

FCC TEST REPORT  
On Behalf of  
Cheng Fong International Limited

Tablet PC  
Model No.: TBDG874B

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Report Number : 201308827F  
Date of Test : Sep. 18~ 26, 2013  
Date of Report : Sep. 26, 2013

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## TEST REPORT VERIFICATION

Applicant : Cheng Fong International Limited  
Manufacturer : Cheng Fong International Limited  
EUT : Tablet PC  
Model No. : TBDG874B  
Rating : DC 5V, 2A Via Adapter (AC 100-240V, 50/60Hz, 0.65A Max.)  
Trade Mark : N.A.

Measurement Procedure Used:


FCC Rules and Regulations Part 15 Subpart B 2012 & FCC / ANSI C63.4-2009

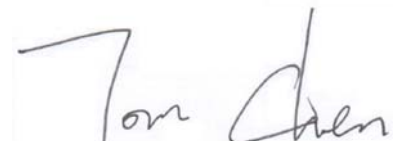
The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results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

Date of Test : Sep. 18~ 26, 2013

Prepared by :   
(Engineer/ Barak Ban)

Reviewer :   
(Project Manager/ Sally Zhang)

Approved & Authorized Signer :   
(Manager/ Tom Chen)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Description : Tablet PC

Model Number : TBDG874B

Test Power Supply : DC 5V (Powered by Adapter or PC)

Adapter : Model: THX-050200KE  
Input: AC 100-240V, 50/60Hz, 0.65A Max.  
Output: DC 5V, 2A

Applicant : Cheng Fong International Limited

Address : Rm 19HG, HangDu Building, HuaFu Road, Fu Tian District, Shenzhen, China

Manufacturer : Cheng Fong International Limited

Address : Rm 19HG, HangDu Building, HuaFu Road, Fu Tian District, Shenzhen, China

Date of Sample received : Sep. 18, 2013

Date of Test : Sep. 18~ 26, 2013

## 1.2. Auxiliary Equipment Used during Test

PC	: Manufacturer: DELL M/N: OPTIPLEX 380 S/N: 1J63X2X CE , FCC: DOC
MONITOR	: Manufacturer: DELL M/N: E170Sc S/N: CN-00V539-64180-055-0UPS CE , FCC: DOC
KEYBOARD	: Manufacturer: DELL M/N: SK-8115 S/N: CN-0DJ313-71616-06C-02XN CE , FCC: DOC Cable: 1m, unshielded
MOUSE	: Manufacturer: DELL M/N: M-UARDEL7 S/N: N/A CE , FCC: DOC Cable: 1m, unshielded
Printer	: Manufacturer: Brother M/N: MFC-3360C S/N: N/A CE, FCC: DOC
Power Cord of Printer	: Non-shielded, Detachable, 0.8m, w/o core
USB Cable for Printer	: Non-Shielded , 1.5m
Power Line	Non-Shielded, 1.5m
VGA Cable	: Non-Shielded, 1.5m
Network Cable	: Non-Shielded, 1.5m
USB Cable for EUT	: Non-Shielded, 1.2m

### 1.3. Description of Test Facility

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

**CNAS - LAB Code: L3503**

Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

**FCC-Registration No.: 752021**

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 10, 2013.

**IC-Registration No.: 8058A-1**

Shenzhen Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, February 22, 2013.

**Test Location**

All Emissions tests were performed  
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

### 1.4. Measurement Uncertainty

Radiation Uncertainty : Ur = 4.3dB

Conduction Uncertainty : Uc = 3.4dB

## 2. POWER LINE CONDUCTED MEASUREMENT

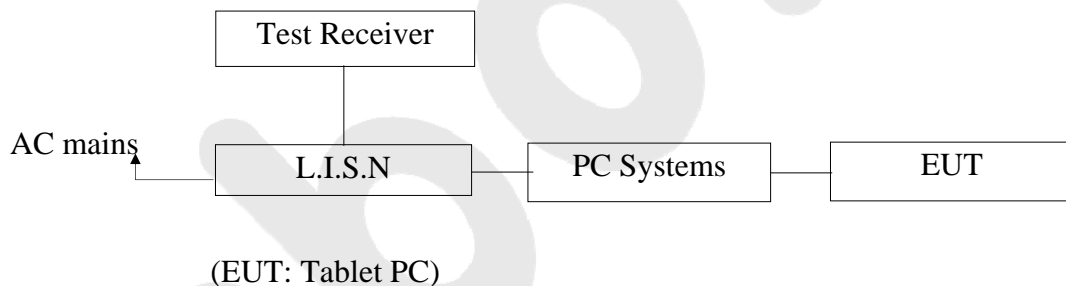
### 2.1. Test Equipment

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

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Two-Line V-network	Rohde & Schwarz	ENV216	100055	Apr. 23, 2013	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 23, 2013	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 23, 2013	1 Year

### 2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



### 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 : Tablet PC  
Model Number : TBDG874B  
Applicant : Cheng Fong International Limited

## 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.

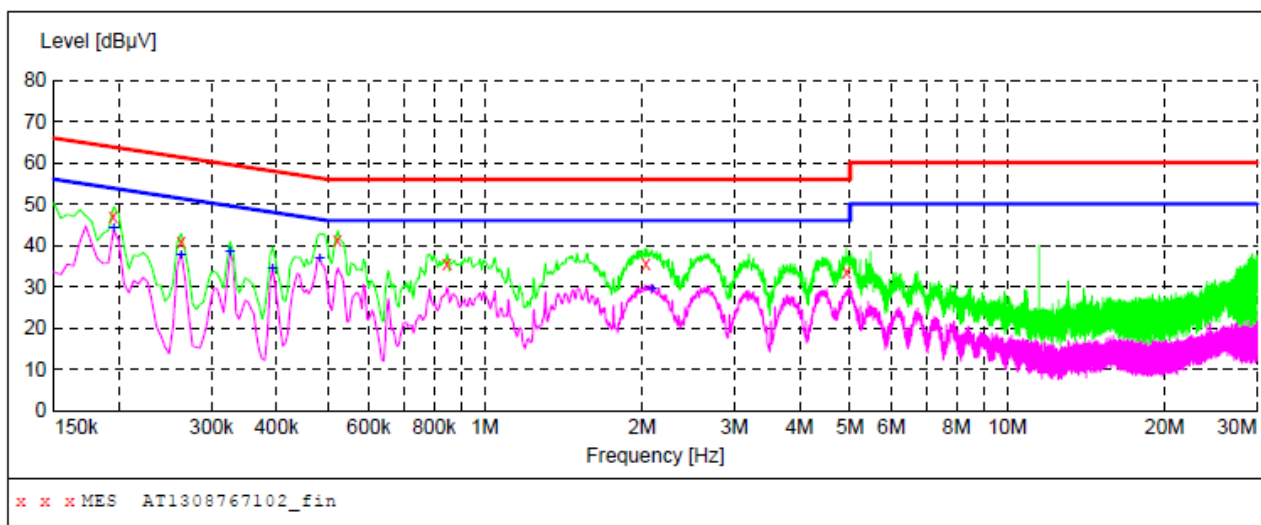


## CONDUCTED EMISSION TEST DATA

EUT: Tablet PC M/N:TBDG874B  
Operating Condition: Charging and Communication  
Test Site: 1# Shielded Room  
Operator: Barak Ban  
Test Specification: DC 5V Via PC  
Comment: L  
Tem:25°C Hum:50%

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

Short Description: 150K-30M Disturbance Voltages



### MEASUREMENT RESULT: "AT1308767102\_fin"

9/18/2013 10:49AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	47.00	20.1	64	16.8	QP	L1	GND
0.262500	41.10	20.1	61	20.3	QP	L1	GND
0.523500	41.20	20.1	56	14.8	QP	L1	GND
0.847500	35.60	20.1	56	20.4	QP	L1	GND
2.035000	35.50	20.3	56	20.5	QP	L1	GND
4.924000	33.60	20.5	56	22.4	QP	L1	GND

### MEASUREMENT RESULT: "AT1308767102\_fin2"

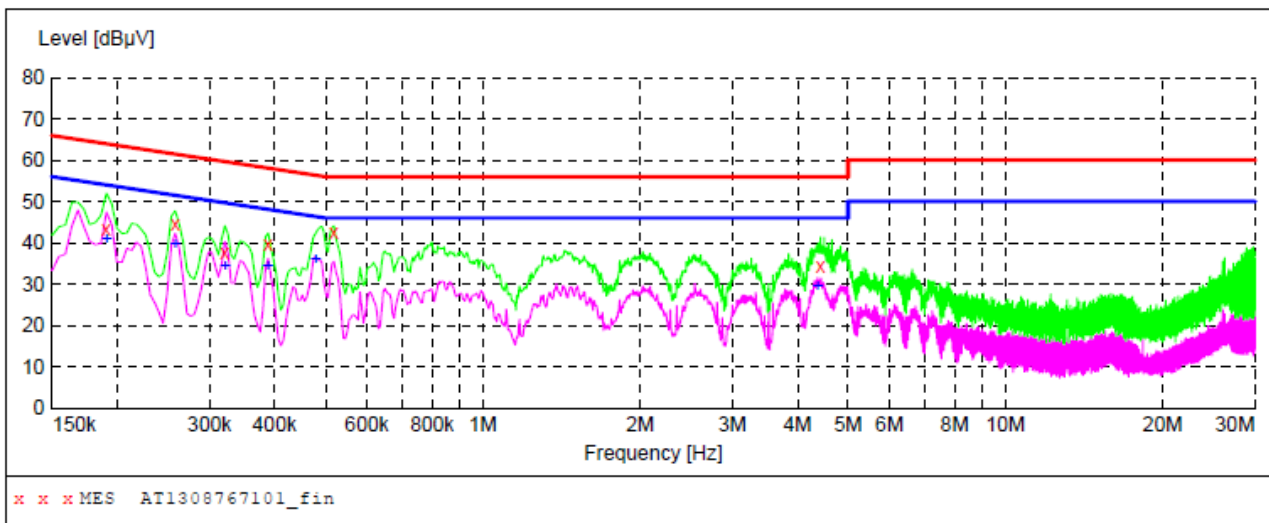
9/18/2013 10:49AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.195000	44.00	20.1	54	9.8	AV	L1	GND
0.262500	37.80	20.1	51	13.6	AV	L1	GND
0.325500	38.60	20.1	50	11.0	AV	L1	GND
0.393000	34.50	20.1	48	13.5	AV	L1	GND
0.483000	36.90	20.1	46	9.4	AV	L1	GND
2.089000	29.30	20.3	46	16.7	AV	L1	GND

## CONDUCTED EMISSION TEST DATA

EUT: Tablet PC M/N:TBDG874B  
Operating Condition: Charging and Communication  
Test Site: 1# Shielded Room  
Operator: Barak Ban  
Test Specification: DC 5V Via PC  
Comment: N  
Tem:25°C Hum:50%

**SCAN TABLE: "Voltage(150K~30M)FIN"**  
Short Description: 150K-30M Disturbance Voltages



### MEASUREMENT RESULT: "AT1308767101\_fin"

9/18/2013 10:46AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.190500	43.20	20.1	64	20.8	QP	N	GND
0.258000	44.80	20.1	62	16.7	QP	N	GND
0.321000	37.70	20.1	60	22.0	QP	N	GND
0.388500	39.70	20.1	58	18.4	QP	N	GND
0.519000	42.60	20.1	56	13.4	QP	N	GND
4.424500	34.40	20.5	56	21.6	QP	N	GND

### MEASUREMENT RESULT: "AT1308767101\_fin2"

9/18/2013 10:46AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.190500	40.80	20.1	54	13.2	AV	N	GND
0.258000	39.50	20.1	52	12.0	AV	N	GND
0.321000	34.20	20.1	50	15.5	AV	N	GND
0.388500	34.30	20.1	48	13.8	AV	N	GND
0.478500	36.20	20.1	46	10.2	AV	N	GND
4.370500	29.40	20.5	46	16.6	AV	N	GND

### 3. RADIATED EMISSION MEASUREMENT

#### 3.1. Test Equipment

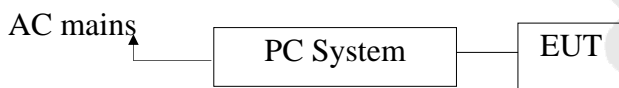
The following test equipments are used during the radiated emission measurement:

##### 3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 23, 2013	1 Year
2.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 14, 2013	3 Year
3.	Pre-amplifier	SONOMA	310N	186860	Aug. 09, 2013	1 Year

#### 3.2. Block Diagram of Test Setup

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

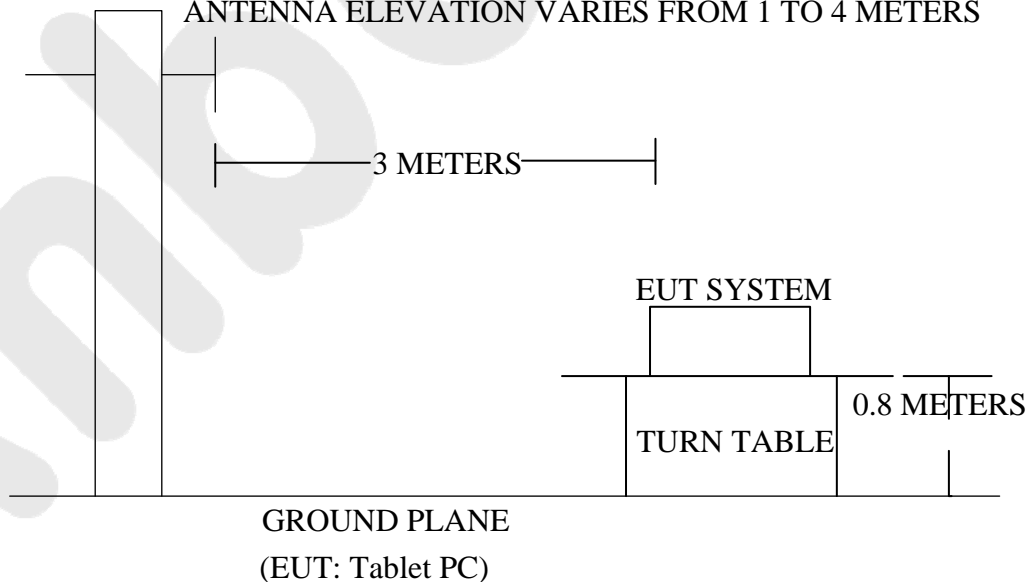


(EUT: Tablet PC)

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

ANTENNA TOWER

ANTENNA ELEVATION VARIES FROM 1 TO 4 METERS



### 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
Above 960	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 : Tablet PC  
Model Number : TBDG874B  
Applicant : Cheng Fong International Limited

### 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 and Communication) is tested in chamber and all the test results are listed in Section 3.7.

### 3.7. Radiated Emission Measurement Results

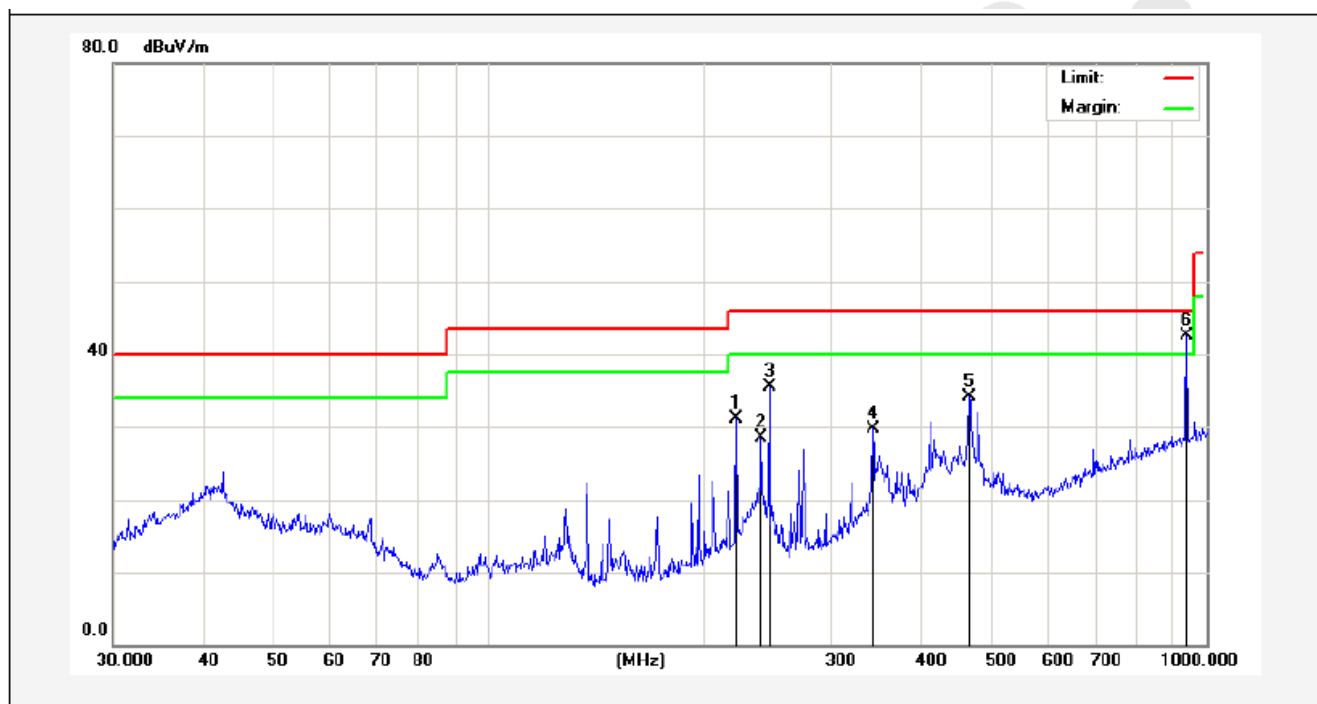
**PASS.**

The test curves are shown in the following pages.

Anbotek

<b>Job No.:</b>	AT1308767F	<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>	2012/09/20
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	18/23/51
<b>EUT:</b>	Tablet PC	<b>Test By:</b>	Barak Ban
<b>Model:</b>	TBDG874B	<b>Distance:</b>	3m

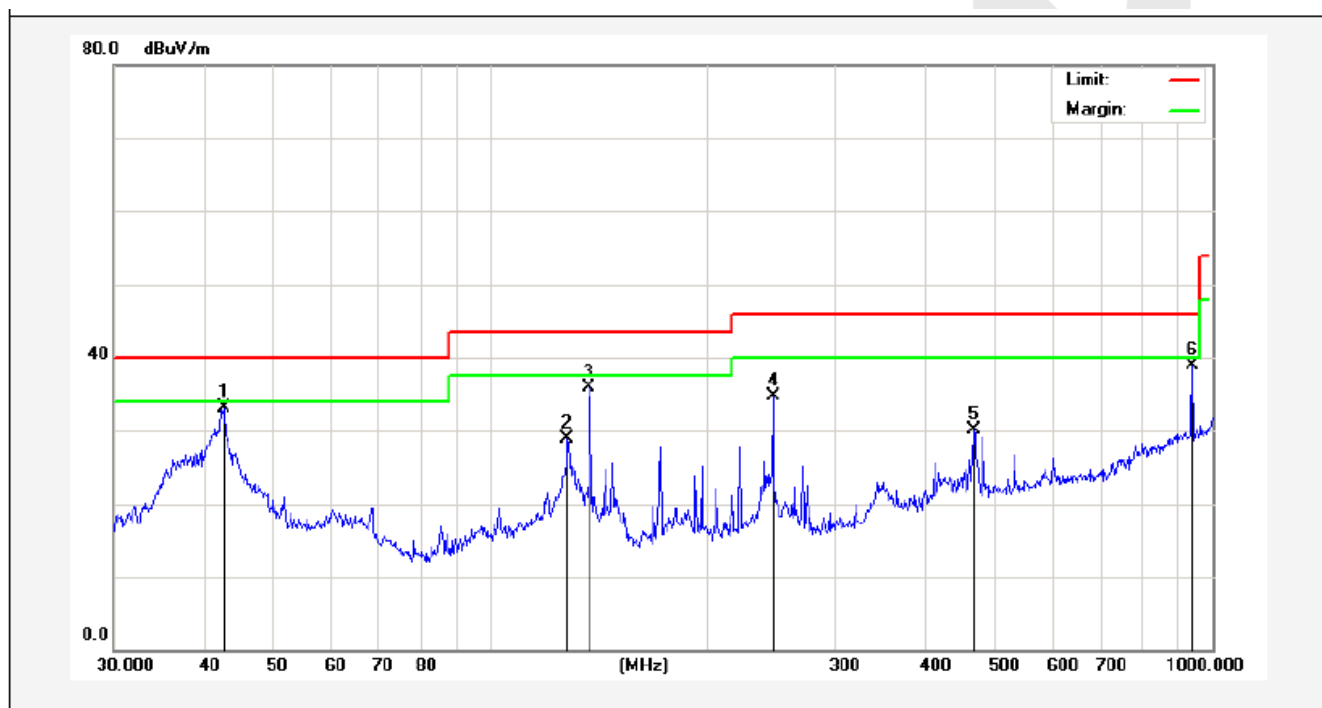
**Note:** Charging and Communication



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	221.3921	51.13	-19.97	31.16	46.00	-14.84	peak			
2	239.9874	46.59	-18.09	28.50	46.00	-17.50	peak			
3	245.9509	53.77	-18.36	35.41	46.00	-10.59	peak			
4	343.1800	43.85	-14.20	29.65	46.00	-16.35	peak			
5	467.2349	46.01	-11.90	34.11	46.00	-11.89	peak			
6	938.8326	46.57	-4.15	42.42	46.00	-3.58	peak			

<b>Job No.:</b>	AT1308767F	<b>Polarziation:</b>	Vertical
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2012/09/20
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	18/26/33
<b>EUT:</b>	Tablet PC	<b>Test By:</b>	Barak Ban
<b>Model:</b>	TBDG874B	<b>Distance:</b>	3m

**Note:** Charging and Communication



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	42.6000	44.56	-11.39	33.17	40.00	-6.83	peak			
2	127.6645	46.43	-17.47	28.96	43.50	-14.54	peak			
3	136.9391	54.13	-18.27	35.86	43.50	-7.64	peak			
4	245.9509	48.79	-14.06	34.73	46.00	-11.27	peak			
5	467.2349	41.98	-11.90	30.08	46.00	-15.92	peak			
6	938.8326	42.11	-3.15	38.96	46.00	-7.04	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-Front View



Figure 3  
The EUT-Back View



Figure 4  
The EUT-Port View





## Appendix II (Internal Photos)

Figure 5  
The EUT-Inside View



Figure 6  
PCB of the EUT-Front View

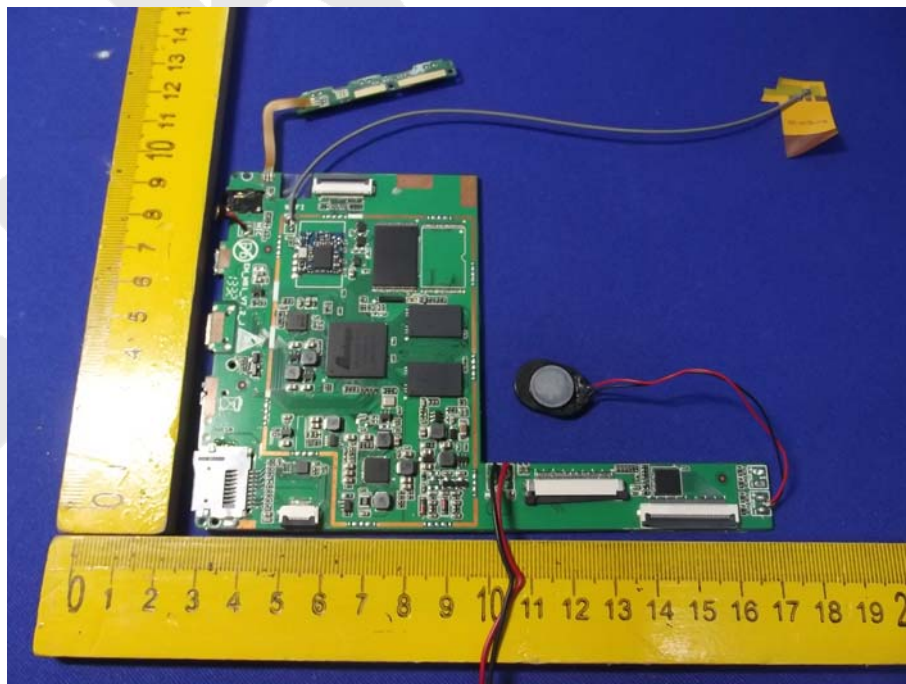


Figure 7  
PCB of the EUT-Back View

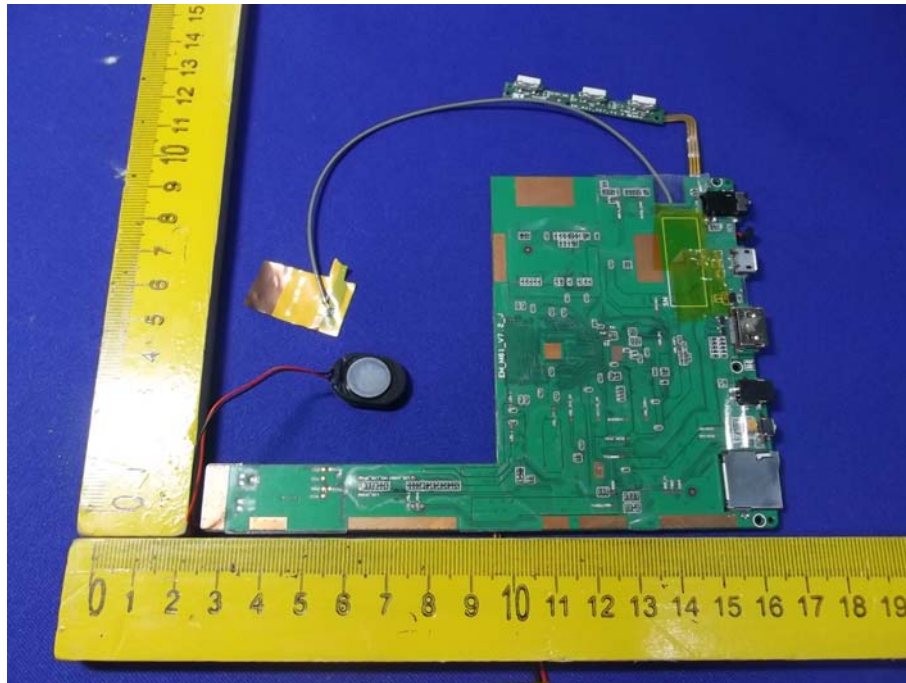


Figure 8  
PCB of the EUT-Battery View

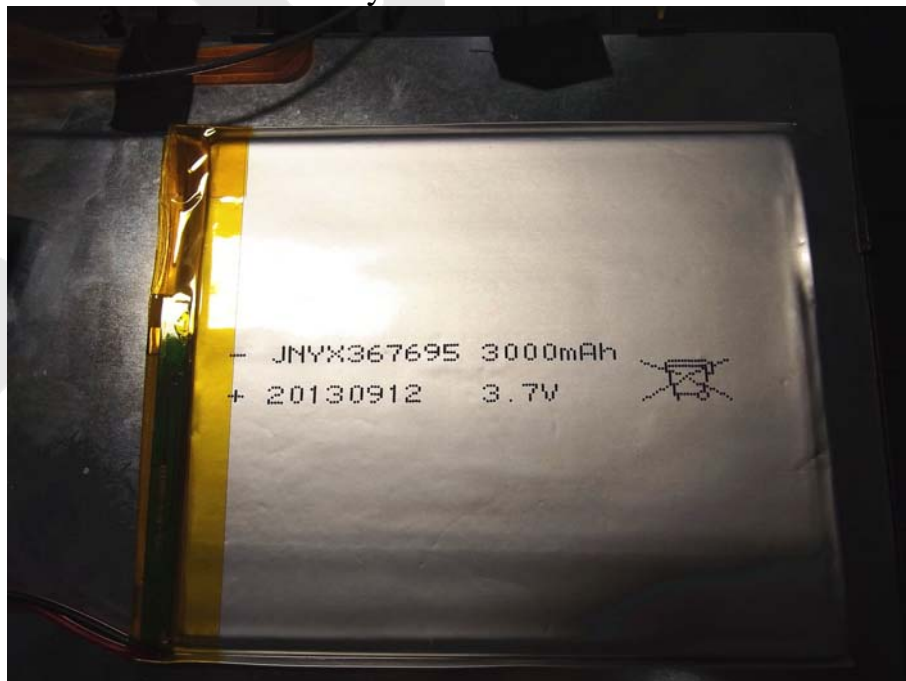


Figure 9  
PCB of the EUT-Front View

