

# ***FCC TEST REPORT***

**FCC ID** : ZVG2600KL

**Applicant** : Pelstar LLC/Health o meter® Professional Scales  
**Address** : 11800 South Austin Avenue. Alsip, IL 60803 USA

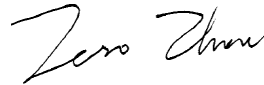
**Equipment Under Test (EUT) :**

**Product Name** : Digital Medical Scale  
**Model No.** : Refers to clause 3.2 of this test report for more details

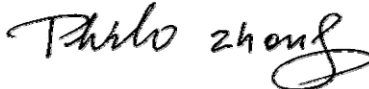
**Standards** : FCC PART15 SUBPART B

**Date of Test** : August 4~9, 2011  
**Date of Issue** : August 10, 2011

**Prepared By** : Zero Zhou/Preject Engineer



**Reviewed By** : Philo.Zhong/General Manager



<b>Test Result :</b>	<b>PASS *</b>
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**Prepared By:**

**Waltek Services (Shenzhen) Co., Ltd.**

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\* The sample detailed above has been tested to the requirements of Council Directives ANSI C63.4:2003.  
The test results have been reviewed against the Directives above and found to meet their essential requirements.

The results shown in this test report refer only to the sample(s) tested , This Test report cannot be reproduced, except in full, without prior written permission of the Company

WALTEK SERVICES

Reference No.: WT11073974-E-E-F

## 1 Test Summary

<b>Test</b>	<b>Test Requirement</b>	<b>Test Method</b>	<b>Class / Severity</b>	<b>Result</b>
Radiated Emission (30MHz to 1GHz)	FCC PART 15, SUBPART B: 2007	ANSI C63.4: 2003	FCC Part15.109	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15, SUBPART B: 2007	ANSI C63.4: 2003	FCC Part15.107	PASS

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### 3 General Information

#### 3.1 Client Information

Applicant: Pelstar LLC/Health o meter® Professional Scales  
 Address of Applicant: 11800 South Austin Avenue. Alsip, IL 60803 USA

Manufacturer: GOLDEN BOW (FU YONG) MANUFACTORY  
 Address of Manufacturer: INDUSTRIAL ROAD, TANG WEI VILLAGE, FU YONG TOWN, BAO AN COUNTY, SHENZHEN, CHINA

#### 3.2 General Description of E.U.T.

Product Name : Digital Medical Scale

Model No. :

Model	customer	Measurement range(kg or lb)
2650KL	HS5096.001.00	700LB
2500KL	HS5097.001.00	1000LB
1100KL	HS5098.001.00	1000LB
2400KL	HS5099.001.00	800LB
2000KL	HS5100.001.00	400LB
2700KL	HS5101.001.00	1000LB
2101KL	HS5102.001.00	1000LB
2600KL	HS5057.001.00	1000LB

Model Description: All the models are identical in interior structure,electrical circuits, and components with different measurement range. 2600KL is the test sample.

#### 3.3 Details of E.U.T.

Power supply: DC 9V 0.5A from AC adapter(input:100-240V~, 50/60Hz)

#### 3.4 Description of Support Units

The EUT has been tested as independent unit.

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### **3.5 Standards Applicable for Testing**

The customer requested FCC tests for a Digital Medical Scale. The standards used were FCC PART 15 SUBPART B.

### **3.6 Test Facility**

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

- **IC – Registration No.: 7760A**

Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration No.:7760A, August 3,2010.

- **FCC – Registration No.: 880581**

Waltek Services(Shenzhen) Co., Ltd. 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 880581, May 26,2011

### **3.7 Test Location**

All Emission tests were performed at:

Waltek Services(Shenzhen) Co., Ltd. at 1/F, Fukangtai Building, West Baima Rd.,Songgang Street, Baoan District, Shenzhen, China

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#### 4 Equipment Used during Test

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
EMC Analyzer	Agilent/ E7405A	MY45114943	W2008001	9k-26.5GHz	Aug.23-2010	Aug.23-2011	Wws20081596	±1dB
Trilog Broadband Antenne 30-3000 MHz	SCHWARZECK MESS-ELEKTROM/VULB9163	336	W2008002	30-3000 MHz	Aug.23-2010	Aug.23-2011		±1dB
Broad-band Horn Antenna 1-18 GHz	SCHWARZECK MESS-ELEKTROM/BBHA9120D	667	W2008003	1-18GHz	Aug.23-2010	Aug.23-2011		f<10 GHz: ±1dB 10GHz<f<18 GHz: ±1.5dB
Broadband Preamplifier 0.5-18 GHz	SCHWARZECK MESS-ELEKTROM/BBV 9718	9718-148	W2008004	0.5-18GHz	Aug.23-2010	Aug.23-2011		±1.2dB
10m Coaxial Cable with N-male Connectors usable up to 18GHz,	SCHWARZECK MESS-ELEKTROM/AK 9515 H	-	-	-	Aug.23-2010	Aug.23-2011		-
10m 50 Ohm Coaxial Cable with N-plug, individual length, usable up to 3(5)GHz, Connector	SCHWARZECK MESS-ELEKTROM/AK 9513				Aug.23-2010	Aug.23-2011		
Positioning Controller	C&C LAB/CC-C-IF				N/A	N/A		
Color Monitor	SUNSPON/ SP-14C				N/A	N/A		
Test Receiver	ROHDE&SCHWARZ/ESPI	101155	W2005001	9k-3GHz	Aug.23-2010	Aug.23-2011	Wws20080942	±1dB
EMI Receiver	Beijingkehuan	KH3931		9k-1GHz	Aug.23-2010	Aug.23-2011		
Two-Line V-Network	ROHDE&SCHWARZ/ENV216	100115	W2005002	50Ω/50μH	Aug.23-2010	Aug.23-2011	Wws20080941	±10%
V-LISN	SCHWARZECK MESS-ELEKTRONIK	NSLK 8128	8128-259	9k-30MHz	Aug.23-2010	Aug.23-2011		

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Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
	K							
Absorbing Clamp	ROHDE&SC HWARZ/ MDS-21	100205	W2005003	impedance 50Ω loss : 17 dB	Aug.23 -2010	Aug.23 -2011	Wws20 080943	±1dB
10m 50 Ohm Coaxial Cable with N-plug, individual length, usable up to 3(5)GHz, Connectors	SCHWARZB ECK MESS- ELEKTROM/ AK 9514				Aug.23 -2010	Aug.23 -2011		
PC	Lenovo	T4900	-	-	-	-	-	-
Laptop	IBM	T30						

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## 5 Emissions Test Results

### 5.1 Conducted Emission Data

Test Requirement:	FCC Part15.107
Test Method:	ANSI C63.4:2003
Test Result:	PASS
Frequency Range:	150kHz to 30MHz
Class:	Class B
Limit:	66-56 dB $\mu$ V between 0.15MHz & 0.5MHz 56 dB $\mu$ V between 0.5MHz & 5MHz 60 dB $\mu$ V 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:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	1012 mbar

#### EUT Operation :

The EUT was tested according to ANSI C63.4:2003. The frequency spectrum from 150kHz to 30MHz was investigated.

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 Measurement Uncertainty

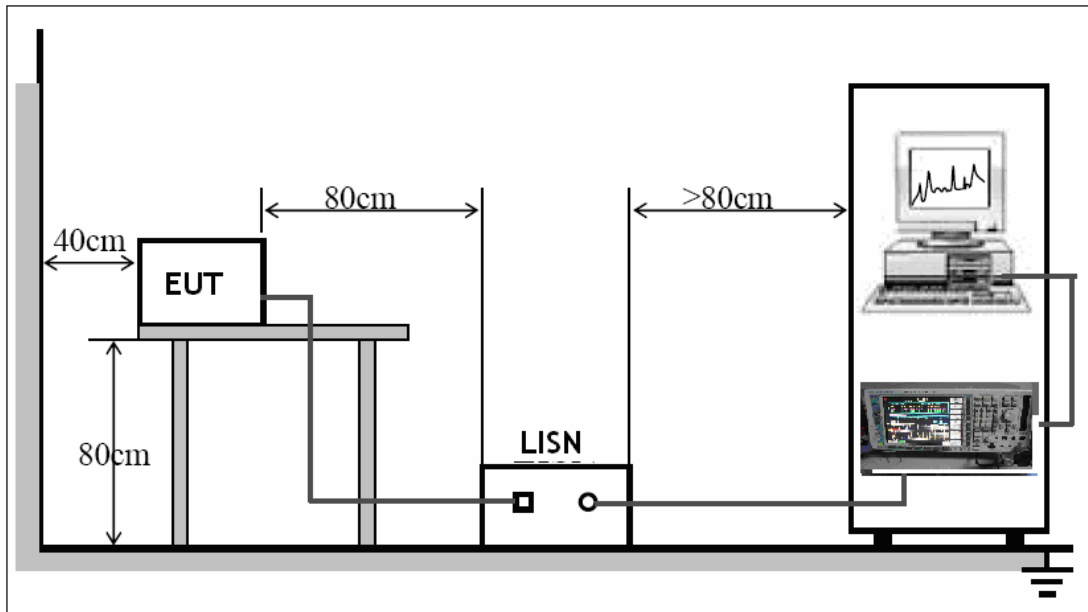
Based on CISPR16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of conducted emission measurement at Waltek Lab is  $\pm 3.64$ dB.

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### 5.1.3 EUT 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 B 15.107 limits.



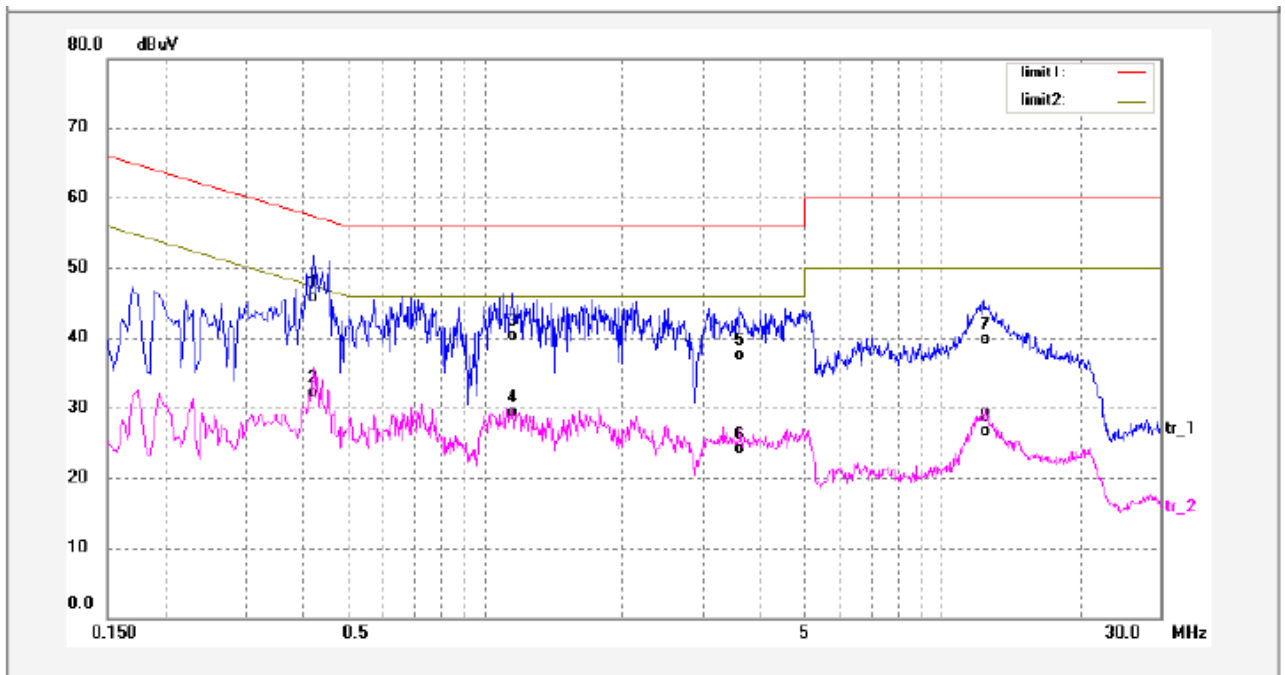
The EUT was placed on the test table in working mode connected with PC. Then the measurement value will show on the monitor by PC. A USB cable is used for linking between PC and the EUT, but can not be used for interchanging data.

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### 5.1.4 Conducted Emission Test Result

An initial pre-scan was performed on the live and neutral lines.

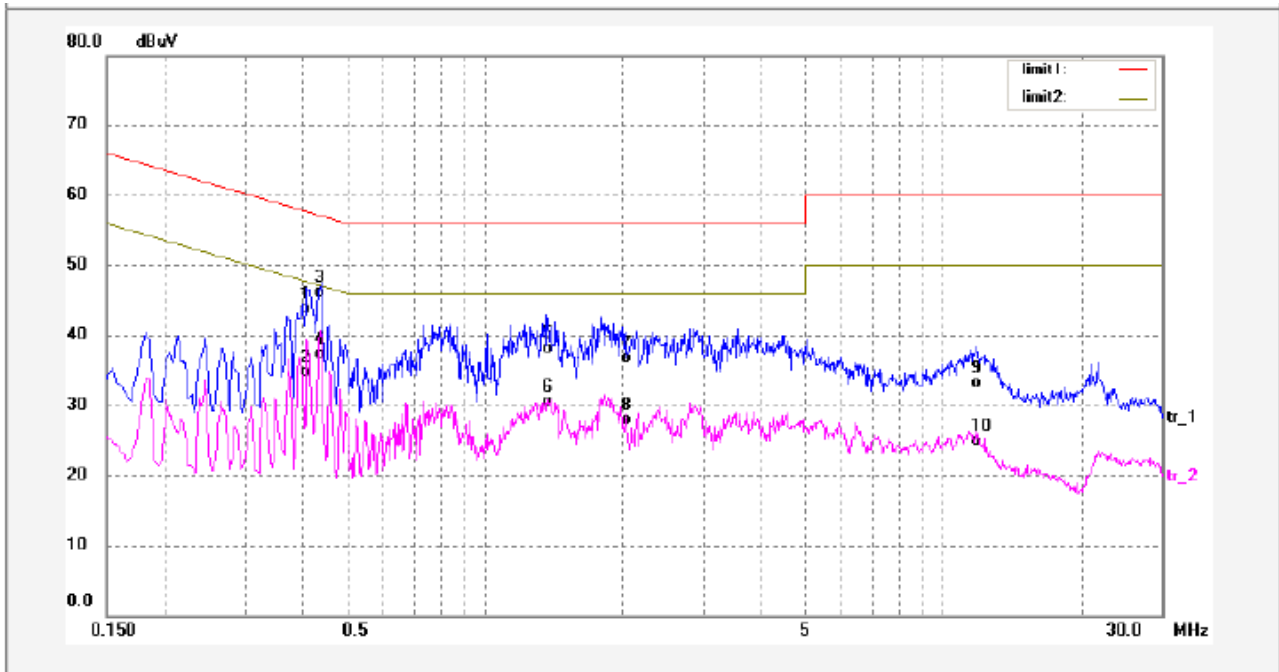
Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.4220	34.12	10.72	44.84	57.41	-12.57	QP	
2	0.4220	20.57	10.72	31.29	47.41	-16.12	AVG	
3	1.1580	27.28	12.19	39.47	56.00	-16.53	QP	
4	1.1580	16.30	12.19	28.49	46.00	-17.51	AVG	
5	3.6340	24.18	12.54	36.72	56.00	-19.28	QP	
6	3.6340	10.83	12.54	23.37	46.00	-22.63	AVG	
7	12.3900	26.72	12.11	38.83	60.00	-21.17	QP	
8	12.3900	13.85	12.11	25.96	50.00	-24.04	AVG	

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Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.4100	32.27	10.70	42.97	57.65	-14.68	QP	
2	0.4100	23.20	10.70	33.90	47.65	-13.75	AVG	
3	0.4420	34.56	10.76	45.32	57.02	-11.70	QP	
4	0.4420	25.69	10.76	36.45	47.02	-10.57	AVG	
5	1.3700	25.04	12.19	37.23	56.00	-18.77	QP	
6	1.3700	17.53	12.19	29.72	46.00	-16.28	AVG	
7	2.0059	23.61	12.25	35.86	56.00	-20.14	QP	
8	2.0059	14.82	12.25	27.07	46.00	-18.93	AVG	
9	11.9300	20.02	12.22	32.24	60.00	-27.76	QP	
10	11.9300	11.94	12.22	24.16	50.00	-25.84	AVG	

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### 5.1.5 Photograph- Test Setup for Conducted Emission



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## 5.2 Radiation Emission Data

Test Requirement:	FCC Part15.109
Test Method:	ANSI C63.4:2003
Test Result:	PASS
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Class:	Class B
Limit:	40.0 dB $\mu$ V/m between 30MHz & 88MHz 43.5 dB $\mu$ V/m between 88MHz & 216MHz 46.0 dB $\mu$ V/m between 216MHz & 960MHz 54.0 dB $\mu$ V/m zbove 960MHz
Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximised peak within 6dB of limit

### 5.2.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Waltek EMC Lab is  $\pm 5.03$ dB.

### 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, The specification used in this report was the FCC Part15 B limits.

The EUT was placed on the test table in working mode,the worst data were shown as follow.

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### 5.2.3 Spectrum Analyzer Setup

According to FCC Part15 B Rules, the system was tested from 30 to 1000MHz.

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

### 5.2.4 Test Procedure

The radiated emissions test.

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 detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dBμV of specification limits), and are distinguished with a "Qp" in the data table.

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 -7dBμV means the emission is 7dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

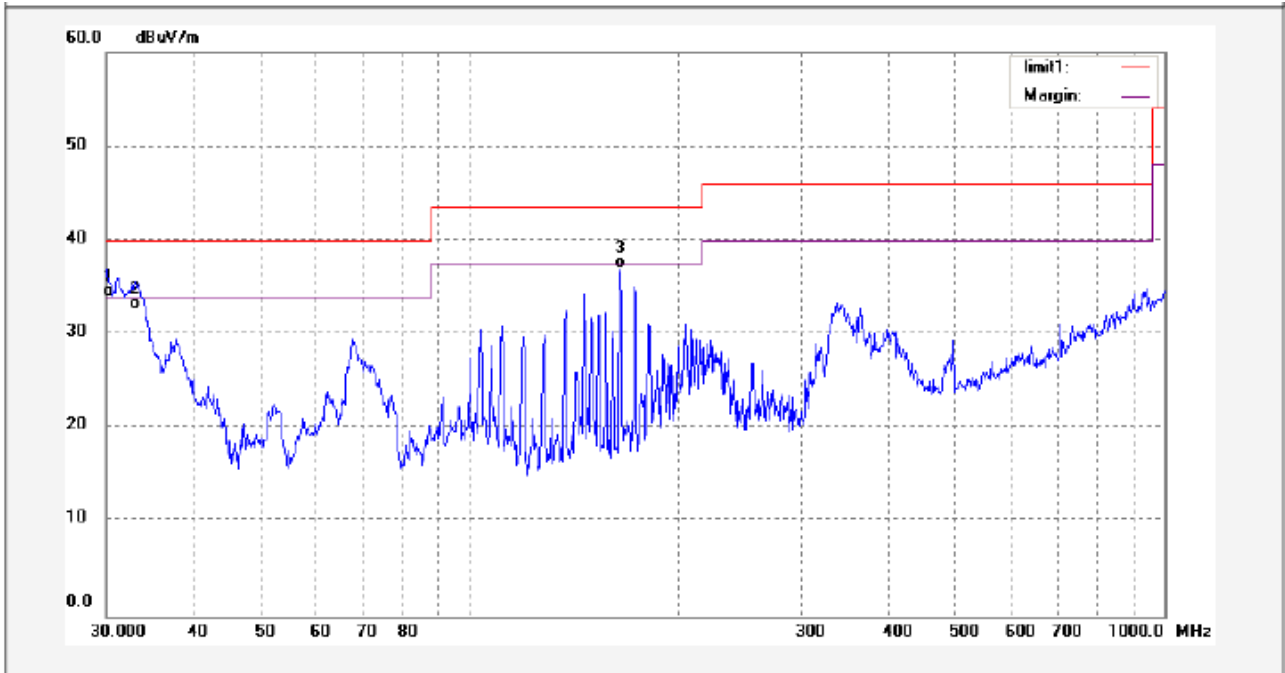
$$\text{Margin} = \text{Corr. Ampl.} - \text{Class B Limit}$$

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### 5.2.6 Summary of Test Results

According to the data in this section, the EUT complied with the FCC Part15 B standards.

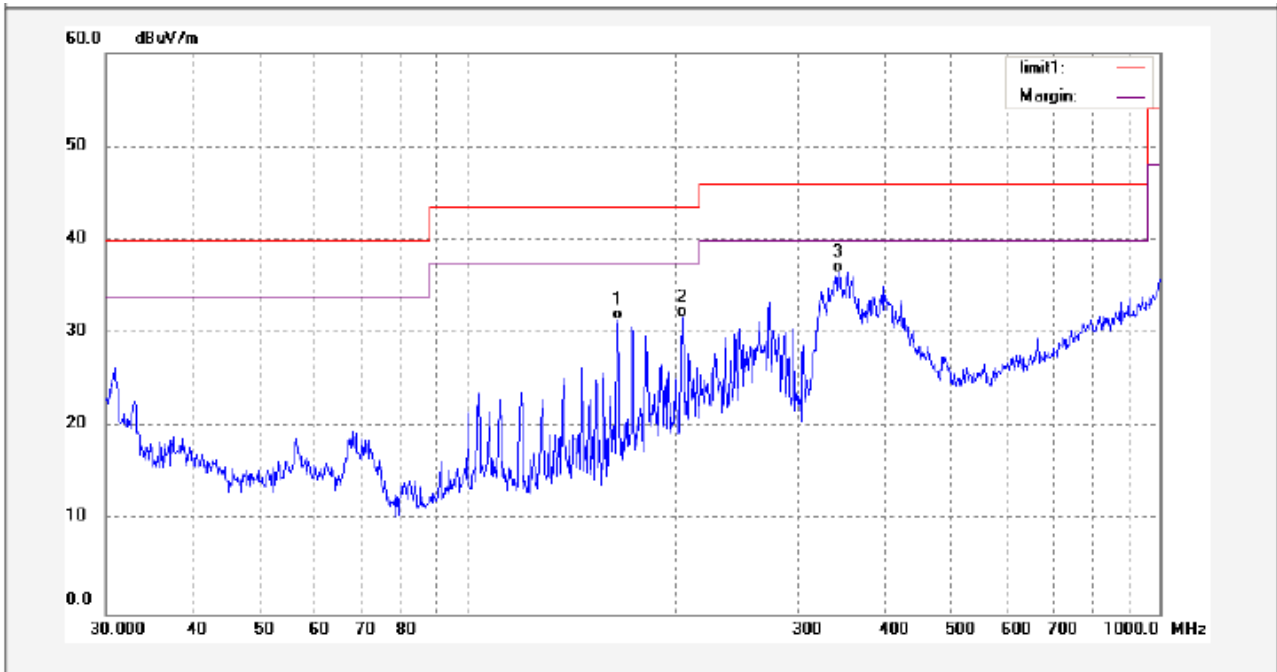
Antenna polarization:Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.0000	17.79	16.15	33.94	40.00	-6.06	QP	
2	32.9854	16.01	16.57	32.58	40.00	-7.42	QP	
3	164.8912	25.06	11.94	37.00	43.50	-6.50	QP	

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Antenna polarization:Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	164.8911	19.55	11.94	31.49	43.50	-12.01	QP	
2	204.3052	16.82	14.92	31.74	43.50	-11.76	QP	
3	343.6505	16.37	20.19	36.56	46.00	-9.44	QP	

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### 5.2.7 Photograph – Radiation Emission Test Setup



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## 6 Photographs - Constructional Details

### 6.1 EUT –Front View



### 6.2 EUT – Back View



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### 6.3 EUT –Control Panel- Front View



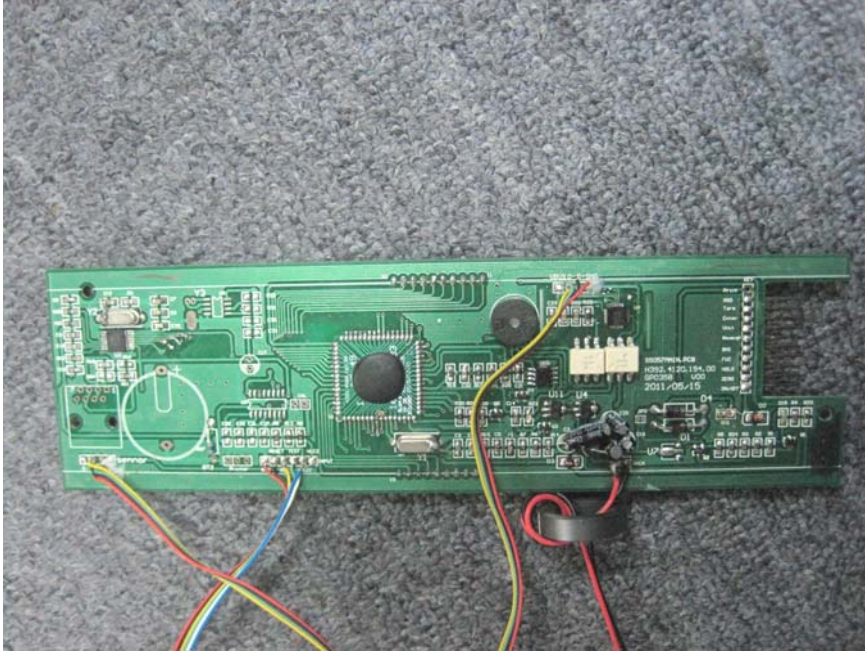
### 6.4 EUT –Control Panel -Back View



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### 6.5 EUT –PCB1- Front View

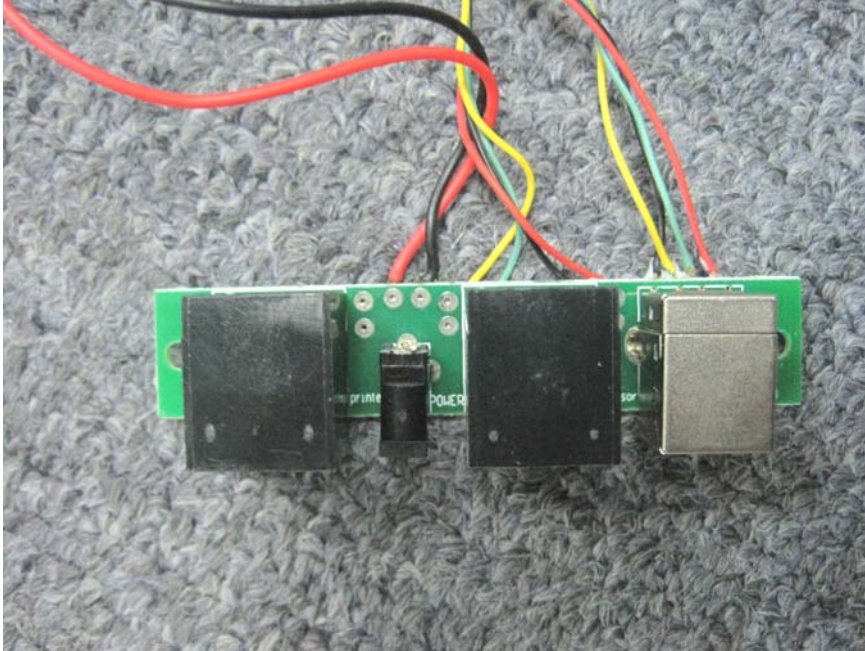


### 6.6 EUT –PCB1 -Back View

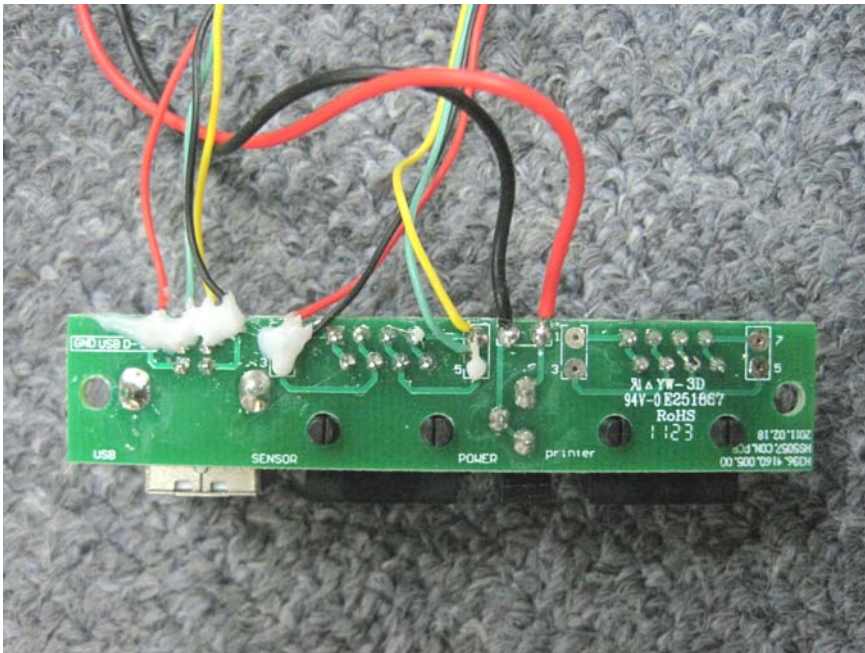


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### 6.7 EUT –PCB2- Front View



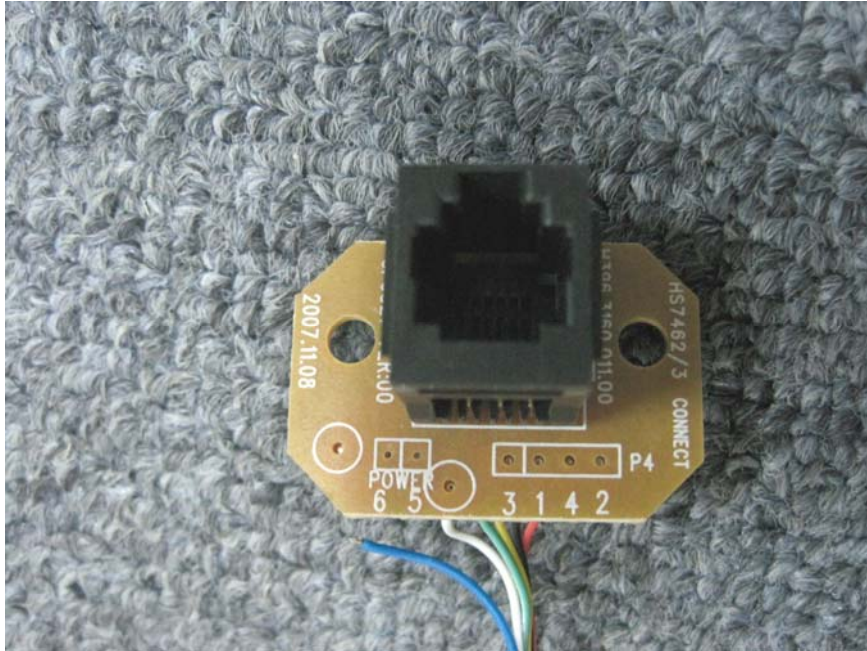
### 6.8 EUT –PCB2 -Back View



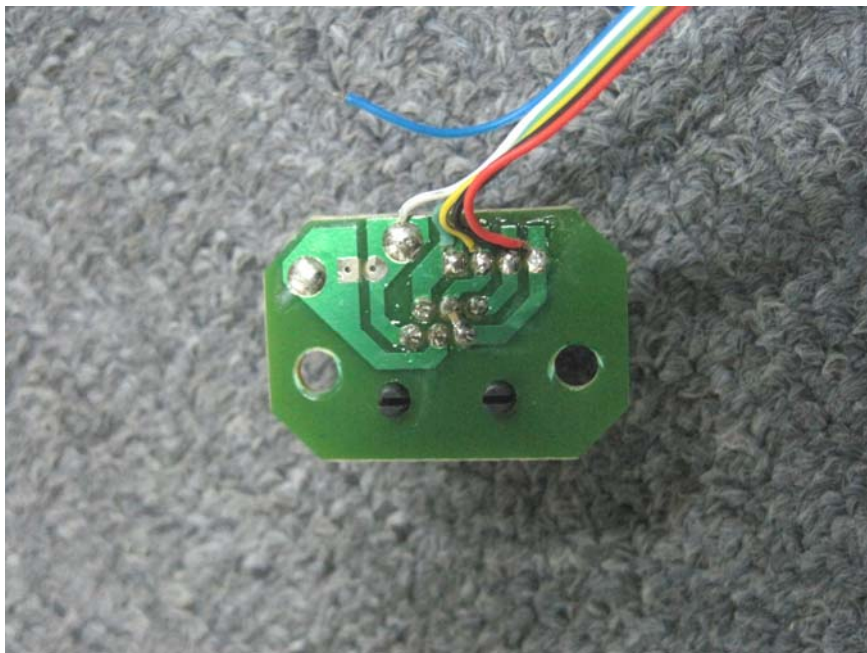
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### 6.9 EUT –PCB3- Front View



### 6.10 EUT –PCB3 -Back View



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### 6.11 Adapter – Appearance View

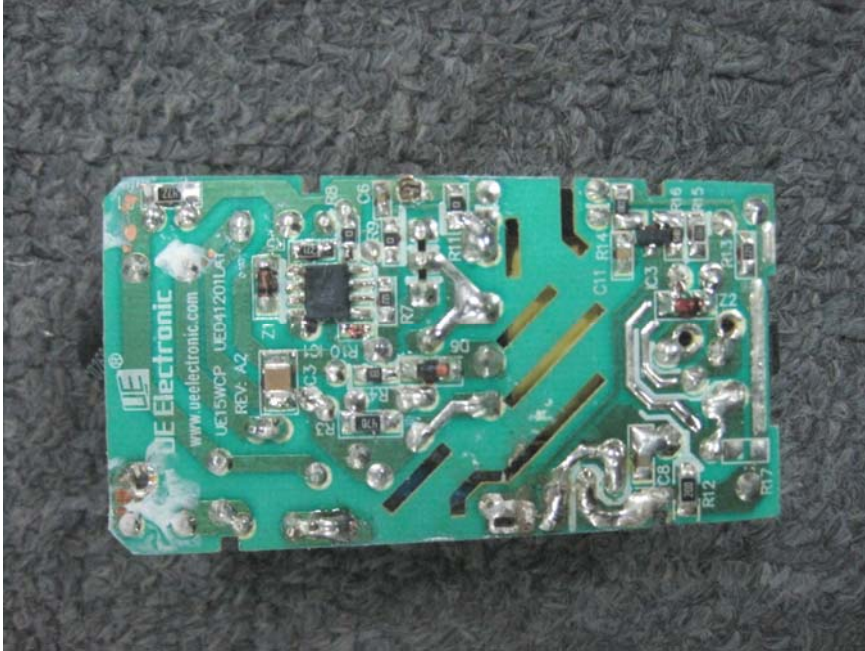


### 6.12 Adapter –PCB Front View



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### 6.13 Adapter –PCB Back View



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## 7 FCC 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.



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