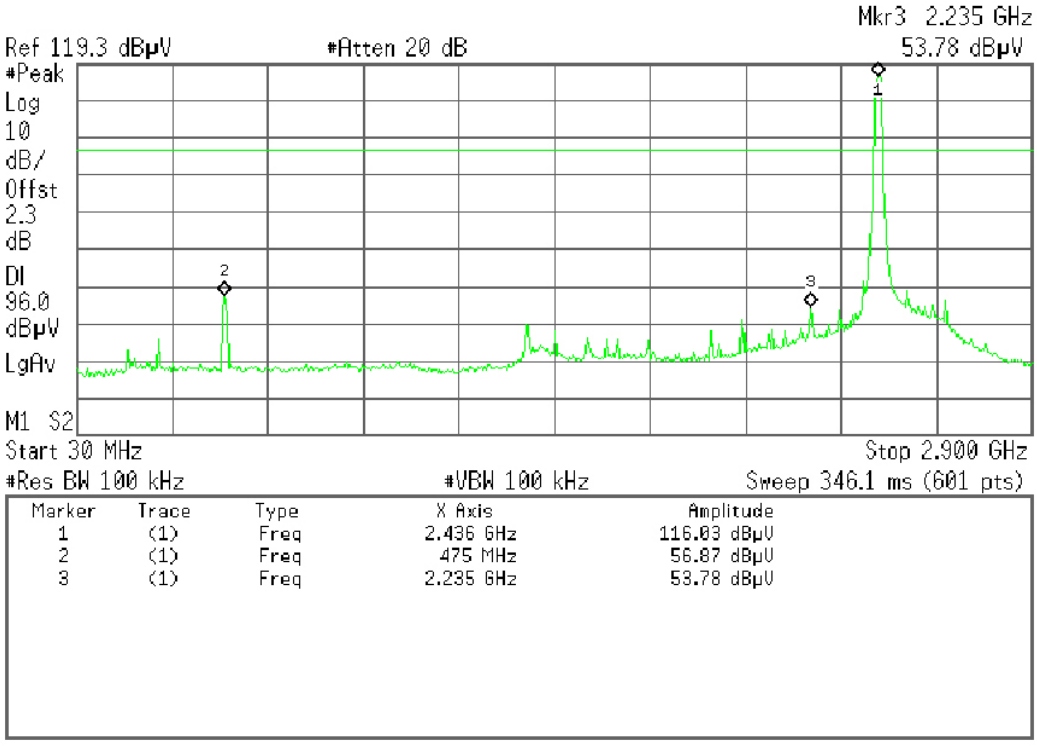


2.9GHz ~ 26.5GHz

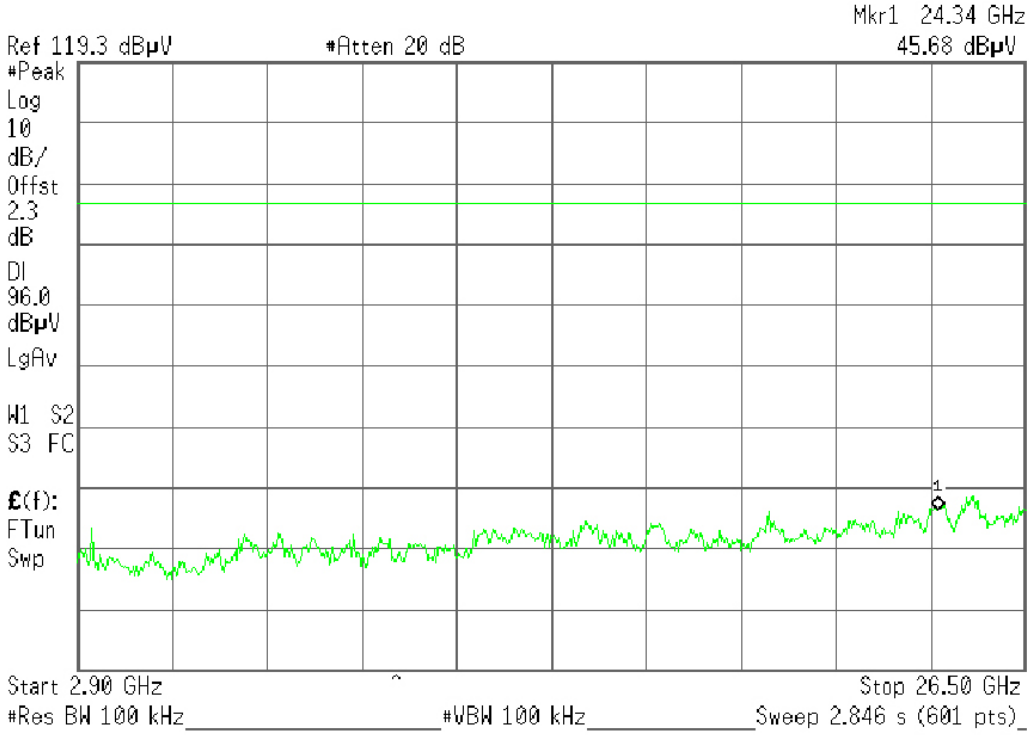


CH MID

30MHz ~ 2.9GHz

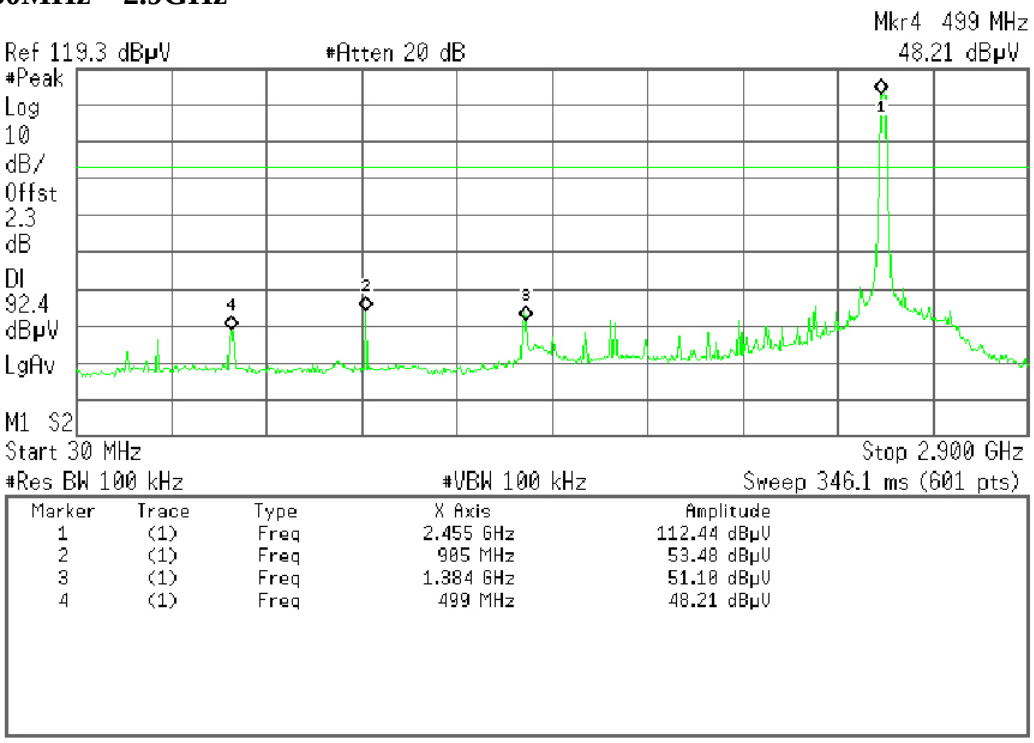


2.9GHz ~ 26.5GHz

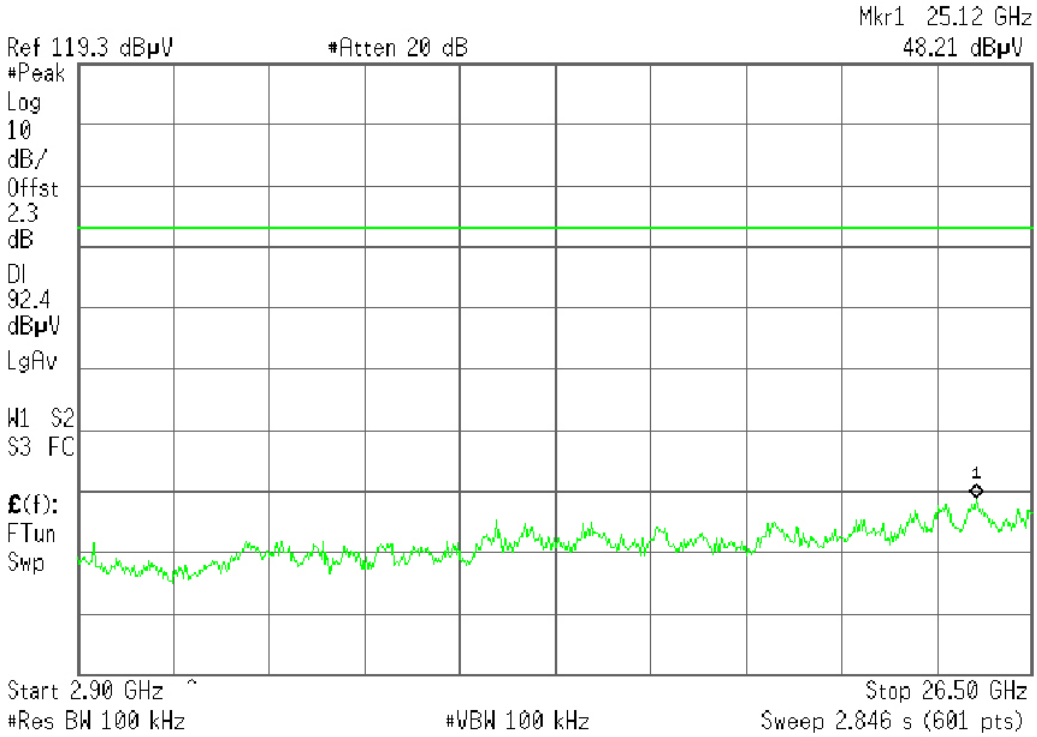


CH HIG

30MHz ~ 2.9GHz



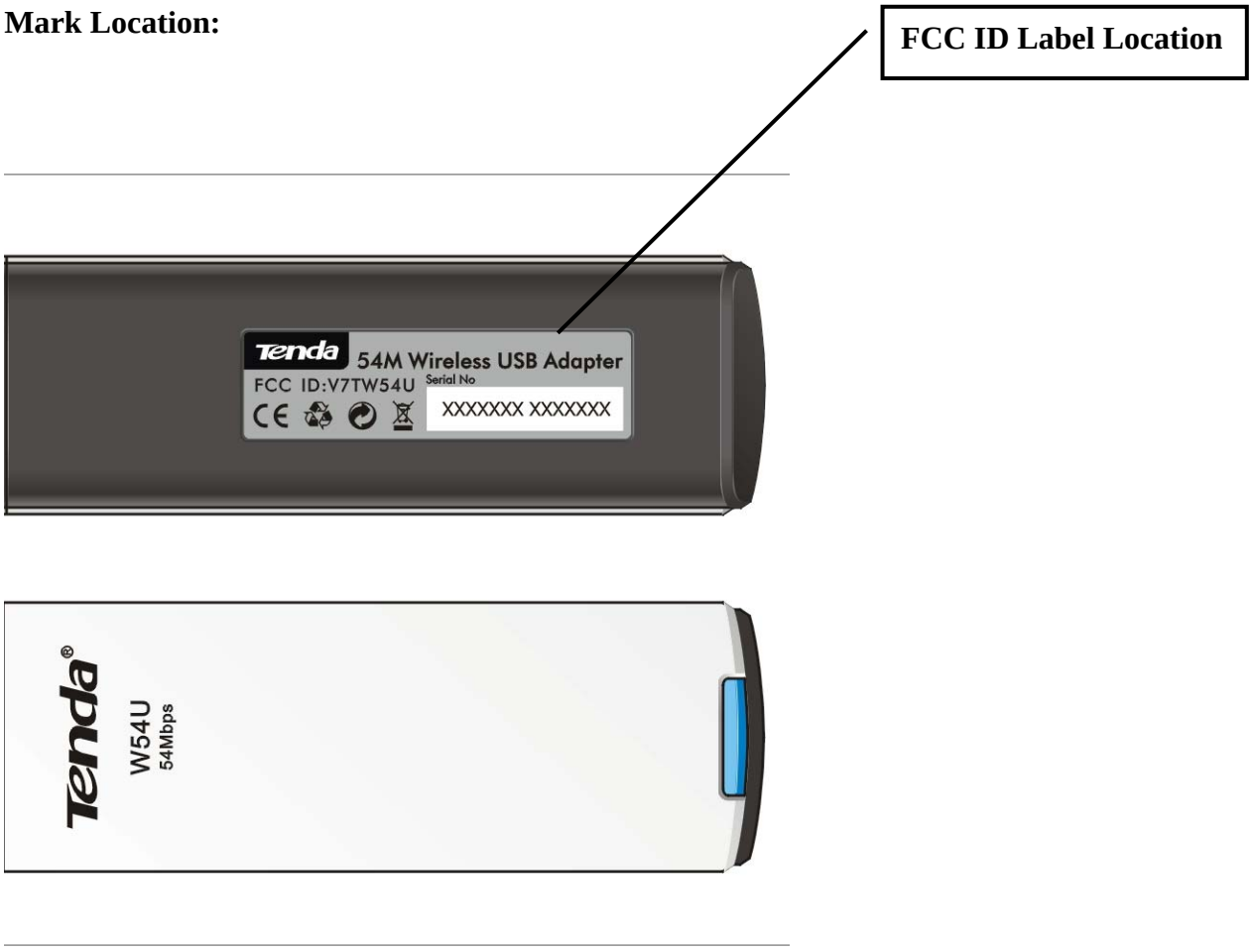
2.9GHz ~ 26.5GHz



9. FCC ID LABEL

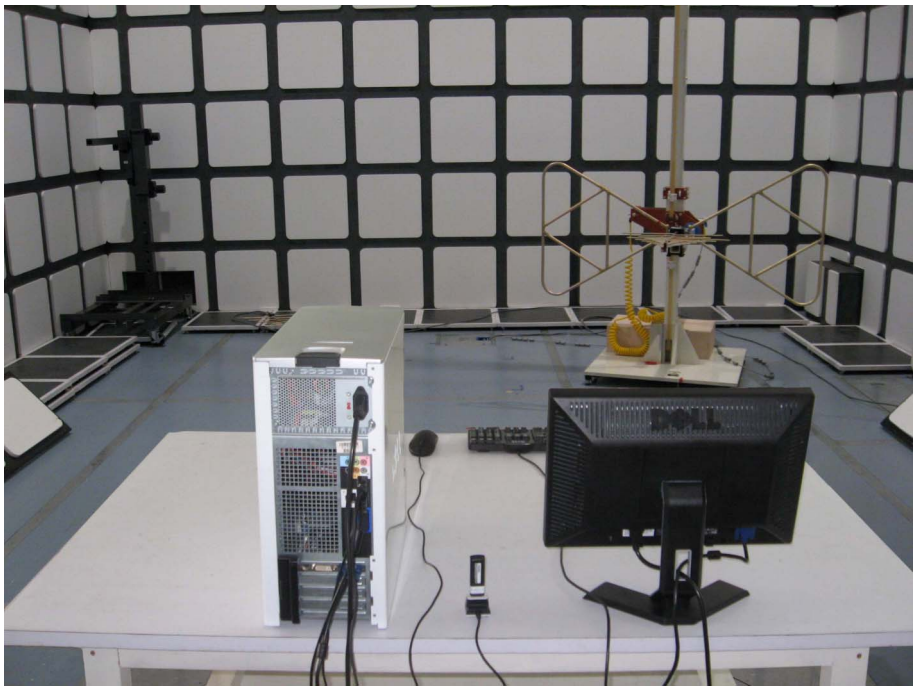
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)this device may not cause harmful interference, and (2) this device must accpt any interference received, including interference that may cause undesired operation.
The above of FCC statement only put into the user manual, haven't onto the device.
The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



10. PHOTOGRAPH

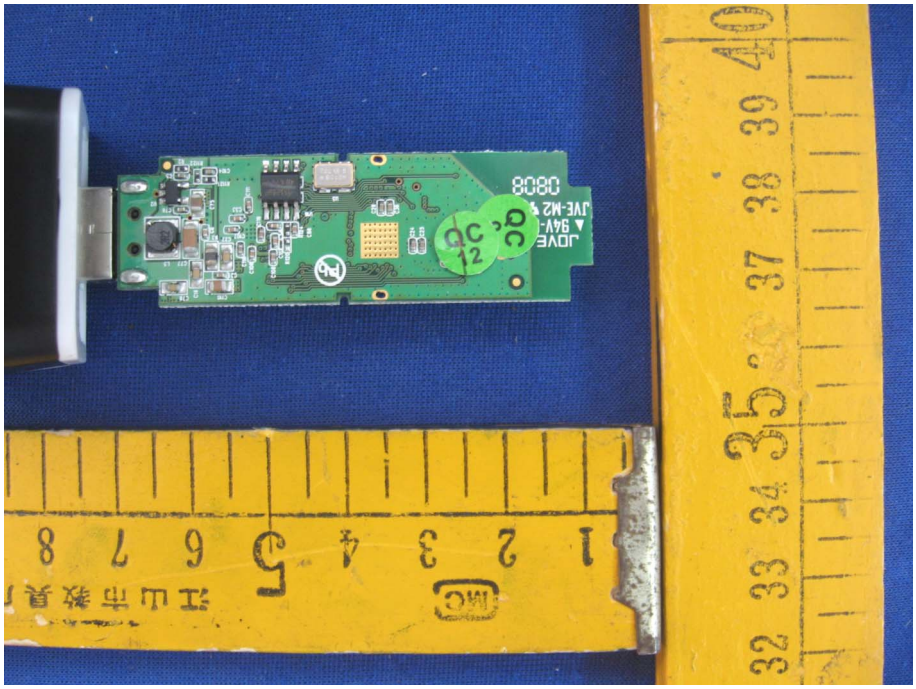
10.1 Photo of Radiated Measurement

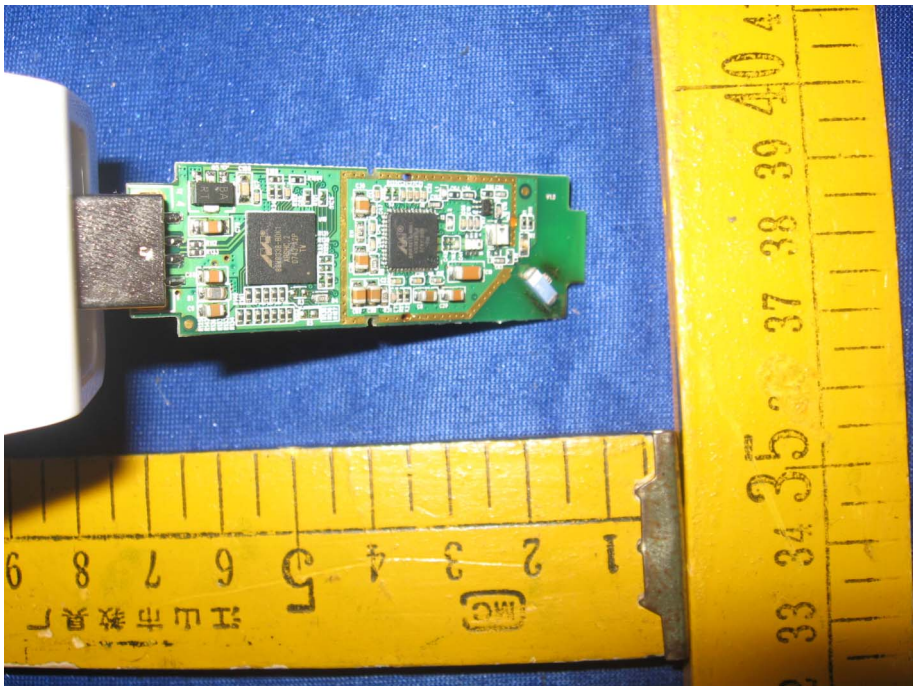


APPENDIX I
(Photos of EUT)

Outside View

Interior View





THE END