# APPLICATION CERTIFICATION FCC Part 15C On Behalf of HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

150M wireless usb adapter Model No.: WU106A

FCC ID: YXA-WU106A

Prepared for : HAOYIYUAN (SHENZHEN) ELECTRONIC CO., LTD

Address : No. 07# LangSha Road, SongGang, BaoAn, ShenZhen

GuangDong, China

Prepared by : ACCURATE TECHNOLOGY CO., LTD

Address : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.

Science & Industry Park, Nanshan, Shenzhen, Guangdong

P.R. China

Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number : ATE20102255

Date of Test : November 2-4, 2010 Date of Report : November 5, 2010

### TABLE OF CONTENTS

Description	Page
1	$\mathcal{C}$

Test Re	eport Certification	
1. <b>GE</b>	NERAL INFORMATION	5
1.1.	Description of Device (EUT)	5
	Description of Test Facility	
	Measurement Uncertainty	

2. M	EASURING DEVICE AND TEST EQUIPMENT	7
3. OI	PERATION OF EUT DURING TESTING	8
3.1.	Operating Mode	8
3.2.	Configuration and peripherals	8
4. TI	EST PROCEDURES AND RESULTS	9
5. 6D	OB BANDWIDTH MEASUREMENT	10
5.1.	Block Diagram of Test Setup	10
5.2.	The Requirement For Section 15.247(a)(1)	10
5.3.	EUT Configuration on Measurement	10

	5.5.	Test Procedure	11
	5.6.	Test Result	11
6.	MA	XIMUM PEAK OUTPUT POWER	22
	6.1.	Block Diagram of Test Setup.	22
	6.2.	The Requirement For Section 15.247(b)(3)	22
	6.3.	EUT Configuration on Measurement	22

6.5. Test I	Procedure 2	3
6.6. Test I	Result	3
	SPECTRAL DENSITY MEASUREMENT	_
	Diagram of Test Setup	

7.2.	The Requirement For Section 15.247(e)	34
	EUT Configuration on Measurement	
	Operating Condition of EUT	
	Test Procedure	
	Test Result	

8.	BAN	ND EDGE COMPLIANCE TEST	40
		Block Diagram of Test Setup	
		The Requirement For Section 15.247(d)	
		EUT Configuration on Measurement	
		Operating Condition of EUT	
	o	of statement of an area of a second of a s	•

0.7.	Operating Condition of Lot	. 🛨 /
8.5.	Test Procedure	.47
8.6.	Test Result	.48
RAI	DIATED SPURIOUS EMISSION TEST	.55
	8.5. 8.6. <b>RA</b> l	8.5. Test Procedure

/···	Block Blagfalli of Test Society	
9.2.	The Limit For Section 15.247(d)	56
9.3.	Restricted bands of operation	56
	Configuration of EUT on Measurement	
	Operating Condition of EUT	

6.4.

9.6.	Test Procedure	57
9.7.	The Field Strength of Radiation Emission Measurement Results	58
10. AC	POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECT	ION 15.207(A) 121
10.1.	Block Diagram of Test Setup	121
10.2.	The Emission Limit	121
10.3.	Configuration of EUT on Measurement	122
10.4.	Operating Condition of EUT	122
10.5.	Test Procedure	122
10.6.	Power Line Conducted Emission Measurement Results	123
11. AN	TENNA REQUIREMENT	132
11.1.	The Requirement	132
	Antenna Construction	

# **Test Report Certification**

Applicant : HAOYIYUAN (SHENZHEN) ELECTRONIC CO., LTD

Manufacturer : HAOYIYUAN (SHENZHEN) ELECTRONIC CO., LTD

EUT Description : 150M wireless usb adapter

(A) MODEL NO.: WU106A

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: DC 5V

Measurement Procedure Used:

#### FCC Rules and Regulations Part 15 Subpart C Section 15.247 ANSI C63.4: 2003

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test :	November 2-4, 2010		
Prepared by :	Joe		
	(Engineer)		
Approved & Authorized Signer :	Lemb		
	(Manager)		

### 1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT : 150M wireless usb adapter

Model Number : WU106A

Frequency Band : 2412-2462MHz

Number of Channels : 11

Antenna Gain : 0dBi

Power Supply : DC 5V (USB terminal)

Data Rate : IEEE 802.11b: 11Mbps

IEEE 802.11g: 54Mbps

IEEE 802.11n: 150Mbps

Applicant : HAOYIYUAN (SHENZHEN) ELECTRONIC CO., LTD

Address : No. 07# LangSha Road, SongGang, BaoAn, ShenZhen

GuangDong, China

Manufacturer : HAOYIYUAN (SHENZHEN) ELECTRONIC CO., LTD

Address : No. 07# LangSha Road, SongGang, BaoAn, ShenZhen

GuangDong, China

Date of sample received: October 25, 2010

Date of Test : November 2-4, 2010

# 1.2.Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC

The Registration Number is 752051

Listed by Industry Canada

The Registration Number is 5077A-2

Accredited by China National Accreditation Committee

for Laboratories

The Certificate Registration Number is L3193

Name of Firm : ACCURATE TECHNOLOGY CO. LTD

Site Location : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.

Science & Industry Park, Nanshan, Shenzhen, Guangdong

P.R. China

## 1.3. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty = 3.08dB, k=2

(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2

(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2

(Above 1GHz)

# 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment** 

Kind of equipment	Manufacturer	Туре	S/N	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 9, 2011
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 9, 2011
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 9, 2011
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 9, 2011
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 9, 2011
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 9, 2011
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 9, 2011
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 9, 2011
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 9, 2011
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 9, 2011

# 3. OPERATION OF EUT DURING TESTING

# 3.1. Operating Mode

The mode is used: 802.11b Transmitting mode

Low Channel: 2412MHz Middle Channel: 2437MHz High Channel: 2462MHz

#### 802.11g Transmitting mode

Low Channel: 2412MHz Middle Channel: 2437MHz High Channel: 2462MHz

#### 802.11n Transmitting mode

Low Channel: 2412MHz Middle Channel: 2437MHz High Channel: 2462MHz

# 3.2. Configuration and peripherals

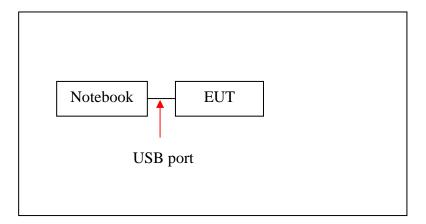


Figure 1 Setup: Transmitting mode

# 4. TEST PROCEDURES AND RESULTS

FCC Rules	<b>Description of Test</b>	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

#### 5. 6DB BANDWIDTH MEASUREMENT

## 5.1.Block Diagram of Test Setup



(EUT: 150M wireless usb adapter)

### 5.2. The Requirement For Section 15.247(a)(1)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

# 5.3.EUT Configuration on Measurement

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.3.1.150M wireless usb adapter (EUT)

Model Number : WU106A Serial Number : N/A

Manufacturer : HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

#### 5.4. Operating Condition of EUT

- 5.4.1. Setup the EUT and simulator as shown as Section 5.1.
- 5.4.2. Turn on the power of all equipment.
- 5.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

### 5.5.Test Procedure

- 5.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 5.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.
- 5.5.3.The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

### 5.6.Test Result

#### PASS.

Date of Test:November 4, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:TXTest Engineer:Joe

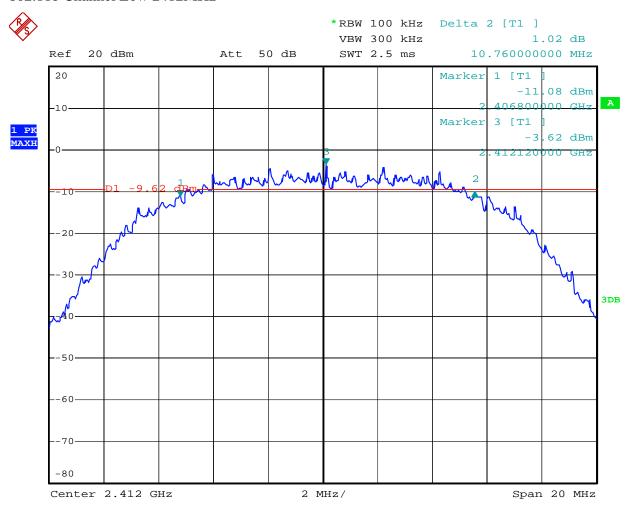
The test was per	The test was performed with 802.11b					
Channel	Channel Frequency (MHz) 6dB Bandwidth Limit (MHz) (MHz)					
Low	2412	10.76	> 0.5MHz			
Middle	2437	10.60	> 0.5MHz			
High	2462	10.48	> 0.5MHz			

The test was performed with 802.11g						
Channel	Channel Frequency (MHz) 6dB Bandwidth (MHz) Limit (MHz)					
Low	2412	16.60	> 0.5MHz			
Middle	2437	16.56	> 0.5MHz			
High	2462	16.56	> 0.5MHz			

The test was per	The test was performed with 802.11n					
Channel	Channel Frequency (MHz) 6dB Bandwidth Limit (MHz) (MHz)					
Low	2412	17.76	> 0.5MHz			
Middle	2437	17.72	> 0.5MHz			
High	2462	17.76	> 0.5MHz			

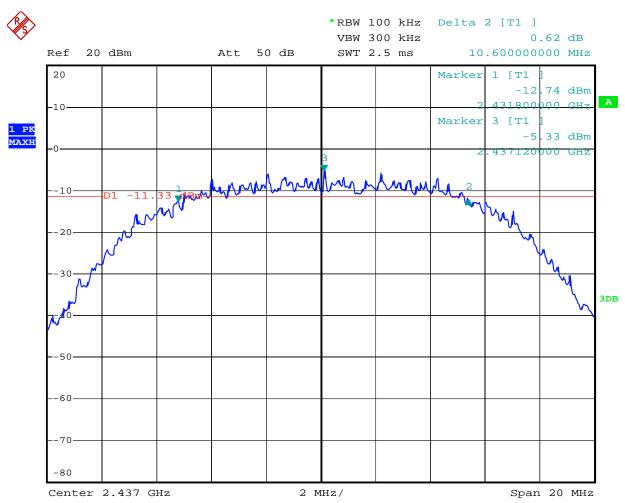
The spectrum analyzer plots are attached as below.

#### 802.11b Channel Low 2412MHz



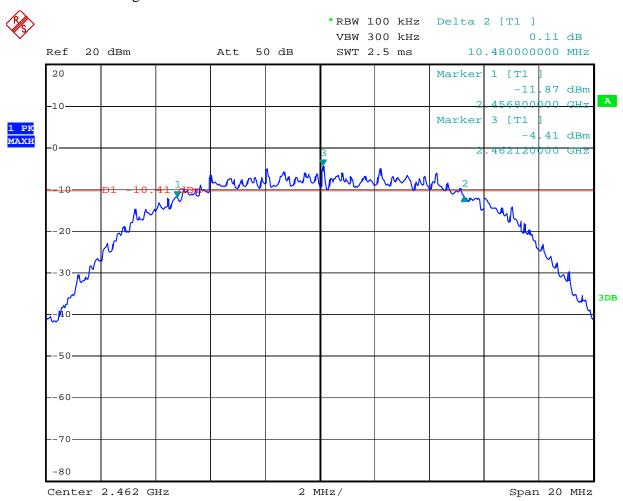
Date: 4.NOV.2010 15:58:15

#### 802.11b Channel Middle 2437MHz



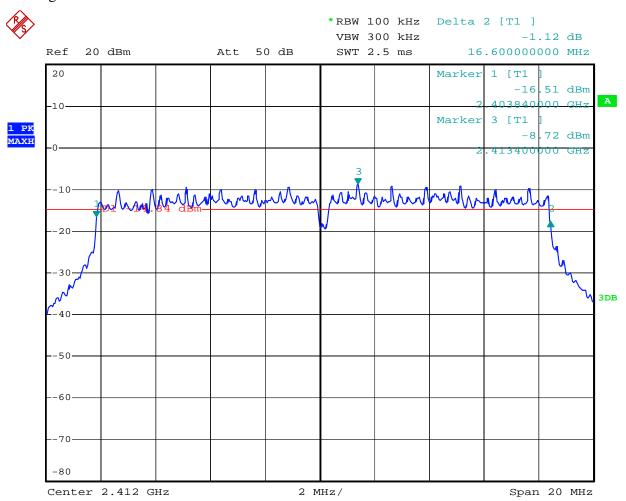
Date: 4.NOV.2010 16:02:00

# 802.11b Channel High 2462MHz



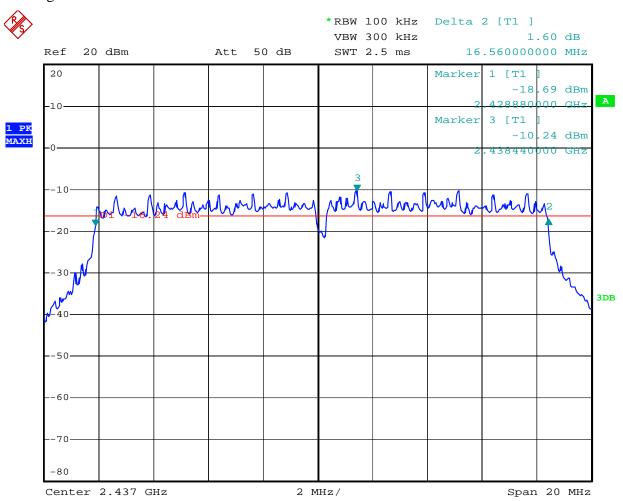
Date: 4.NOV.2010 16:06:06

# 802.11g Channel Low 2412MHz



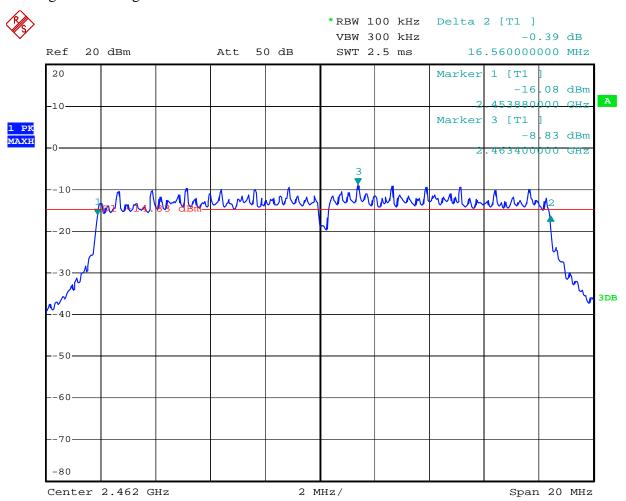
Date: 4.NOV.2010 16:10:14

# 802.11g Channel Middle 2437MHz



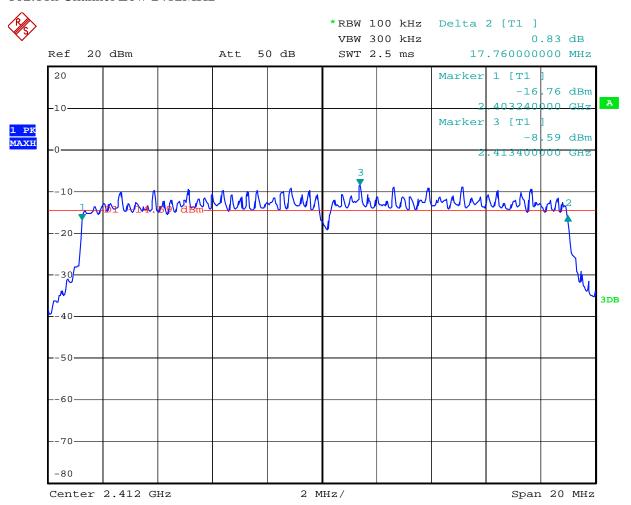
Date: 4.NOV.2010 16:13:45

# 802.11g Channel High 2462MHz



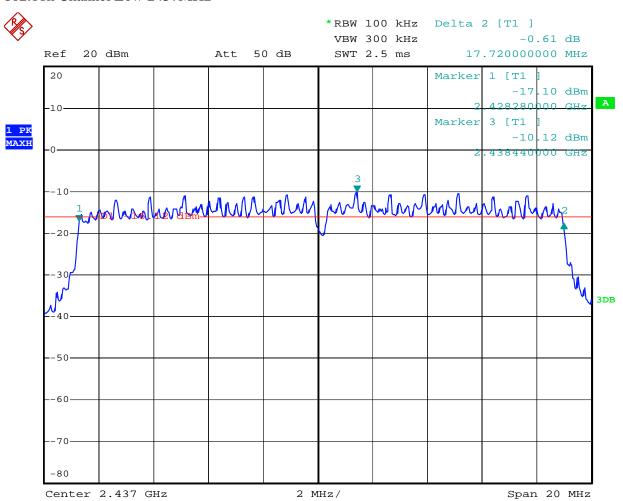
Date: 4.NOV.2010 16:15:41

#### 802.11n Channel Low 2412MHz



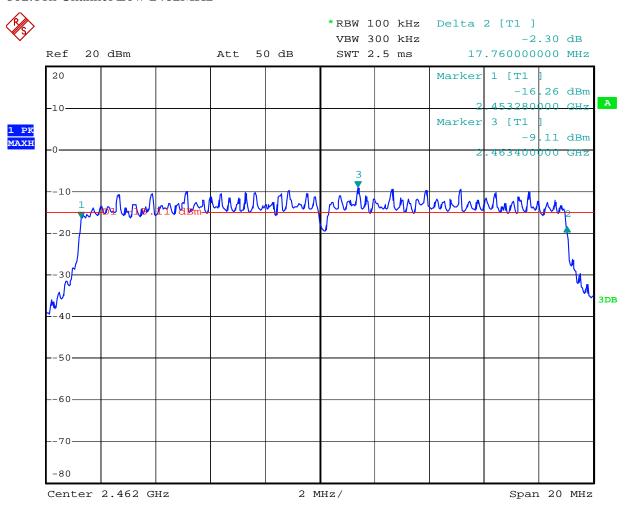
Date: 4.NOV.2010 16:19:38

#### 802.11n Channel Low 2437MHz



Date: 4.NOV.2010 16:21:08

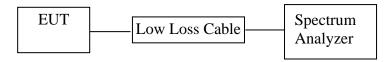
#### 802.11n Channel Low 2462MHz



Date: 4.NOV.2010 16:23:23

### 6. MAXIMUM PEAK OUTPUT POWER

### 6.1.Block Diagram of Test Setup



(EUT: 150M wireless usb adapter)

### 6.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

### 6.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.3.1.150M wireless usb adapter (EUT)

Model Number : WU106A

Serial Number : N/A

Manufacturer : HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

### 6.4. Operating Condition of EUT

- 6.4.1. Setup the EUT and simulator as shown as Section 6.1.
- 6.4.2. Turn on the power of all equipment.
- 6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

### 6.5.Test Procedure

- 6.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 6.5.2.Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz.
- 6.5.3. Measurement the maximum peak output power.

### 6.6.Test Result

PASS.

Date of Test:November 4, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:TXTest Engineer:Joe

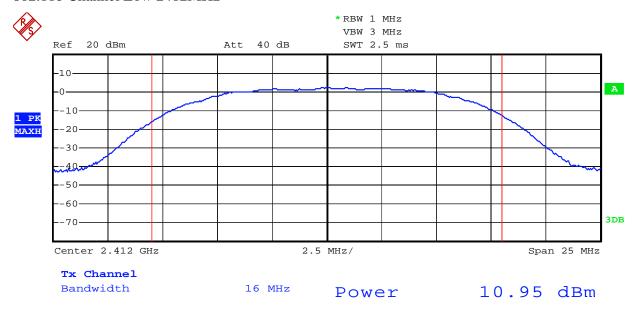
The test was performed with 802.11b						
Channel	Channel Frequency (MHz) Peak Output Power (dBm) Peak Output Power (mW) Limits dBm / W					
Low	Low 2412 10.95 12.45 30 dBm / 1 W					
Middle	2437	9.68	9.29	30  dBm / 1  W		
High	2462	10.58	11.43	30  dBm / 1  W		

The test was per	The test was performed with 802.11g				
Channel Frequency (MHz) Peak Output Power (dBm) Peak Output Power (mW) Limits dBm / W					
Low	Low 2412 10.10 10.23 30 dBm / 1 W				
Middle	2437	9.00	7.94	30 dBm / 1 W	
High	2462	10.01	10.02	30 dBm / 1 W	

The test was performed with 802.11n						
Channel	Channel Frequency (MHz) Peak Output Power (dBm) Peak Output Power (mW) Limits dBm/W					
Low	Low 2412 9.67 9.27 30 dBm / 1 W					
Middle	2437	8.65	7.33	30 dBm / 1 W		
High	2462	9.63	9.18	30 dBm / 1 W		

The spectrum analyzer plots are attached as below.

# 802.11b Channel Low 2412MHz



Date: 4.NOV.2010 13:17:12

# 802.11b Channel Middle 2437MHz



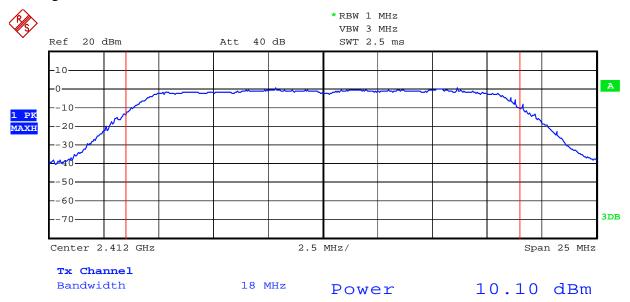
Date: 4.NOV.2010 13:18:27

# 802.11b Channel High 2462MHz



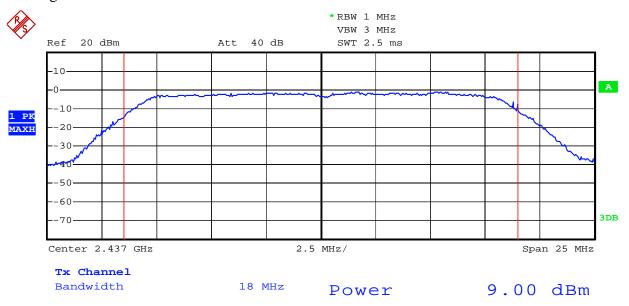
Date: 4.NOV.2010 13:20:17

# 802.11g Channel Low 2412MHz



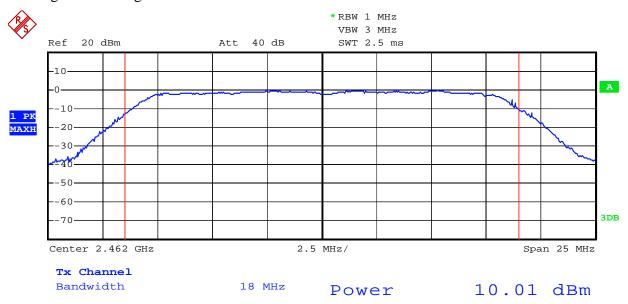
Date: 4.NOV.2010 13:22:38

# 802.11g Channel Middle 2437MHz



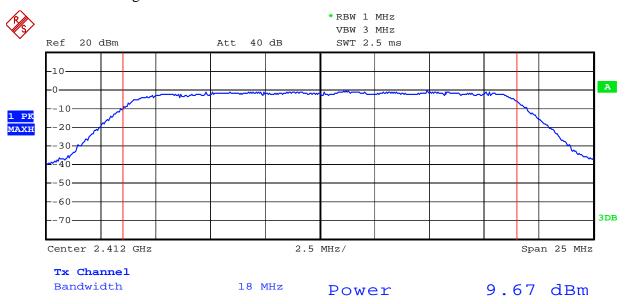
Date: 4.NOV.2010 13:24:04

# 802.11g Channel High 2462MHz



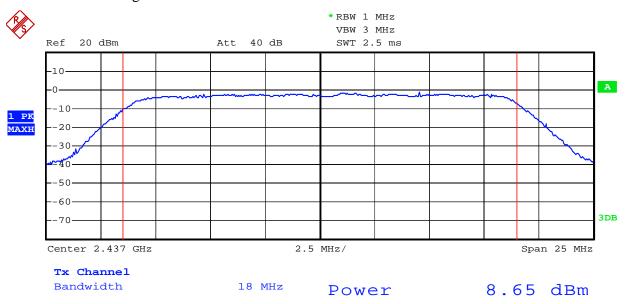
Date: 4.NOV.2010 13:26:08

# 802.11n Channel High 2412MHz



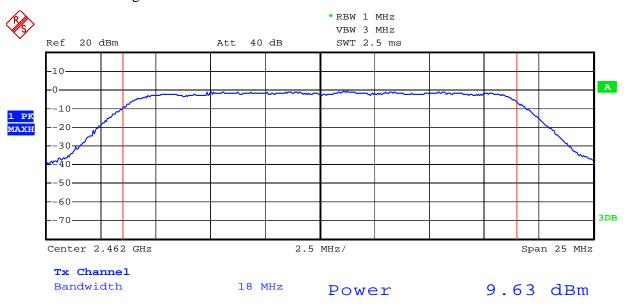
Date: 4.NOV.2010 13:27:43

# 802.11n Channel High 2437MHz



Date: 4.NOV.2010 13:29:34

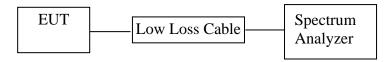
# 802.11n Channel High 2462MHz



Date: 4.NOV.2010 13:31:21

### 7. POWER SPECTRAL DENSITY MEASUREMENT

## 7.1.Block Diagram of Test Setup



(EUT: 150M wireless usb adapter)

## 7.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the 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.

### 7.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.3.1.150M wireless usb adapter (EUT)

Model Number : WU106A Serial Number : N/A

Manufacturer : HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

#### 7.4. Operating Condition of EUT

- 7.4.1. Setup the EUT and simulator as shown as Section 7.1.
- 7.4.2. Turn on the power of all equipment.
- 7.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

#### 7.5.Test Procedure

- 7.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 7.5.2.Set RBW of spectrum analyzer to 3kHz and VBW to 10kHz, sweep time = Span/3kHz.
- 7.5.3. Measurement the maximum power spectral density.

### 7.6.Test Result

#### PASS.

Date of Test:November 4, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:TXTest Engineer:Joe

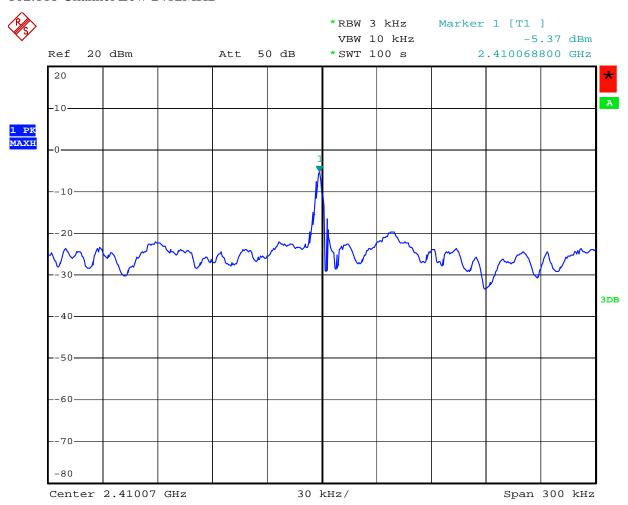
The test was performed with 802.11b					
Channel Frequency (MHz) Power Spectral Density (dBm) Limits (dBm)					
Low	2412	-5.37	8 dBm		
Middle	2437	-6.61	8 dBm		
High	2462	-5.08	8 dBm		

The test was performed with 802.11g					
Channel Frequency (MHz) Power Spectral Density (dBm) Limits (dBm)					
Low	2412	-24.95	8 dBm		
Middle	2437	-26.77	8 dBm		
High	2462	-24.99	8 dBm		

The test was performed with 802.11n					
Channel Frequency (MHz) Power Spectral Density (dBm) Limits (dBm)					
Low	2412	-24.06	8 dBm		
Middle	2437	-26.16	8 dBm		
High	2462	-25.30	8 dBm		

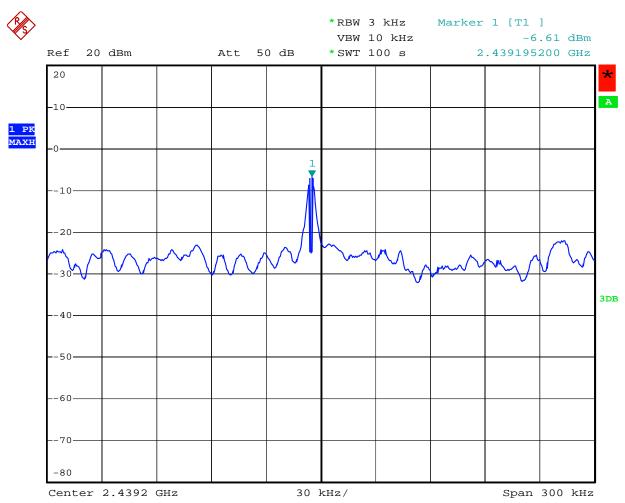
The spectrum analyzer plots are attached as below.

## 802.11b Channel Low 2412MHz



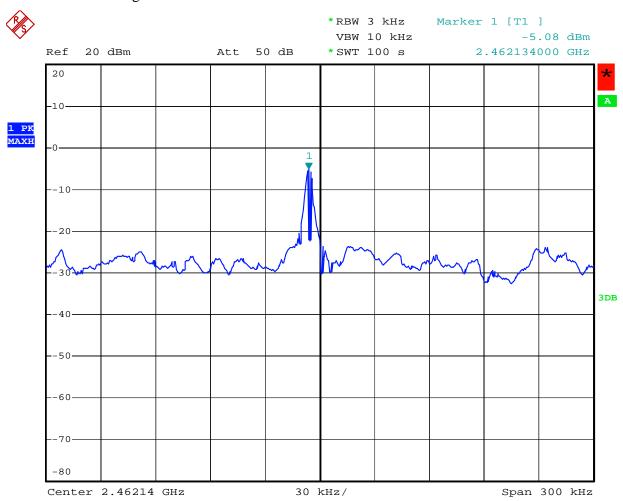
Date: 4.NOV.2010 13:39:24

## 802.11b Channel Middle 2437MHz



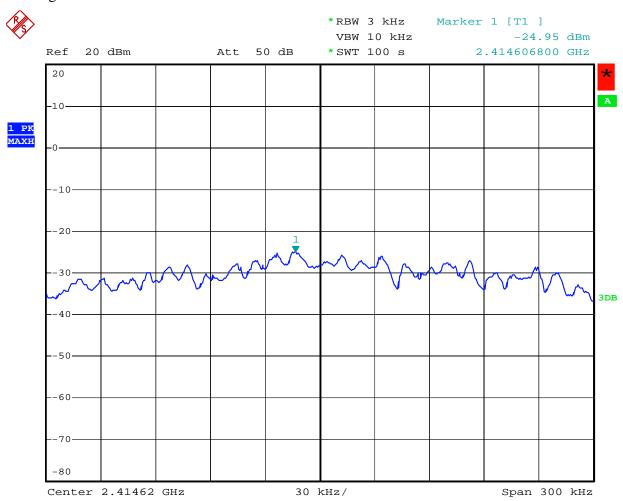
Date: 4.NOV.2010 13:44:52

# 802.11b Channel High 2462MHz



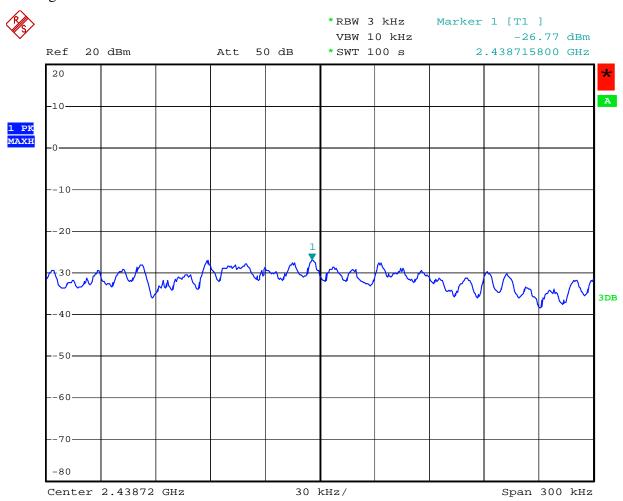
Date: 4.NOV.2010 13:49:52

# 802.11g Channel Low 2412MHz



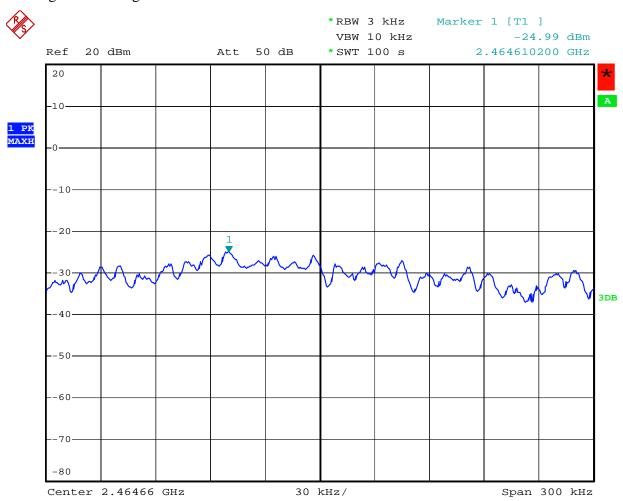
Date: 4.NOV.2010 13:55:06

# 802.11g Channel Middle 2437MHz



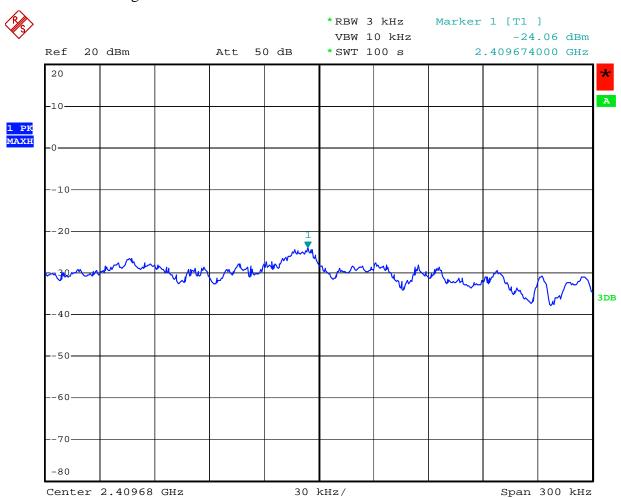
Date: 4.NOV.2010 13:59:34

# 802.11g Channel High 2462MHz



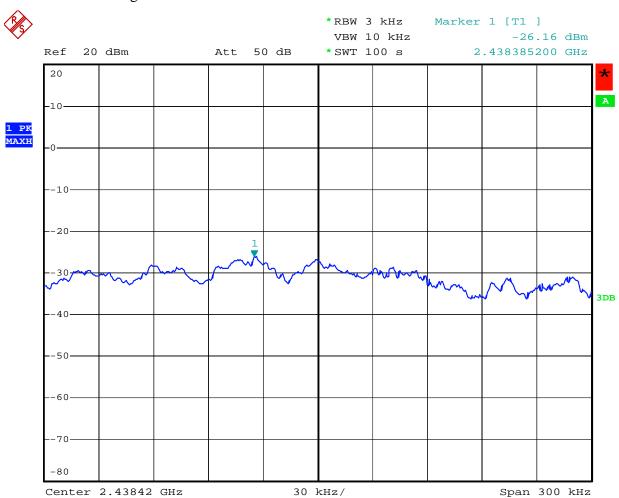
Date: 4.NOV.2010 14:03:36

# 802.11n Channel High 2412MHz



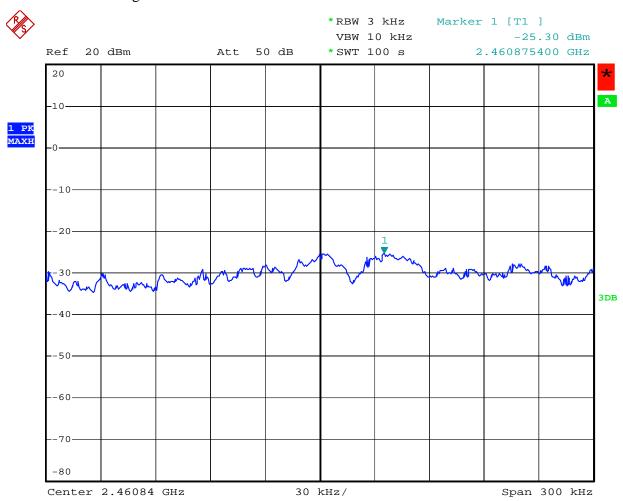
Date: 4.NOV.2010 14:09:41

# 802.11n Channel High 2437MHz



Date: 4.NOV.2010 14:14:25

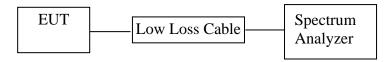
# 802.11n Channel High 2462MHz



Date: 4.NOV.2010 14:18:46

## 8. BAND EDGE COMPLIANCE TEST

## 8.1.Block Diagram of Test Setup



(EUT: 150M wireless usb adapter)

## 8.2. The Requirement For Section 15.247(d)

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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. 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).

## 8.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 8.3.1.150M wireless usb adapter (EUT)

Model Number : WU106A Serial Number : N/A

Manufacturer : HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

# 8.4. Operating Condition of EUT

- 8.4.1. Setup the EUT and simulator as shown as Section 8.1.
- 8.4.2. Turn on the power of all equipment.
- 8.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462MHz. We select 2412MHz, 2462MHz TX frequency to transmit.

## 8.5.Test Procedure

- 8.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.
- 8.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz with convenient frequency span.
- 8.5.3. The band edges was measured and recorded.

# 8.6.Test Result

## Pass

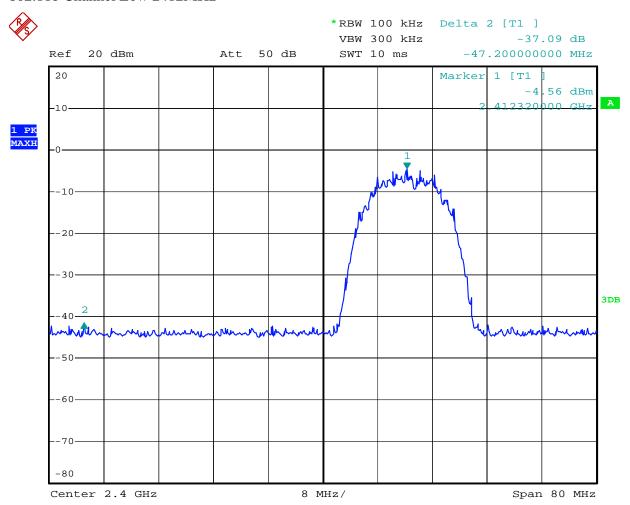
Date of Test:	November 4, 2010	Temperature:	25°C
EUT:	150M wireless usb adapter	Humidity:	50%
Model No.:	WU106A	Power Supply:	DC 5V
Test Mode:	TX	Test Engineer:	Joe

The test was performed with 802.11b								
Frequency	Result of Band Edge (dBc)	Limit of Band Edge (dBc)						
(MHz)								
2412	37.09	> 20dBc						
2462	36.84	> 20dBc						

The test was performed with 802.11g								
Frequency	Result of Band Edge (dBc)	Limit of Band Edge (dBc)						
(MHz)								
2412	33.04	> 20dBc						
2462	32.23	> 20dBc						

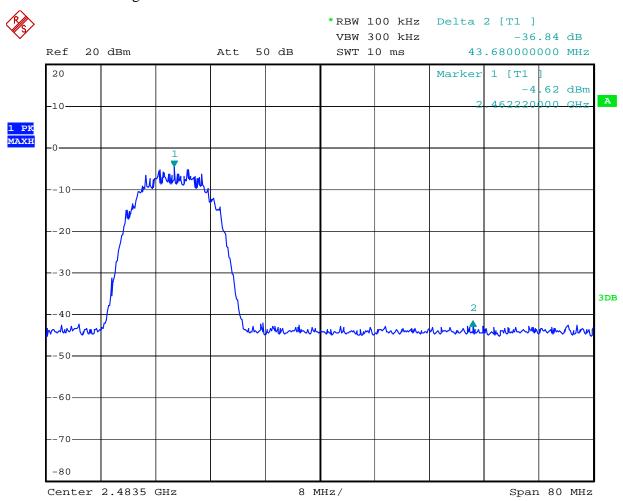
The test was performed with 802.11n								
Frequency	Result of Band Edge	Limit of Band Edge						
(MHz)	(dBc)	(dBc)						
2412	32.45	> 20dBc						
2462	32.76	> 20dBc						

## 802.11b Channel Low 2412MHz



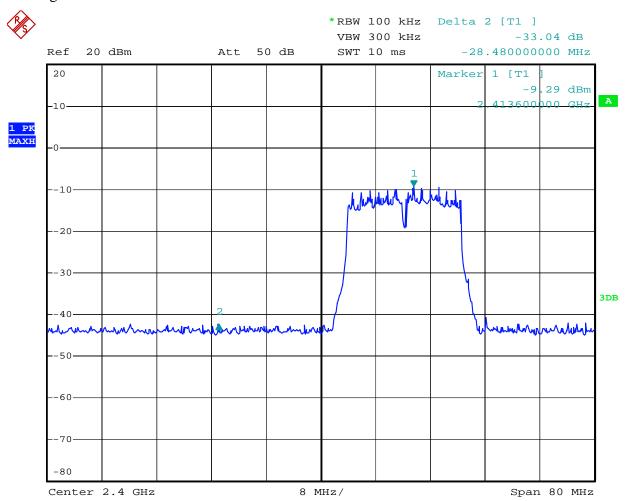
Date: 4.NOV.2010 14:22:30

## 802.11b Channel High 2462MHz



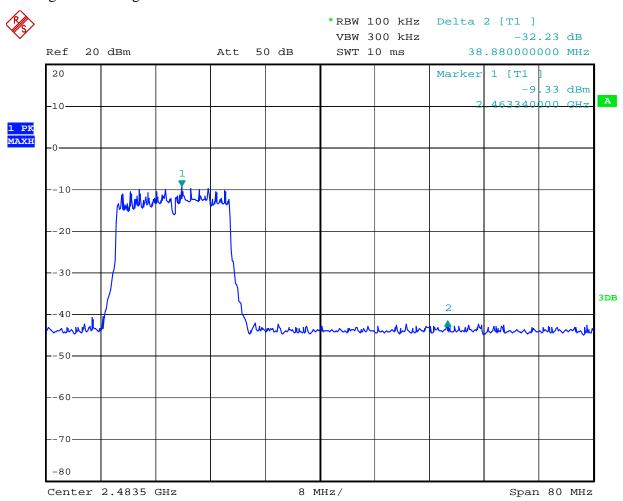
Date: 4.NOV.2010 14:24:13

# 802.11g Channel Low 2412MHz



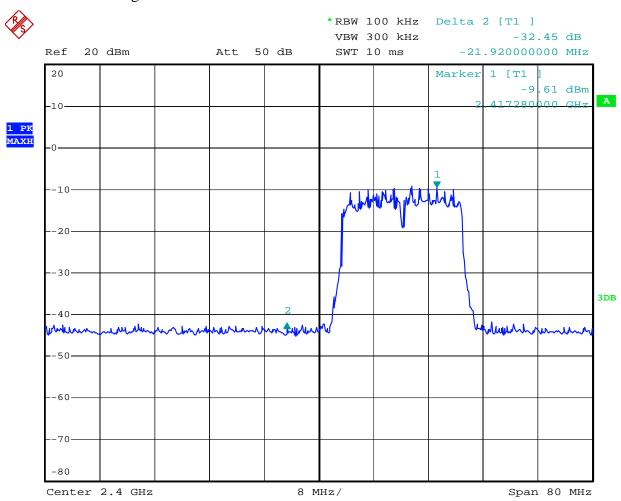
Date: 4.NOV.2010 14:25:55

# 802.11g Channel High 2462MHz



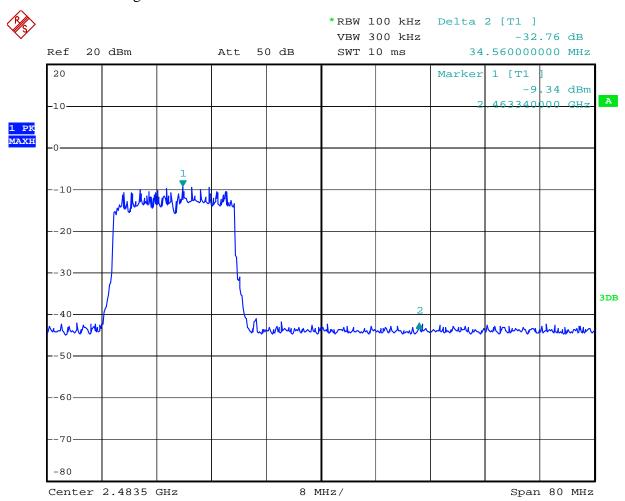
Date: 4.NOV.2010 14:27:55

## 802.11n Channel High 2412MHz



Date: 4.NOV.2010 14:29:14

## 802.11n Channel High 2462MHz

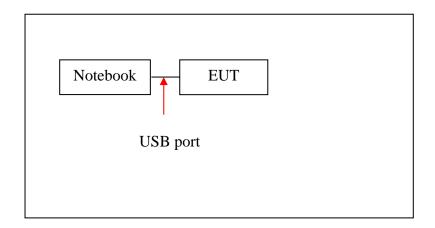


Date: 4.NOV.2010 14:30:58

# 9. RADIATED SPURIOUS EMISSION TEST

# 9.1.Block Diagram of Test Setup

9.1.1.Block diagram of connection between the EUT and peripherals

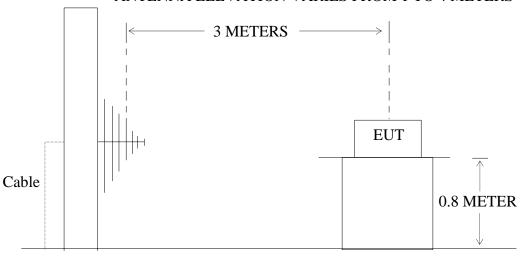


Setup: Transmitting mode

(EUT: 150M wireless usb adapter)

## 9.1.2.Semi-Anechoic Chamber Test Setup Diagram

#### ANTENNA ELEVATION VARIES FROM 1 TO 4 METERS



**GROUND PLANE** 

(EUT: 150M wireless usb adapter)

## 9.2. The Limit For Section 15.247(d)

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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. 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).

## 9.3. Restricted bands of operation

#### 9.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	$\binom{2}{}$
13.36-13.41			

Until February 1, 1999, this restricted band shall be 0.490-0.510

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

<sup>&</sup>lt;sup>2</sup>Above 38.6

## 9.4. Configuration of EUT on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.4.1.150M wireless usb adapter (EUT)

Model Number : WU106A Serial Number : N/A

Manufacturer : HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

## 9.5. Operating Condition of EUT

- 9.5.1. Setup the EUT and simulator as shown as Section 8.1.
- 9.5.2. Turn on the power of all equipment.
- 9.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

#### 9.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The worst-case data rate for this channel to be 1Mbps for 802.11b mode and 6Mbps for 802.11g mode, based on previous with 802.11 WLAN product design architectures.

The bandwidth of test receiver (R&S ESI26) is set at 120kHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

The frequency range from 30MHz to 25000MHz is checked.

The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

# 9.7. The Field Strength of Radiation Emission Measurement Results **PASS.**

Date of Test: November 2-3, 2010

EUT: 150M wireless usb adapter

Model No.: WU106A

Temperature: 25°C

Humidity: 50%

Power Supply: DC 5V

Test Mode: 802.11b Channel Low 2412MHz

Test Engineer: Joe

#### For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency	Reading	Factor	Result	Limit	Margin	Polarization
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	(dBµV/m)	(dB)	
	QP	(dB)	QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	_	Horizontal

#### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading	(dBµV/m)	Factor Result( $dB\mu V/m$ ) Limit( $dB\mu V/m$ )		Margin(dBμV/m)		Polarizati			
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2400.000	39.38	45.26	-7.46	31.92	37.80	54	74	-22.08	-36.20	Vertical
2412.030	95.28	101.21	-7.43	87.85	93.78	-	-	-	-	Vertical
*4824.052	50.89	56.81	-0.19	50.70	56.62	54	74	-3.30	-17.38	Vertical
7236.076	44.73	50.66	3.05	47.78	53.71	54	74	-6.22	-20.29	Vertical
2400.000	39.73	45.65	-7.46	32.27	38.19	54	74	-21.73	-35.81	Horizontal
2412.030	96.92	102.86	-7.43	89.49	95.43	-	-	-	-	Horizontal
*4824.052	50.87	56.84	-0.19	50.68	56.65	54	74	-3.32	-17.35	Horizontal
7236.076	44.90	50.92	3.05	47.95	53.97	54	74	-6.05	-20.03	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11b Channel Middle 2437MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

		T =====									
Frequency	Reading	Factor	Result	Limit	Margin	Polarization					
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	(dBµV/m)	(dB)						
	QP	(dB)	QP	QP	QP						
-	-	1	-	-	-	Vertical					
-	-	-	-	-	-	Horizontal					

#### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(	dBμV/m)	Factor	Factor Result(dBμV/m) Limit(dBμV/m)		Margin(dBµV/m)		Polarizati		
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2437.032	94.68	100.54	-7.36	87.32	93.18	1	-	-	-	Vertical
*4874.053	50.56	56.47	0.09	50.65	56.56	54	74	-3.35	-17.44	Vertical
*7311.078	44.49	50.41	3.22	47.71	53.63	54	74	-6.29	-20.37	Vertical
2437.032	96.60	102.53	-7.36	89.24	95.17	-	-	-	-	Horizontal
*4874.053	50.56	56.55	0.09	50.65	56.64	54	74	-3.35	-17.36	Horizontal
*7311.078	44.72	50.66	3.22	47.94	53.88	54	74	-6.06	-20.12	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11b Channel High 2462MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

		T =====									
Frequency	Reading	Factor	Result	Limit	Margin	Polarization					
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	(dBµV/m)	(dB)						
	QP	(dB)	QP	QP	QP						
-	-	1	-	-	-	Vertical					
-	-	-	-	-	-	Horizontal					

## For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(	dBμV/m)			Margin(dBµV/m)		Polarizati			
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2462.029	95.33	101.29	-7.35	87.98	93.94	-	-	-	-	Vertical
2483.500	39.60	45.63	-7.37	32.23	38.26	54	74	-21.77	-35.74	Vertical
*4924.050	50.38	56.29	0.34	50.72	56.63	54	74	-3.28	-17.37	Vertical
*7386.077	44.54	50.44	3.39	47.93	53.83	54	74	-6.07	-20.17	Vertical
2462.029	96.77	102.74	-7.35	89.42	95.39	-	-	-	-	Horizontal
2483.500	39.66	45.55	-7.37	32.29	38.18	54	74	-21.71	-35.82	Horizontal
*4924.050	50.40	56.37	0.34	50.74	56.71	54	74	-3.26	-17.29	Horizontal
*7386.077	44.28	50.22	3.39	47.67	53.61	54	74	-6.33	-20.39	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11g Channel Low 2412MHzTest Engineer:Joe

#### For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading	Factor	Result	Limit	Margin	Polarization
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	(dBµV/m)	(dB)	
	QP	(dB)	QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

## For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading	Reading(dBµV/m		Factor Result(o		$dB\mu V/m$ Limit( $dB\mu V/m$ )		Margin(dBμV/m)		Polarizati on
(IVIIIZ)	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2400.000	39.98	45.88	-7.46	32.52	38.42	54	74	-21.48	-35.58	Vertical
2412.033	95.51	101.43	-7.43	88.08	94.00	-	-	-	-	Vertical
*4824.054	49.80	55.72	-0.19	49.61	55.53	54	74	-4.39	-18.47	Vertical
7236.080	43.58	49.46	3.05	46.63	52.51	54	74	-7.37	-21.49	Vertical
2400.000	39.72	45.68	-7.46	32.26	38.22	54	74	-21.74	-35.78	Horizontal
2412.033	96.09	102.06	-7.43	88.66	94.63	-	-	-	-	Horizontal
*4824.054	50.38	56.22	-0.19	50.19	56.03	54	74	-3.81	-17.97	Horizontal
7236.080	44.23	50.15	3.05	47.28	53.20	54	74	-60.72	-20.80	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11g Channel Middle 2437MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading Factor		Result	Limit	Margin	Polarization					
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	$(dB\mu V/m)$ $(dB\mu V/m)$							
	QP	(dB)	QP	QP	QP						
-	-	1	-	-	-	Vertical					
-	-	-	-	-	-	Horizontal					

## For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(	dBμV/m)	· · · · ·		Result(dBµV/m)		Limit(dBµV/m)		Margin(dBµV/m)	
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2437.031	95.19	101.10	-7.36	87.83	93.74	1	-	-	-	Vertical
*4874.052	50.06	55.95	0.09	50.15	56.04	54	74	-3.85	-17.96	Vertical
*7311.076	44.19	50.06	3.22	47.41	53.28	54	74	-6.59	-20.72	Vertical
2437.031	96.07	101.92	-7.36	88.71	94.56	1	-	-	-	Horizontal
*4874.052	49.23	55.20	0.09	49.32	55.29	54	74	-4.68	-18.71	Horizontal
*7311.076	43.91	49.82	3.22	47.13	53.04	54	74	-6.87	-20.96	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11g Channel High 2462MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading Factor		Result	Limit	Margin	Polarization					
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	$(dB\mu V/m)$ $(dB\mu V/m)$							
	QP	(dB)	QP	QP	QP						
-	-	1	-	-	-	Vertical					
-	-	-	-	-	-	Horizontal					

#### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(	dBμV/m)	Factor	Result(c	lBμV/m)	Limit(d	BμV/m)	Margin(	Polarizati	
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2462.032	95.34	101.29	-7.35	87.99	93.94	-	-	-	-	Vertical
2483.500	39.80	45.72	-7.37	32.43	38.35	54	74	-21.57	-35.65	Vertical
*4924.051	49.30	55.29	0.34	49.64	55.63	54	74	-4.36	-18.37	Vertical
*7386.079	43.52	49.55	3.39	46.91	52.94	54	74	-7.09	-21.06	Vertical
2462.032	96.01	101.95	-7.35	88.66	94.60	-	-	-	-	Horizontal
2483.500	39.66	45.65	-7.37	32.29	38.28	54	74	-21.71	-35.72	Horizontal
*4924.051	49.58	55.46	0.34	49.92	55.80	54	74	-4.08	-18.20	Horizontal
*7386.079	43.46	49.37	3.39	46.85	52.76	54	74	-7.15	-21.24	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11n Channel High 2412MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading Factor		Result	Limit	Margin	Polarization					
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	$(dB\mu V/m)$ $(dB\mu V/m)$							
	QP	(dB)	QP	QP	QP						
-	-	1	-	-	-	Vertical					
-	-	-	-	-	-	Horizontal					

#### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(	dBμV/m)	Factor	Result(dBμV/m)		Limit(dBµV/m)		Margin(	Polarizati	
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2400.000	40.06	45.96	-7.46	32.60	38.50	54	74	-21.40	-35.50	Vertical
2412.036	95.25	101.16	-7.43	87.82	93.73	-	-	-	-	Vertical
*4824.056	50.35	56.24	-0.19	50.16	56.05	54	74	-3.84	-17.95	Vertical
7236.082	43.38	49.29	3.05	46.43	52.34	54	74	-7.57	-21.66	Vertical
2400.000	39.76	45.71	-7.46	32.30	38.25	54	74	-21.70	-35.75	Horizontal
2412.036	96.47	102.36	-7.43	89.04	94.93	1	-	-	-	Horizontal
*4824.056	50.97	56.90	-0.19	50.78	56.71	54	74	-3.22	-17.39	Horizontal
7236.082	44.07	50.03	3.05	47.12	53.08	54	74	-6.88	-20.92	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11n Channel High 2437MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading Factor		Result	Limit	Margin	Polarization					
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	$(dB\mu V/m)$ $(dB\mu V/m)$							
	QP	(dB)	QP	QP	QP						
-	-	1	-	-	-	Vertical					
-	-	-	-	-	-	Horizontal					

#### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(	dBμV/m)	<del>-</del>		Limit(dBµV/m)		Margin(dBµV/m)		Polarizati	
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2437.035	95.15	101.07	-7.36	87.79	93.71	1	-	-	-	Vertical
*4874.055	50.00	55.91	0.09	50.09	56.00	54	74	-3.91	18.00	Vertical
*7311.080	43.25	49.14	3.22	46.47	52.36	54	74	-7.53	-21.64	Vertical
2437.035	96.02	101.95	-7.36	88.66	94.59	1	-	-	-	Horizontal
*4874.055	49.90	55.82	0.09	49.99	55.91	54	74	-4.01	-18.092	Horizontal
*7311.080	43.78	49.70	3.22	47.00	52.92	54	74	-7.00	-21.08	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

Date of Test:November 2-3, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:DC 5VTest Mode:802.11n Channel High 2462MHzTest Engineer:Joe

## For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading Factor		Result	Limit	Margin	Polarization
(MHz)	(dBµV/m)	Corr.	(dBµV/m)	$(dB\mu V/m)$ $(dB\mu V/m)$		
	QP	(dB)	QP	QP	QP	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

#### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency	Reading(	dBμV/m)	Factor	Result(dBµV/m)		Limit(dBµV/m)		Margin(	Polarizati	
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2462.034	95.03	100.96	-7.35	87.68	93.61	-	-	-	-	Vertical
2483.500	39.81	45.72	-7.37	32.44	38.35	54	74	-21.56	-35.65	Vertical
*4924.054	49.53	55.42	0.34	49.87	55.76	54	74	-4.13	-18.24	Vertical
*7386.079	42.77	48.69	3.39	46.16	52.08	54	74	-7.84	-21.92	Vertical
2462.034	96.11	102.10	-7.35	88.76	94.75	-	-	-	-	Horizontal
2483.500	39.93	45.89	-7.37	32.56	38.52	54	74	-21.44	-35.48	Horizontal
*4924.054	50.13	56.16	0.34	50.47	56.50	54	74	-3.53	-17.50	Horizontal
*7386.079	43.83	49.80	3.34	47.17	53.14	54	74	-6.83	-20.86	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5868 Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 % EUT: 150M wireless usb adapter

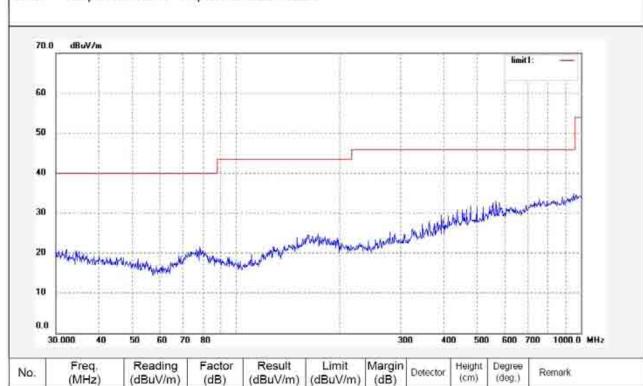
Mode: TX Channel 1 (802.11b) Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255

Polarization: Horizontal Power Source: DC 5V Date: 2010/11/02 Time: 15:01:24 Engineer Signature: Joe

Distance: 3m





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5869

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11b)

Model: WU106A

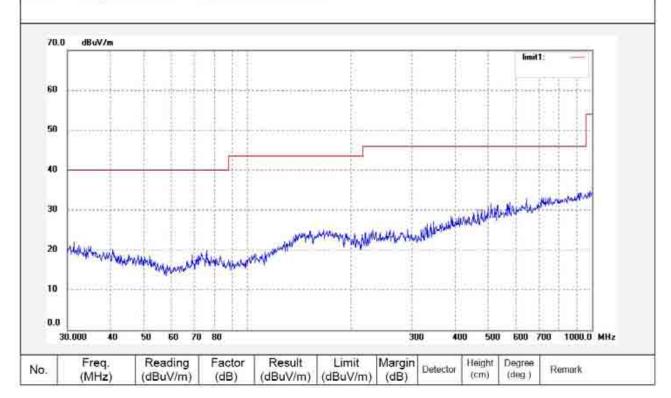
Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





Polarization: Vertical





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5887

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

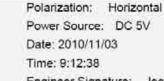
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11b)

Model: WU106A

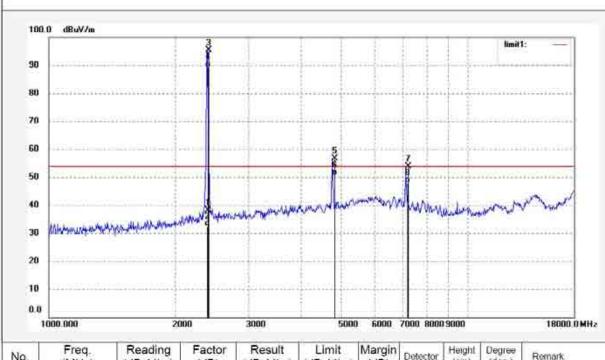
Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe

Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark.	
1	2400.000	45.65	-7.46	38.19	74.00	-35.81	peak				
2	2400.000	39.73	-7.46	32.27	54.00	-21.73	AVG				
3	2412.030	102.86	-7.43	95.43			peak				
4	2412.030	96,92	-7.43	89.49	ã.	47	AVG				
5	4824.052	56.84	-0.19	56.65	74.00	-17.35	peak				
6	4824.052	50.87	-0.19	50.68	54.00	-3,32	AVG				
7	7236.076	50.92	3.05	53.97	74.00	-20.03	peak				
8	7236.076	44.90	3.05	47.95	54.00	-6.05	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5886

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

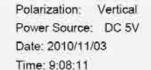
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11b)

Model: WU106A

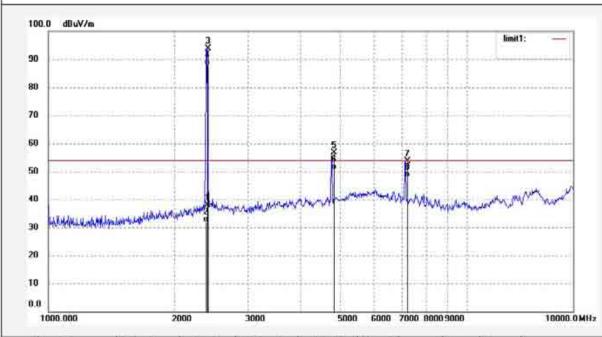
Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe

Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2400.000	45.26	-7.46	37.80	74.00	-36.20	peak				
2	2400.000	39.38	-7.46	31.92	54.00	-22.08	AVG				
3	2412.030	101.21	-7.43	93.78	-	3.5	peak				
4	2412.030	95.28	-7.43	87.85	-	-	AVG				
5	4824.052	56.81	-0.19	56.62	74.00	-17.38	peak				
6	4824.052	50.89	-0.19	50.70	54.00	-3.30	AVG				
7	7236.076	50.66	3.05	53.71	74.00	-20.29	peak				
8	7236.076	44.73	3.05	47.78	54.00	-6.22	AVG				
				1	1						



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: Joe

Power Source: DC 5V Date: 2010/11/03

Time: 10:49:50

Distance: 3m

Job No.: RTTE #5904

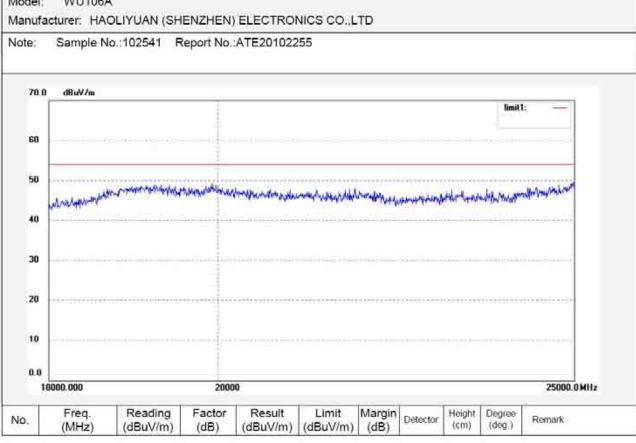
Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11b)

Model: WU106A





F1, Bldg, A, Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

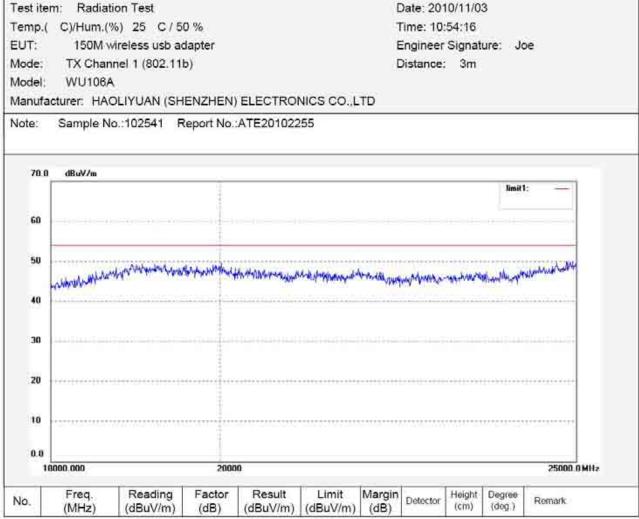
Polarization: Vertical

Power Source: DC 5V

Job No.: RTTE #5905

Standard: FCC Class B 3M Radiated

Test item: Radiation Test





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5871 Standard: FCC Class B 3M Radiated

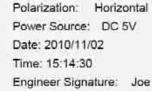
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 50 %
EUT: 150M wireless usb adapter

Mode: TX Channel 6 (802.11b)

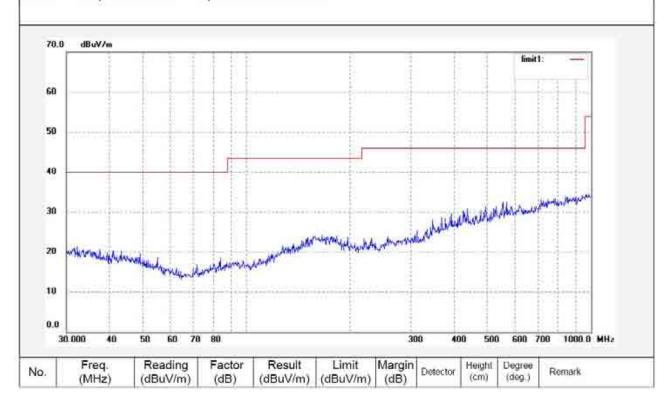
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255









F1,Bldg.A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/02

Time: 15:10:22

Distance: 3m

Job No.: RTTE #5870

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

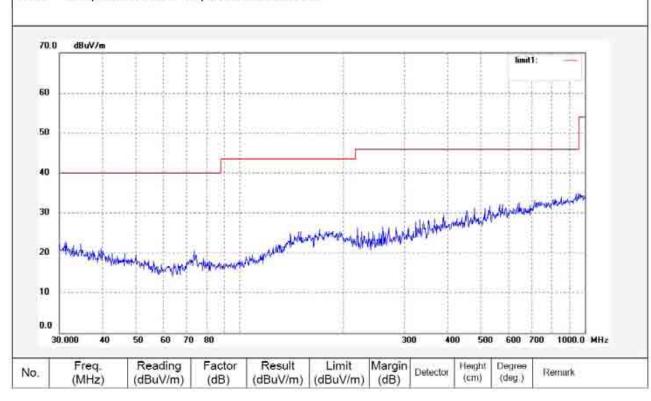
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11b)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5888

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

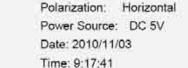
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11b)

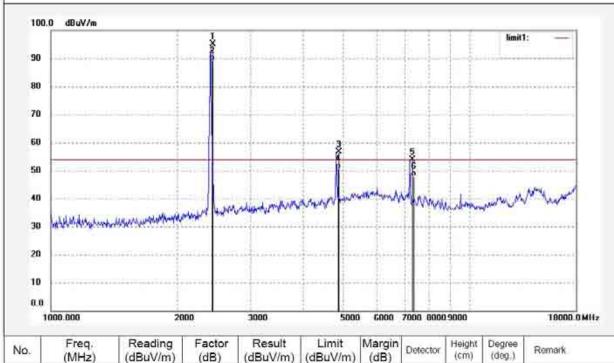
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5889

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

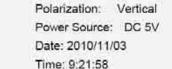
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11b)

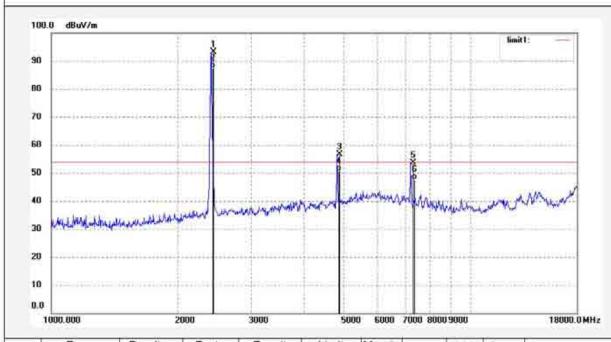
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	(dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	(deg.)	Remark	
1	2437.032	100.54	-7.36	93.18		:=	peak				
2	2437.032	94.68	-7.36	87.32		190	AVG				
3	4874.053	56.47	0.09	56.56	74.00	-17.44	peak				
4	4874.053	50.56	0.09	50.65	54.00	-3,35	AVG				
5	7311.078	50.41	3.22	53.63	74.00	-20.37	peak				
6	7311.078	44.49	3.22	47.71	54.00	-6.29	AVG			,	



F1.Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Polarization:

Power Source: DC 5V

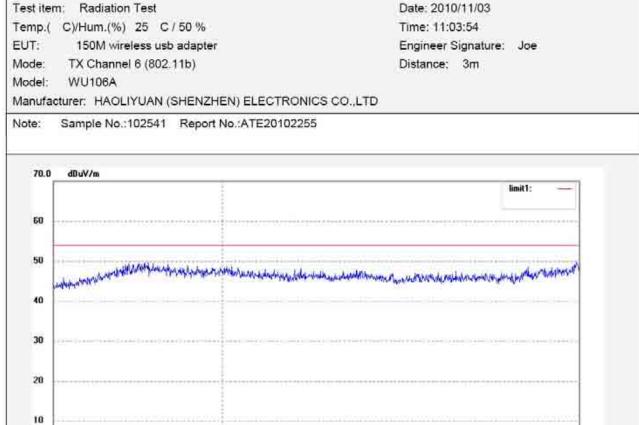
Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Horizontal

Job No.: RTTE #5907

Standard: FCC Class B 3M Radiated

Test item: Radiation Test



	18000.000		2000							25000.0 MHz
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5906

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

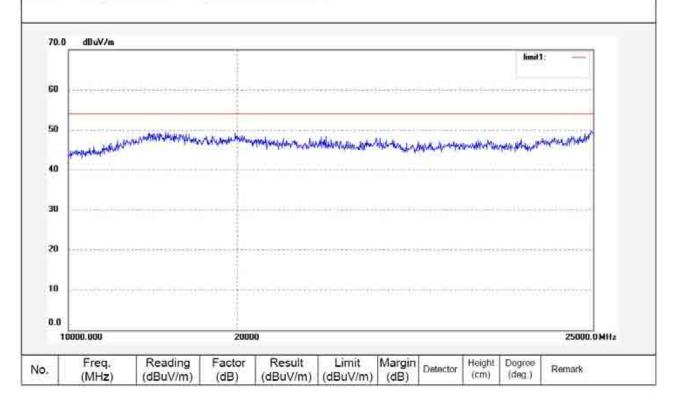
EUT: 150M wireless usb adapter Mode: TX Channel 6 (802,11b)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Sample No.:102541 Report No.:ATE20102255 Note:

Polarization: Vertical Power Source: DC 5V Date: 2010/11/03 Time: 10:59:30 Engineer Signature: Joe





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Horizontal

Polarization:

Date: 2010/11/02

Time: 15:19:41

Distance: 3m

Power Source: DC 5V

Engineer Signature: Joe

Job No.: RTTE #5872

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

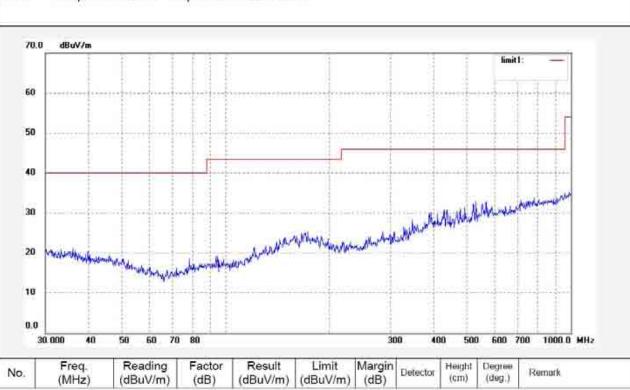
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11b)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Polarization:

Date: 2010/11/02

Time: 15:23:50

Distance: 3m

Power Source: DC 5V

Engineer Signature: Joe

Vertical

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5873

Standard: FCC Class B 3M Radiated

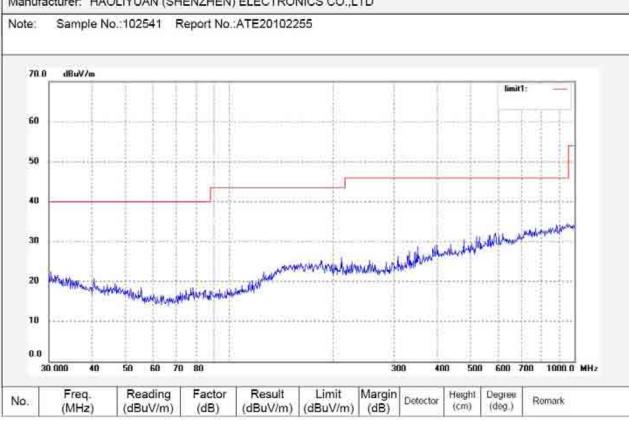
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802,11b)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5891

Standard: FCC Class B 3M Radiated

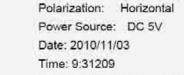
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11b)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe

	*	<u>}</u>	1	P P		limit1: —
90				-		
80						
70		<b>]</b>				
68					,	
50		1		0		
48	profest the standing the order the mornisher	Lahalla May Marker VA	AND WHAT	MANAN	Manymora	bright May have
30	2. Apr. Heli					
20						
10						
	i i	131 34	1.0	2 2	1 1 2 2	

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2462.029	102.74	-7.35	95.39	\$	- 3	peak				
2	2462.029	96.77	-7.35	89.42	¥		AVG				
3	2483.500	45.55	-7.37	38.18	74.00	-35.82	peak				
4	2483.500	39.66	-7.37	32.29	54.00	-21.71	AVG				
5	4924.050	56.37	0.34	56.71	74.00	-17.29	peak				
6	4924.050	50.40	0.34	50.74	54.00	-3.26	AVG				
7	7386.077	50.22	3.39	53.61	74.00	-20.39	peak				
8	7386.077	44.28	3.39	47.67	54.00	-6.33	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5890

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

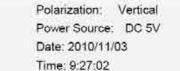
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11b)

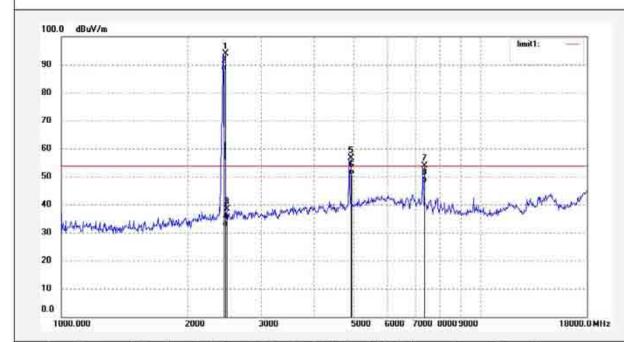
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2462.029	101.29	-7.35	93.94	-	320	peak			
2	2462.029	95.33	-7.35	87.98		: <del>: :</del> : :	AVG			
3	2483.500	45.63	-7.37	38.26	74.00	-35.74	peak			
4	2483.500	39.60	-7.37	32.23	54,00	-21.77	AVG			
5	4924.050	56.29	0.34	56.63	74.00	-17.37	peak			
6	4924.050	50.38	0.34	50.72	54.00	-3.28	AVG			
7	7386.077	50.44	3.39	53.83	74,00	-20.17	peak			
8	7386.077	44.54	3.39	47.93	54.00	-6.07	AVG			



F1, Bldg, A, Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

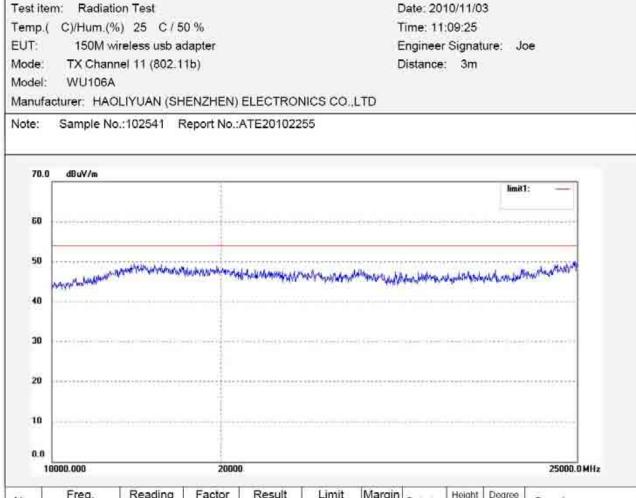
Polarization: Horizontal

Power Source: DC 5V

Job No.: RTTE #5908

Standard: FCC Class B 3M Radiated

Test item: Radiation Test



Freq. Reading Factor Result Limit Margin Height Degree Detector No. Remark (deg.) (cm) (MHz) (dBuV/m) (dB) (dBuV/m) (dBuV/m) (dB)



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5909 Standard: FCC Class B 3M Radiated

Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 50 %
EUT: 150M wireless usb adapter

Mode: TX Channel 11 (802.11b)

Model: WU106A

dBuV/m

70.0

60

50

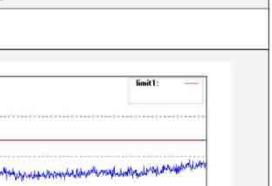
40

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255

Polarization: Vertical Power Source: DC 5V Date: 2010/11/03 Time: 11:13:52

> Engineer Signature: Joe Distance: 3m



10	 			 mirma		
		1				
20						
30	 		 	 	 	



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: Joe

Power Source: DC 5V

Date: 2010/11/02

Time: 15:34:25

Distance: 3m

Job No.: RTTE #5875

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

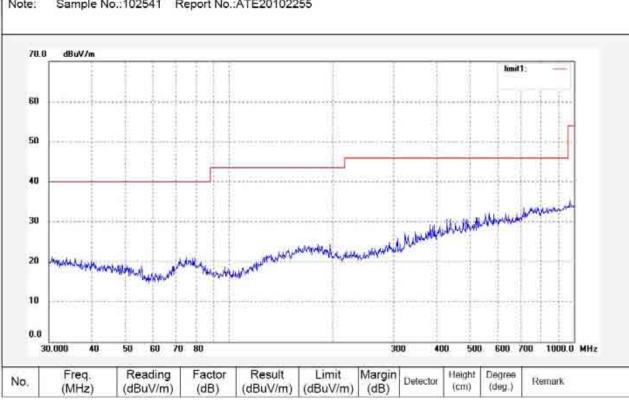
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/02

Time: 15:30:21

Distance: 3m

Job No.: RTTE #5874

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

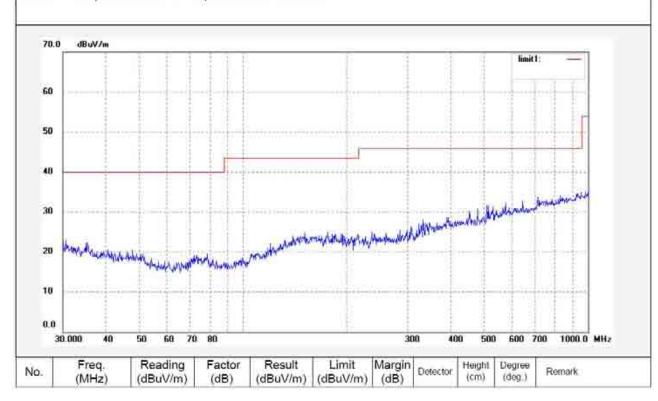
EUT: 150M wireless usb adapter

Mode: TX Channel 1 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5892 Standard: FCC Class B 3M Radiated

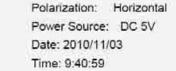
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 50 %
EUT: 150M wireless usb adapter

Mode: TX Channel 1 (802.11g)

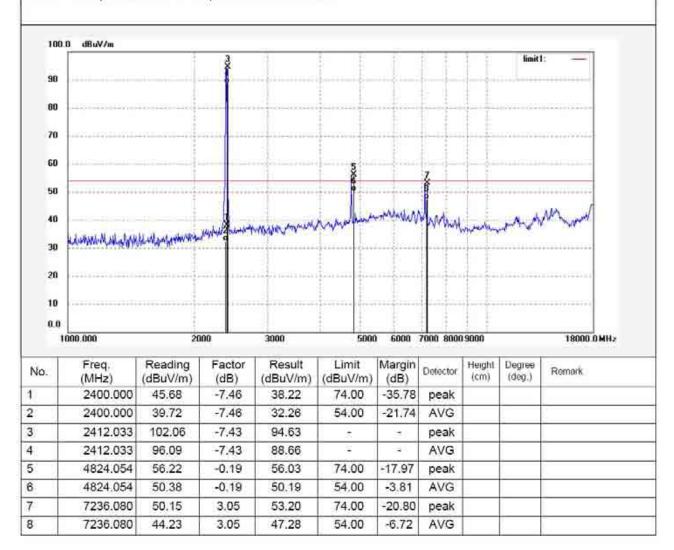
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5893

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

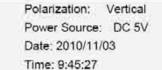
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe

		3	31	-	1 1	H	1 1 1	limit1:	
90					ļ		HH		
80					ļļ.		ļiilijiiļ		···in···in
70							1		
60	nivinii iyi yiyi			5	ļļ.		ļl.i	owo incom	
				- 6					
50				Ť		8			m-tin-j
40			and the same all a second		nonhin	mm	Manyana	- May rest	Mynne
40	My had seen perhaps with	Mariamary &	and allege party and the	www.	1	MVM	Manyana	- W	M. Mark
40	Hydrocky Back, Nacholandon	hidrafymborid sty	an and an and an	minim	1		Manyana	- WAN	Myrak
30   mily/M/M	-1/-11-11-		an de la company	www			Mayroun	and the second	Mayar

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg )	Remark	
1	2400.000	45.88	-7.46	38.42	74.00	-35.58	peak				
2	2400.000	39.98	-7.46	32.52	54.00	-21.48	AVG				
3	2412.033	101.43	-7.43	94.00		100	peak				
4	2412.033	95.51	-7.43	88.08	i j	91	AVG				
5	4824.054	55.72	-0.19	55.53	74.00	-18.47	peak				
6	4824.054	49.80	-0.19	49.61	54.00	-4.39	AVG				
7	7236.080	49.46	3.05	52.51	74.00	-21.49	peak				
8	7236.080	43.58	3.05	46.63	54.00	-7.37	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

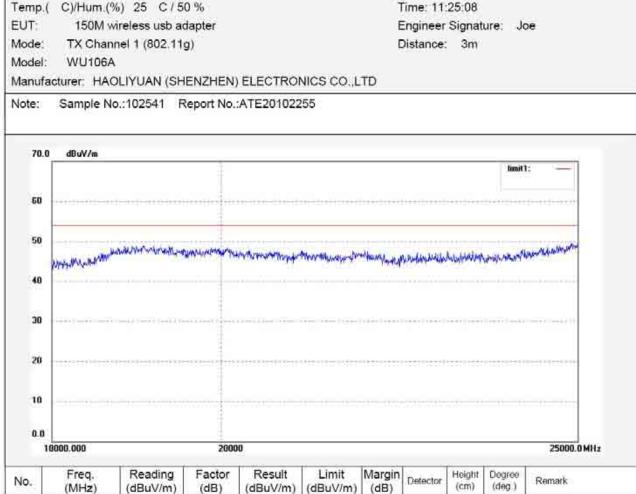
Power Source: DC 5V Date: 2010/11/03

Job No.: RTTE #5911

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %





F1, Bldg, A, Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

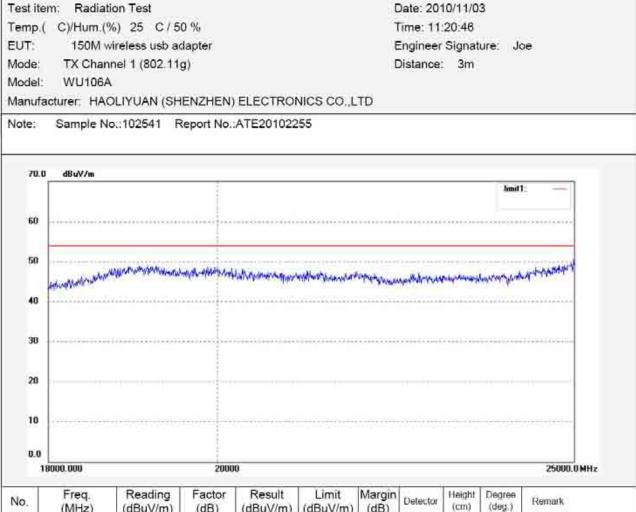
Polarization: Vertical

Power Source: DC 5V

Job No.: RTTE #5910

Standard: FCC Class B 3M Radiated

Test item: Radiation Test





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5876

Standard: FCC Class B 3M Radiated Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 % EUT: 150M wireless usb adapter

Mode: TX Channel 6 (802.11g)

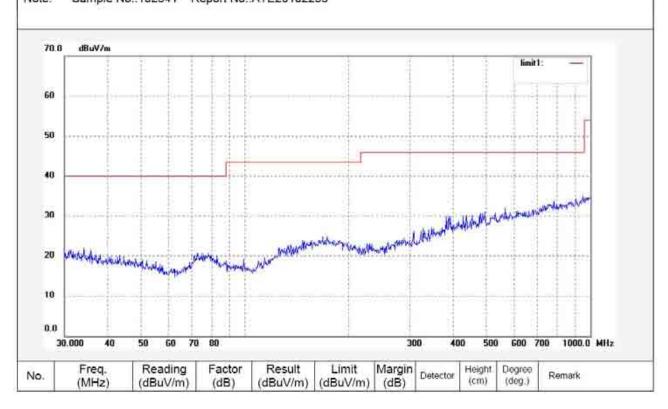
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255

Polarization: Horizontal Power Source: DC 5V Date: 2010/11/02 Time: 15:39:32

Engineer Signature: Joe





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Vertical

Polarization:

Date: 2010/11/02

Time: 15:43:40

Distance: 3m

Power Source: DC 5V

Engineer Signature: Joe

Job No.: RTTE #5877

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

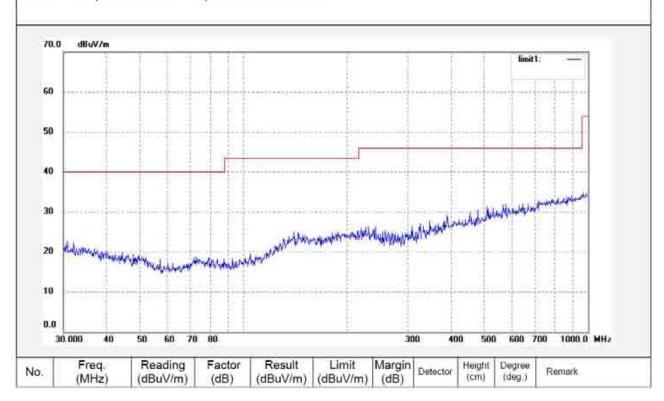
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5895

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

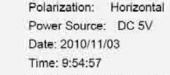
Temp.( C)/Hum.(%) 25 C/50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe

		* *		1		limit1:
90	1000 1000 1000 1000 1000					
80						
70						
60				a		
50				8	, i	
40			alander of the state of the state of the	My graph worth	warman Ar wall warmen	market his his house
30	habibythe flyfyrdingayra bord predik	AND				
20						
10						
0.0					1 1 1 1	·

No.	Freq. (MHz)	(dBuV/m)	Factor (dB)	(dBuV/m)	(dBuV/m)	(dB)	Detector	Height (cm)	(deg.)	Remark	
1	2437.031	101.92	-7.36	94.56	•	-	peak				
2	2437.031	96.07	-7.36	88.71		191.	AVG				
3	4874.052	55.20	0.09	55.29	74.00	-18.71	peak				
4	4874.052	49.23	0.09	49.32	54.00	-4.68	AVG				
5	7311.076	49.82	3.22	53.04	74.00	-20.96	peak			V.	
6	7311.076	43.91	3.22	47,13	54.00	-6.87	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5894

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

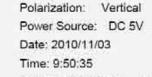
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11g)

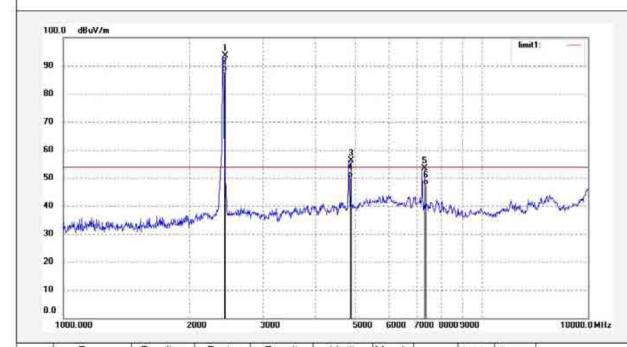
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe



No.	Freq. (MHz)	(dBuV/m)	Factor (dB)	(dBuV/m)	(dBuV/m)	Margin (dB)	Detector	Height (cm)	(deg )	Remark	
4	2437.031	101.10	-7.36	93.74	-	- Sec.	peak				
2	2437.031	95.19	-7.36	87.83		;•≥:	AVG				
3	4874.052	55.95	0.09	56.04	74.00	-17.96	peak				
4	4874.052	50.06	0.09	50.15	54.00	-3.85	AVG				
5	7311.076	50.06	3.22	53.28	74.00	-20.72	peak				
6	7311.076	44.19	3.22	47.41	54.00	-6.59	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

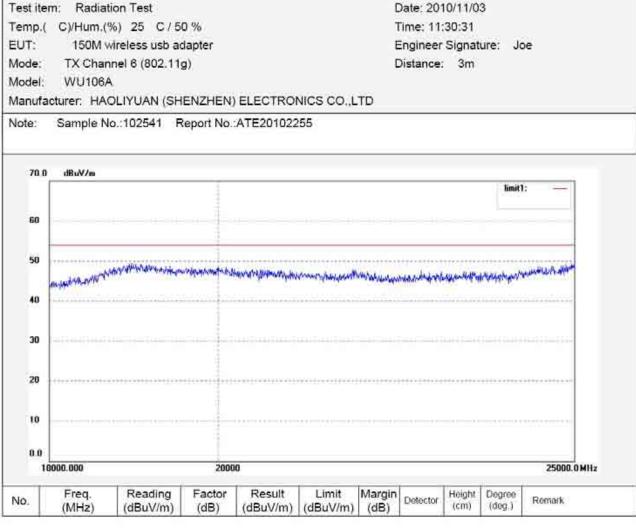
Polarization: Horizontal

Power Source: DC 5V

Job No.: RTTE #5912

Standard: FCC Class B 3M Radiated

Test item: Radiation Test





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V Date: 2010/11/03

Engineer Signature: Joe

Time: 11:34:51

Distance: 3m

Job No.: RTTE #5913

Standard: FCC Class B 3M Radiated

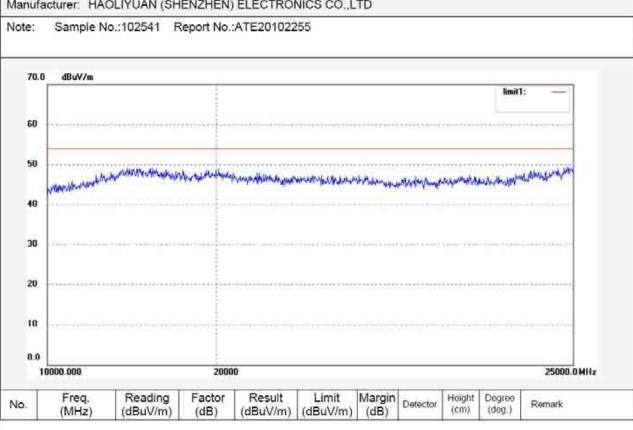
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: Joe

Power Source: DC 5V

Date: 2010/11/02

Time: 15:53:06

Distance: 3m

Job No.: RTTE #5879

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

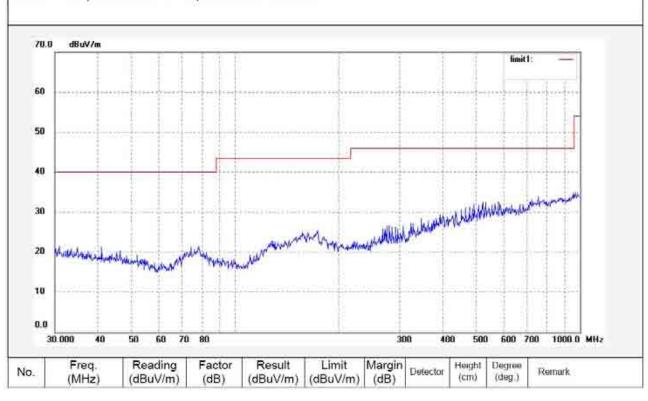
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/02

Time: 15:48:55

Distance: 3m

Job No.: RTTE #5878

Standard: FCC Class B 3M Radiated

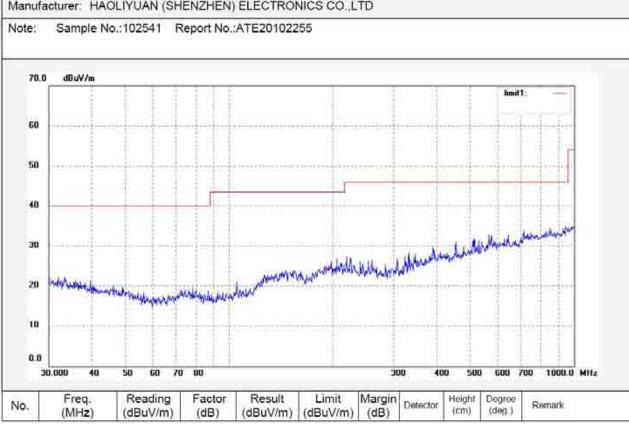
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5896

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11g)

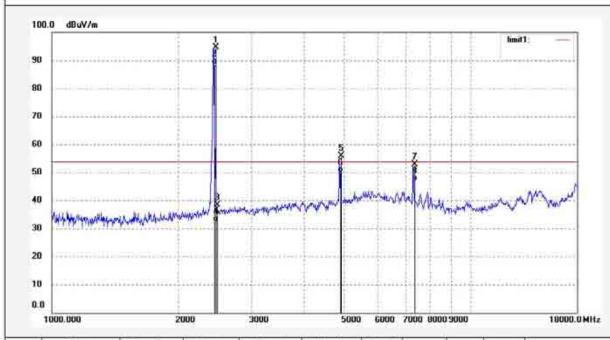
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255

Polarization: Horizontal Power Source: DC 5V Date: 2010/11/03 Time: 10:00:24

Engineer Signature: Joe



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2462.032	101.95	-7.35	94.60	==	(E)	peak				
2	2462.032	96.01	-7.35	88.66	- 8		AVG				
3	2483.500	45.65	-7.37	38.28	74.00	-35.72	peak				
4	2483.500	39,66	-7.37	32.29	54.00	-21.71	AVG				
5	4924.051	55.46	0.34	55.80	74.00	-18.20	peak				
6	4924.051	49.58	0.34	49.92	54.00	-4.08	AVG				
7	7386,079	49.37	3.39	52.76	74.00	-21.24	peak				
8	7386.079	43.46	3.39	46.85	54.00	-7.15	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Standard: ECC Class B 284 Badlate

Standard: FCC Class B 3M Radiated

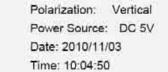
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11g)

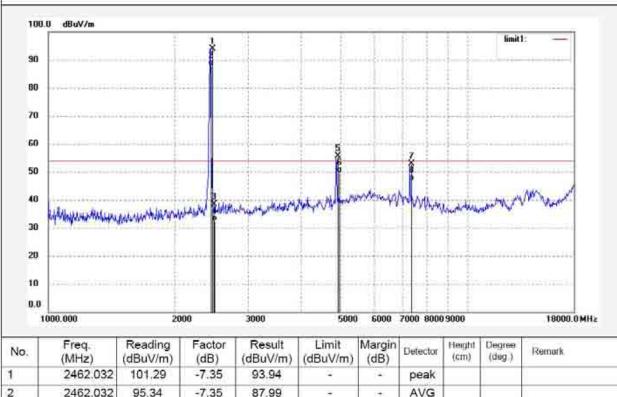
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	(cm)	(deg.)	Remark	
1	2462.032	101,29	-7.35	93.94	2	:=	peak				
2	2462.032	95.34	-7.35	87.99		100	AVG				
3	2483.500	45.72	-7.37	38.35	74.00	-35.65	peak				
4	2483,500	39.80	-7.37	32.43	54.00	-21.57	AVG				
5	4924.051	55.29	0.34	55.63	74.00	-18.37	peak				
6	4924.051	49.30	0.34	49.64	54.00	-4.36	AVG				
7	7386.079	49,55	3.39	52.94	74.00	-21.06	peak				
8	7386.079	43.52	3.39	46.91	54.00	-7.09	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: Joe

Power Source: DC 5V Date: 2010/11/03

Time: 11:44:35

Distance: 3m

Job No.: RTTE #5915

Standard: FCC Class B 3M Radiated

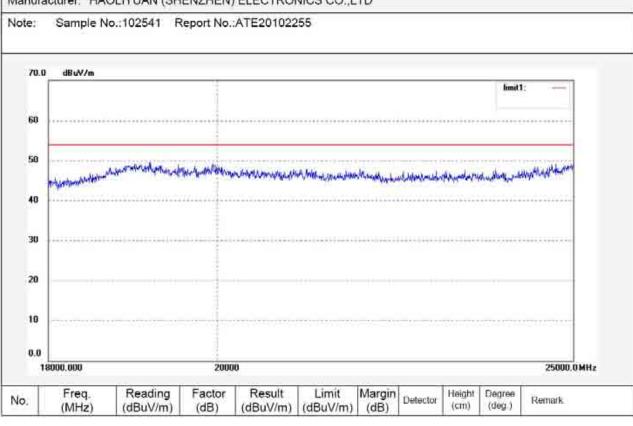
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11g)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/03

Time: 11:40:09

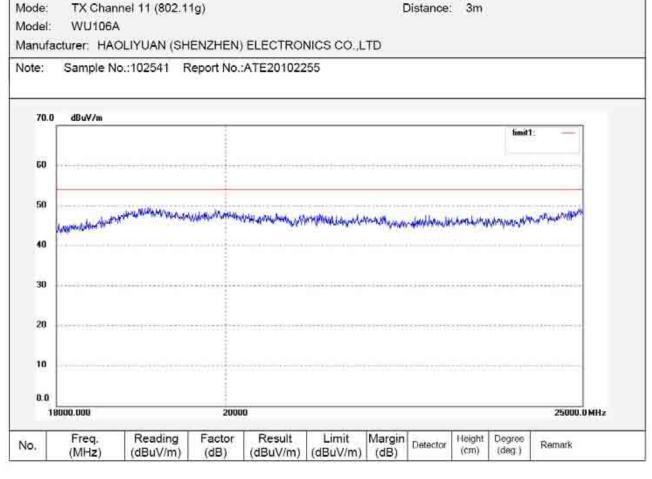
Job No.: RTTE #5914

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11q)





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: Joe

Power Source: DC 5V

Date: 2010/11/02

Time: 16:01:35

Distance: 3m

Job No.: RTTE #5880

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

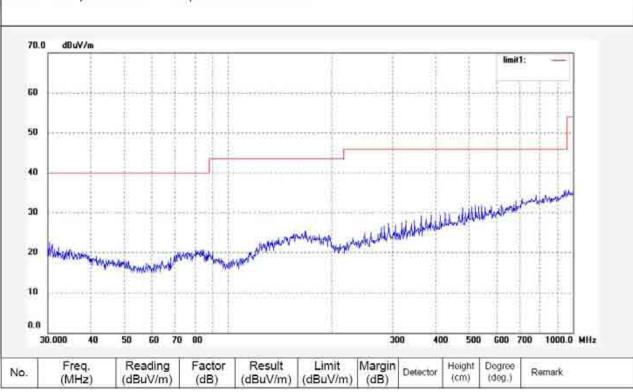
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/02

Time: 16:05:42

Distance: 3m

Job No.: RTTE #5881

Standard: FCC Class B 3M Radiated

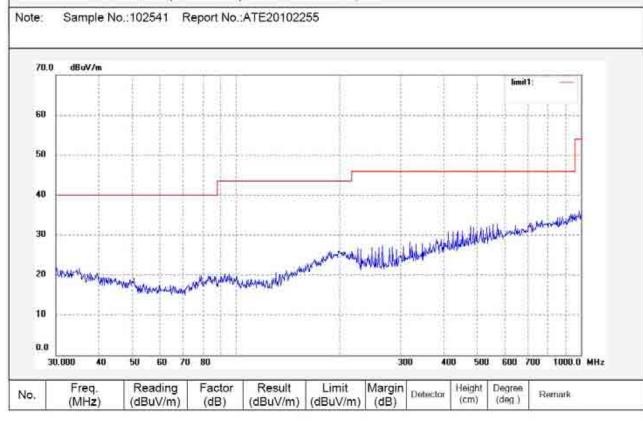
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD





F1,Bidg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5899

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

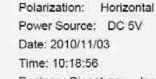
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11n)

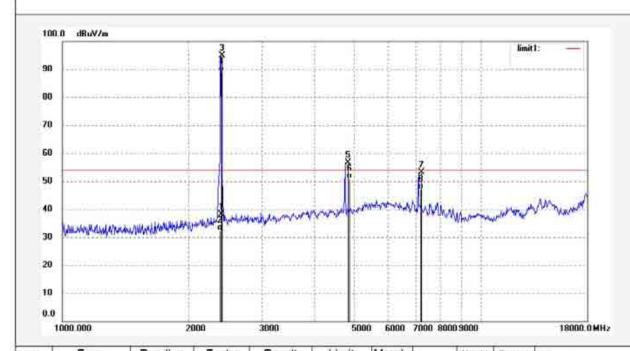
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	(deg.)	Remark	
1	2400.000	45.71	-7.46	38.25	74.00	-35.75	peak				
2	2400.000	39.76	-7.46	32.30	54.00	-21.70	AVG				
3	2412.036	102.36	-7.43	94.93		1.25	peak				
4	2412.036	96.47	-7.43	89.04	-	-	AVG				
5	4824.056	56.90	-0.19	56.71	74.00	-17.39	peak				
6	4824.056	50.97	-0.19	50.78	54.00	-3.22	AVG				
7	7236.082	50.03	3.05	53.08	74.00	-20.92	peak				
8	7236.082	44.07	3.05	47.12	54.00	-6.88	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5898

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

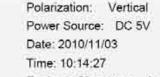
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11n)

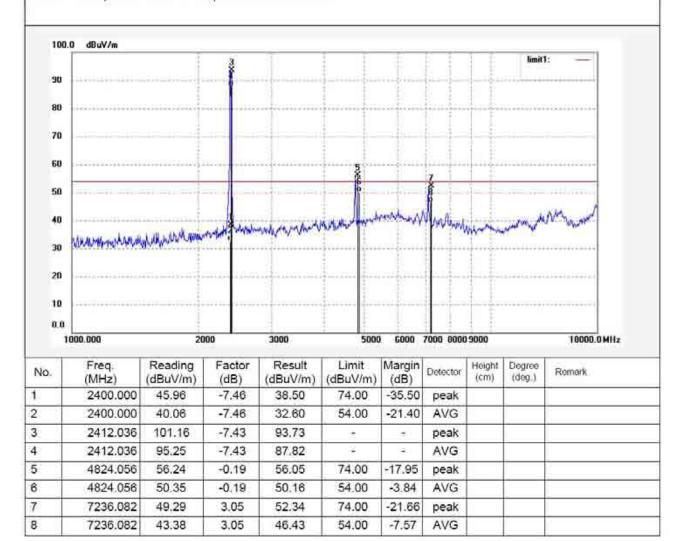
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Engineer Signature: Joe





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Power Source: DC 5V

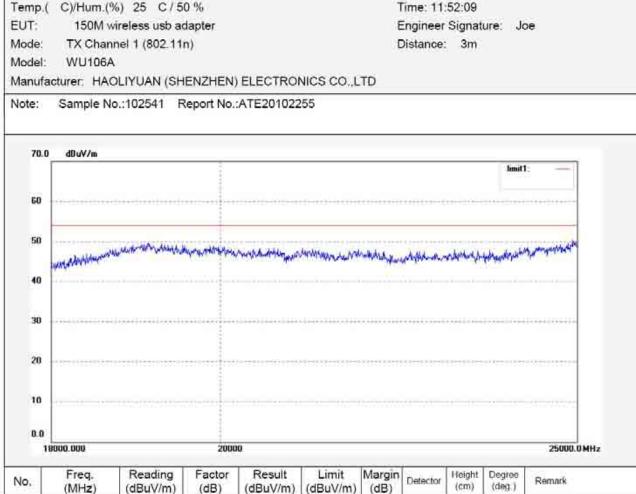
Date: 2010/11/03

Job No.: RTTE #5916

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5917

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

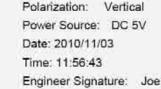
Temp.( C)/Hum.(%) 25 C / 50 %

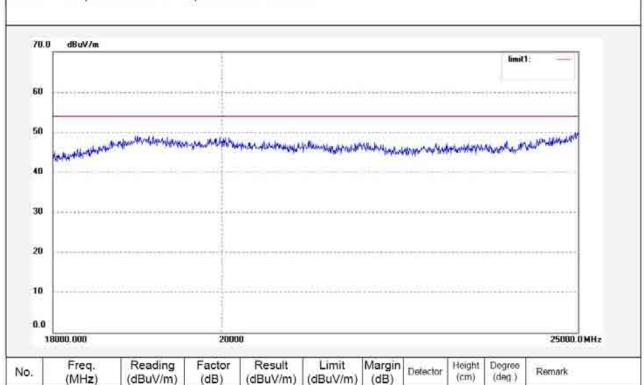
EUT: 150M wireless usb adapter Mode: TX Channel 1 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255







F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5883 Standard: FCC Class B 3M Radiated

Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 50 %
EUT: 150M wireless usb adapter

Mode: TX Channel 6 (802.11n)

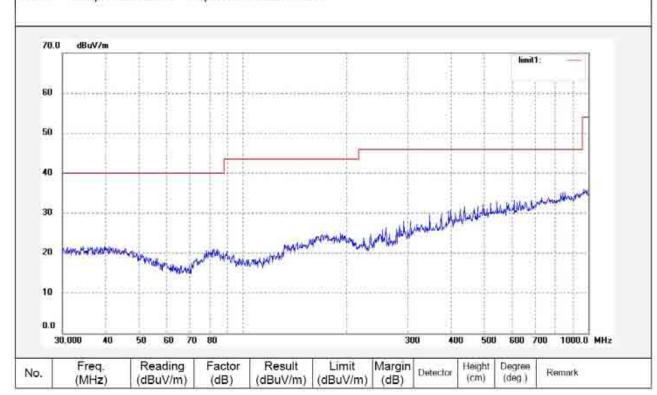
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255

Polarization: Horizontal Power Source: DC 5V Date: 2010/11/02 Time: 16:14:58 Engineer Signature: Joe

Distance: 3m





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Polarization:

Vertical

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

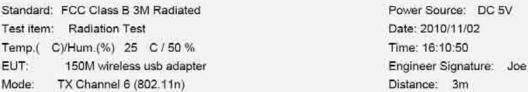
Job No.: RTTE #5882

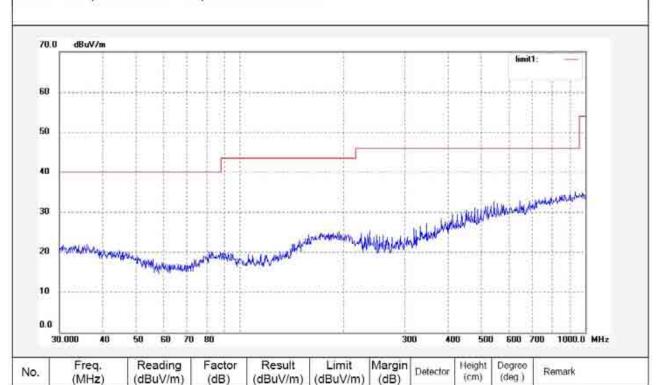
EUT:

WU106A Model:

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Sample No.:102541 Report No.:ATE20102255







F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Polarization:

Date: 2010/11/03

Power Source: DC 5V

Horizontal

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

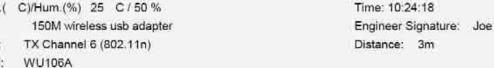
Temp.( C)/Hum.(%) 25 C / 50 %

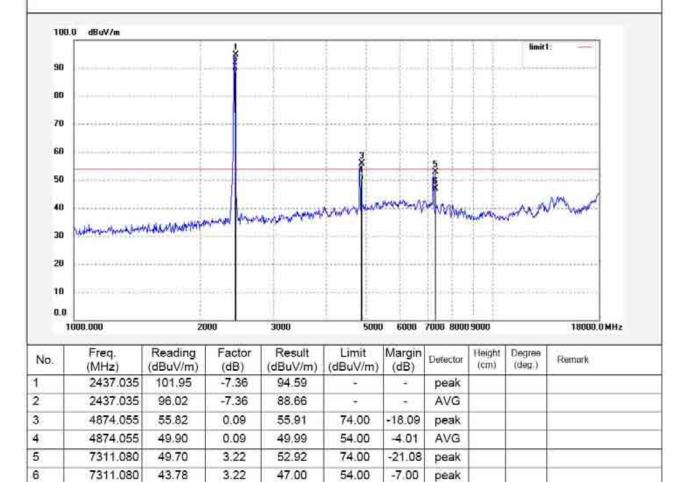
EUT: Mode:

Model:

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Sample No.:102541 Report No.:ATE20102255







F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Standard: FCC Class B 3M Radiate

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

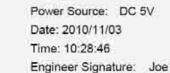
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11n)

Model: WU106A

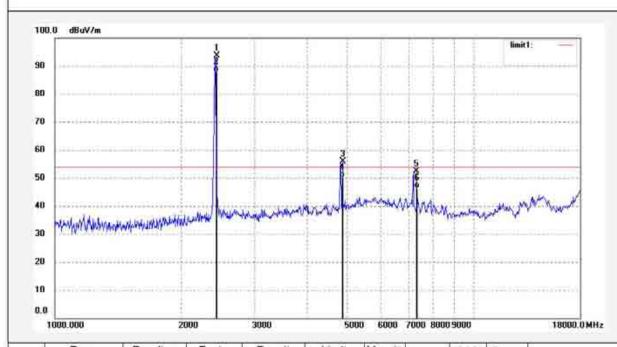
Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Distance: 3m

Polarization: Vertical



No.	Freq. (MHz)	(dBuV/m)	Factor (dB)	(dBuV/m)	(dBuV/m)	Margin (dB)	Detector	(cm)	(deg.)	Remark	
1	2437.035	101.07	-7.36	93.71	- 3	- 1	peak				
2	2437.035	95.15	-7.36	87.79	¥	1-91	AVG				
3	4874.055	55.91	0.09	56.00	74.00	-18.00	peak				
4	4874.055	50.00	0.09	50.09	54.00	-3.91	AVG				
5	7311.080	49.14	3.22	52.36	74.00	-21.64	peak				
6	7311.080	43.25	3.22	46.47	54.00	-7.53	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

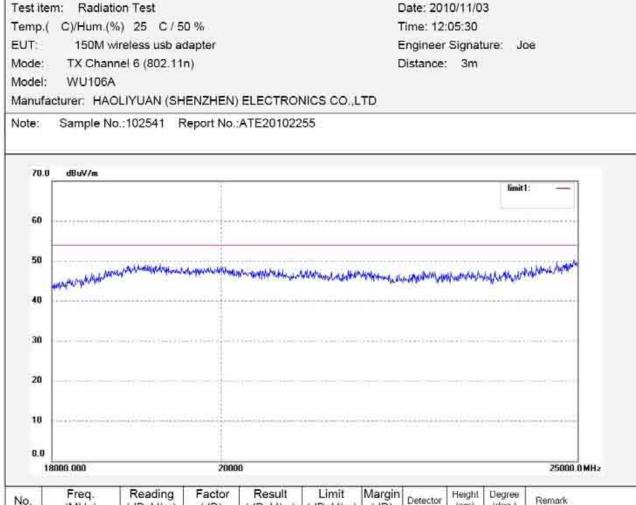
Horizontal

Polarization:

Power Source: DC 5V

Job No.: RTTE #5919

Standard: FCC Class B 3M Radiated





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/03

Time: 12:01:19

Distance: 3m

Job No.: RTTE #5918

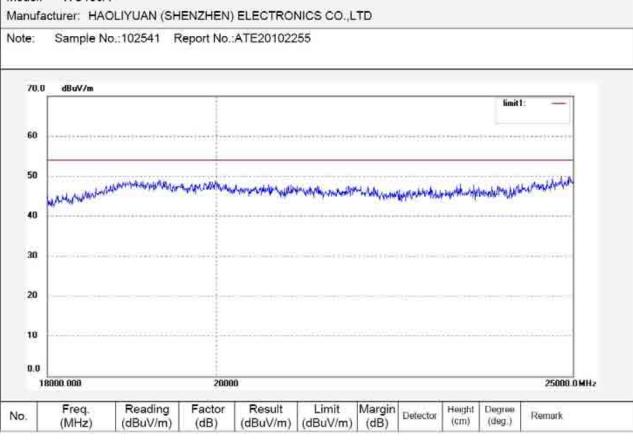
Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 6 (802.11n)

Model: WU106A





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Polarization:

Date: 2010/11/02

Time: 16:20:11

Distance: 3m

Power Source: DC 5V

Engineer Signature: Joe

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Horizontal

Job No.: RTTE #5884

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

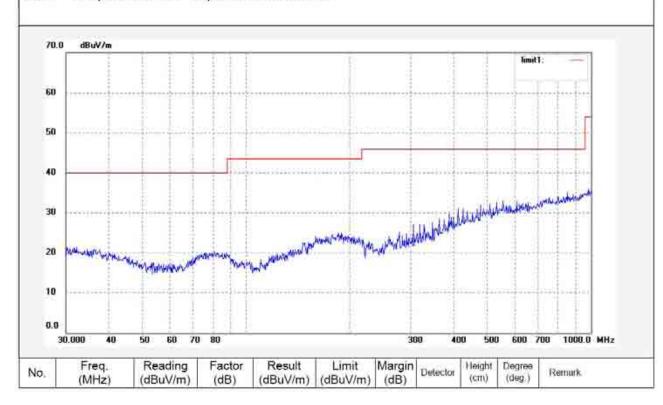
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V Date: 2010/11/02

Engineer Signature: Joe

Time: 16:24:23

Distance: 3m

Job No.: RTTE #5885

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

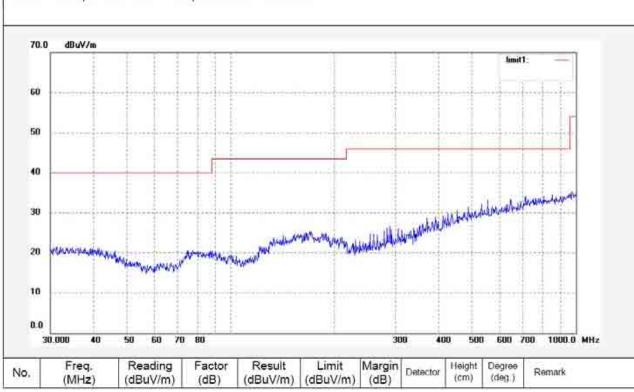
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5903

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11n)

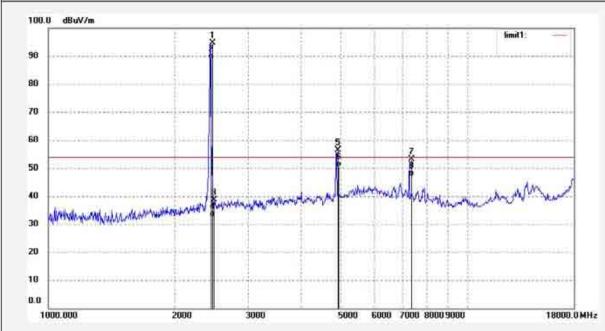
Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Note: Sample No.:102541 Report No.:ATE20102255



Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg )	Remark	
1	2462.034	102.10	-7.35	94.75	12	114	peak				
2	2462.034	96.11	-7.35	88.76		-	AVG				
3	2483.500	45.89	-7.37	38.52	74.00	-35.48	peak				
4	2483.500	39.93	-7.37	32.56	54.00	-21.44	AVG				
5	4924.054	56.16	0.34	56.50	74.00	-17.50	peak				
6	4924.054	50.13	0.34	50.47	54.00	-3.53	AVG				
7	7368,079	49.80	3.34	53.14	74.00	-20.86	peak				
8	7368.079	43.83	3.34	47.17	54.00	-6.83	AVG				



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5902 Standard: FCC Class B 3M Radiated

Test item: Radiation Test

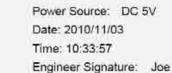
Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Sample No.:102541 Report No.:ATE20102255



Polarization: Vertical

Distance: 3m

		ı			8		\$	limit1:	-
90									+++++
80					-		-		
70									
60					4				
50						5		-1111-1-11	-1111-
40		R	والمعارض المدينة وعالان مسريات يقداكم بعا	MAN WAS	war.N	Why	Charles and the Control	The state of the s	مجمعه ويديا
30	k-re-splick to the property of all the	ALVYV			-				
20									
10	resultand transportant design								
0.0			1 11 1				81		

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2462.034	100.96	-7.35	93.61	154	i air	peak				
2	2462.034	95.03	-7.35	87.68	*	:	AVG				
3	2483.500	45.72	-7.37	38.35	74.00	-35.65	peak				
4	2483.500	39.81	-7.37	32.44	54.00	-21.56	AVG				
5	4924.054	55.42	0.34	55.76	74.00	-18.24	peak				
6	4924.054	49.53	0.34	49.87	54.00	-4.13	AVG				
7	7386.079	48,69	3,39	52.08	74.00	-21.92	peak				
8	7386.079	42.77	3.39	46.16	54.00	-7.84	AVG				
	1.000.0101.0	1.94mx1010	0.00	-10/10	.01.00	1.40.1	7.14.0				



F1.Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Polarization:

Date: 2010/11/03

Time: 12:10:41

Distance: 3m

Power Source: DC 5V

Engineer Signature: Joe

Horizontal

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: RTTE #5920

Standard: FCC Class B 3M Radiated

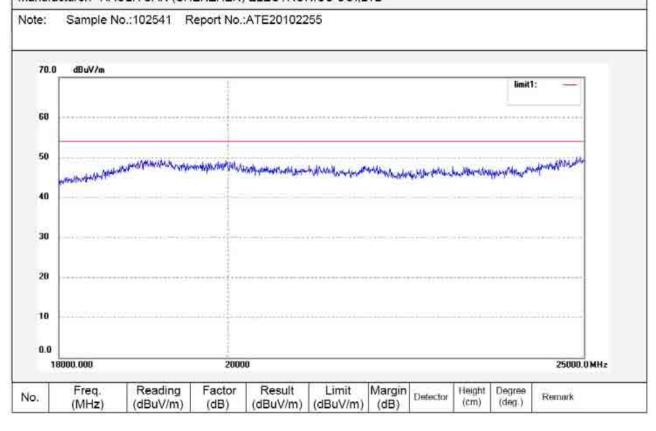
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

EUT: 150M wireless usb adapter Mode: TX Channel 11 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD





F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: Joe

Date: 2010/11/03

Time: 12:15:08

Distance: 3m

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 50 %

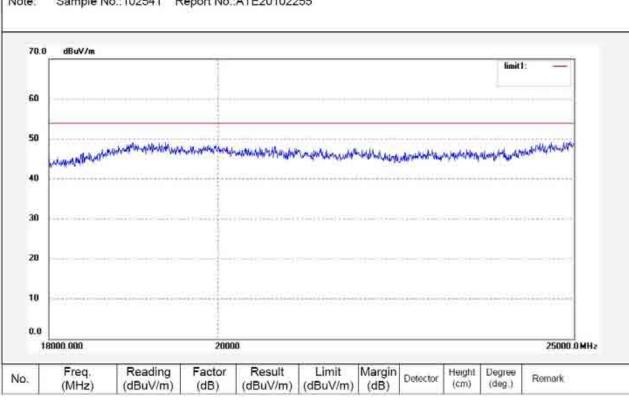
EUT: 150M wireless usb adapter

Mode: TX Channel 11 (802.11n)

Model: WU106A

Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONICS CO.,LTD

Sample No.:102541 Report No.:ATE20102255



# 10.AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

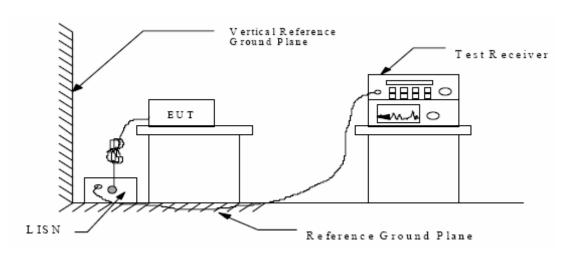
# 10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and simulators



(EUT: 150M wireless usb adapter)

# 10.1.2. Shielding Room Test Setup Diagram



(EUT: 150M wireless usb adapter)

# 10.2. The Emission Limit

# 10.2.1.Conducted Emission Measurement Limits According to Section 15.207(a)

Frequency	Limit d	$B(\mu V)$
(MHz)	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 - 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

<sup>\*</sup> Decreases with the logarithm of the frequency.

# 10.3. Configuration of EUT on Measurement

The following equipment are installed on the Conducted Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.3.1.150M wireless usb adapter (EUT)

Model Number : WU106A Serial Number : N/A

Manufacturer : HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD

# 10.4. Operating Condition of EUT

10.4.1. Setup the EUT and simulator as shown as Section 11.1.

10.4.2. Turn on the power of all equipment.

10.4.3.Let the EUT work in TX (802.11b Channel Middle, 802.11g Channel Middle, 802.11n Channel Middle) mode measure it.

### 10.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 500hm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines 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 30MHz is checked.

# 10.6.Power Line Conducted Emission Measurement Results

### PASS.

The frequency range from 150kHz to 30MHz is checked.

Date of Test:November 4, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:AC 120V/60HzTest Mode:TX 802.11b Channel MiddleTest Engineer:Joe

Frequency	Result	Limit	Margin	Detector	Line
(MHz)	(dBµV)	(dBµV)	(dB)		
0.198359	52.70	63.7	-11.0	QP	
0.298051	46.00	60.3	-14.3	QP	
1.593857	34.80	56.0	-21.2	QP	N7 . 1
0.198359	40.10	53.7	-13.6	AV	Neutral
0.596975	32.80	46.0	-13.2	AV	
1.593857	29.30	46.0	-16.7	AV	
0.198359	51.50	63.7	-12.2	QP	
0.298051	44.20	60.3	-16.1	QP	
0.596975	40.20	56.0	-15.8	QP	
0.596975	33.20	46.0	-12.8	AV	Live
1.593857	30.80	46.0	-15.2	AV	
1.692213	30.40	46.0	-15.6	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported. The spectral diagrams are attached as below.

Date of Test:November 4, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:AC 120V/60HzTest Mode:TX 802.11g Channel MiddleTest Engineer:Joe

Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector	Line
0.198359	52.50	63.7	-11.2	QP	
0.298051	45.70	60.3	-14.6	QP	
0.596975	37.50	56.0	-18.5	QP	
0.198359	39.90	53.7	-13.8	AV	Neutral
0.599363	32.90	46.0	-13.1	AV	
1.593857	25.60	46.0	-20.4	AV	
0.199152	50.60	63.6	-13.0	QP	
0.299243	43.70	60.3	-16.6	QP	
0.599363	40.20	56.0	-15.8	QP	
0.599363	33.30	46.0	-12.7	AV	Live
1.600232	31.00	46.0	-15.0	AV	
1.698981	30.70	46.0	-15.3	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported. The spectral diagrams are attached as below.

Date of Test:November 4, 2010Temperature:25°CEUT:150M wireless usb adapterHumidity:50%Model No.:WU106APower Supply:AC 120V/60HzTest Mode:TX 802.11n Channel MiddleTest Engineer:Joe

Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector	Line
0.199152	52.20	63.6	-11.4	QP	
0.299243	45.70	60.3	-14.6	QP	
1.600232	35.20	56.0	-20.8	QP	
0.200748	39.50	53.6	-14.1	AV	Neutral
0.599363	33.00	56.0	-13.0	AV	
1.600232	29.70	56.0	-16.3	AV	
0.199152	50.40	63.6	-13.2	QP	
0.299243	43.50	60.3	-16.8	QP	
0.599363	40.10	56.0	-15.9	QP	
0.599363	33.40	46.0	-12.6	AV	Live
1.600232	31.20	46.0	-14.8	AV	
16.208260	36.00	50.0	-14.0	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported. The spectral diagrams are attached as below.

### CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: 150M wireless usb adapter M/N:WU106A HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD Manufacturer:

Operating Condition: TX Channel 6 (802.11b)

Test Site: 1#Shielding Room

Operator: Joe

Test Specification: N 120V/60Hz

Sample No.:102541 Re 11/4/2010 / 9:37:37AM Comment: Report No.:ATE20102255

Start of Test:

SCAN TABLE: "V 150K-30MHz fin"
Short Description: \_SUB S

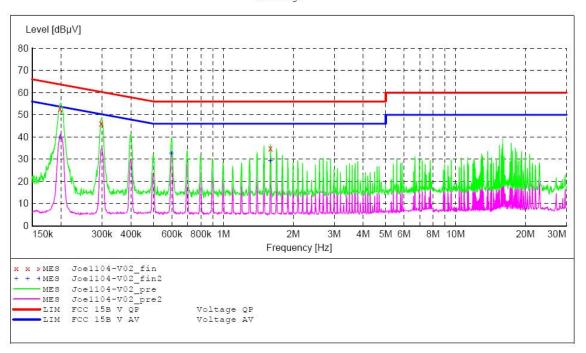
SUB\_STD\_VTERM2 1.70

Detector Meas. Start Stop Step IF Transducer

Frequency Frequency 150.0 kHz 30.0 MHz Width Time Bandw.

0.8 % QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



# MEASUREMENT RESULT: "Joe1104-V02 fin"

11/4/2010 9:4	0AM						
Frequency				Margin	Detector	Line	PE
MHz	dΒμV	dB	dΒμV	dB			
0.198359	52.70	11.2	64	11.0	QP	N	GND
0.298051	46.00	11.6	60	14.3	QP	N	GND
1.593857	34.80	11.7	56	21.2	QP	N	GND

### MEASUREMENT RESULT: "Joe1104-V02 fin2"

11/4/2010	9:40AM						
Frequenc Mi	cy Level Hz dBµV		Limit dBµV	Margin dB	Detector	Line	PE
0.1983	59 40.10	11.2	54	13.6	AV	N	GND
0.5969	75 32.80	12.0	46	13.2	AV	N	GND
1.5938	57 29.30	11.7	46	16.7	AV	N	GND

### CONDUCTED EMISSION STANDARD FCC PART 15 B

150M wireless usb adapter M/N:WU106A HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD Manufacturer:

Operating Condition: TX Channel 6 (802.11b)

Test Site: 1#Shielding Room

Operator: Joe

Test Specification: L 120V/60Hz

Sample No.:102541 Report No.:ATE20102255 11/4/2010 / 9:33:56AM Comment:

Start of Test:

# SCAN TABLE: "V 150K-30MHz fin" Short Description: \_SUB\_S

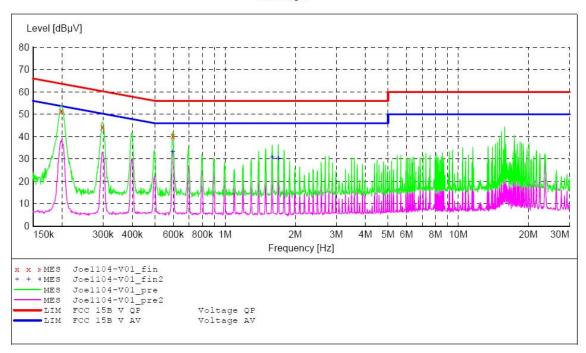
\_SUB\_STD\_VTERM2 1.70

Step Detector Meas. Start Stop TF Transducer

Width Time Bandw.

Frequency Frequency 150.0 kHz 30.0 MHz QuasiPeak 1.0 s 0.8 % 9 kHz NSLK8126 2008

Average



### MEASUREMENT RESULT: "Joe1104-V01 fin"

11/4/2	010 9:3	6AM						
Fre	quency				-	Detector	Line	PE
	MHz	dΒμV	dB	dBµV	dB			
0.	198359	51.50	11.2	64	12.2	QP	L1	GND
0.	298051	44.20	11.6	60	16.1	QP	L1	GND
0.	596975	40.20	12.0	56	15.8	QP	L1	GND

### MEASUREMENT RESULT: "Joe1104-V01 fin2"

36AM						
		Limit dBµV	Margin dB	Detector	Line	PE
33.20	12.0	46	12.8	AV	L1	GND
30.80	11.7	46	15.2	AV	L1	GND
30.40	11.7	46	15.6	AV	L1	GND
	Level dBμV 33.20 30.80	Level Transd dB dBμV dB 33.20 12.0 30.80 11.7	Level Transd Limit dBμV dB dBμV 33.20 12.0 46 30.80 11.7 46	Level dBμV     Transd dB dBμV     Limit dBμV     Margin dB       33.20     12.0     46     12.8       30.80     11.7     46     15.2	Level dBμV       Transd dB dBμV       Limit dBμV       Margin dB       Detector dB         33.20       12.0       46       12.8       AV         30.80       11.7       46       15.2       AV	Level dBμV       Transd dB dBμV       Limit dBμV       Margin dB       Detector Line dBμV         33.20       12.0       46       12.8       AV       L1         30.80       11.7       46       15.2       AV       L1

### CONDUCTED EMISSION STANDARD FCC PART 15 B

150M wireless usb adapter M/N:WU106A Manufacturer: HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD Operating Condition: TX Channel 6 (802.11g)

Test Site: 1#Shielding Room

Operator: Joe

Test Specification: N 120V/60Hz

Sample No.:102541 Report No.:ATE20102255 11/4/2010 / 9:40:43AM Comment:

Start of Test:

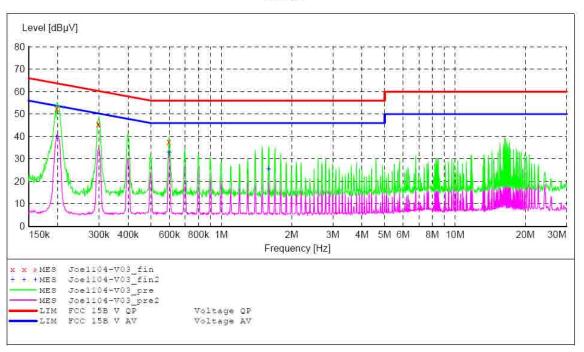
### SCAN TABLE: "V 150K-30MHz fin"

\_SUB\_STD\_VTERM2 1.70 Short Description:

Detector Meas. Start Stop Step IF Transducer Time Bandw.

Frequency Frequency Width 150.0 kHz 30.0 MHz 0.8 % QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



### MEASUREMENT RESULT: "Joe1104-V03 fin"

11/4/2010 9:4	3AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.198359	52.50	11.2	64	11.2	QP	N	GND
0.298051	45.70	11.6	60	14.6	QP	N	GND
0.596975	37.50	12.0	56	18.5	QP	N	GND

### MEASUREMENT RESULT: "Joe1104-V03 fin2"

11/4/2010 9:4	3AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.198359	39.90	11.2	54	13.8	AV	N	GND
0.599363	32.90	12.0	46	13.1	AV	N	GND
1.593857	25.60	11.7	46	20.4	AV	N	GND

### CONDUCTED EMISSION STANDARD FCC PART 15 B

150M wireless usb adapter M/N:WU106A HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD Manufacturer:

Operating Condition: TX Channel 6 (802,11g)

1#Shielding Room Test Site:

Operator: Joe

Test Specification: L 120V/60Hz

Sample No.:102541 Report No.:ATE20102255 Comment:

Start of Test: 11/4/2010 / 9:44:13AM

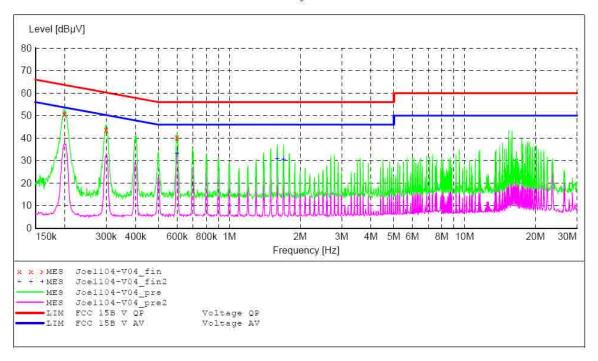
SCAN TABLE: "V 150K-30MHz fin"
Short Description: \_SUB\_STD\_VTERM2 1.70

Stop Step Start Detector Meas. Transducer

Bandw. Time

Frequency Frequency Width 150.0 kHz 30.0 MHz 0.8 % NSLK8126 2008 QuasiPeak 1.0 s 9 kHz

Average



# MEASUREMENT RESULT: "Joe1104-V04 fin"

11/4/2010 9:4	6AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.199152	50.60	11.2	64	13.0	QP	L1	GND
0.299243	43.70	11.6	60	16.6	QP	LI	GND
0.599363	40.20	12.0	56	15.8	QP	L1	GND

### MEASUREMENT RESULT: "Joe1104-V04 fin2"

11/4/2010 9:4	6AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.599363	33.30	12.0	46	12.7	AV	Ll	GND
1.600232	31.00	11.7	46	15.0	AV	LI	GND
1.698981	30.70	11.7	46	15.3	AV	L1	GND

### CONDUCTED EMISSION STANDARD FCC PART 15 B

150M wireless usb adapter M/N:WU106A HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD Manufacturer:

Operating Condition: TX Channel 6 (802,11n) 1#Shielding Room Test Site:

Operator: Joe

Test Specification: N 120V/60Hz

Sample No.:102541 Report No.:ATE20102255 Comment:

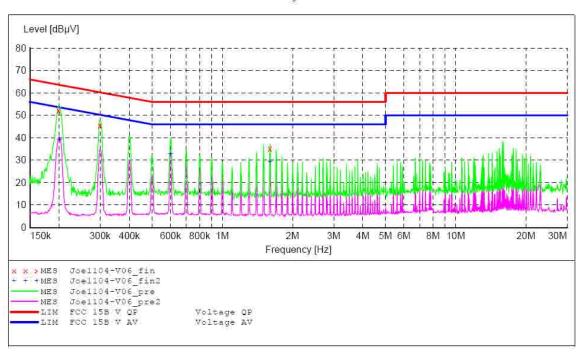
Start of Test: 11/4/2010 / 9:50:32AM

SCAN TABLE: "V 150K-30MHz fin" Short Description: SUB\_S \_SUB\_STD\_VTERM2 1.70

Stop Start Step Detector Meas. IF Transducer Time Bandw.

Frequency Frequency Width 150.0 kHz 30.0 MHz 0.8 % NSLK8126 2008 QuasiPeak 1.0 s 9 kHz

Average



### MEASUREMENT RESULT: "Joe1104-V06 fin"

11/4/2010 9:5	2AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.199152	52.20	11.2	64	11.4	QP	N	GND
0.299243	45.70	11.6	60	14.6	QP	N	GND
1.600232	35.20	11.7	56	20.8	QP	N	GND

### MEASUREMENT RESULT: "Joe1104-V06 fin2"

11/4/2010 9:5	2AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.200748	39.50	11.2	54	14,1	AV	N	GND
0.599363	33.00	12.0	46	13.0	AV	N	GND
1.600232	29.70	11.7	46	16.3	AV	N	GND

### CONDUCTED EMISSION STANDARD FCC PART 15 B

150M wireless usb adapter M/N:WU106A HAOLIYUAN (SHENZHEN) ELECTRONIC CO., LTD Manufacturer:

Operating Condition: TX Channel 6 (802,11n)

Test Site: 1#Shielding Room

Operator: Joe

Test Specification: L 120V/60Hz

Sample No.:102541 Report No.:ATE20102255 Comment:

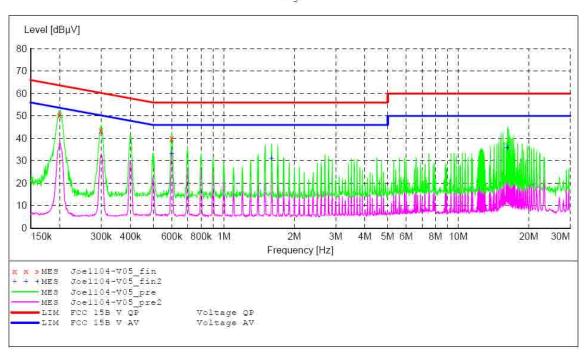
Start of Test: 11/4/2010 / 9:47:16AM

SCAN TABLE: "V 150K-30MHz fin"
Short Description: SUB\_STD\_VTERM2 1.70

Stop Step Detector Meas. IF Transducer Time

Frequency Frequency Width 150.0 kHz 30.0 MHz 0.8 % Bandw. QuasiPeak 1.0 s NSLK8126 2008 9 kHz

Äverage



### MEASUREMENT RESULT: "Joe1104-V05 fin"

1	1/4/2010 9:4	9AM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.199152	50.40	11.2	64	13.2	QP	L1	GND
	0.299243	43.50	11.6	60	16.8	QP	L1	GND
	0.599363	40.10	12.0	56	15.9	QP	L1	GND

### MEASUREMENT RESULT: "Joe1104-V05 fin2"

11/4/2010 9:4	9AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.599363	33.40	12.0	46	12.6	AV	L1.	GND
1.600232	31.20	11.7	46	14.8	AV	L1	GND
16.208260	36.00	11.2	50	14.0	AV	L1	GND

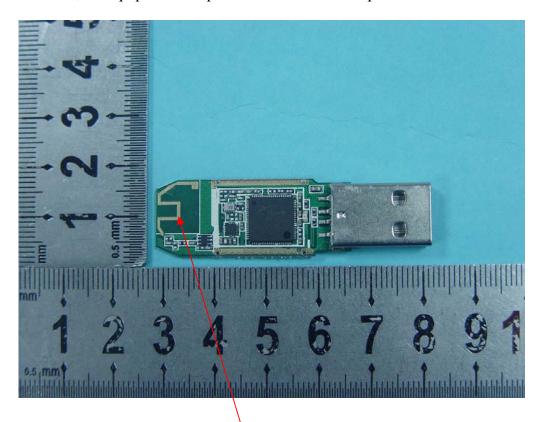
# 11.ANTENNA REQUIREMENT

# 11.1.The Requirement

According to 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.

# 11.2.Antenna Construction

Device is equipped with unique antenna, which is formed by a copper trace on the PCB. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna