

FCC TEST REPORT

FCC ID NO. : VH5SP950-RS40

Applicant : **ROSTECH(HK) COMPANY**

13th Floor, Wah Kit Comercial Centre, 302 Des Voeux Road Central, Hong Kong.

Equipment Under Test (EUT) :

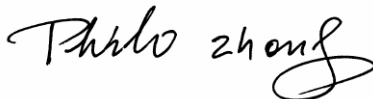
Product Name : Wireless Speaker

Model No. : SP950(RS40)

Standards : FCC Part 15 Subpart B

Date of Test : June 18, 2008

Test Engineer : Nunu.Deng

Reviewed By : 

PERPARED BY:

Waltek Services (Shenzhen) Co., Ltd.

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Guangdong, China.

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2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 15 : 2003	ANSI C63.4: 2003	Class B	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15 : 2003	ANSI C63.4: 2003	Class B	PASS

3 Contents

	Page
1 COVER PAGE.....	1
2 TEST SUMMARY.....	2
3 CONTENTS	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION	4
4.2 GENERAL DESCRIPTION OF E.U.T.....	4
4.3 DETAILS OF E.U.T.....	4
4.4 DESCRIPTION OF SUPPORT UNITS	4
4.5 TEST FACILITY.....	5
4.6 TEST LOCATION.....	5
5 EQUIPMENT USED DURING TEST	6
5.1 CONDUCTION EMISSIONS, 0.15MHZ TO 30MHZ.....	7
5.1.1 E.U.T. Operation.....	7
5.1.2 Conducted Test Setup.....	8
5.1.3 E.U.T. Operation Condition.....	8
5.1.4 Conducted Emission Limits.....	9
5.1.5 Summary of Test Results	10
5.1.6 Conducted Emissions Test Data.....	11
5.2 RADIATED EMISSIONS, 30MHZ TO 1GHZ.....	12
5.2.1 E.U.T. Operation.....	12
5.2.2 EUT Setup	12
5.2.3 Spectrum Analyzer Setup.....	13
5.2.4 Test procedure.....	13
5.2.5 Corrected Amplitude & Margin Calculation	14
5.2.6 Summary of Test Results	15
5.3 PHOTOGRAPHS - TEST SETUP.....	16
5.3.1 Radiated Emissions Test Setup.....	16
5.3.2 Conduction Emissions Test Setup	16
6 PHOTOGRAPHS - CONSTRUCTIONAL DETAILS	17
6.1 EUT - FRONT VIEW	17
6.2 EUT - BACK VIEW.....	17
6.3 PCB – FRONT VIEW.....	18
6.4 PCB - BACK VIEW	18
6.5 ADAPTER PCB – FRONT VIEW.....	19
6.6 ADAPTER PCB –BACK VIEW	19
7 FCC ID LABEL.....	20

4 General Information

4.1 Client Information

Applicant: **ROSTECH(HK) COMPANY**
Address of Applicant: 13th Floor ,Wah Kit Comercial Centre,302 Des Voeux Road
Central,Hong Kong
Manufacturer: JMNICELECTRONIC ENTERPRISE CO.,LTD.
Address of Manufacturer: Block C,Xia Qiao Industrial Center,Dong Cheng District,
Dongguan,Guangdong.

4.2 General Description of E.U.T.

Product Name: Wireless Speaker
Model No.: SP950(RS40)

4.3 Details of E.U.T.

Power Supply: Adapter Input:AC120V/60Hz
Output: DC 12V

4.4 Description of Support Units

Compliance test was performed test in ON mode .

The customer requested FCC tests for a Wireless Speaker.

4.5 Test Facility

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

- **FCC – Registration No.: 994117**

SEM. Test Compliance Service Co., Ltd. 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 994117, May 11, 2008.

4.6 Test Location

All Emissions tests were performed at:-

SEM. Test Compliance Service Co., Ltd. at 3/F., Jinbao Commerce Bldg., Xin'an Fanshen Rd., Bao'an District, Shenzhen, 518101, China

5 Equipment Used during Test

Items	Equipments	Manufacture	Model	Serial No.	Last Cal.	Cal. Interval
1	EMI Test Receiver	ROHDE&SCHWARZ	ESPI	101206	2008/1/25	1 year
2	Spectrum Analyzer	Agilent	E4402B	US41192821	2008/1/25	1 year
3	L.I.S.N.	SCHWARZBECK	NSLK8126	8126-224	2008/1/25	1 year
4	L.I.S.N.	EMCO	3825/2	11967C	2008/1/25	1 year
5	RF LIMITER	Agilent	11867A	MY42241685	2008/1/25	1 year
6	Spectrum Analyzer	ROHDE&SCHWARZ	FSEA20	DE25181	2008/1/25	1 year
7	Test Receiver	ROHDE&SCHWARZ	ESVB	825471/005	2008/1/25	1 year
8	Amplifier	Agilent	8447F	3113A06717	2008/1/25	1 year
9	RF Switch	EM	EMSW18	SW060023	2008/1/25	1 year
10	Positioning Controller	C&C	CC-C-1F	N/A	2008/1/25	1 year
11	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2008/1/25	1 year
12	Coaxial Cable	SCHWARZBECK	AK9513	9513-10	2008/1/25	1 year

5.1 Conduction Emissions, 0.15MHz to 30MHz

Test Requirement:	FCC Part 15 ,Paragraph 15.207
Test Method:	Based on ANSI C63.4: 2003
Test Date:	June 18,2008
Frequency Range:	150kHz to 30MHz
Class/Severity:	B
Limit:	66-56 dB μ V/m between 0.15MHz & 0.5MHz 56 dB μ V/m between 0.5MHz & 5MHz 60 dB μ V/m between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

5.1.1 E.U.T. Operation

Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1012 mbar

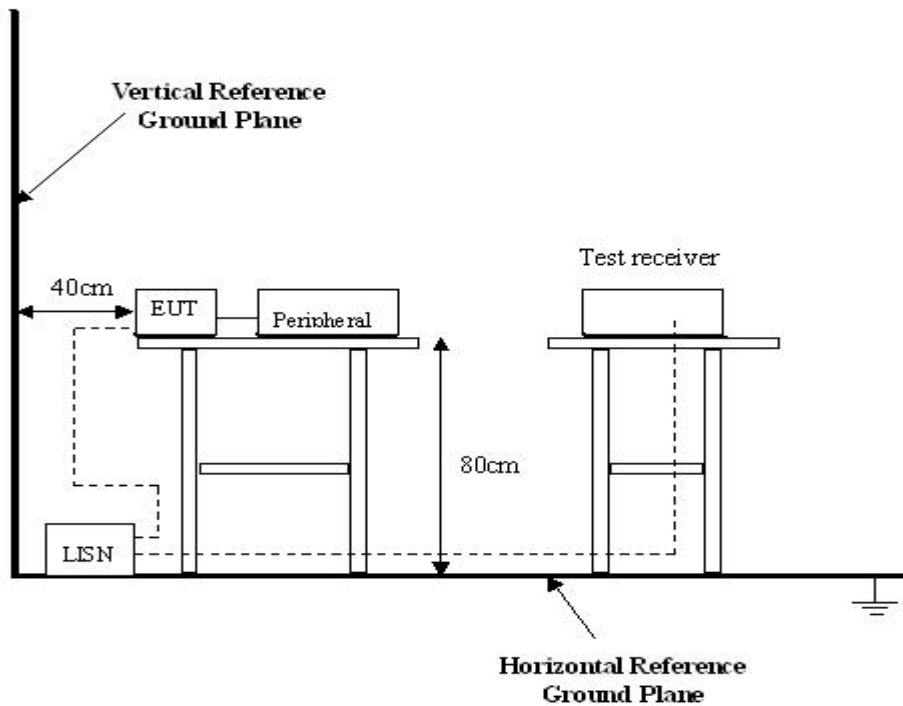
EUT Operation :

Compliance test was performed in ON mode .

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.1.2 Conducted Test Setup

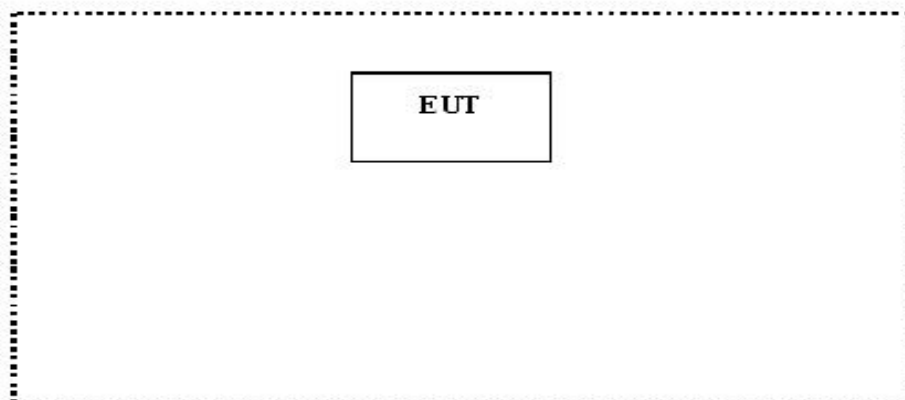
The conducted emission tests were performed using the setup accordance with the ANSI C63.4:2003, The specification used in this report was the FCC Part15 Paragraph 15.107 limits.



5.1.3 E.U.T. Operation Condition

Operating condition is according to ANSI C63.4: 2003.

- A. Setup the EUT and simulators as shown on follow.
- B. Enable RF signal and confirm EUT active.
- C. Modulate output capacity of EUT up to specification.



5.1.4 Conducted Emission Limits

66-56 dB μ V/m between 0.15MHz & 0.5MHz

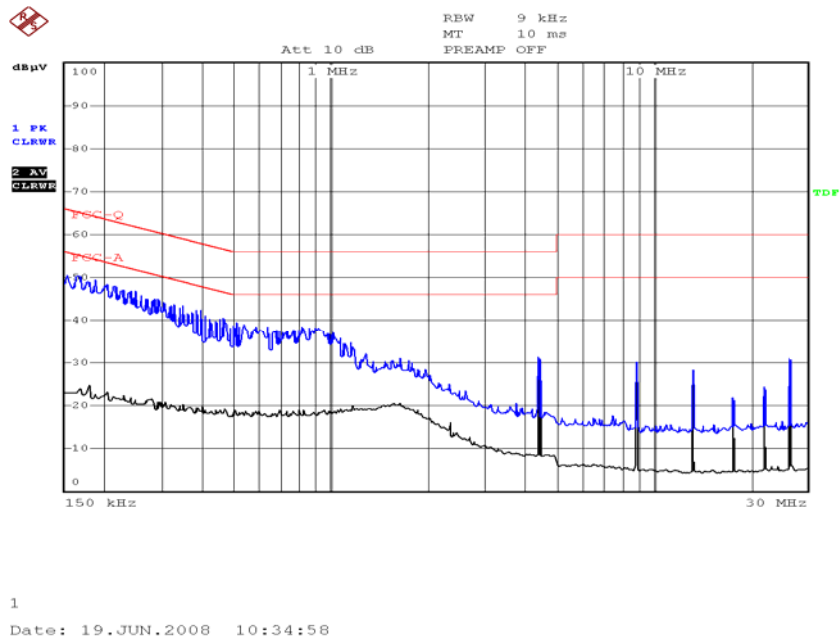
56 dB μ V/m between 0.5MHz & 5MHz

60 dB μ V/m between 5MHz & 30MHz

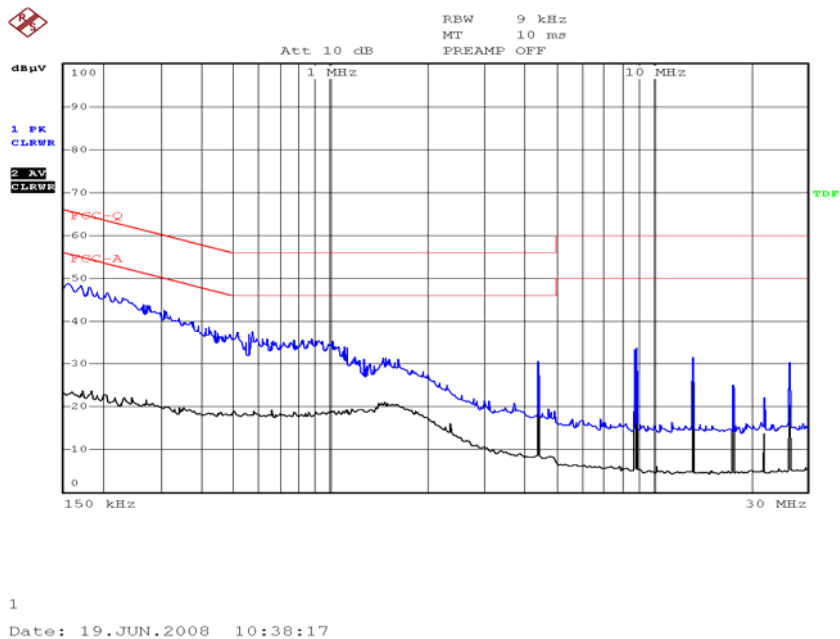
Note: In the above limits, the tighter limit applies at the band edges.

5.1.5 Summary of Test Results

Live line



Neutral line



5.1.6 Conducted Emissions Test Data

Freq. MHz	Line	QP Level dBuV	Limit dBuV	Margin dB	AV Level dBuV	Limit dBuV	Margin dB
0.175	Live	48.23	64.73	16.50	42.17	54.73	12. 56
0.522	Live	38.39	56.00	17.16	35.13	46.00	10.87
0.178	Neutra	48.58	64.59	16.01	31.06	54.59	23. 53
0.554	Neutral	38.26	56.00	17.74	29.85	46.00	16.15

5.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement:	FCC Part 15, Paragraph 15.109
Test Method:	ANSI C63.4: 2003
Test Date:	June 18,2008
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Class:	Class B
Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximised peak within 6dB of limit

5.2.1 E.U.T. Operation

Operating Environment:

Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1012 mbar

EUT Operation :

Compliance test was performed in ON mode .

5.2.2 EUT Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4: 2003.

5.2.3 Spectrum Analyzer Setup

According to FCC Part 15 Class B Rules, the system was tested to 1000 MHz.

Start Frequency	30 MHz
Stop Frequency	1000 MHz
Sweep Speed	Auto
IF Bandwidth.....	100KHz
Video Bandwidth	1 MHz
Quasi-Peak Adapter Bandwidth	120 kHz
Quasi-Peak Adapter Mode.....	Normal
Resolution Bandwidth	1MHz

5.2.4 Test procedure

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.

All data was recorded in the peak and average detection mode.

ANSI STANDARD C63.4-2003 12.1.1.1 SUPERREGENERATIVE RECEIVER: A signal Generator was set to the unit under test operating frequency. An un- Modulated continuous wave (CW) signal was radiated at the super-regenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

The EUT was under normal mode during the final qualification test and the configuration was used to represent the worst case results.

5.2.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Class B L}$$

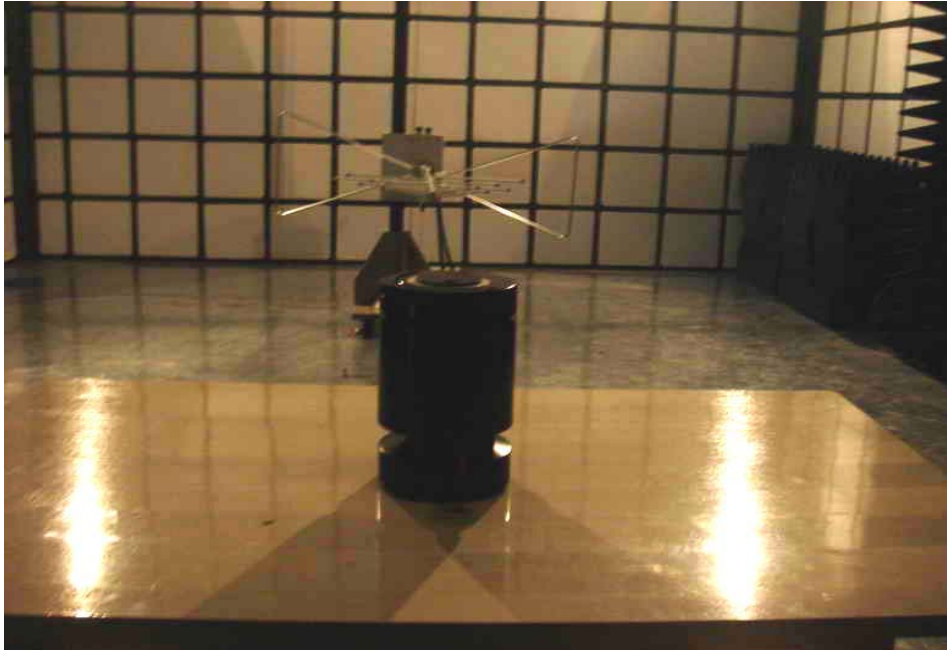
5.2.6 Summary of Test Results

According to the data in section 5.5.6, the EUT complied with the FCC Part 15 Class B standards.

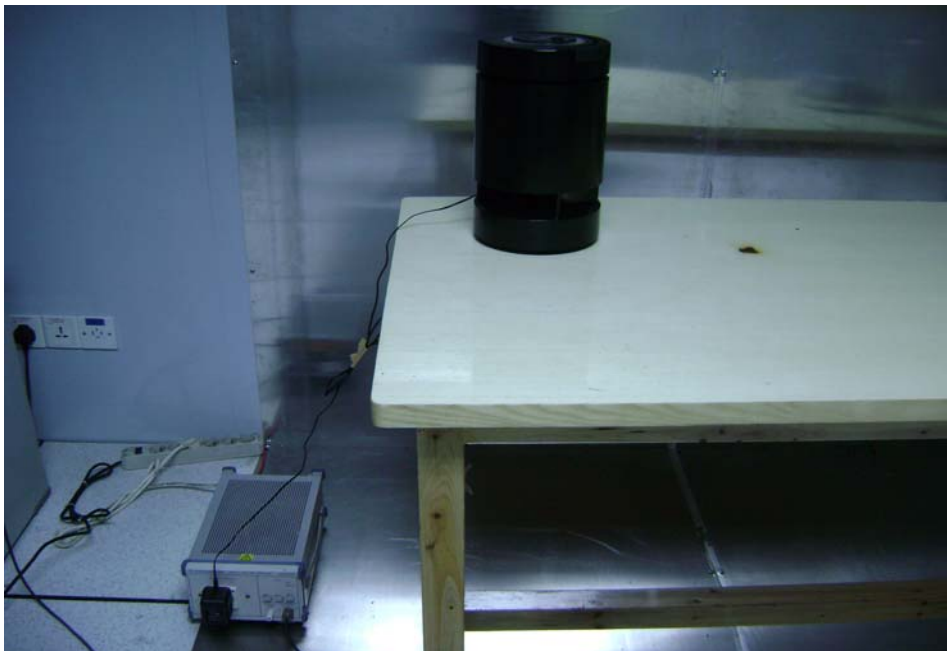
polarity	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)
Horizontal	30.9638	15.00	16.32	31.32	40.00	-8.68	270	1.5
Horizontal	39.3204	17.38	17.41	34.79	40.00	-5.21	279	1.4
Horizontal	44.6222	17.42	17.55	34.97	40.00	-5.03	260	1.4
Horizontal	52.4498	14.78	17.14	31.92	40.00	-8.08	274	1.3
Horizontal	126.6931	17.09	13.64	30.73	43.50	-12.77	260	1.4
Vertica	39.8769	19.01	17.55	36.56	40.00	-3.44	266	1.5
Vertica	45.0951	18.91	17.54	36.45	40.00	-3.55	268	1.6
Vertica	62.7432	16.92	15.60	32.52	40.00	-7.48	259	1.4
Vertica	126.6931	17.12	13.64	30.76	43.50	-12.74	255	1.5

5.3 Photographs - Test Setup

5.3.1 Radiated Emissions Test Setup



5.3.2 Conduction Emissions Test Setup



6 Photographs - Constructional Details

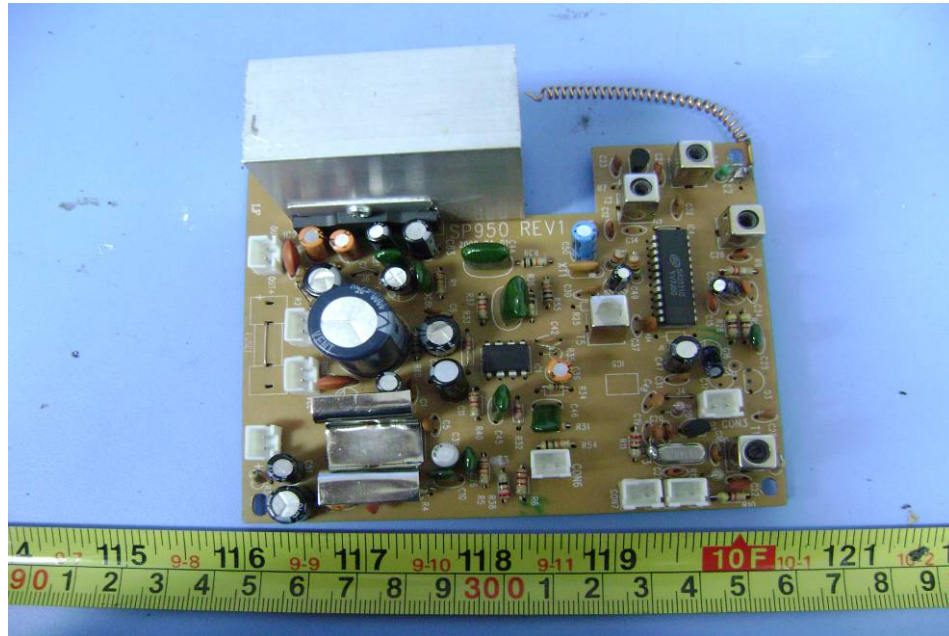
6.1 EUT - Front View



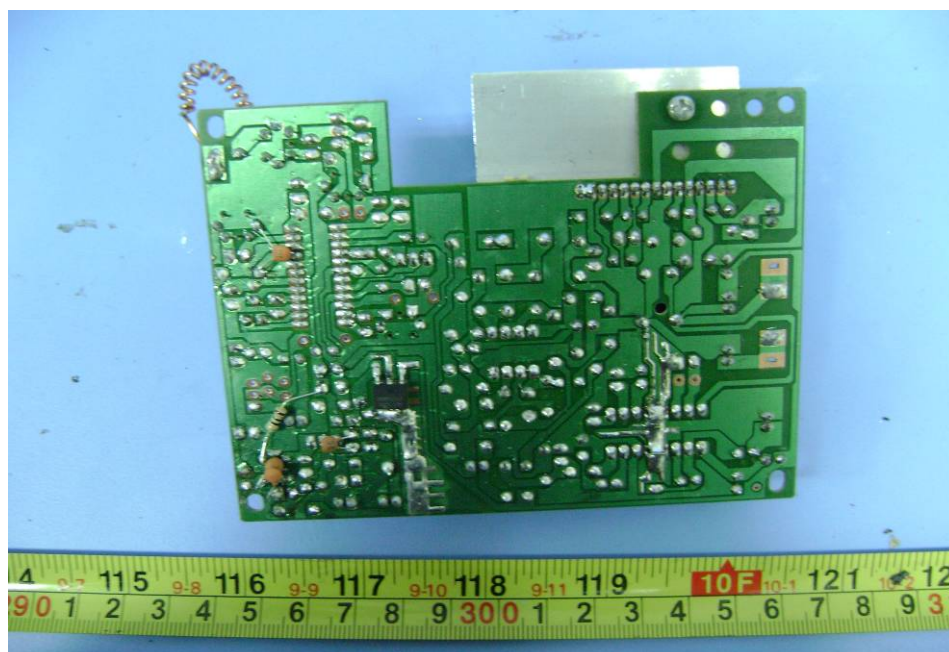
6.2 EUT - Back View



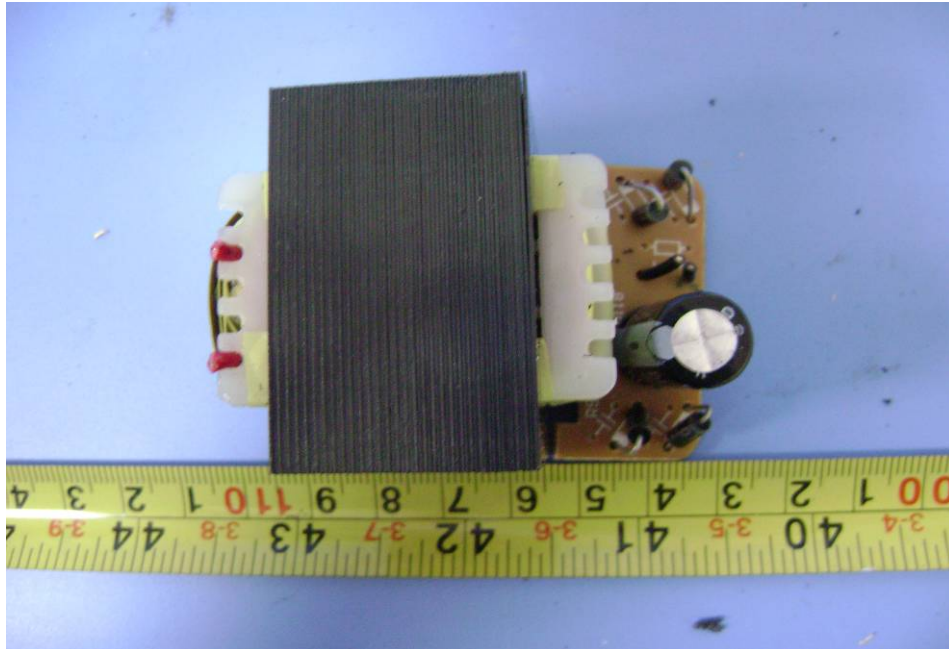
6.3 PCB – Front View



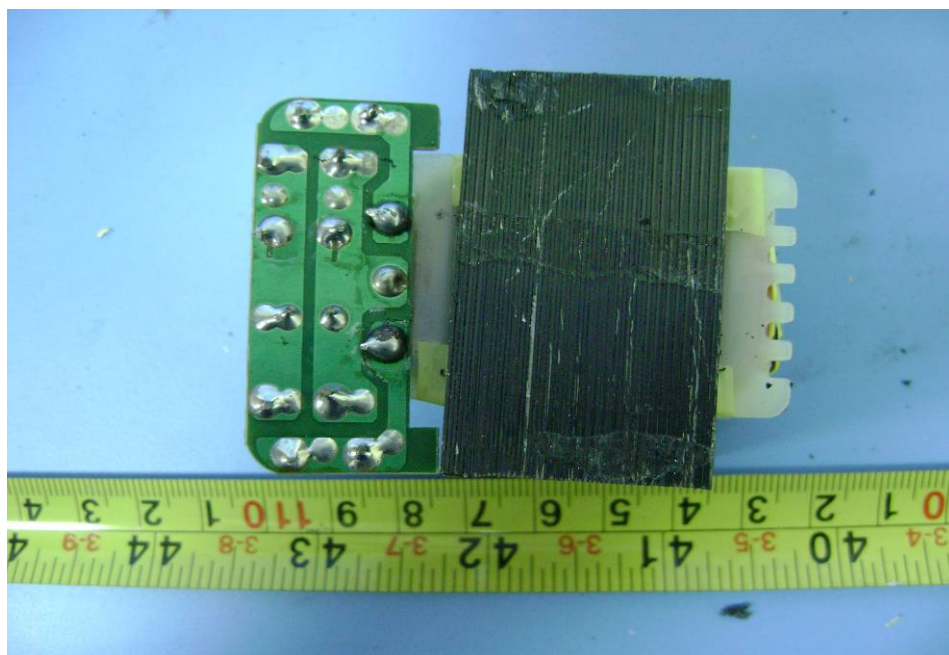
6.4 PCB - Back View



6.5 Adapter PCB – Front View



6.6 Adapter PCB –Back View



7 FCC ID Label

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)this device may not cause harmful interference,and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT
EUT Top View/ proposed FCC Mark Location

