APPLICATION CERTIFICATION FCC Part 15C On Behalf of E-matic

MID Model No.: FunTab

FCC ID: XHW-FunTab

Prepared for : E-matic

Address : 2231 Colby Ave., Los Angeles, California, United States

Prepared by : ACCURATE TECHNOLOGY CO., LTD

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Report Number : ATE20112170
Date of Test : October 15-22, 2011
Date of Report : October 22, 2011

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Test Report Certification

Applicant : E-matic

Manufacturer : Shenzhen Sungworld Electronics Co., Ltd.

EUT Description : MID

(A) MODEL NO.: FunTab

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: DC 7.4V (Li-polymer battery);

AC 120V/60Hz (Adaptor input)

October 15-22, 2011

Measurement Procedure Used:

Date of Test :

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.

	000000113 22, 2011	
Prepared by :	Apple Lu	
	(Engineer)	
Approved & Authorized Signer :	(Manager)	

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT : MID

Model Number : FunTab

Frequency Band : 2412-2462MHz

Number of Channels : 11

Antenna Gain : 1dBi

Power Supply : DC 7.4V (Li-polymer battery);

AC 120V/60Hz (Adaptor input)

Adapter : Input: AC 100-240V; 50/60Hz 0.3A

Output: DC 9V; 1.5A

Output line: Non-shielded, Non-detachable, 1.4m

Data Rate : IEEE 802.11b: 11/5.5/2/1Mbps

IEEE 802.11g: 54/48/36/24/18/12/9/6Mbps

Applicant : E-matic

Address : 2231 Colby Ave., Los Angeles, California, United States

Manufacturer : Shenzhen Sungworld Electronics Co., Ltd.

Address : 4#, North District, Shangxue Industrial Park, Bantian,

Long Gang District, Shenzhen, China

Date of sample received: October 15, 2011

Date of Test : October 15-22, 2011

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. 15, 2012
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 15, 2012
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 15, 2012
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 15, 2012
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2012
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2012
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2012
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 15, 2012
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 15, 2012
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 15, 2012

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

3.2. Configuration and peripherals

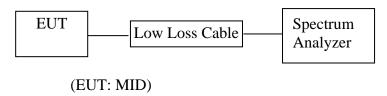
EUT
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	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 15.247(d)	Conducted 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



5.2. The Requirement For Section 15.247(a)(2)

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.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics 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.

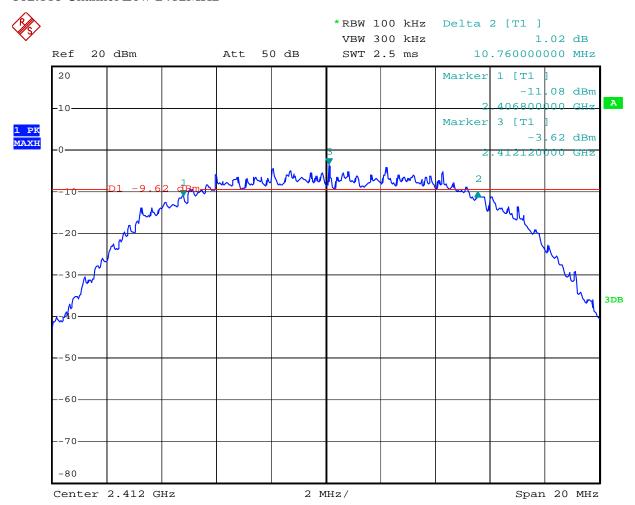
Date of Test:October 18, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:TXTest Engineer:Pei

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

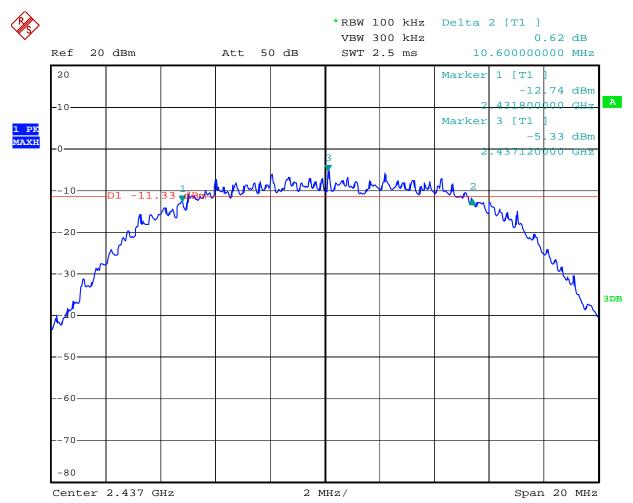
The test was performed with 802.11g					
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)		
Low	2412	16.60	> 0.5MHz		
Middle	2437	16.56	> 0.5MHz		
High	2462	16.56	> 0.5MHz		

The spectrum analyzer plots are attached as below.

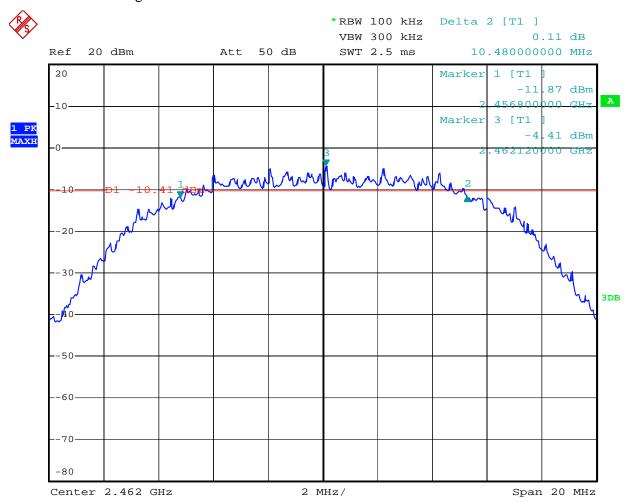
802.11b Channel Low 2412MHz



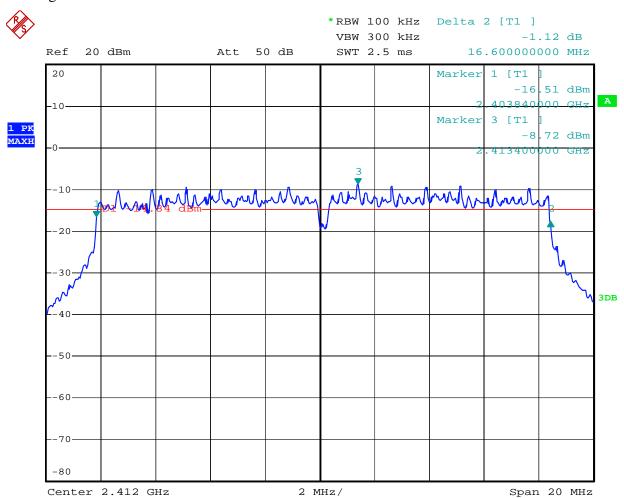
802.11b Channel Middle 2437MHz



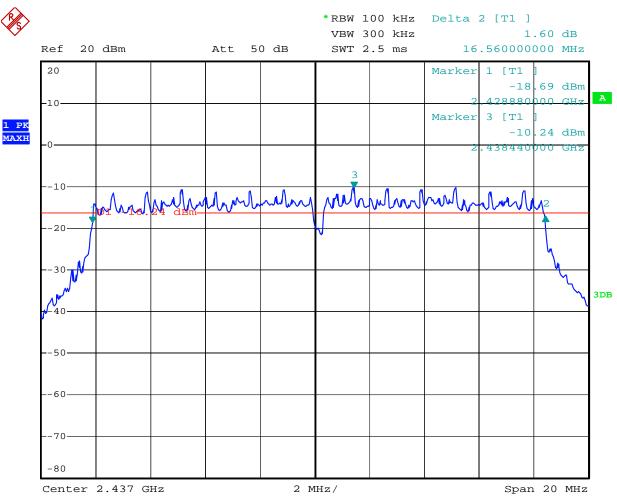
802.11b Channel High 2462MHz



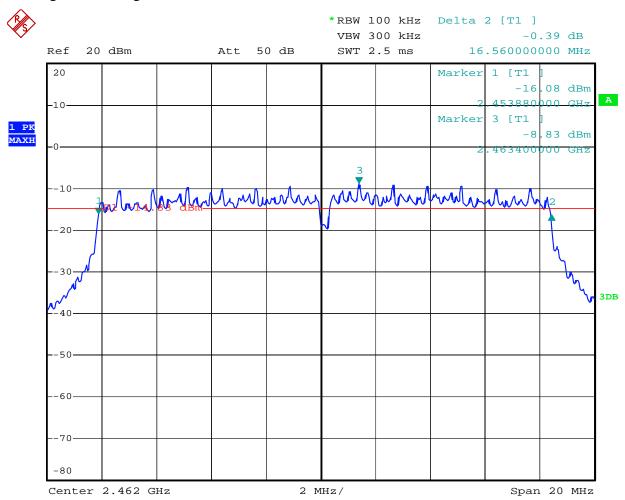
802.11g Channel Low 2412MHz



802.11g Channel Middle 2437MHz

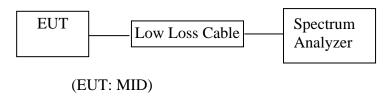


802.11g Channel High 2462MHz



6. MAXIMUM PEAK OUTPUT POWER

6.1.Block Diagram of Test Setup



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.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics 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.

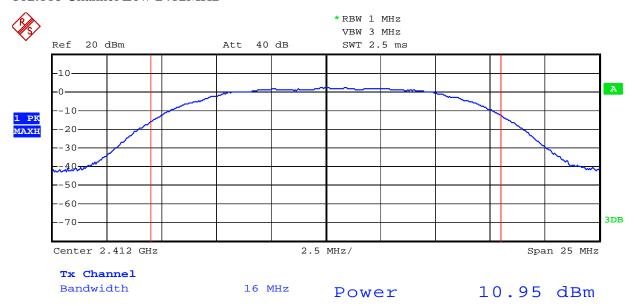
Date of Test:October 18, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:TXTest Engineer:Pei

The test was performed with 802.11b				
Channel 1 7 1 1 1 1 1 1 1 1 1				Limits dBm / W
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

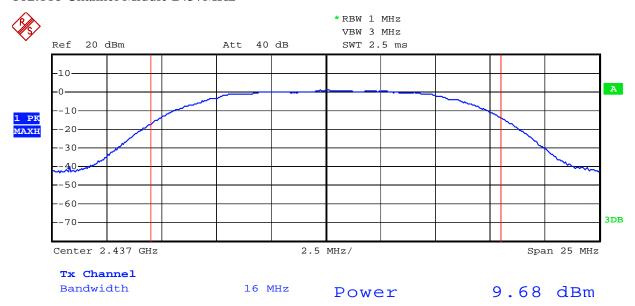
The test was performed with 802.11g				
Channel Frequency (MHz) Peak Output Power (dBm) Peak Output Power (mW) Limits dBm / W				
Low	2412	10.10	10.23	30 dBm / 1 W
Middle	2437	9.00	7.94	30 dBm / 1 W
High	2462	10.01	10.02	30 dBm / 1 W

The spectrum analyzer plots are attached as below.

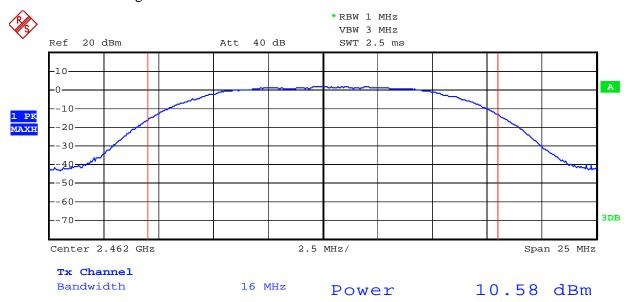
802.11b Channel Low 2412MHz



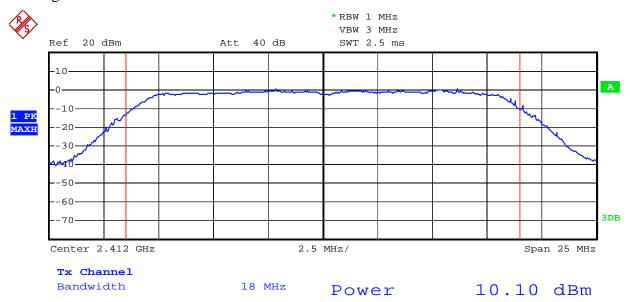
802.11b Channel Middle 2437MHz



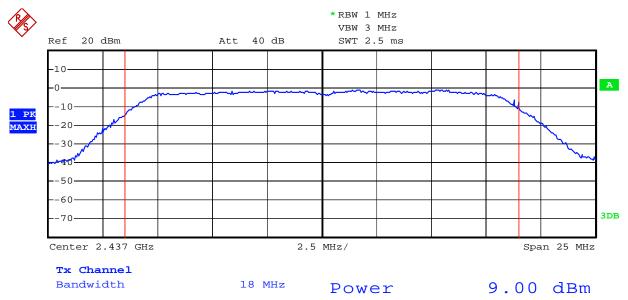
802.11b Channel High 2462MHz



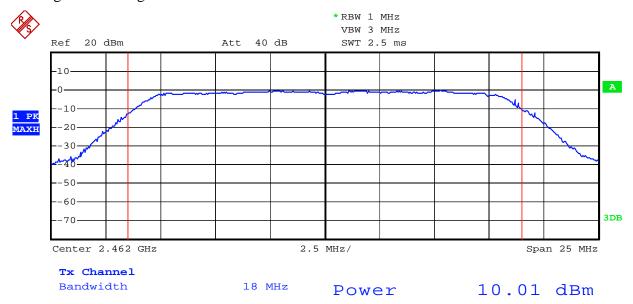
802.11g Channel Low 2412MHz



802.11g Channel Middle 2437MHz

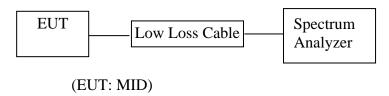


802.11g Channel High 2462MHz



7. POWER SPECTRAL DENSITY MEASUREMENT

7.1.Block Diagram of Test Setup



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.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics 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.

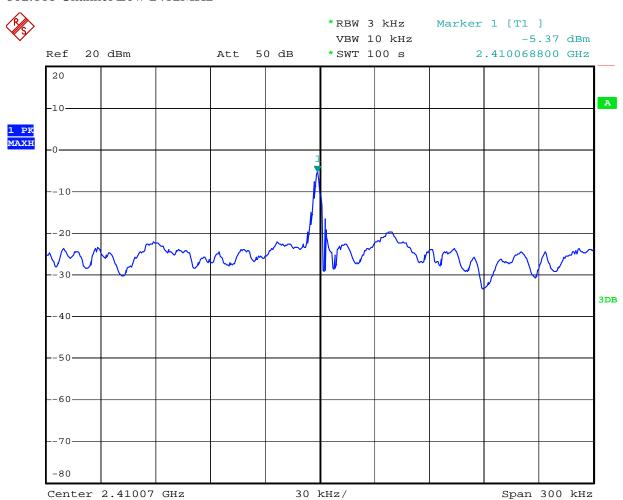
Date of Test:October 18, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:TXTest Engineer:Pei

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	

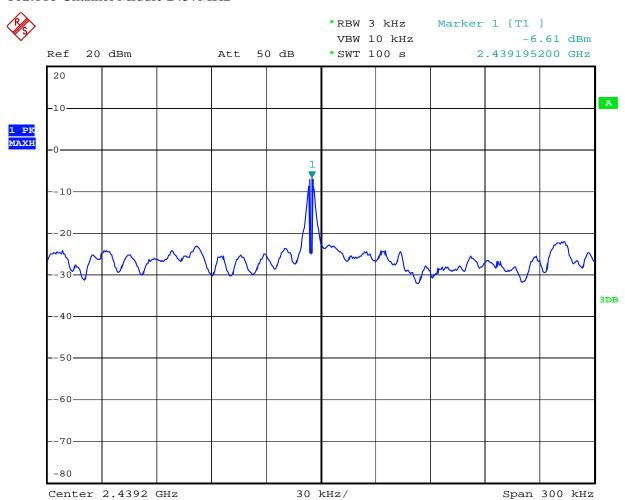
The test was performed with 802.11g				
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	
Low	2412	-24.95	8 dBm	
Middle	2437	-26.77	8 dBm	
High	2462	-24.99	8 dBm	

The spectrum analyzer plots are attached as below.

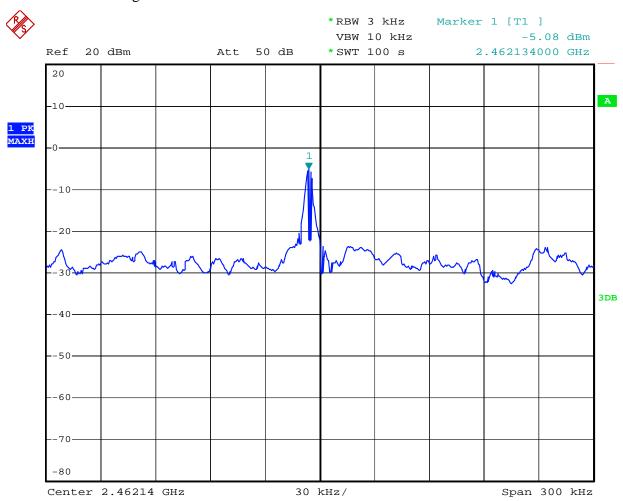
802.11b Channel Low 2412MHz



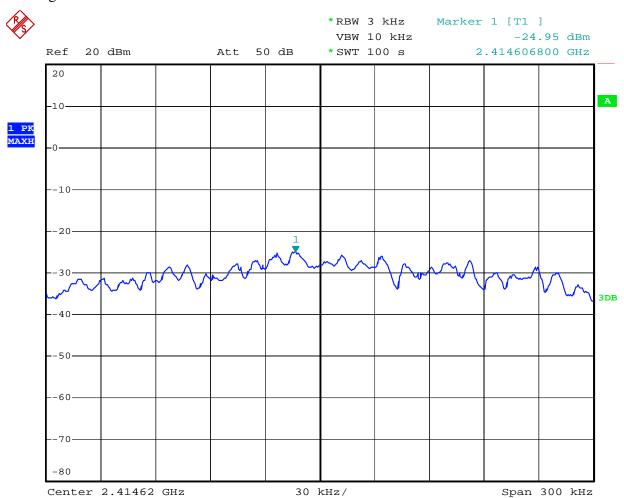
802.11b Channel Middle 2437MHz



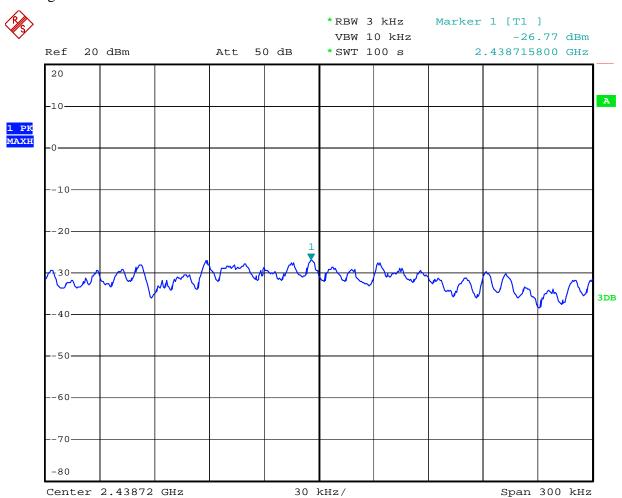
802.11b Channel High 2462MHz



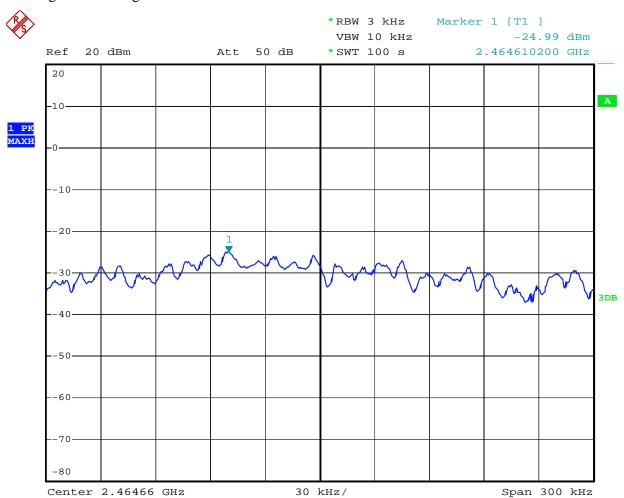
802.11g Channel Low 2412MHz



802.11g Channel Middle 2437MHz

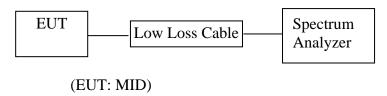


802.11g Channel High 2462MHz



8. BAND EDGE COMPLIANCE TEST

8.1.Block Diagram of Test Setup



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.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics 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

Conducted Band Edge:

- 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.

Radiate Band Edge:

- 8.5.3. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
- 8.5.4. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
- 8.5.5. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 8.5.6. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

8.5.7. The band edges was measured and recorded.

8.6.Test Result

Pass

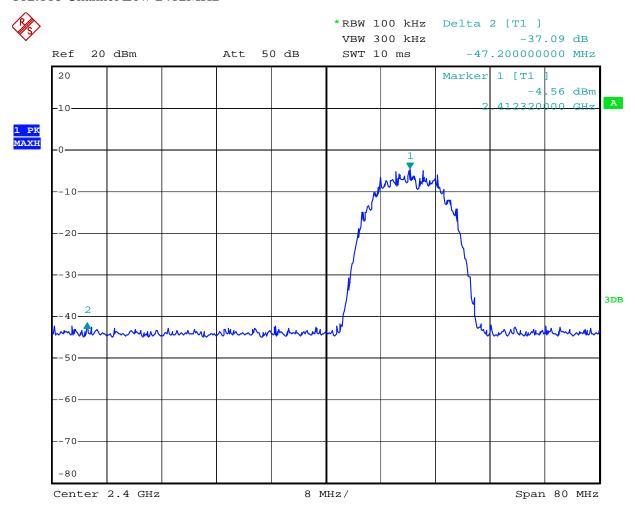
Conducted test

Date of Test:October 18, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:TXTest Engineer:Pei

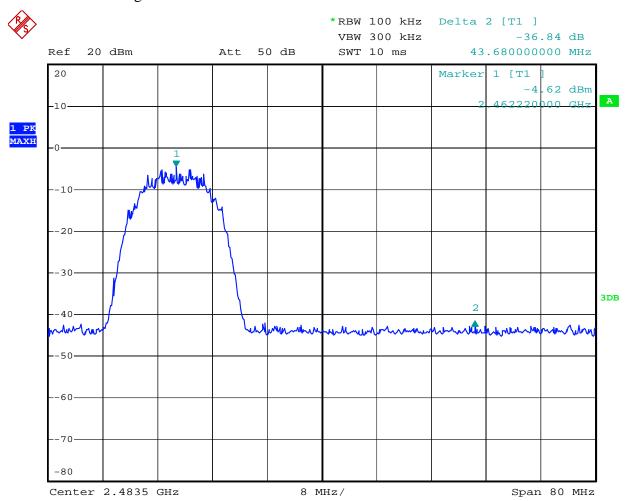
The test was performed with 802.11b			
Frequency	Result of Band Edge (dBc)	Limit of Band Edge (dBc)	
(MHz)		(, ,)	
2412	37.09	> 20dBc	
2462	36.84	> 20dBc	

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	

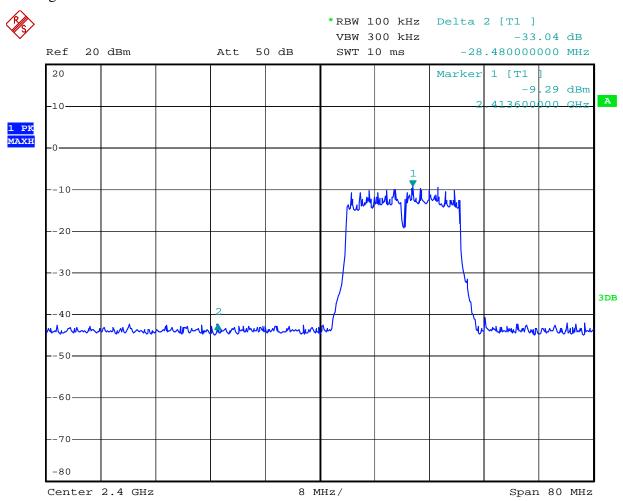
802.11b Channel Low 2412MHz



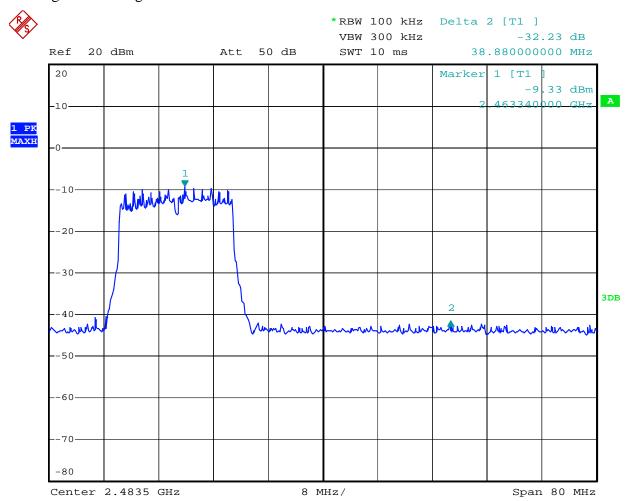
802.11b Channel High 2462MHz



802.11g Channel Low 2412MHz



802.11g Channel High 2462MHz



Radiated Band Edge Result

Date of Test:	October 17, 2011	Temperature:	25°C
EUT:	MID	Humidity:	50%
Model No.:	FunTab	Power Supply:	DC 7.4V
Test Mode:	802.11b Channel Low 2412MHz	Test Engineer:	Pei

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

Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

3. Display the measurement of peak values.

Date of Test:October 17, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11b Channel High 2462MHzTest Engineer:Pei

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

Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

 Result = Reading + Corrected Factor
- 3. Display the measurement of peak values.

Date of Test:October 18, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11g Channel Low 2412MHzTest Engineer:Pei

Frequency	acy Reading(dBμV/m) Fa		Factor(dB)	Result(dBµV/m)		Limit(dBµV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
-	_	-	-	-	_	-	-	ı	-	Vertical
-	_	-	-	_	-	_	-	-	-	Horizontal

Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

3. Display the measurement of peak values.

Date of Test:October 18, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11g Channel High 2462MHzTest Engineer:Pei

Frequency	Reading	ding(dBµV/m) Factor(d)		Result(dBµV/m)		Limit(dBµV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
-	-	_	-	-	-	-	-	ı	-	Vertical
-	-	_	-	-	-	-	-	-	-	Horizontal

Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

 Result = Reading + Corrected Factor
- 3. Display the measurement of peak values.



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.: Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 1 (802.11b)

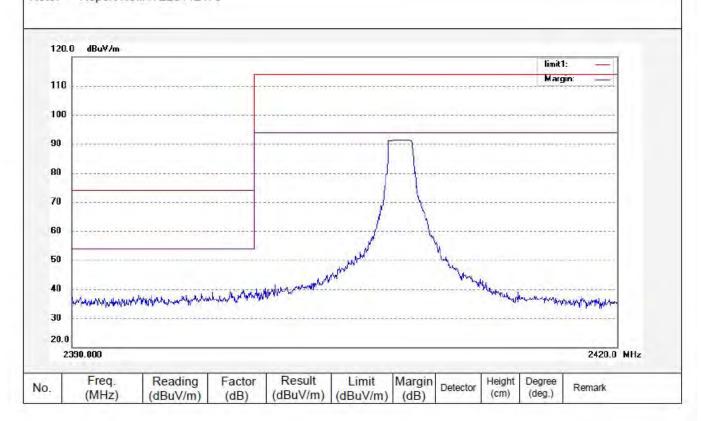
Model: Fun Tab Manufacturer: Sungworld

te: Report No.:ATE20112170

Polarization: Horizontal Power Source: DC 7.4V

Date: 2011/10/17 Time: 9:30:08

Engineer Signature: Bob





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.:

Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

remp.(Oprium.(70)

EUT:

MID

Mode: TX Channel 1 (802.11b)

Model: Fun Tab

Manufacturer: Sungworld

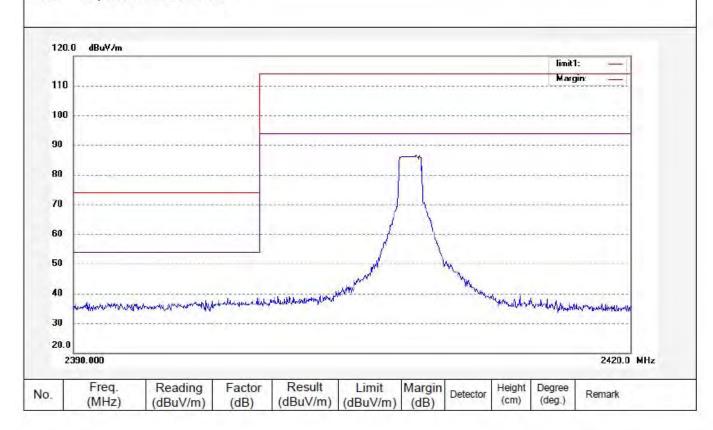
Report No.:ATE20112170

Polarization: Vertical

Power Source: DC 7.4V

Date: 2011/10/17 Time: 9:35:12

Engineer Signature: Bob





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.: Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 11 (802.11b)

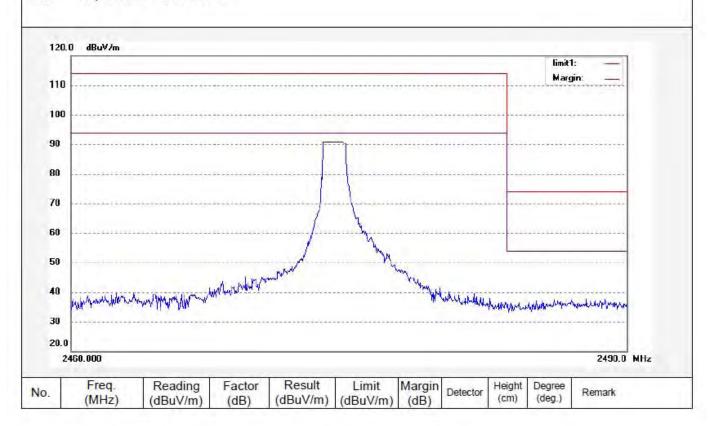
Model: Fun Tab Manufacturer: Sungworld

Note: Report No.:ATE20112170

Polarization: Horizontal Power Source: DC 7.4V

Date: 2011/10/17 Time: 9:55:30

Engineer Signature: Bob





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 Part 15 PEAK 2.4G

Test item: Radiation Test

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

EUT:

Mode: TX Channel 11 (802.11b)

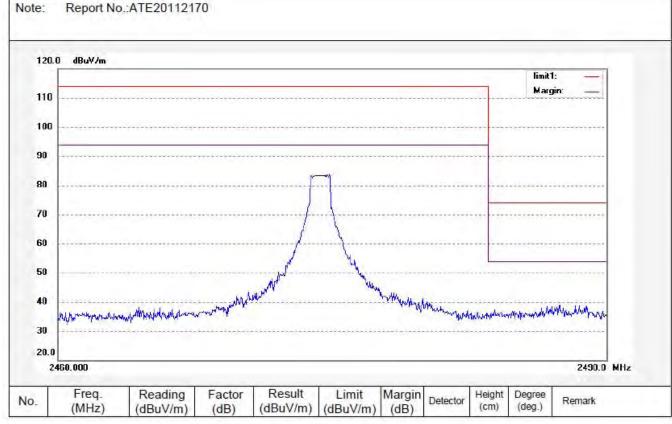
Fun Tab Model:

Manufacturer: Sungworld

Power Source: DC 7.4V

Date: 2011/10/17 Time: 9:50:04

Engineer Signature: Bob





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.: Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 1 (802.11g)

Model: Fun Tab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

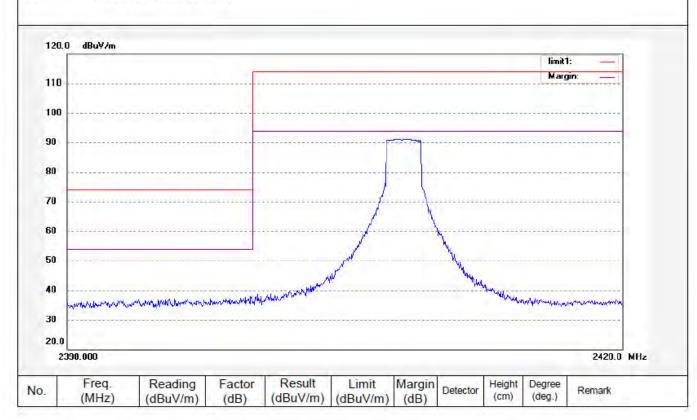
Note: Report No.:ATE20112170



Engineer Signature: Bob

Distance: 3m

Time: 16:32:35





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.:

Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 1 (802.11g)

Model: Fun Tab

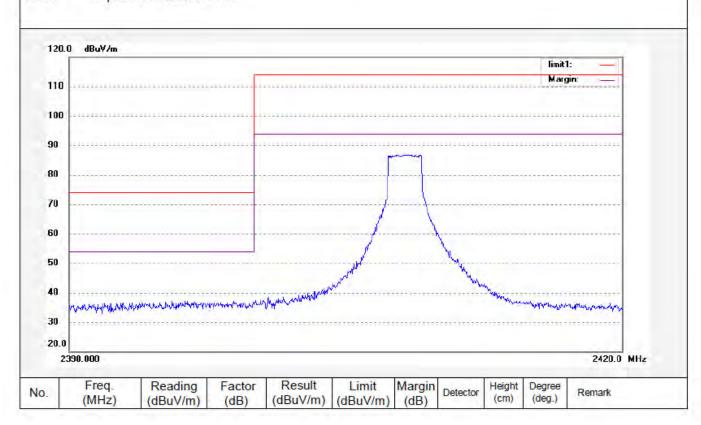
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Report No.:ATE20112170



Date: 2011/10/18 Time: 16:36:50

Engineer Signature: Bob





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.:

Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

EUT: MID

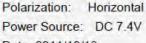
Mode: TX Channel 11 (802.11g)

Model: Fun Tab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

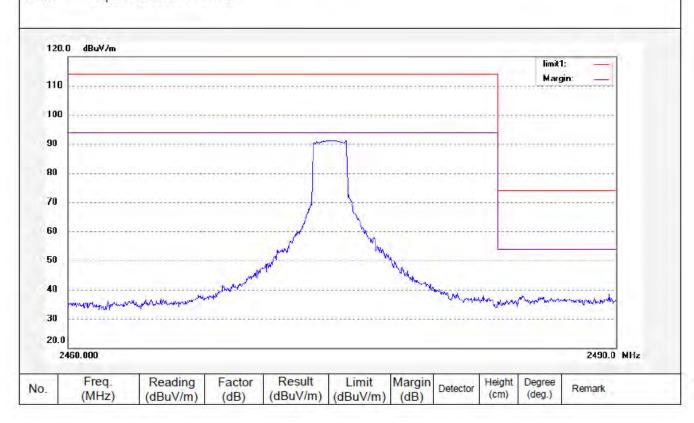
Note:

Report No.:ATE20112170



Date: 2011/10/18 Time: 16:46:39

Engineer Signature: Bob





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.:

Standard: FCC Part 15 PEAK 2.4G

Test item: Radiation Test

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

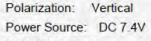
EUT: MID

Mode: TX Channel 11 (802.11g)

Model: Fun Tab

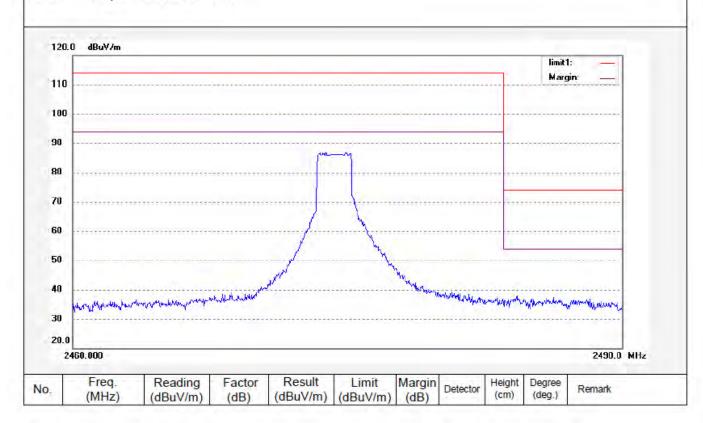
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Report No.:ATE20112170



Date: 2011/10/18 Time: 16:42:28

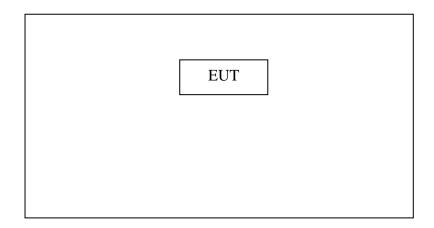
Engineer Signature: Bob



9. RADIATED SPURIOUS EMISSION TEST

9.1.Block Diagram of Test Setup

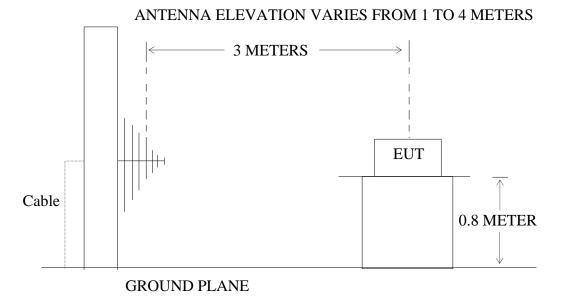
9.1.1.Block diagram of connection between the EUT and peripherals



Setup: Transmitting mode

(EUT: MID)

9.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: MID)

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
¹ 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.

²Above 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.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics Co., Ltd.

9.5. Operating Condition of EUT

- 9.5.1. Setup the EUT and simulator as shown as Section 9.1.
- 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 11Mbps for 802.11b mode and 54Mbps 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:	October 17, 2011	Temperature:	25°C
EUT:	MID	Humidity:	50%
Model No.:	FunTab	Power Supply:	DC 7.4V
Test Mode:	802.11b Channel Low 2412MHz	Test Engineer:	Pei

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency (MHz)	Reading (dBµV/m)	Factor Corr.	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Polarization
	QP	(dB)	QP	QP	QP	
159.7340	22.04	14.60	36.64	43.50	-6.86	Vertical
184.3040	18.51	15.91	34.42	43.50	-9.08	Vertical
282.5960	16.10	18.37	34.47	46.00	-11.53	Vertical
959.9420	10.04	29.69	39.73	46.00	-6.27	Vertical
159.7340	19.50	14.60	34.10	43.50	-9.40	Horizontal
239.9850	15.47	16.76	32.23	46.00	-13.77	Horizontal
599.9560	10.06	25.53	35.59	46.00	-10.41	Horizontal
959.9420	10.09	29.69	39.78	46.00	-6.22	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Conc	Corrected ractor – Antenna ractor + Cable Loss – Ampiriter Gain									
Frequency	Reading(dBµV/m)		Factor	Factor Result(dBµV/m) I		Limit(dBµV/m)		Margin(dBμV/m)		Polarizati
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2400.000	37.59	43.58	-7.46	30.13	36.12	54	74	-23.87	-37.88	Vertical
2412.000	106.42	112.43	-7.43	98.99	105.00	-	-	-	-	Vertical
*4824.036	49.21	55.22	-0.19	49.02	55.03	54	74	-4.98	-18.97	Vertical
2400.000	37.52	43.48	-7.46	30.06	36.02	54	74	-23.94	-37.98	Horizontal
2412.000	105.59	111.56	-7.43	98.16	104.13	-	-	-	-	Horizontal
*4824.036	48.22	54.22	-0.19	48.03	54.03	54	74	-5.97	-19.97	Horizontal

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

Date of Test:October 17, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11b Channel Middle 2437MHzTest Engineer:Pei

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	
159.7340	22.36	14.60	36.96	43.50	-6.54	Vertical
184.3040	18.65	15.91	34.56	43.50	-8.94	Vertical
282.5960	16.04	18.37	34.41	46.00	-11.59	Vertical
959.9420	9.74	29.69	39.43	46.00	-6.57	Vertical
159.7340	20.01	14.60	34.61	43.50	-8.89	Horizontal
239.9850	14.44	16.76	31.20	46.00	-14.80	Horizontal
599.9560	9.36	25.53	34.89	46.00	-11.11	Horizontal
959.9420	9.33	29.69	39.02	46.00	-6.98	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency	Reading(dBμV/m)	Factor	Result(d	BμV/m)	Limit(d	BμV/m)	Margin(d	dBμV/m)	Polarizati
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2437.000	106.08	112.10	-7.36	98.72	104.74	-	-	-	-	Vertical
*4874.032	49.41	55.45	0.09	49.50	55.54	54	74	-4.50	-18.46	Vertical
2437.000	105.51	111.55	-7.36	98.15	104.19	-	-	-	-	Horizontal
*4874.032	48.16	54.20	0.09	48.25	54.29	54	74	-5.75	-19.71	Horizontal

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

Date of Test:October 17, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11b Channel High 2462MHzTest Engineer:Pei

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	
159.7340	21.97	14.60	36.57	43.50	-6.93	Vertical
184.3040	18.48	15.91	34.39	43.50	-9.11	Vertical
282.5960	16.66	18.37	35.03	46.00	-10.97	Vertical
959.9420	8.92	29.69	38.61	46.00	-7.39	Vertical
159.7340	19.43	14.60	34.03	43.50	-9.47	Horizontal
239.9850	14.82	16.76	31.58	46.00	-14.42	Horizontal
599.9560	10.23	25.53	35.76	46.00	-10.24	Horizontal
959.9420	9.93	29.69	39.62	46.00	-6.38	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency	Reading(dBμV/m)	Factor	Result(c	Result(dBμV/m)		Limit(dBµV/m)		Margin(dBμV/m)	
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2462.000	105.77	111.79	-7.35	98.42	104.44	-	-	-	-	Vertical
2483.500	38.21	44.22	-7.37	30.84	36.85	54	74	-23.16	-37.15	Vertical
*4924.038	48.75	54.79	0.34	49.09	55.13	54	74	-4.91	-18.87	Vertical
2462.000	105.44	111.45	-7.35	98.04	104.10	-	-	-	-	Horizontal
2483.500	38.54	44.55	-7.37	31.17	37.18	54	74	-22.83	-36.82	Horizontal
*4924.038	47.93	53.96	0.34	48.27	54.30	54	74	-5.73	-19.70	Horizontal

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

Date of Test:October 17, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11g Channel Low 2412MHzTest Engineer:Pei

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	
159.7340	22.23	14.60	36.83	43.50	-6.67	Vertical
184.3040	18.18	15.91	34.09	43.50	-9.41	Vertical
282.5960	16.86	18.37	35.23	46.00	-10.77	Vertical
959.9420	9.47	29.69	39.16	46.00	-6.84	Vertical
159.7340	18.34	14.60	32.94	43.50	-10.56	Horizontal
239.9850	15.63	16.76	32.39	46.00	-13.61	Horizontal
599.9560	9.57	25.53	35.10	46.00	-10.90	Horizontal
959.9420	9.57	29.69	39.26	46.00	-6.74	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

Frequency (MHz)			Factor Corr. (dB)	Result(c	lBμV/m)	Limit(d	BμV/m)	Margin(Polarizati on	
(IVIIIZ)	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2400.000	38.92	44.95	-7.46	31.46	37.49	54	74	-22.54	-36.51	Vertical
2412.000	105.11	111.16	-7.43	97.68	103.73	-	-	-	-	Vertical
*4824.028	49.69	55.74	-0.19	49.50	55.55	54	74	-4.50	-18.45	Vertical
2400.000	37.72	43.71	-7.46	30.26	36.25	54	74	-23.74	-37.75	Horizontal
2412.000	104.82	110.86	-7.43	97.39	103.43	-	-	-	-	Horizontal
*4824.028	48.36	54.40	-0.19	48.17	54.21	54	74	-5.83	-19.79	Horizontal

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

Date of Test:October 17, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11g Channel Middle 2437MHzTest Engineer:Pei

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	
159.7340	22.35	14.60	36.95	43.50	-6.55	Vertical
184.3040	18.14	15.91	34.05	43.50	-9.45	Vertical
282.5960	16.53	18.37	34.90	46.00	-11.10	Vertical
959.9420	8.74	29.69	38.43	46.00	-7.57	Vertical
159.7340	18.18	14.60	32.78	43.50	-10.72	Horizontal
239.9850	15.80	16.76	32.56	46.00	-13.44	Horizontal
599.9560	9.99	25.53	35.52	46.00	-10.48	Horizontal
959.9420	11.05	29.69	40.74	46.00	-5.26	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency	Reading(dBμV/m)	Factor	Result(dBµV/m)		Limit(dBµV/m)		Margin(dBμV/m)		Polarizati
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2437.000	105.04	111.07	-7.36	97.68	103.71	-	-	-	-	Vertical
*4874.030	48.88	54.91	0.09	48.97	55.00	54	74	-5.03	-19.00	Vertical
2437.000	104.90	110.95	-7.36	97.54	103.59	-	-	-	-	Horizontal
*4874.030	48.28	54.32	0.09	48.37	54.41	54	74	-5.63	-19.59	Horizontal

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

Date of Test:October 17, 2011Temperature:25°CEUT:MIDHumidity:50%Model No.:FunTabPower Supply:DC 7.4VTest Mode:802.11g Channel High 2462MHzTest Engineer:Pei

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	
159.7340	21.99	14.60	36.59	43.50	-6.91	Vertical
184.3040	18.26	15.91	34.17	43.50	-9.33	Vertical
282.5960	16.36	18.37	34.73	46.00	-11.27	Vertical
959.9420	9.02	29.69	38.71	46.00	-7.29	Vertical
159.7340	17.66	14.60	32.26	43.50	-11.24	Horizontal
239.9850	15.65	16.76	32.41	46.00	-13.59	Horizontal
599.9560	9.22	25.53	34.75	46.00	-11.25	Horizontal
959.9420	8.06	29.69	37.75	46.00	-8.25	Horizontal

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency	Reading(dBμV/m)	Factor	Result(dBμV/m)		Limit(dBµV/m)		Margin(dBμV/m)		Polarizati
(MHz)	AV	PEAK	Corr. (dB)	AV	PEAK	AV	PEAK	AV	PEAK	on
2462.000	105.44	111.46	-7.35	98.09	104.11	-	-	-	-	Vertical
2483.500	39.19	45.18	-7.37	31.82	37.81	54	74	-22.18	-36.19	Vertical
*4924.031	48.90	54.92	0.34	49.24	55.26	54	74	-4.76	-18.74	Vertical
2462.000	104.57	110.60	-7.35	97.22	103.25	-	-	-	-	Horizontal
2483.500	39.56	45.61	-7.37	32.19	38.24	54	74	-21.81	-35.76	Horizontal
*4924.031	48.22	54.26	0.34	48.56	54.60	54	74	-5.44	-19.40	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.: Bob #1521

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

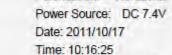
MID

Mode: TX Channel 1 (802.11b)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

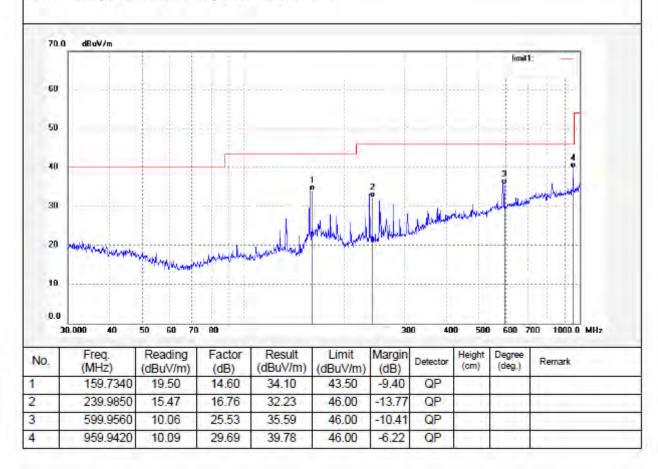
Sample No.:1102099 Report No.:ATE20112170 Note:



Polarization:

Engineer Signature: Bob

Horizontal





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.: Bob #1522

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

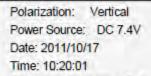
EUT: MID

Mode: TX Channel 1 (802.11b)

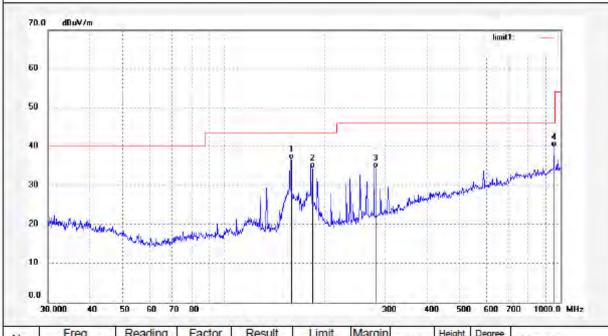
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	159.7340	22.04	14.60	36.64	43.50	-6.86	QP				
2	184.3040	18.51	15.91	34.42	43.50	-9.08	QP				
3	282.5960	16.10	18.37	34.47	46.00	-11.53	QP	774			
4	959.9420	10.04	29.69	39.73	46.00	-6.27	QP	. 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

Job No.: Bob#1533

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

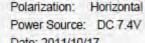
EUT: MID

Mode: TX Channel 1 (802.11b)

Model: FunTab

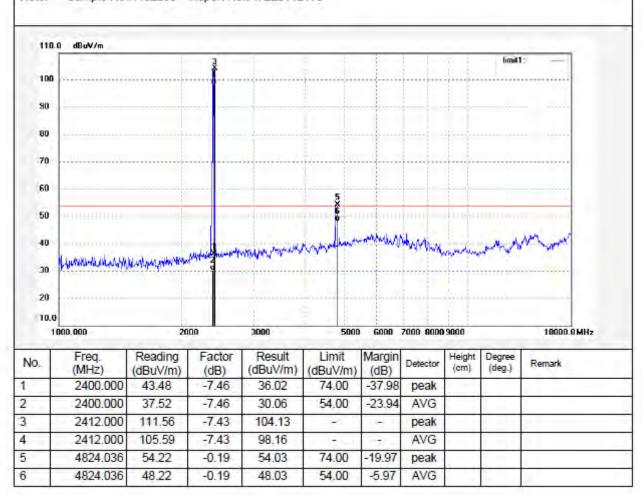
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Date: 2011/10/17 Time: 14:02:59

Engineer Signature: Bob





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.: Bob #1534

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 1 (802.11b)

Model: FunTab

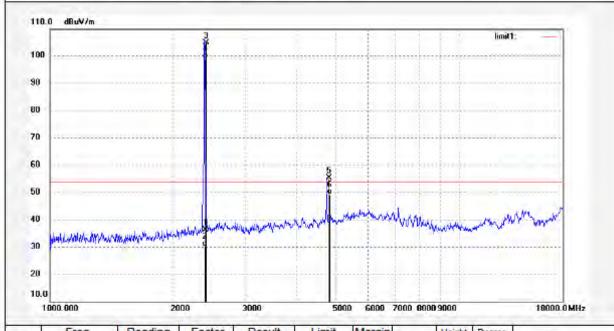
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V

Date: 2011/10/17 Time: 14:07:10

Engineer Signature: Bob





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

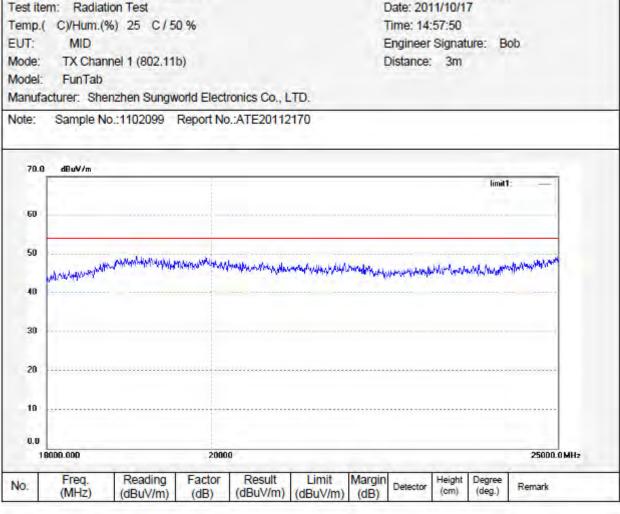
Polarization: Horizontal

Power Source: DC 7.4V

Job No.: Bob #1545

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

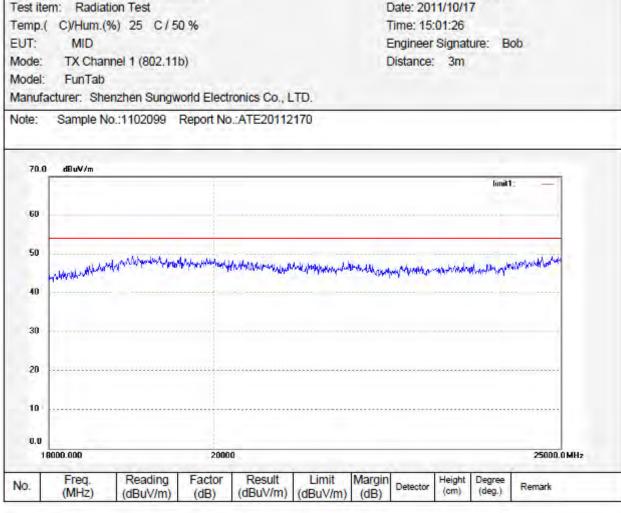
Polarization: Vertical

Power Source: DC 7.4V

Job No.: Bob #1546

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.: Bob #1524

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

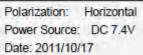
EUT: MID

Mode: TX Channel 6 (802.11b)

Model: FunTab

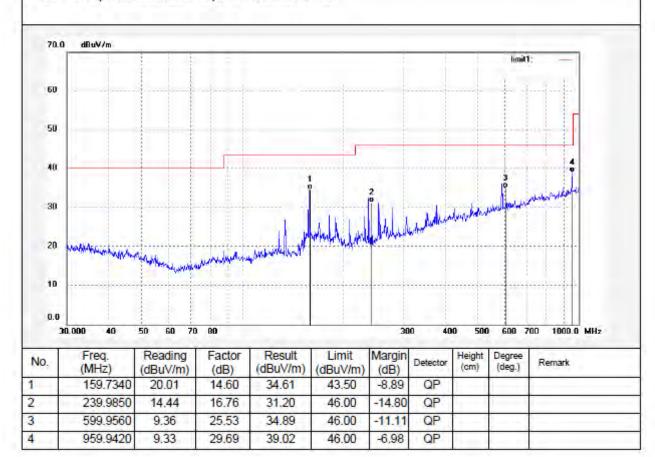
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Time: 10:27:54

Engineer Signature: Bob





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.: Bob #1523

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 6 (802.11b)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V Date: 2011/10/17

Date: 2011/10/17 Time: 10:24:22

Engineer Signature: Bob

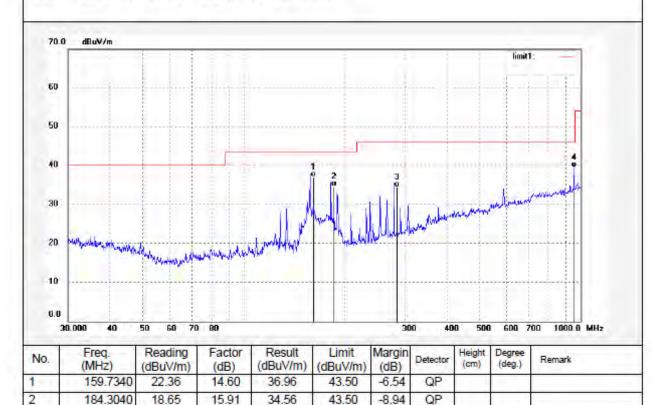
Distance: 3m

QP

QP

-11.59

-6.57



46.00

46.00

3

4

282.5960

959.9420

16.04

9.74

18.37

29.69

34.41

39.43



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.: Bob#1536

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode:

TX Channel 6 (802.11b)

Model: FunTab

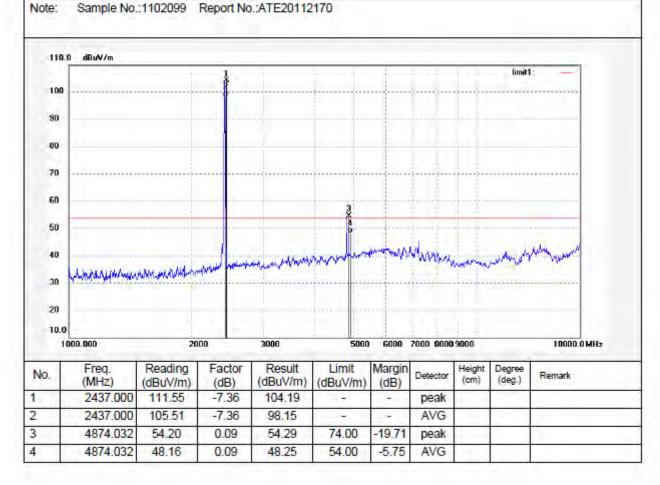
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

LA ALCONO D. LA ATTOCAMONTO

Polarization: Horizontal Power Source: DC 7.4V Date: 2011/10/17

Time: 14:15:49

Engineer Signature: Bob





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.: Bob #1535

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 6 (802.11b)

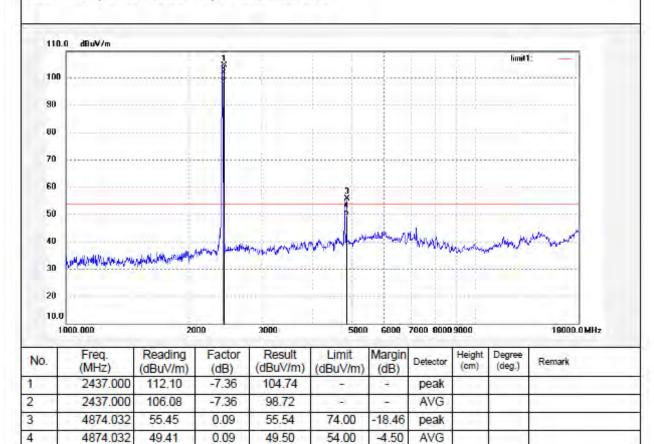
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD,

Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V Date: 2011/10/17

Time: 14:11:41 Engineer Signature: Bob





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 7.4V

Job No.: Bob #1548

Standard: FCC Class B 3M Radiated



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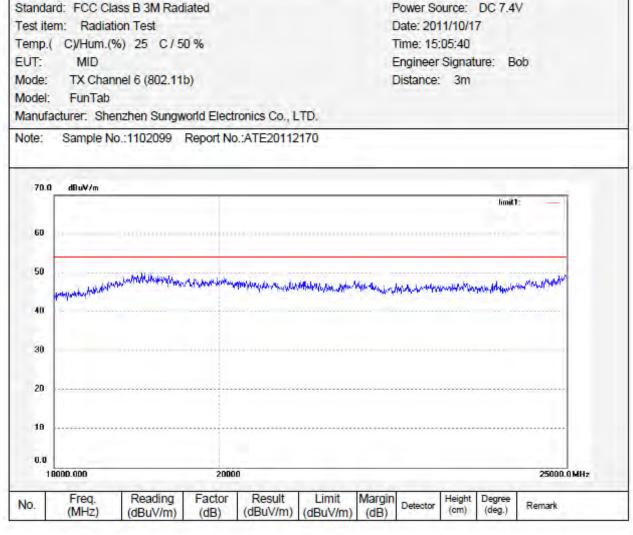


F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China Site: 966 chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Job No.: Bob#1547

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

Job No.: Bob#1525

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

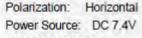
EUT: MID

Mode: TX Channel 11 (802.11b)

Model: FunTab

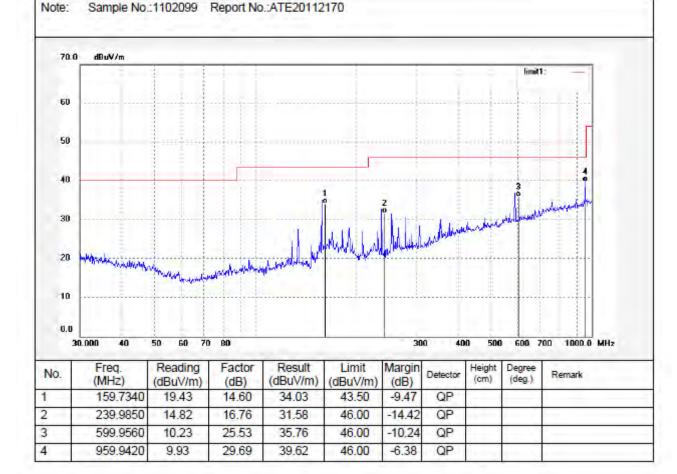
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Manufacturer. One izner our gworld Electronics co., E1D



Date: 2011/10/17 Time: 10:32:20

Engineer Signature: Bob





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.: Bob #1526

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

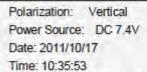
EUT: MID

Mode: TX Channel 11 (802.11b)

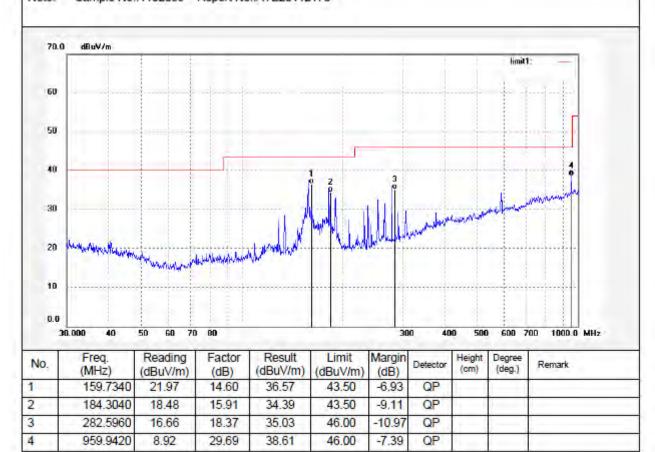
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob





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.: Bob#1537

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 11 (802.11b)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

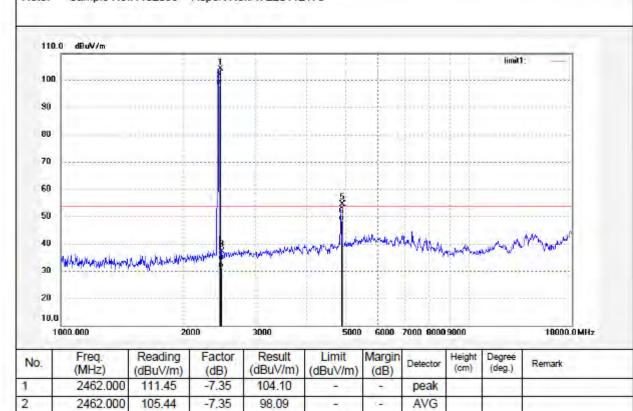
Note: Sample No.:1102099 Report No.:ATE20112170



Time: 14:20:24

Engineer Signature: Bob

Distance: 3m



2483,500

2483,500

4924.038

4924.038

3

4

5

6

44.55

38.54

53.96

47.93

-7.37

-7.37

0.34

0.34

37.18

31.17

54.30

48.27

74.00

54.00

74.00

54.00

-36.82

-22.83

-19.70

-5.73

peak

AVG

peak

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.: Bob #1538

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Made: TV Chan

Mode: TX Channel 11 (802.11b)

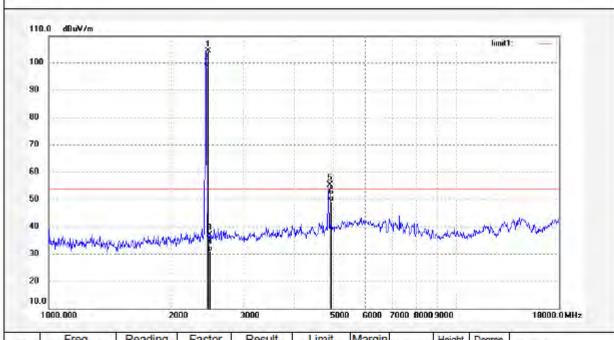
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2462.000	111.79	-7.35	104.44	4-73C	1.4	peak		-		
2	2462.000	105.77	-7.35	98.42	90.76	17-4	AVG				
3	2483.500	44.22	-7.37	36.85	74.00	-37.15	peak				- 1
4	2483.500	38.21	-7.37	30.84	54.00	-23.16	AVG				
5	4924.038	54.79	0.34	55.13	74.00	-18.87	peak				
6	4924.038	48.75	0.34	49.09	54.00	-4.91	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

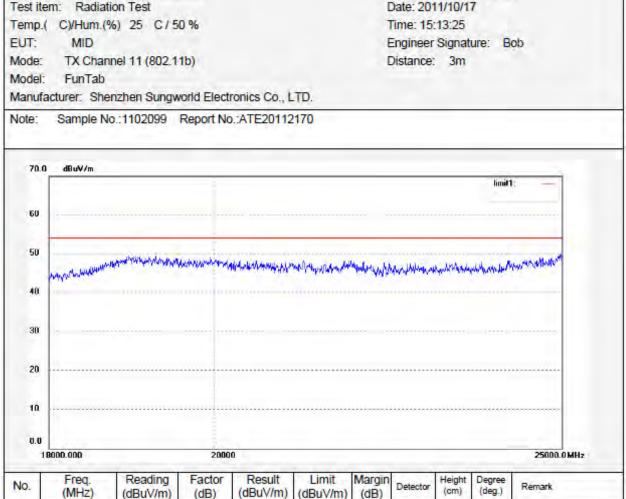
Polarization: Horizontal

Power Source: DC 7.4V

Job No.: Bob #1549

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.: Bob #1550

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 11 (802.11b)

Model: FunTab

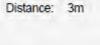
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

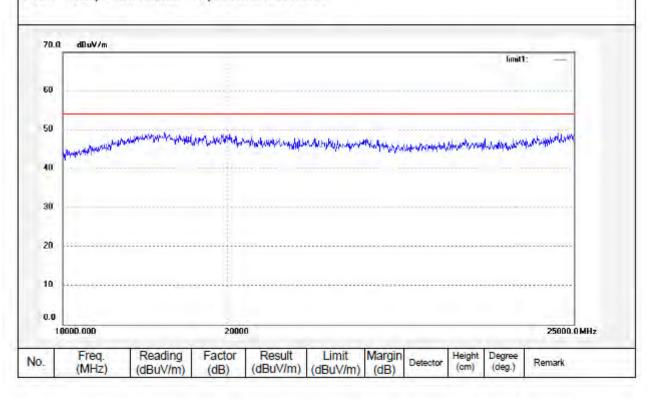
Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V

Date: 2011/10/17 Time: 15:16:58

Engineer Signature: Bob







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.: Bob #1528

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

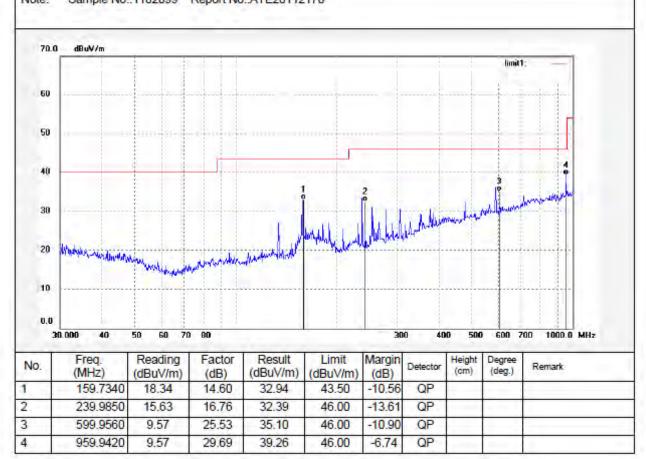
Mode: TX Channel 1 (802.11g)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170







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.: Bob#1527

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 1 (802.11g)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

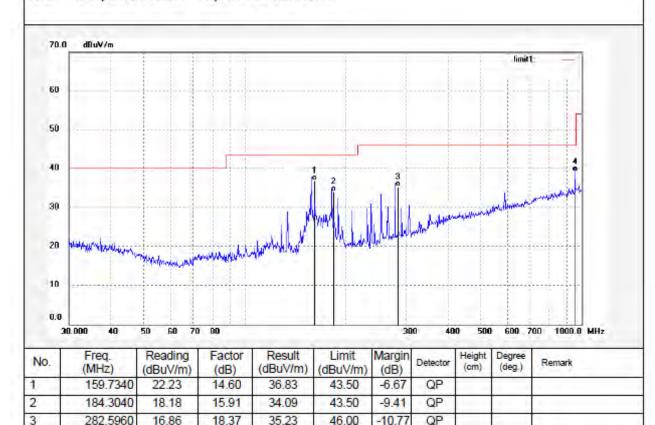
Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V

Date: 2011/10/17 Time: 10:41:11

Engineer Signature: Bob

Distance: 3m



959.9420

9.47

29.69

39.16

46.00

-6.84

QP

4



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.: Bob#1540

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 1 (802.11g)

Model: FunTab

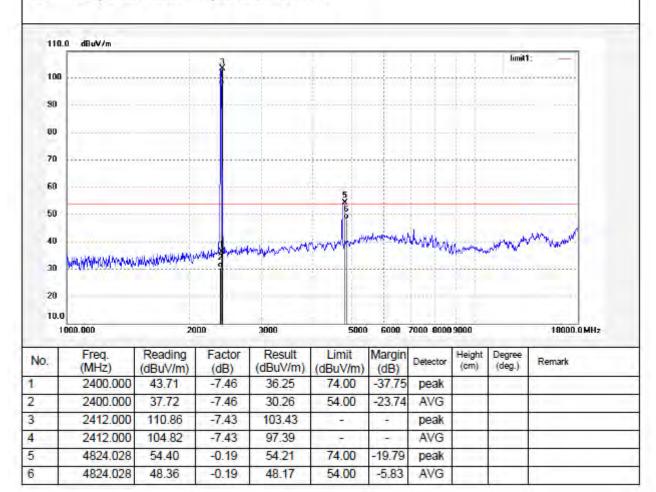
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Horizontal Power Source: DC 7.4V

Date: 2011/10/17 Time: 14:34:36

Engineer Signature: Bob





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.: Bob#1539

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 1 (802.11g)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170

44.95

38.92

111.16

105.11

55.74

49.69

-7.46

-7.46

-7.43

-7.43

-0.19

-0.19

37.49

31.46

103.73

97.68

55.55

49.50

2400.000

2400.000

2412.000

2412.000

4824.028

4824.028

1

2

3

4

5

6

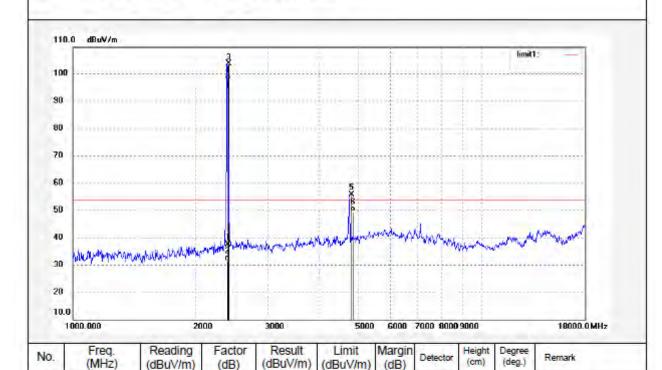
Polarization: Vertical

Power Source: DC 7.4V

Date: 2011/10/17 Time: 14:30:27

Engineer Signature: Bob

Distance: 3m



74.00

54.00

74.00

54.00

-36.51

-22.54

-18.45

-4.50

peak

AVG

peak

AVG

peak

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 7.4V

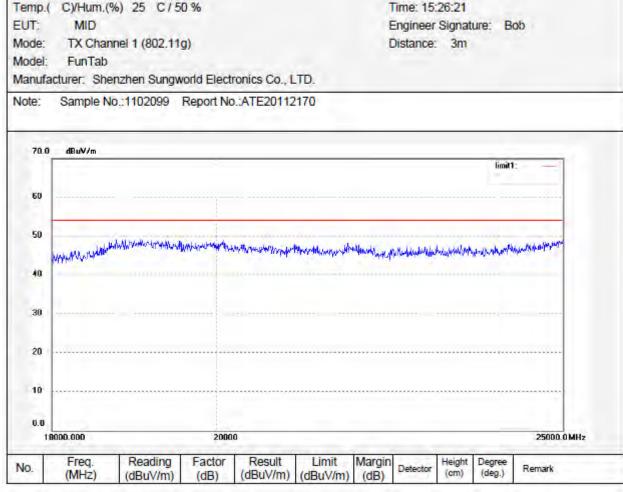
Date: 2011/10/17

Job No.: Bob #1552

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.: Bob#1551

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 1 (802.11g)

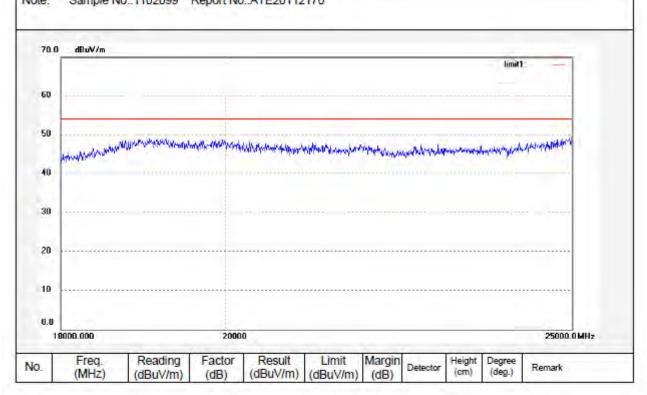
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

lote: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V Date: 2011/10/17 Time: 15:22:46

Engineer Signature: Bob





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.: Bob#1529

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

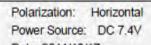
EUT: MID

Mode: TX Channel 6 (802.11g)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

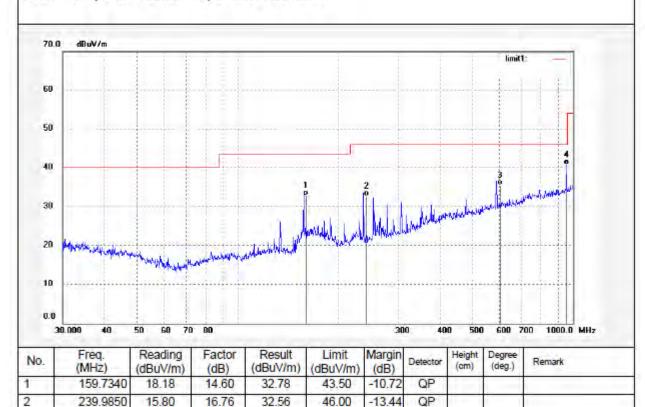
Note: Sample No.:1102099 Report No.:ATE20112170



Date: 2011/10/17 Time: 10:49:22

Engineer Signature: Bob

Distance: 3m



46.00

46.00

-10.48

-5.26

OP

QP

3

4

599.9560

959.9420

9.99

11.05

25.53

29.69

35.52

40.74



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.: Bob #1530

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

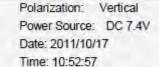
EUT: MID

Mode: TX Channel 6 (802.11g)

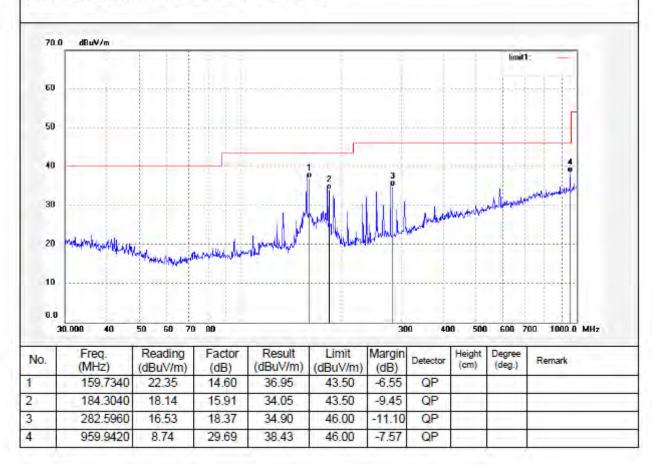
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob





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.: Bob #1541

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 6 (802.11g)

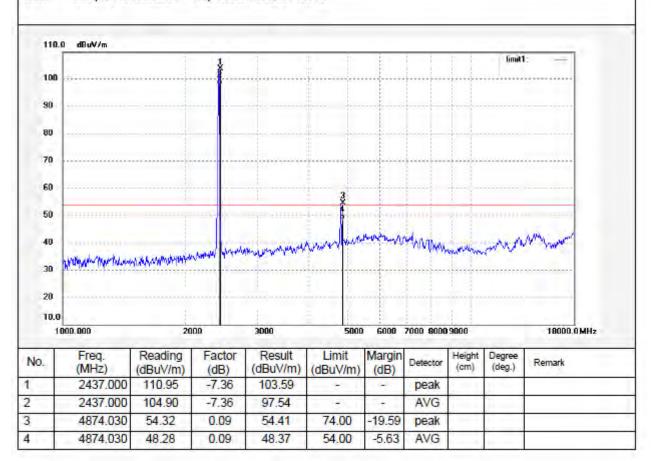
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Horizontal Power Source: DC 7.4V Date: 2011/10/17 Time: 14:38:58

Engineer Signature: Bob





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.: Bob#1542

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 6 (802.11g)

Model: FunTab

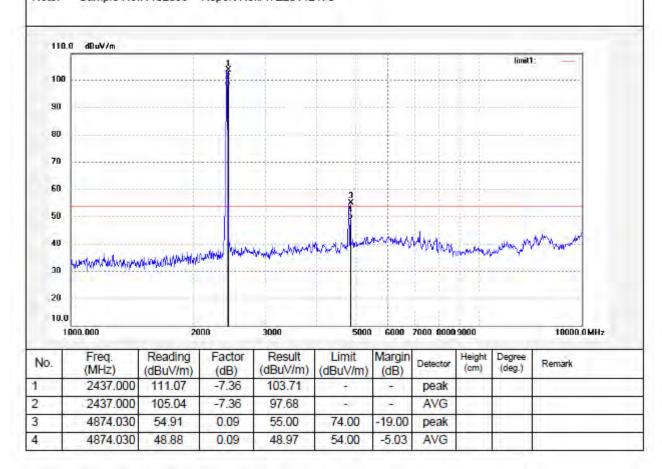
Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V

Date: 2011/10/17 Time: 14:43:06

Engineer Signature: Bob





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.: Bob #1553

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 6 (802.11g)

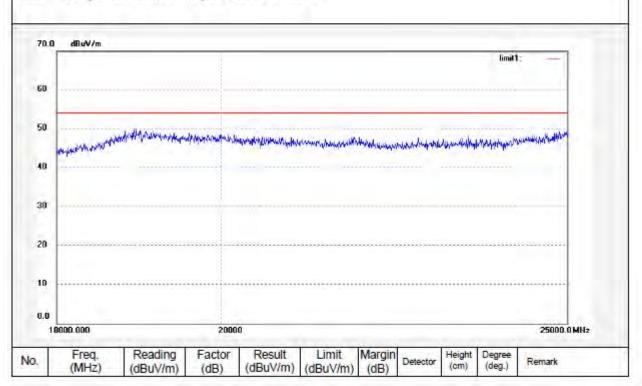
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

ote: Sample No.:1102099 Report No.:ATE20112170

Polarization: Horizontal Power Source: DC 7.4V Date: 2011/10/17 Time: 15:30:38

Engineer Signature: Bob





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

Date: 2011/10/17

Time: 15:34:11

Distance: 3m

Power Source: DC 7.4V

Engineer Signature: Bob

Job No.: Bob#1554

Standard: FCC Class B 3M Radiated

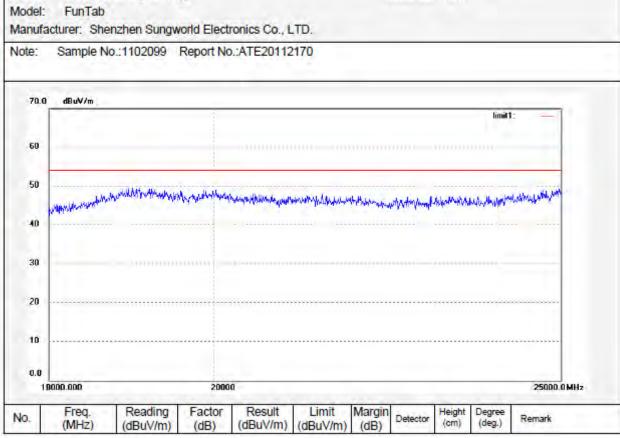
Test item: Radiation Test

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

EUT:

MID

Mode: TX Channel 6 (802.11g)





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.: Bob#1532

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

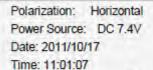
MID

Mode: TX Channel 11 (802.11g)

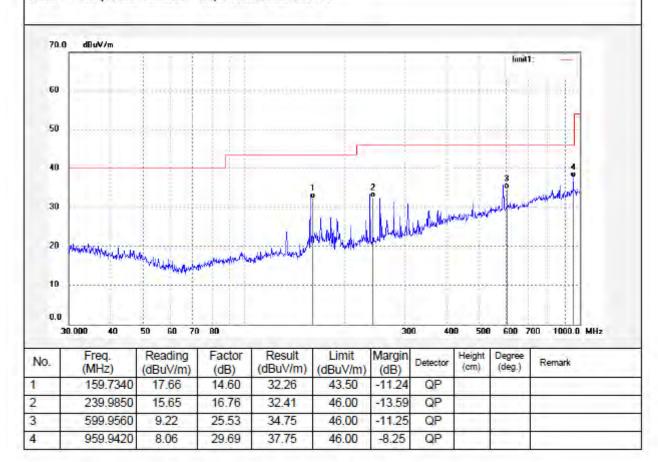
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob





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.: Bob #1531

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT:

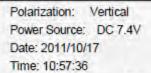
MID

Mode: TX Channel 11 (802.11g)

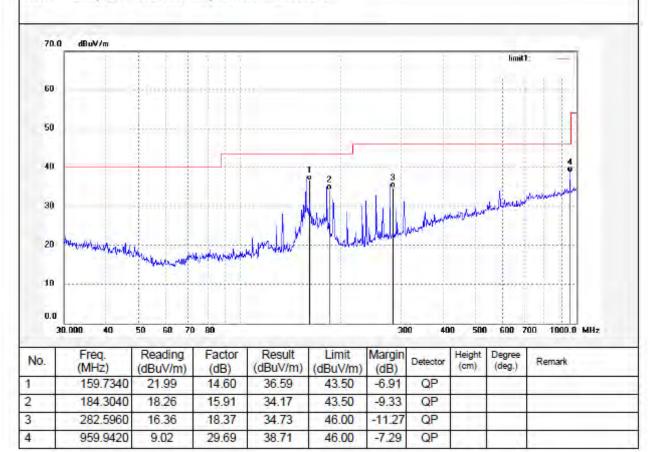
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob





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.: Bob #1544

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

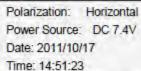
EUT: MID

Mode: TX Channel 11 (802.11g)

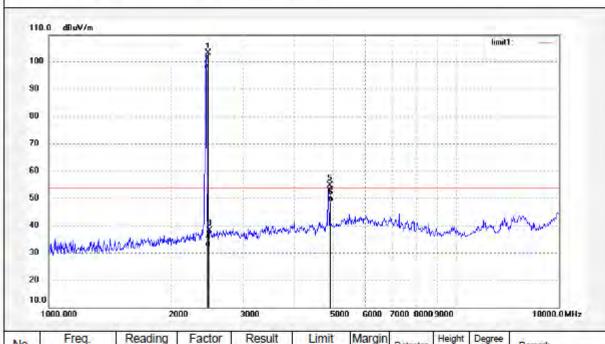
Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170



Engineer Signature: Bob





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.: Bob #1543

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: MID

Mode: TX Channel 11 (802.11g)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD,

Note: Sample No.:1102099 Report No.:ATE20112170

Polarization: Vertical Power Source: DC 7.4V

Date: 2011/10/17 Time: 14:47:17

Engineer Signature: Bob

Distance: 3m

peak

AVG

peak

AVG

peak

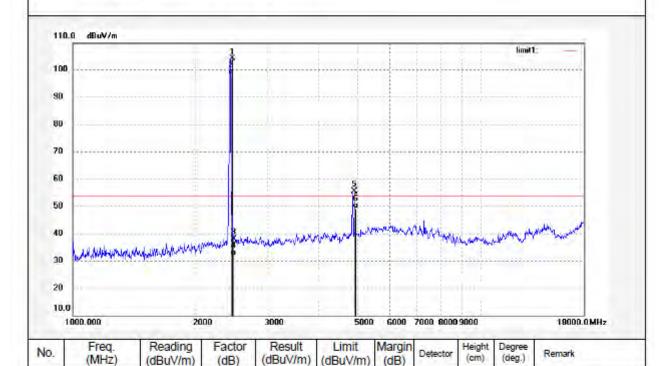
AVG

-36.19

-22.18

18.74

-4.76



1

3

4

5

6

2462.000

2462.000

2483.500

2483,500

4924.031

4924.031

111.46

105.44

45.18

39.19

54.92

48.90

-7.35

-7.35

-7.37

-7.37

0.34

0.34

104.11

98.09

37.81

31.82

55.26

49.24

74.00

54.00

74.00

54.00



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 7.4V

Engineer Signature: Bob

Date: 2011/10/17

Time: 15:41:59

Distance: 3m

Job No.: Bob #1556

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

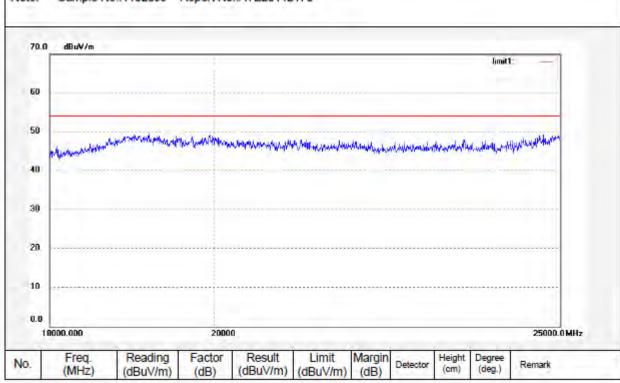
EUT: MID

Mode: TX Channel 11 (802.11g)

Model: FunTab

Manufacturer: Shenzhen Sungworld Electronics Co., LTD.

Note: Sample No.:1102099 Report No.:ATE20112170





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

Date: 2011/10/17

Time: 15:38:24

Power Source: DC 7.4V

Job No.: Bob#1555

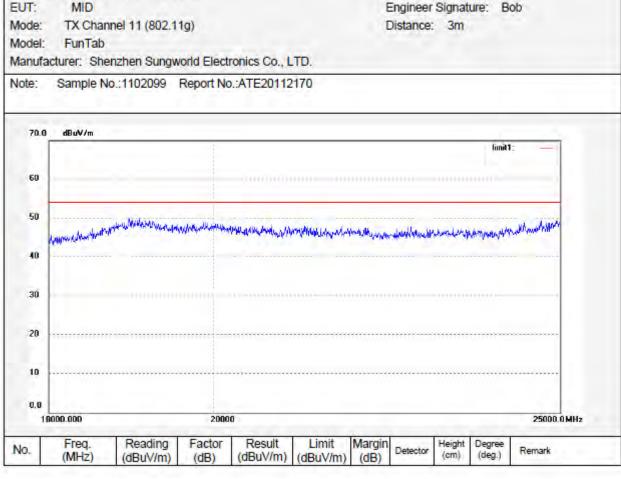
Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

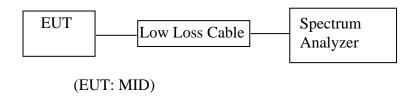
EUT:

MID



10. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

10.1.Block Diagram of Test Setup



10.2. 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).

10.3.EUT Configuration on Measurement

The following equipment is 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.

10.3.1.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics Co., Ltd.

10.4. Operating Condition of EUT

- 10.4.1. Setup the EUT and simulator as shown as Section 10.1.
- 10.4.2. Turn on the power of all equipment.
- 10.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462MHz. We select 2412MHz, 2437MHz, 2462MHz TX frequency to transmit.

10.5.Test Procedure

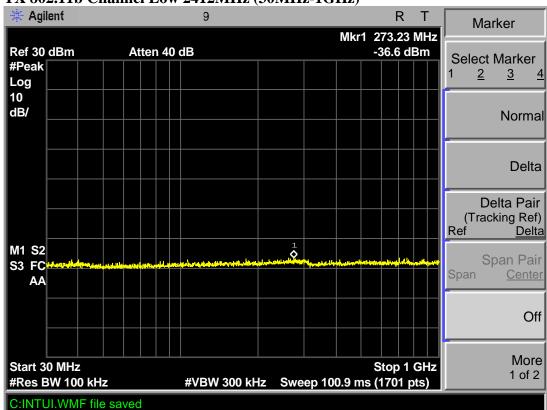
- 10.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.
- 10.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.
- 10.5.3. The Conducted Spurious Emission was measured and recorded.

10.6.Test Result

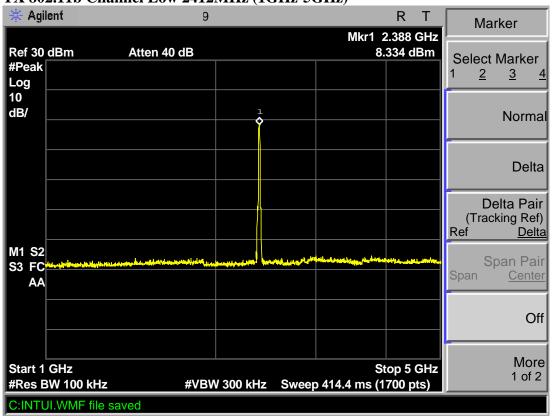
Pass.

The spectrum analyzer plots are attached as below.

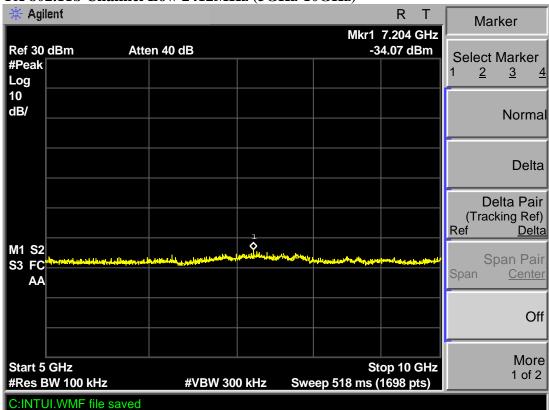




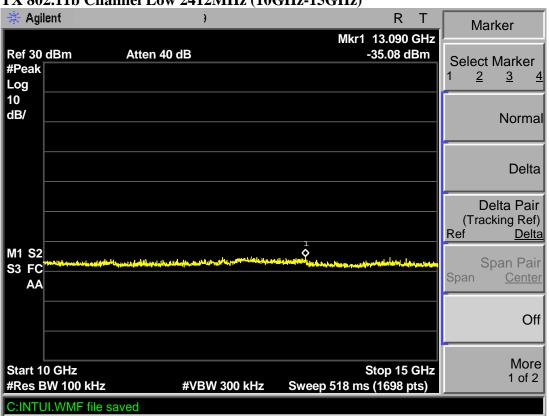
TX 802.11b Channel Low 2412MHz (1GHz-5GHz)



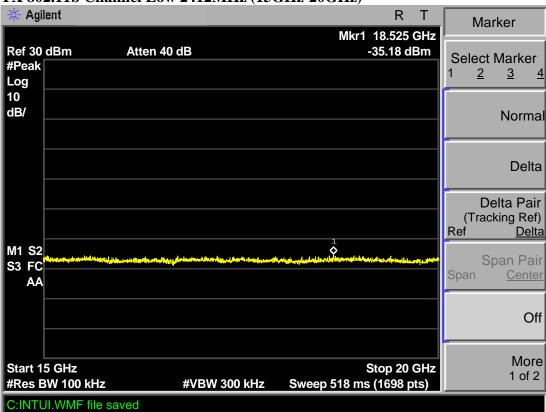




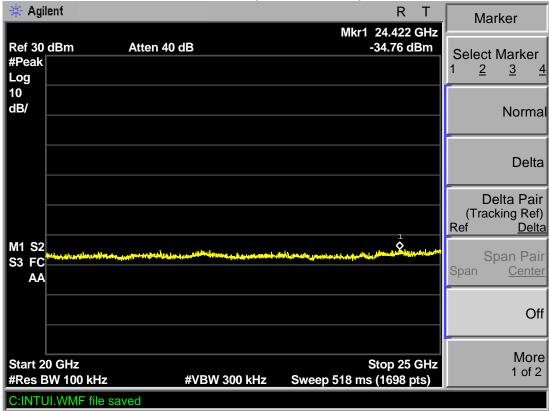
TX 802.11b Channel Low 2412MHz (10GHz-15GHz)



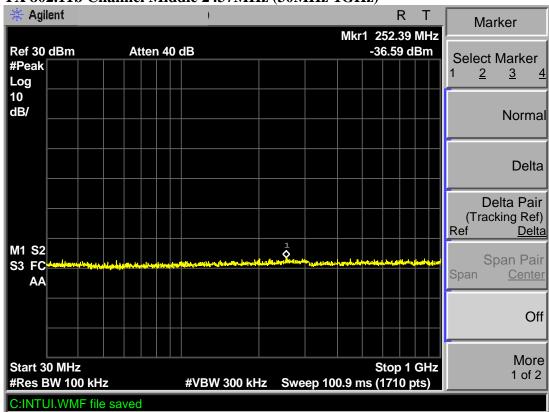
TX 802.11b Channel Low 2412MHz (15GHz-20GHz)



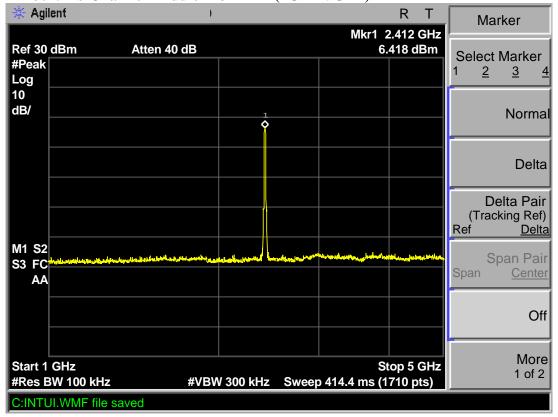
TX 802.11b Channel Low 2412MHz (20GHz-25GHz)



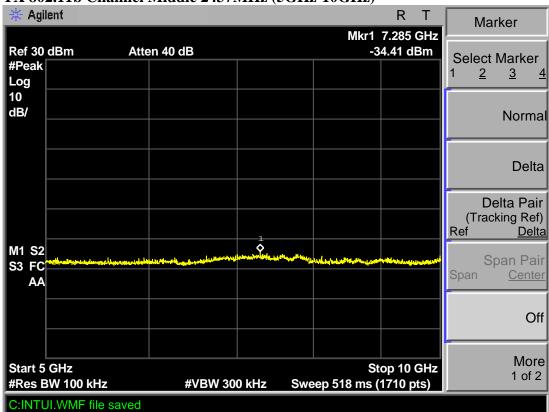




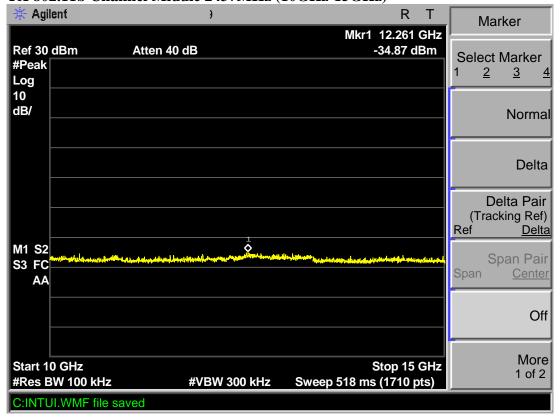
TX 802.11b Channel Middle 2437MHz (1GHz-5GHz)



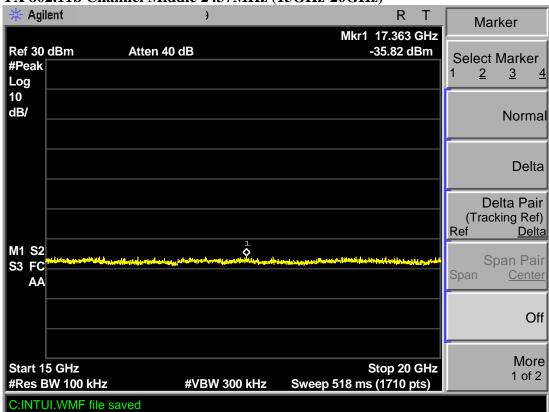




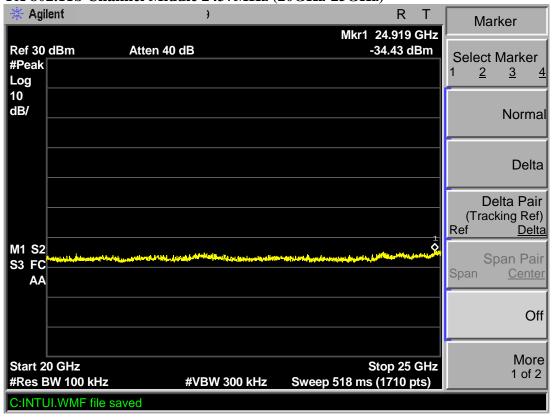
TX 802.11b Channel Middle 2437MHz (10GHz-15GHz)

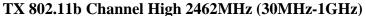


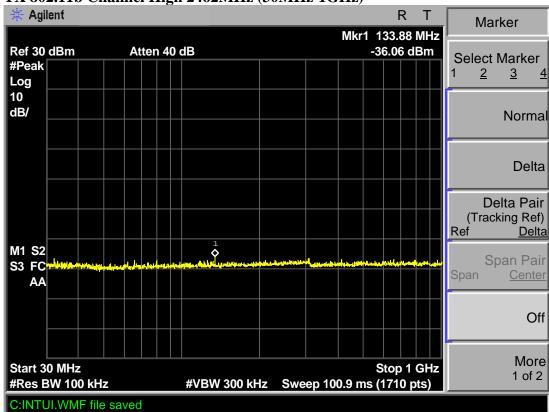
TX 802.11b Channel Middle 2437MHz (15GHz-20GHz)



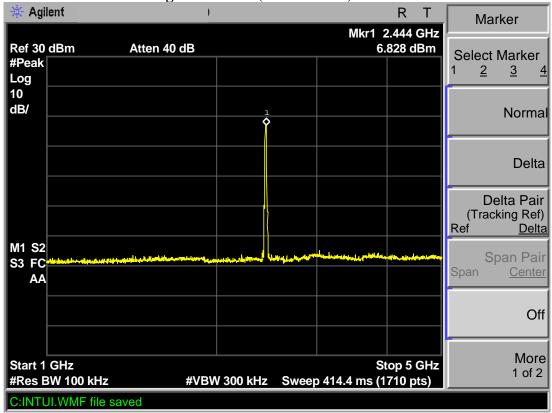
TX 802.11b Channel Middle 2437MHz (20GHz-25GHz)

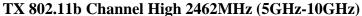


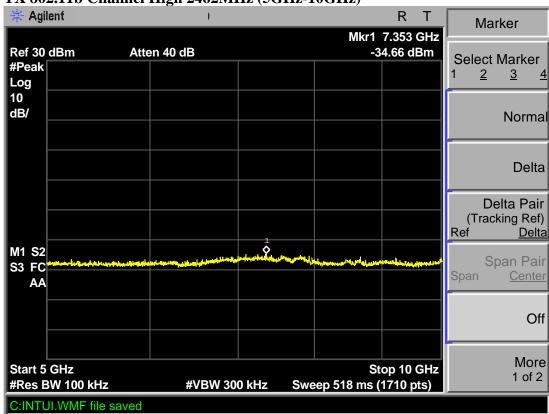




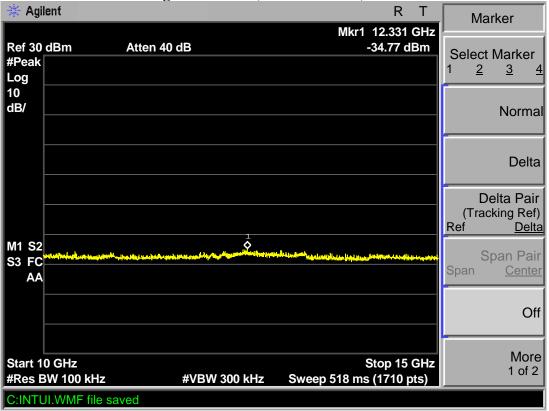
TX 802.11b Channel High 2462MHz (1GHz-5GHz)

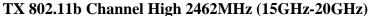


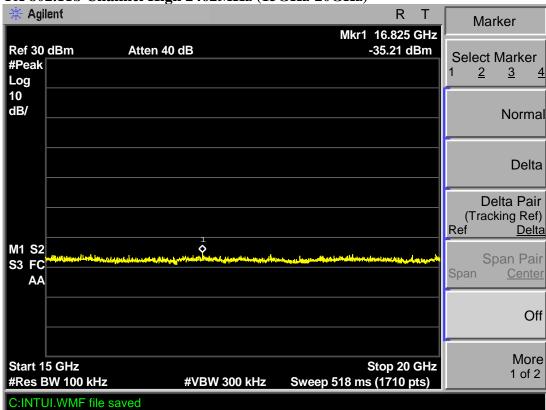




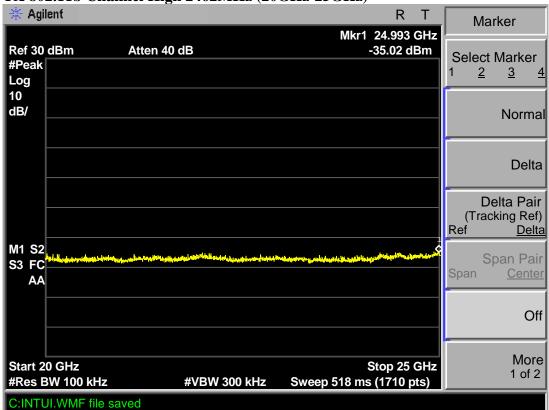
TX 802.11b Channel High 2462MHz (10GHz-15GHz)

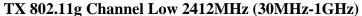


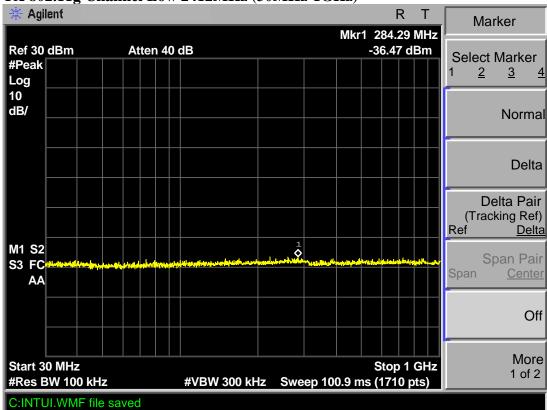




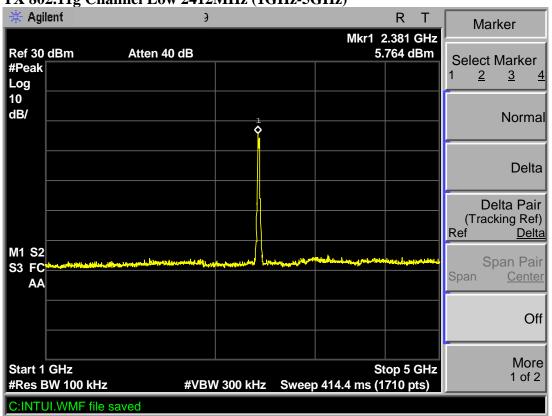
TX 802.11b Channel High 2462MHz (20GHz-25GHz)



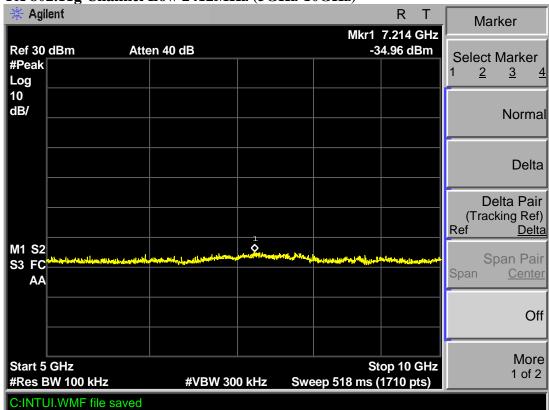




TX 802.11g Channel Low 2412MHz (1GHz-5GHz)



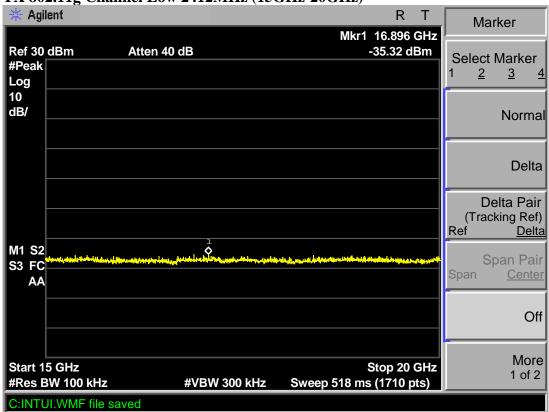




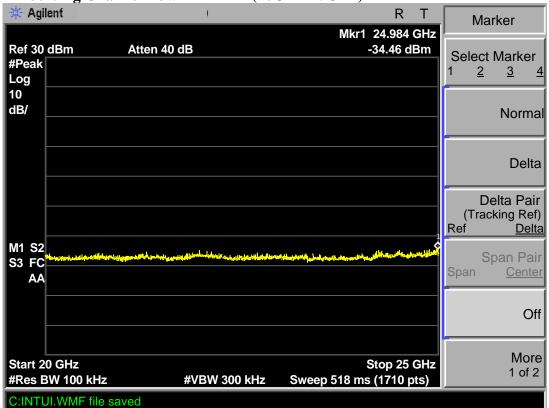
TX 802.11g Channel Low 2412MHz (10GHz-15GHz)



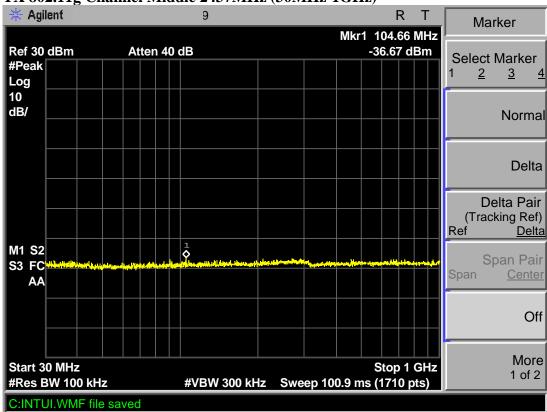
TX 802.11g Channel Low 2412MHz (15GHz-20GHz)



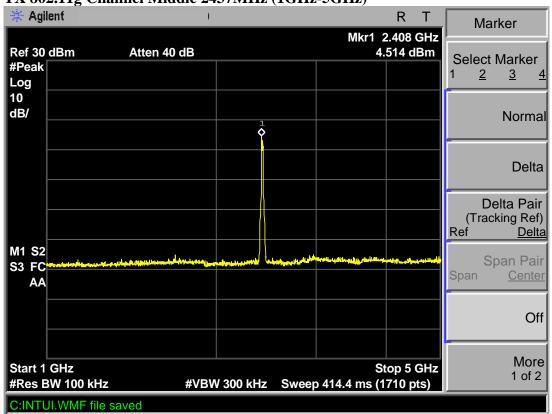
TX 802.11g Channel Low 2412MHz (20GHz-25GHz)



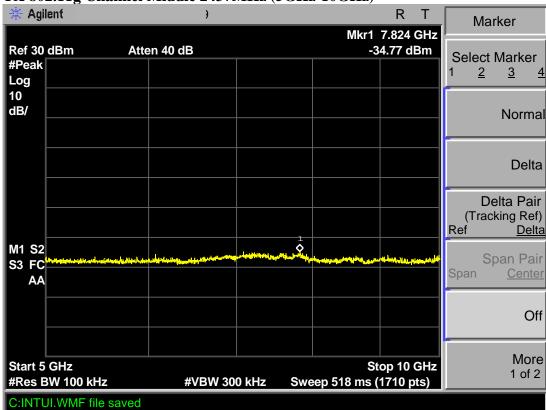




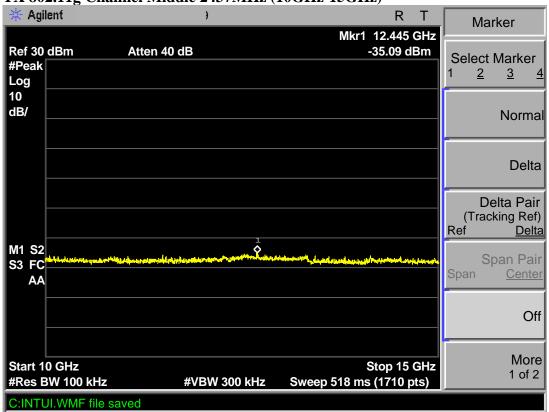
TX 802.11g Channel Middle 2437MHz (1GHz-5GHz)



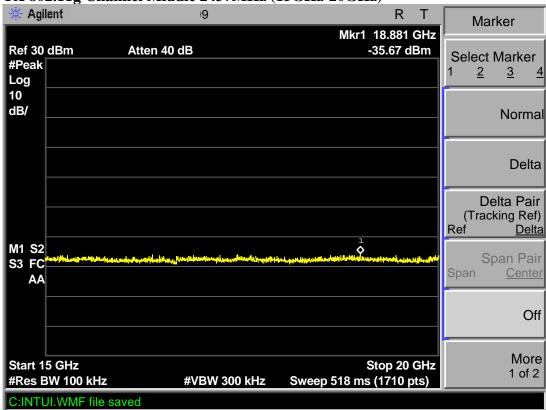




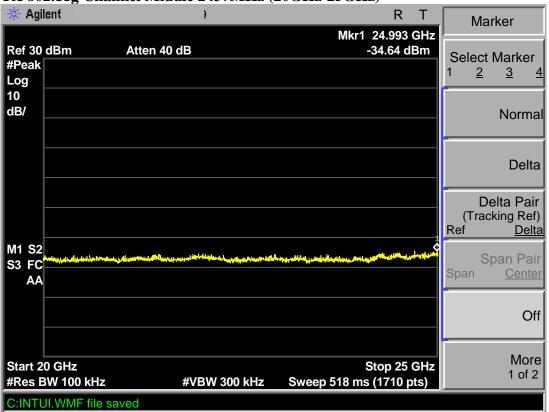
TX 802.11g Channel Middle 2437MHz (10GHz-15GHz)

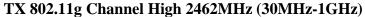


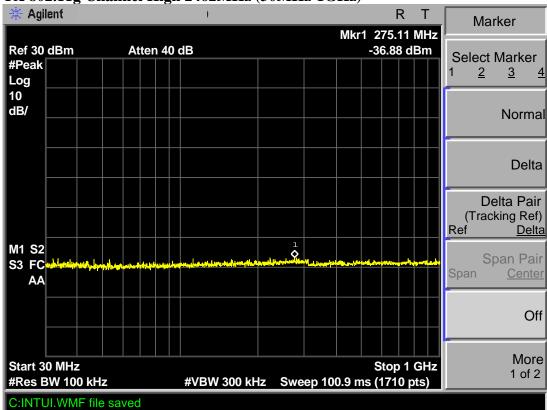




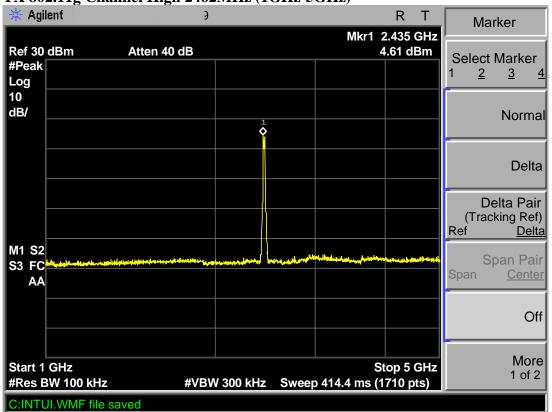
TX 802.11g Channel Middle 2437MHz (20GHz-25GHz)

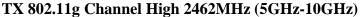


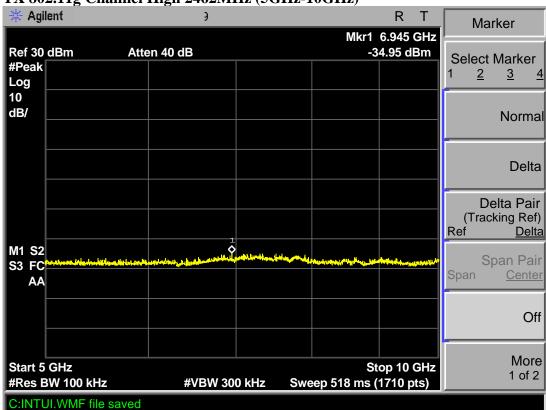




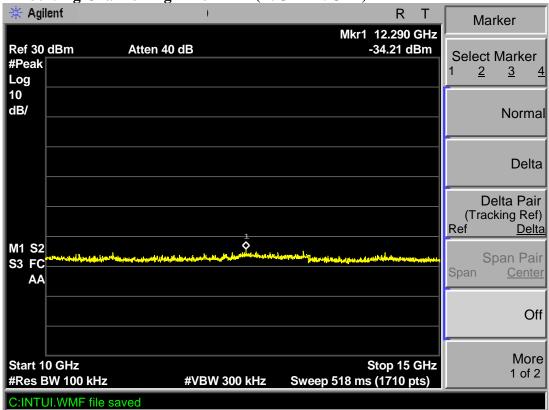
TX 802.11g Channel High 2462MHz (1GHz-5GHz)

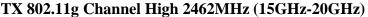


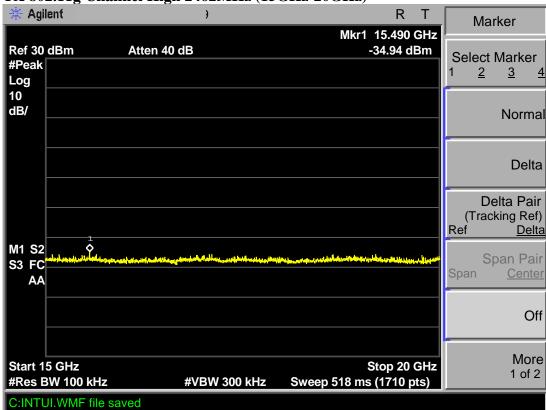




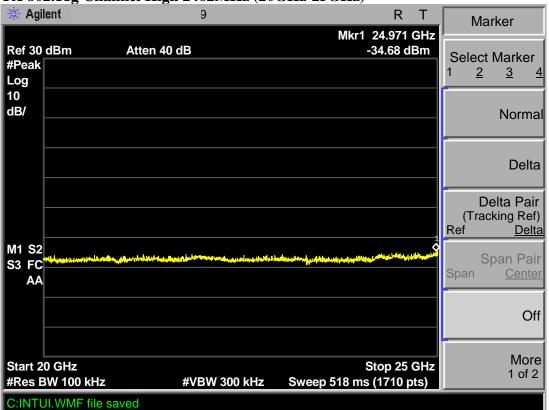
TX 802.11g Channel High 2462MHz (10GHz-15GHz)







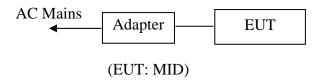
TX 802.11g Channel High 2462MHz (20GHz-25GHz)



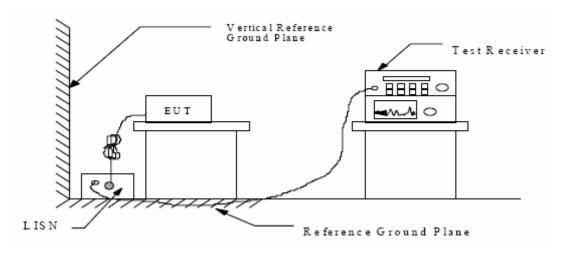
11.AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

11.1.Block Diagram of Test Setup

11.1.1.Block diagram of connection between the EUT and simulators



11.1.2.Shielding Room Test Setup Diagram



(EUT: MID)

11.2. The Emission Limit

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

Frequency	Limit dB(μV)				
(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			

^{*} Decreases with the logarithm of the frequency.

11.3. 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.

11.3.1.MID (EUT)

Model Number : FunTab Serial Number : N/A

Manufacturer : Shenzhen Sungworld Electronics Co., Ltd.

11.4. Operating Condition of EUT

- 11.4.1. Setup the EUT and simulator as shown as Section 11.1.
- 11.4.2. Turn on the power of all equipment.
- 11.4.3.Let the EUT work in TX (802.11b Channel Middle, 802.11g Channel Middle) mode measure it.

11.5.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 50ohm 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.

11.6.Power Line Conducted Emission Measurement Results

PASS.

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

Date of Test: October 17, 2011 Temperature: 25°C Humidity: 50%

Model No.: FunTab Power Supply: AC 120V/60Hz

Test Mode: TX 802.11b Channel Middle Test Engineer: Pei

Test Mode:	TX 802.11b Chan	nel Middle	Test Enginee		
Frequency (MHz)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector	Line
0.197568	55.30	63.7	-8.4	QP	
0.298051	47.30	60.3	-13.0	QP	
0.397299	44.00	57.9	-13.9	QP	
0.496827	46.70	56.1	-9.4	QP	
0.694763	38.30	56	-17.7	QP	_
1.892339	41.00	56	-15.0	QP	NI41
0.197568	42.80	53.7	-10.9	AV	Neutral
0.298051	35.90	50.3	-14.4	AV	
0.397299	33.00	47.9	-14.9	AV	
0.496827	37.80	46.1	-8.3	AV	_
0.694763	32.50	46	-13.5	AV	
1.892339	37.00	46	-9.0	AV	
0.197568	57.90	63.7	-5.8	QP	_
0.294502	47.40	60.4	-13.0	QP	_
0.496827	42.80	56.1	-13.3	QP	-
0.694763	37.40	56	-18.6	QP	_
0.792592	35.20	56	-20.8	QP	_
1.985196	38.20	56	-17.8	QP	Live
0.197568	46.20	53.7	-7.5	AV	Live
0.296863	38.10	50.3	-12.2	AV	-
0.496827	36.10	46	-10.0	AV	
0.694763	32.60	46	-13.4	AV	_
0.795762	32.00	46	-14.0	AV	
1.985196	33.60	46	-12.4	AV	

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

The spectral diagrams are attached as below.

Date of Test: October 17, 2011 Temperature: 25°C

EUT: MID Humidity: 50%
Model No.: FunTab Power Supply: AC 120V/60Hz

Test Mode: TX 802.11g Channel Middle Test Engineer: Pei

Frequency	Frequency Result Limit		Margin	Detector	Line	
(MHz)	(dBµV)	(dBµV)	(dB)			
0.199152	54.10	63.6	-9.5	QP		
0.299243	46.10	60.3	-14.2	QP		
0.400483	43.20	57.8	-14.6	QP		
0.498814	46.80	56	-9.2	QP		
0.700333	39.20	56	-16.8	QP		
1.899908	41.60	56	-14.4	QP	Novemal.	
0.199152	42.10	53.6	-11.5	AV	Neutral	
0.299243	35.60	50.3	-14.7	AV		
0.400483	33.00	47.8	-14.8	AV		
0.498814	38.30	46	-7.7	AV		
0.700333	33.60	46	-12.4	AV		
1.899908	37.50	46	-8.5	AV		
0.197568	56.10	63.7	-7.6	QP		
0.299243	49.60	60.3	-10.7	QP		
0.398888	42.90	57.9	-15.0	QP		
0.500809	42.30	56	-13.7	QP		
0.697543	37.00	56	-19.0	QP		
1.899908	40.80	56	-15.2	QP	T :	
0.197568	45.00	53.7	-8.7	AV	Live	
0.298051	37.60	50.3	-12.7	AV		
0.398888	30.70	47.9	-17.2	AV		
0.498814	36.90	46	-9.1	AV		
0.700333	32.70	46	-13.3	AV		
1.899908	36.40	46	-9.6	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

MID M/N: Fun Tab EUT:

Manufacturer: Sungworld

Operating Condition: TX Channel 6 (802.11b) Test Site: 1#Shielding Room

Operator: Bob Test Specification: L 120V/60Hs

Report NO.: ATE20112170 Samiple NO.: 1102099

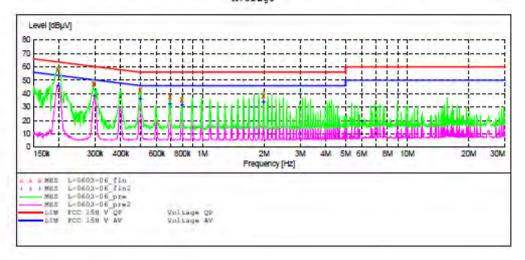
Start of Test: 10/17/2011 / 4:11:46PM

SCAN TABLE: "V 150K-30MHz fin"
Short Description: SUB S
Start Stop Step Det SUB STD VTERM2 ...

Detector Meas. IF

Time Bandw.

1.0 s 9 kHs NSLK8126 2008 Frequency Frequency Width 150.0 kHz 20.0 MHz 0.8 %



MEASUREMENT RESULT: "L-0603-06 fin"

10/17/2011	4:15PM						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHs	dΒμV	dB	dBµV	dB			
0.197568	57.90	11.2	63.7	5.8	QP	LI	GND
0.294502	47.40	11.6	60.4	13.0	QP	L1	GND
0.496827	42.80	12.0	56.1	13.3	QP	LI	GND
0.694763	37.40	11.9	5.6	18.6	QP	Ll	GND
0.792592	35.20	11.9	56	20.8	QP	Li	GND
1.985196	38.20	11.7	56	17.8	QP	L1	GND

MEASUREMENT RESULT: "L-0603-06 fin2"

0/17/2011 4: Frequency MHz		Transd	Limit dBuV	Margin dB	Detector	Line	PE
0.197568	46.20	11.2	53.7	7.5	AV	Li	GND
0.296863	38.10	11.6	50.3	12.2	AV	Ll	GND
0.496827	36.10	12.0	46	10.0	AV	LI	GND
0.694763	32.60	11.9	46	13.4	AV	Li	GND
0.795762	32.00	11.9	46	14.0	AV	LI	GND
1.985196	23.60	11.7	46	12.4	AV	LA	GND

CONDUCTED EMISSION STANDARD FCC PART 15 B

MID M/N: Fun Tab EUT:

Manufacturer: Sungworld

Operating Condition: TX Channel 6 (802.11b) 1#Shielding Room Test Site:

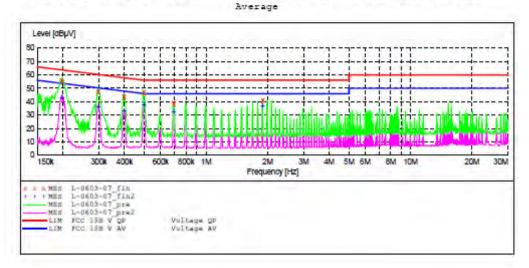
Operator: Bob

Test Specification: N 120V/60Hs

Comment: Report NO.:ATE20112170 Samlple NO.:1102099

Start of Test: 10/17/2011 / 4:16:11PM

SCAN TABLE: "V 150K-30MHz fin"
Short Description: SUB STD VTERM2 1.70 Detector Meas. Start Stop Step IF Transducer Frequency Frequency Width 150.0 kHz 30.0 MHz 0.8 % Time Bandw. 9 kHz NSLK8126 2008 QuasiPeak 1.0 s



MEASUREMENT RESULT: "L-0603-07 fin"

10/17/2011 4	:19PM						
Frequency MHs	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.197568	55.20	11.2	63.7	8.4	QP	N	GND
0.298051	47.30	11.6	60.3	13.0	QP	N	GND
0.397299	44.00	11.8	57.9	13.9	QP	N	GND
0.496827	46.70	12.0	56.1	9.4	QP	N	GND
0.694763	38.30	11.9	5.6	17.7	QP	N	GND
1.892339	41.00	11.7	56	15.0	QP	N	GND

MEASUREMENT RESULT: "L-0603-07 fin2"

10/17/2011 4:	19PM						
Frequency MHs	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.197568	42.80	11.2	52.7	10.9	AV	N	GND
0.298051	35.90	11.6	50.3	14.4	AV	N	GND
0.397299	33.00	11.8	47.9	14.9	AV	N	GND
0.496827	37.80	12.0	46	8.3	AV	N	GND
0.694763	32.50	11.9	46	13.5	AV	N	GND
1.892339	37.00	11.7	46	9.0	AV	N	GND

CONDUCTED EMISSION STANDARD FCC PART 15 B

MID M/N: Fun Tab Manufacturer: Sungworld

Operating Condition: TX Channel 6 (802.11g) Test Site: 1#Shielding Room

Bob Operator:

Test Specification: L 120V/60Hs

Comment: Report NO.:ATE20112170 Samiple NO.:1102099

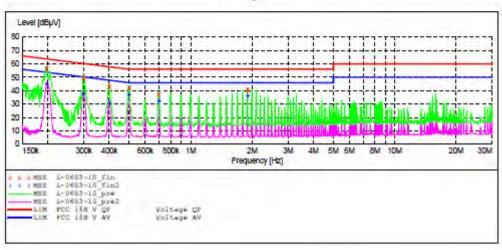
10/17/2011 / 4:28:20PM Start of Test:

SUB STD VTERM2 1.70

SCAN TABLE: "V 150K-30MHz fin"
Short Description: SUB Start Stop Step Det Detector Meas. IF

Frequency Frequency Width 150.0 kHz 30.0 MHz 0.8 8 Time QuasiPeak 1.0 s Bandw. 9 kHs NSLK8126 2008

Average



MEASUREMENT RESULT: "L-0603-10 fin"

Frequency MHs	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.197568	56.10	11.2	63.7	7.6	QF	Ll	GND
0.299243	49.60	11.6	60.3	10.7	QP	LL	GND
0.398888	42.90	11.8	57.9	15.0	-QE	Ll	GND
0.500809	42.30	12.0	5.6	13.7	QP	Ll	GND
0.697543	37.00	11.9	56	19.0	QF	Ll	GND
1.899908	40.80	11.7	56	15.2	QP	LL	GND

MEASUREMENT RESULT: "L-0603-10 fin2"

4	0/17/2011 4:	CORNE						
-	the state of the s		Enough.	E. A Vo.		- X = .00 .00	4100	- 22
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHs	dBuV	dB	dBµV	dB			
	0.197568	45.00	11.2	53.7	8.7	AV	Li	GND
	0.298051	37.60	11.6	50.3	12.7	AV	LL	GND
	0.398888	30.70	11.8	47.9	17.2	AV	LL	GND
	0.498814	36.90	12.0	46	9.1	AV	LL	GND
	0.700333	32.70	11.9	46	13.3	AV	Ll	GND
	1.899908	36.40	11.7	46	9.6	AV	Li	GND

CONDUCTED EMISSION STANDARD FCC PART 15 B

MID M/N: Fun Tab

Manufacturer: Sungworld

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

Bob Operator:

Test Specification: N 120V/60Hs

Report NO.:ATE20112170 Samiple NO.:1102099 Comment:

Start of Test: 10/17/2011 / 4:32:38PM

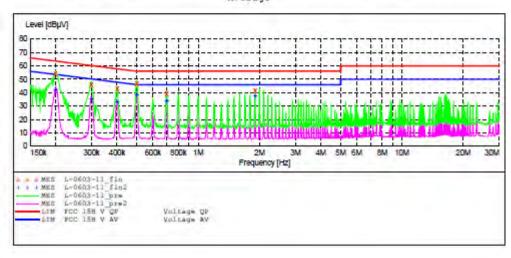
SCAN TABLE: "V 150K-30MHz fin"

Short Description: SUB STD VTERM2 1.70

Start Stop Step Detector Meas. If

Frequency Frequency Width 150.0 kHz 20.0 MHz 0.8 8 Time Bandw. QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "L-0603-11 fin"

10/17/2011 4	:35PM						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHs	dBµ∇	dB	dBµV	dB			
0.199152	54.10	11.2	63.6	9.5	QP	N	GND
0.299243	46.10	11.6	60.3	14.2	QP	N	GND
0.400483	43.20	11.8	57.8	14.6	QP	N	GND
0.498814	46.80	12.0	5.6	9.2	QP	M	GND
0.700333	39.20	11.9	56	16.6	QP	N	GND
1.899908	41.60	11.7	5.6	14.4	QP	M	GND

MEASUREMENT RESULT: "L-0603-11 fin2"

	CV and Carlotte and Company							
1	10/17/2011 4:	35PM						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHs	dBµV	dB	dBµV	dB			
	0.199152	42.10	11.2	53.6	11.5	AV	N	GND
	0.299243	35.60	11.6	50.3		333	M	GND
	0.400483	33.00	11.8	47.8	14.8	AV	N	GND
	0.498814	38.30	12.0	46	7.7	AV	M	GND
	0.700333	33.60	11.9	4.6	12.4	AV	N	GND
	1 899908	27 50	11.7	46	8.5	ATZ	M	GMD

12.ANTENNA REQUIREMENT

12.1.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.

12.2.Antenna Construction

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

