

DECLARATION OF CONFORMITY  
On Behalf of  
Futurepath Technology (Shenzhen) CO.,LTD.

Mini Wireless Router  
Model No.: i11 series

Prepared for : Futurepath Technology (Shenzhen) CO.,LTD.  
Address : Unit01,13/F HuaRong Building,No.178 MinTian Road,FuTian  
District Shenzhen,China

Prepared By : Anbotek Compliance Laboratory Limited  
Address : 1/F, 1 /Building, SEC Industrial Park, No. 4 Qianhai Road,  
Nanshan District, Shenzhen, 518054, China  
Tel: (86) 755-26066544  
Fax: (86) 755-26014772

Report Number : 201208837F-1  
Date of Test : Aug.30, 2012 to Sept.14, 2012  
Date of Report : Sept.14, 2012

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## TEST REPORT VERIFICATION

Applicant : Futurepath Technology (Shenzhen) CO.,LTD.  
Manufacturer : Futurepath Technology (Shenzhen) CO.,LTD.  
EUT : Mini Wireless Router  
Model No. : i11 series  
Rating : DC 5V/1A  
Trade Mark : Bizkey

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 2011 & FCC / ANSI C63.4-2009

The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited 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 Anbotek Compliance Laboratory Limited

Date of Test : Aug.30, 2012 to Sept.14, 2012

Prepared by : Barak Ban  
(Engineer/ Barak Ban)

Reviewer : Jerry Du  
(Project Manager/ Jerry Du)

Approved & Authorized Signer : Tom. Chen  
(Manager/ Tom Chen)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Description	: Mini Wireless Router
Model Number	: i11 series
Test Power Supply	: DC 5V
Applicant	: Futurepath Technology (Shenzhen) CO.,LTD.
Address	: Unit01,13/F HuaRong Building,No.178 MinTian Road,FuTian District Shenzhen,China
Manufacturer	: Futurepath Technology (Shenzhen) CO.,LTD.
Address	: Unit01,13/F HuaRong Building,No.178 MinTian Road,FuTian District Shenzhen,China
Date of Sample received	: Aug. 30, 2012
Date of Test	: Aug.30, 2012 to Sept.14, 2012

## 2. POWER LINE CONDUCTED MEASUREMENT

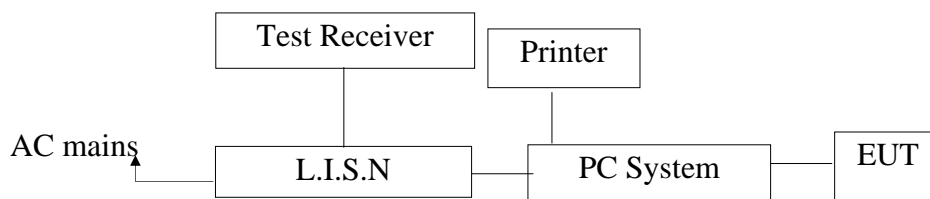
### 2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Apr.25, 2012	1 Year
2.	Two-Line V-network	Rohde & Schwarz	ENV216	10055	Apr.25, 2012	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr.25, 2012	1 Year
4.	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

### 2.2. Block Diagram of Test Setup

#### 2.2.1. Block diagram of connection between the EUT and simulators



(EUT: Mini Wireless Router)

### 2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15

#### Class B)

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

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

## 2.4. Configuration of EUT on Measurement

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

EUT : Mini Wireless Router  
Model Number : I11 SERIES  
Applicant : FUTUREPATH TECHNOLOGY (SHENZHEN) CO.,LTD.

## 2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown as Section 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. Let the EUT work measure it.

## 2.6. Test Procedure

The EUT system 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 line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2009 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

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

The test result are reported on Section 2.7.

## 2.7. Power Line Conducted Emission Measurement Results

**PASS.**

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

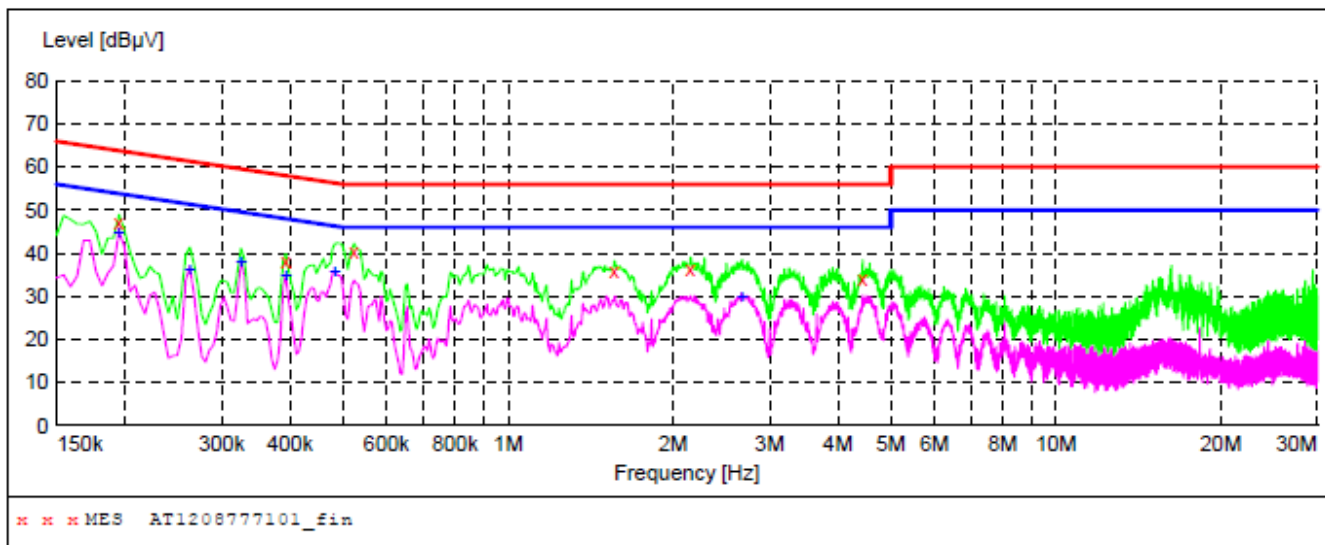
The test curves are shown in the following pages.

**CONDUCTED EMISSION TEST DATA**

EUT: Mini Wireless Router M/N: i11 series  
 Operating Condition: Charging  
 Test Site: 1# Shielded Room  
 Operator: Barak Ban  
 Test Specification: DC 5V  
 Comment: L  
 Tem:25°C Hum:50%

**SCAN TABLE: "Voltage(150K~30M) FIN"**

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1208777101\_fin"**

9/1/2012 4:49PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	47.10	20.1	64	16.7	QP	L1	GND
0.393000	38.10	20.1	58	19.9	QP	L1	GND
0.523500	40.30	20.1	56	15.7	QP	L1	GND
1.562500	35.70	20.3	56	20.3	QP	L1	GND
2.152000	36.10	20.3	56	19.9	QP	L1	GND
4.438000	34.10	20.5	56	21.9	QP	L1	GND

**MEASUREMENT RESULT: "AT1208777101\_fin2"**

9/1/2012 4:49PM

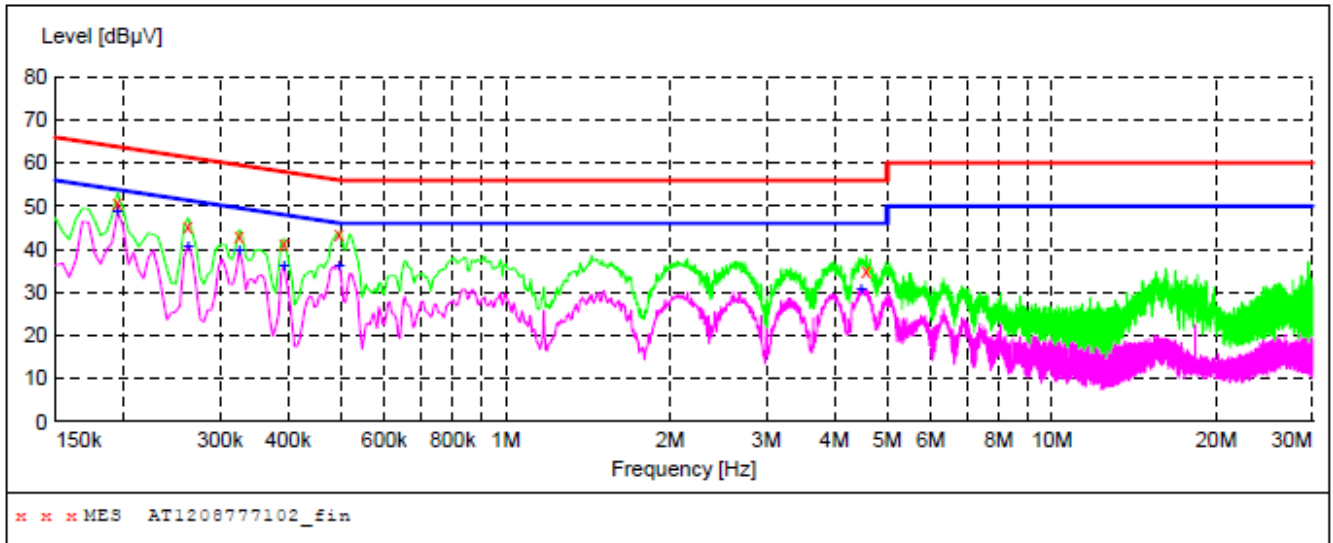
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	45.00	20.1	54	8.8	AV	L1	GND
0.262500	36.10	20.1	51	15.3	AV	L1	GND
0.325500	38.20	20.1	50	11.4	AV	L1	GND
0.393000	34.90	20.1	48	13.1	AV	L1	GND
0.483000	35.70	20.1	46	10.6	AV	L1	GND
2.669500	30.20	20.4	46	15.8	AV	L1	GND

**CONDUCTED EMISSION TEST DATA**

EUT: Mini Wireless Router M/N: i11 series  
 Operating Condition: Charging  
 Test Site: 1# Shielded Room  
 Operator: Barak Ban  
 Test Specification: DC 5V  
 Comment: N  
 Tem:25°C Hum:50%

**SCAN TABLE: "Voltage(150K~30M) FIN"**

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1208777102\_fin"**

9/1/2012 4:52PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	50.70	20.1	64	13.1	QP	N	GND
0.262500	45.40	20.1	61	16.0	QP	N	GND
0.325500	43.20	20.1	60	16.4	QP	N	GND
0.393000	41.10	20.1	58	16.9	QP	N	GND
0.496500	43.60	20.1	56	12.5	QP	N	GND
4.568500	34.90	20.5	56	21.1	QP	N	GND

**MEASUREMENT RESULT: "AT1208777102\_fin2"**

9/1/2012 4:52PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	48.80	20.1	54	5.0	AV	N	GND
0.262500	40.80	20.1	51	10.6	AV	N	GND
0.325500	40.00	20.1	50	9.6	AV	N	GND
0.393000	36.40	20.1	48	11.6	AV	N	GND
0.496500	36.10	20.1	46	10.0	AV	N	GND
4.478500	30.80	20.5	46	15.2	AV	N	GND



### 3. RADIATED EMISSION MEASUREMENT

#### 3.1. Test Equipment

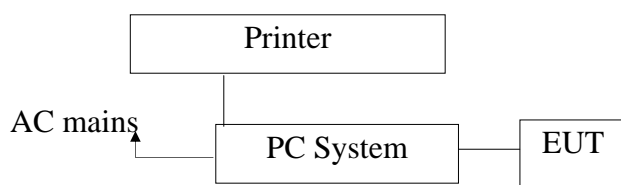
The following test equipments are used during the radiated emission measurement:

##### 3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	101604	Apr.25, 2012	1 Year
2.	Bilog Antenna	Schwarzbeck	VULB9163	100015	Apr.25, 2012	1 Year
3.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Apr.25, 2012	1 Year
4.	EMI Test Software	SHURPLE	N/A	N/A	N/A	N/A
5.	Coaxial cable	ANBOTEK	N/A	N/A	N/A	N/A

#### 3.2. Block Diagram of Test Setup

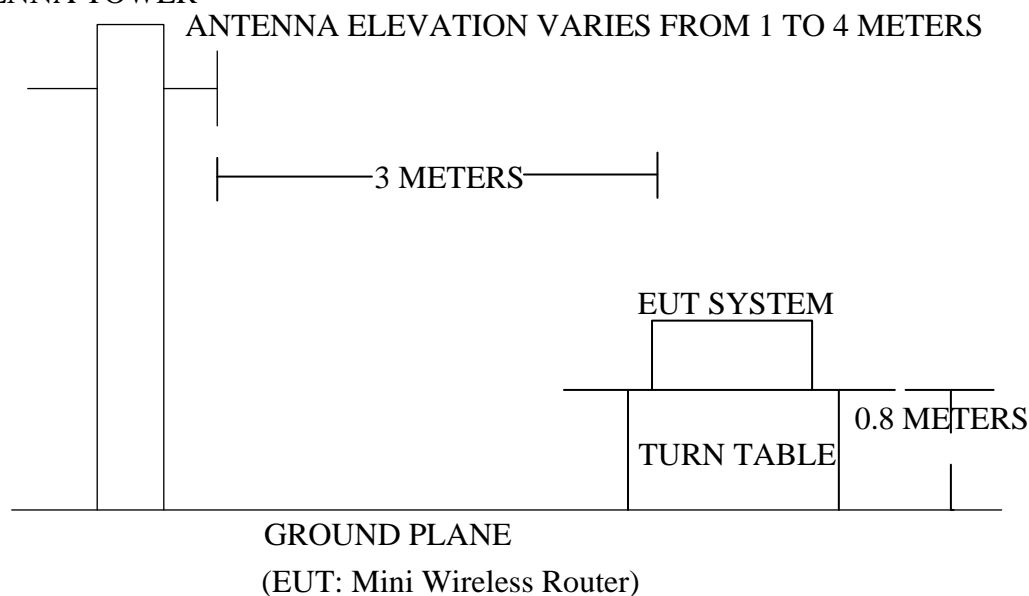
##### 3.2.1. Block diagram of connection between the EUT and simulators



(EUT: Mini Wireless Router)

##### 3.2.2. Anechoic Chamber Test Setup Diagram

ANTENNA TOWER



### 3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

- Remark :
- (1) Emission level  $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$
  - (2) The smaller limit shall apply at the cross point between two frequency bands.
  - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

### 3.4. EUT Configuration on Measurement

The following equipments 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.

EUT : Mini Wireless Router  
 Model Number : i11 series  
 Applicant : FUTUREPATH TECHNOLOGY (SHENZHEN) CO.,LTD.

### 3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2.

3.5.2. Let the EUT work measure it.

### 3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table 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 a 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 (Trilog Broadband 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 C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESPI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

The test mode (Charging) is tested in chamber and all the test results are listed in Section 3.7.

### 3.7. Radiated Emission Measurement Results

**PASS.**

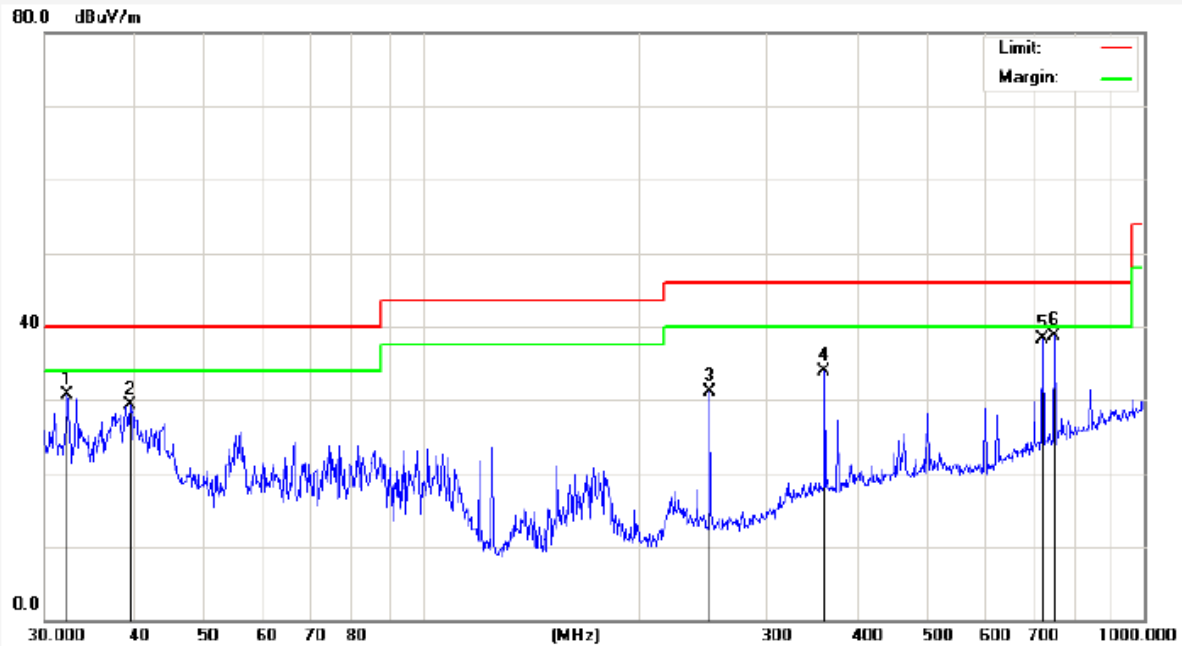
The test curves are shown in the following pages.

**Anbotek Compliance Laboratory Limited**

1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,  
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066544  
Fax: (86)755-26014772  
Http://www.anbotek.com

<b>Job No.:</b>	AT1208773F	<b>Polarization:</b>	Horizontal
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2012/08/11
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	11:06:24
<b>EUT:</b>	Mini Wireless Router	<b>Test By:</b>	Barak Ban
<b>Model:</b>	i11 series	<b>Distance:</b>	3m
<b>Note:</b>	Charging		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	32.2925	45.81	-15.04	30.77	40.00	-9.23	peak			
2	39.4371	37.23	-7.97	29.26	40.00	-10.74	peak			
3	250.3012	49.70	-18.56	31.14	46.00	-14.86	peak			
4	360.4476	47.58	-13.65	33.93	46.00	-12.07	peak			
5	721.7259	46.26	-8.04	38.22	46.00	-7.78	peak			
6	750.1083	46.07	-7.46	38.61	46.00	-7.39	peak			

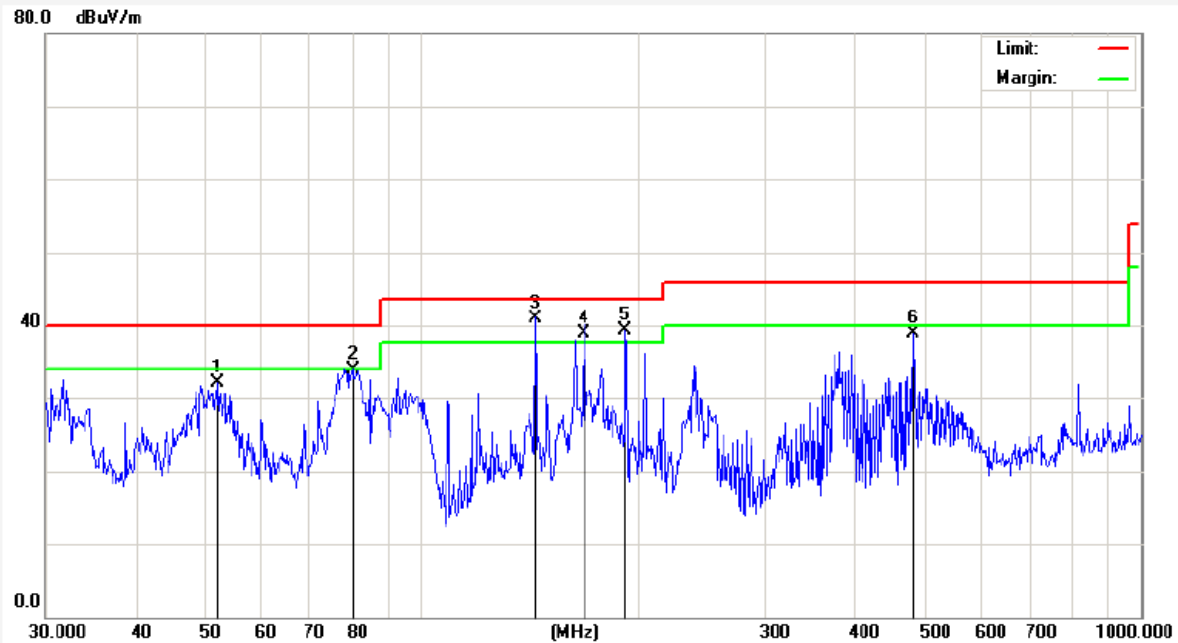

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1/F, 1 /Building, SEC Industrial Park, No.4 Qianhai Road,  
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066544  
Fax: (86)755-26014772  
Http://www.anbotek.com

<b>Job No.:</b>	<b>AT1208773F</b>	<b>Polarziation:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART15 B _3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2012/08/11</b>
<b>Temp.(C)/Hum.(%RH):</b>	<b>24.3( C)/55%RH</b>	<b>Time:</b>	<b>11:09:28</b>
<b>EUT:</b>	<b>Mini Wireless Router</b>	<b>Test By:</b>	<b>Barak Ban</b>
<b>Model:</b>	<b>i11 series</b>	<b>Distance:</b>	<b>3m</b>

**Note:** Charging



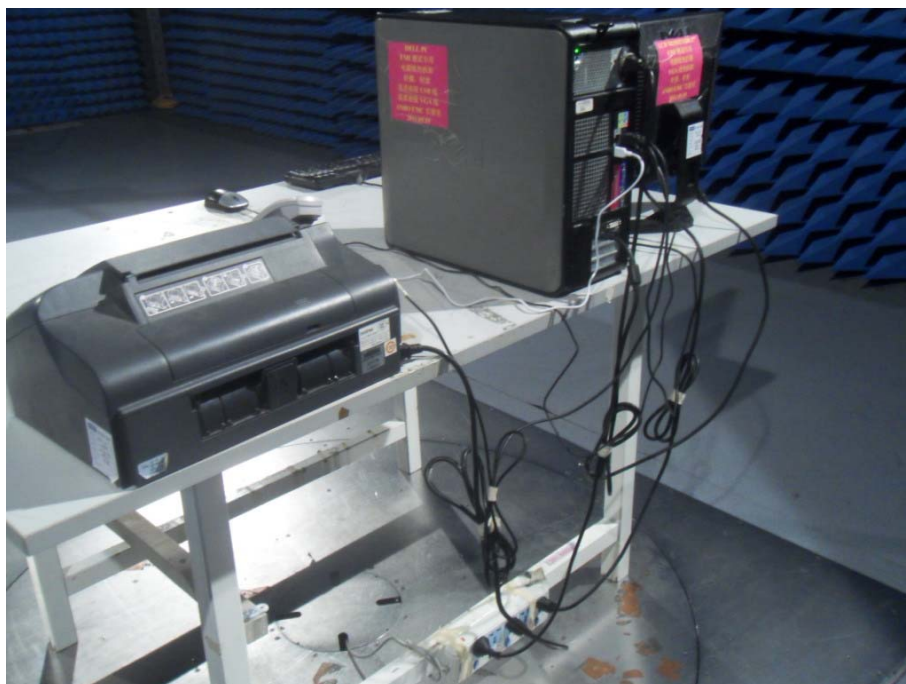
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	52.0251	59.77	-27.75	32.02	40.00	-7.98	peak			
2	80.0806	65.73	-31.74	33.99	40.00	-6.01	peak			
3	143.9995	69.95	-29.10	40.85	43.50	-2.65	QP	100	0	
4	167.8243	67.18	-28.18	39.00	43.50	-4.50	QP	100	360	
5	191.7450	65.65	-26.33	39.32	43.50	-4.18	QP	100	0	
6	480.5276	60.81	-21.94	38.87	46.00	-7.13	peak			

## 4. PHOTOGRAPH

### 4.1. Photo of Power Line Conducted Emission Test



#### 4.2. Photo of Radiated Emission Test





Appendix I (External Photos)

Figure 1  
The EUT-Overall View



Figure 2  
The EUT-Back View





Figure 3  
The EUT-Side View

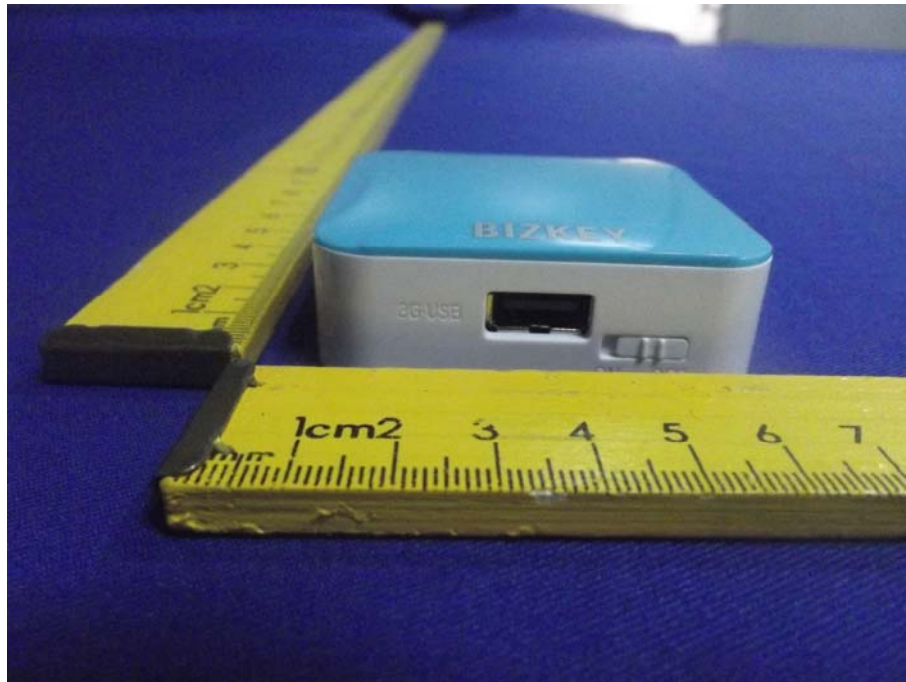
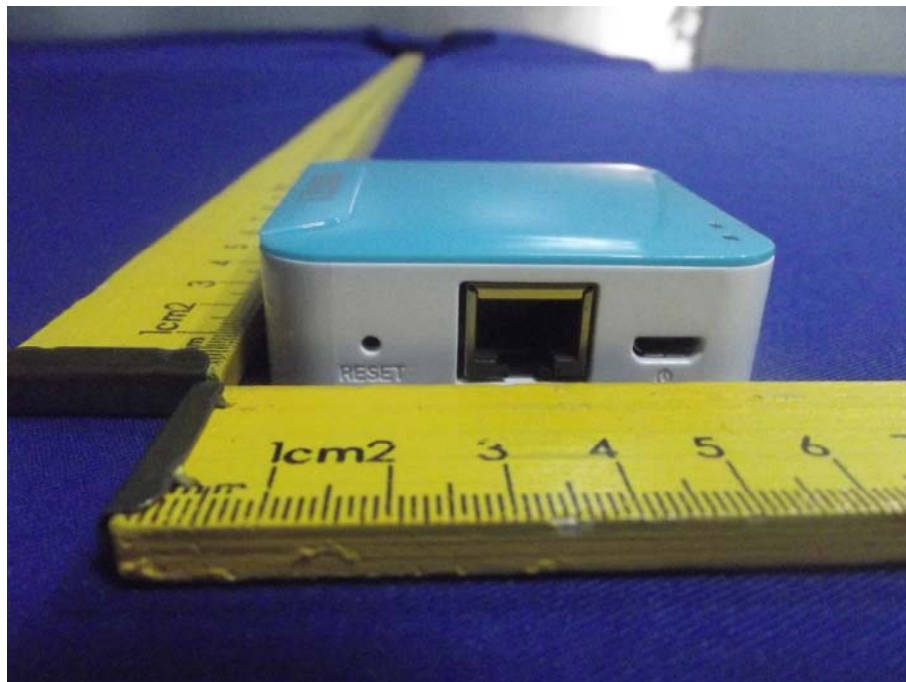


Figure 4  
The EUT-Side View



## Appendix II (Internal Photos)

Figure 5  
The EUT-Inside View

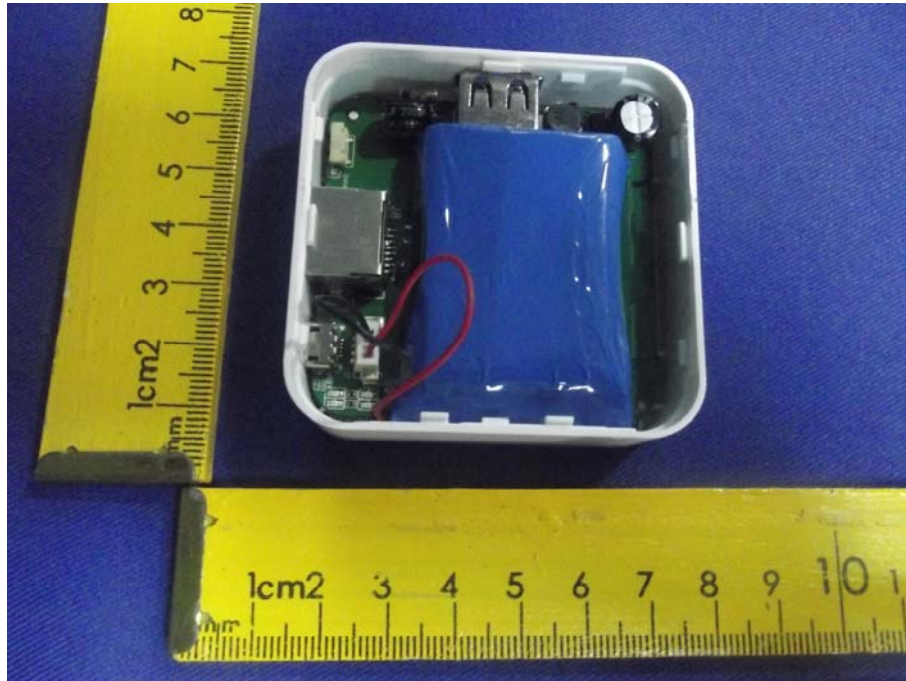


Figure 6  
PCB of the EUT-Front View

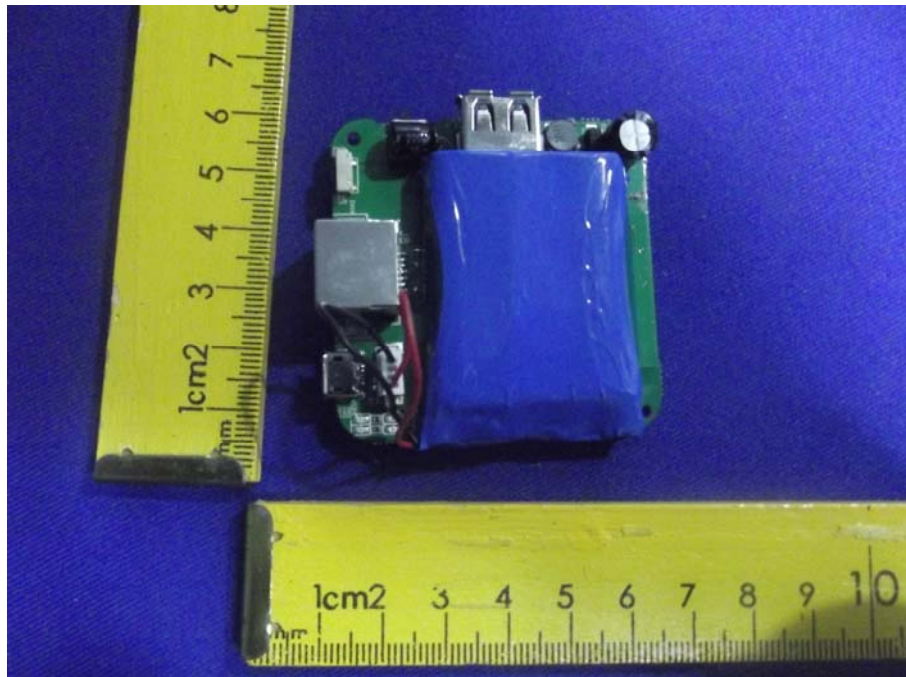




Figure 7  
PCB of the EUT-Back View

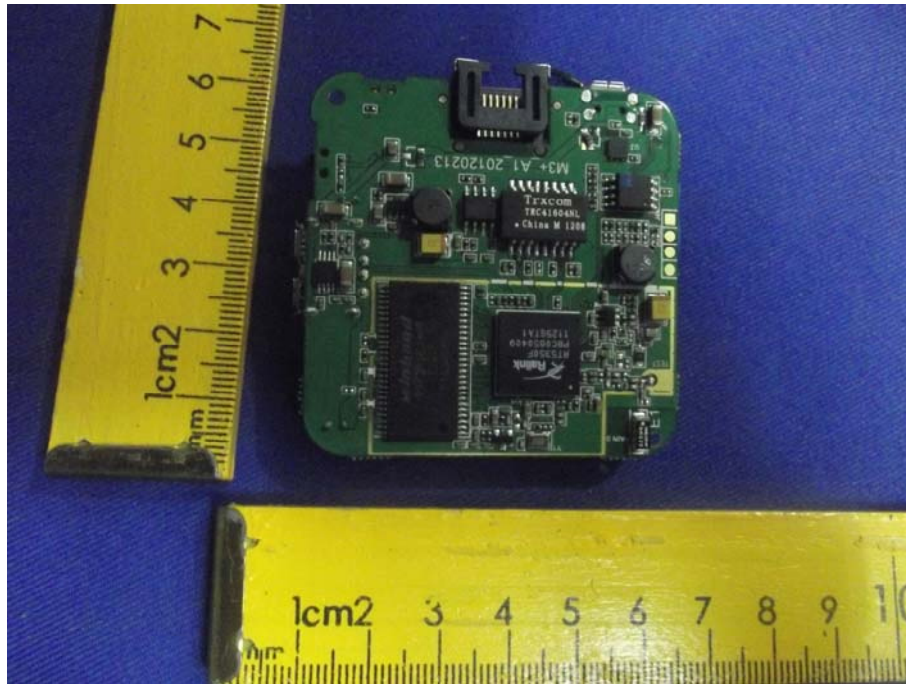


Figure 8  
PCB of the EUT-Side View

