中国认可
国际互认
检测
TESTING
CNAS L6478

# TEST REPORT

| | | |
|---|---|---|
| **Reference No.** | : | WTF24F10236941E |
| **Applicant** | : | Guangzhou Aimei Intelligent Technology Co., Ltd. |
| **Address** | : | Floor 2, building B, No. 185, Zhongsheng Road, Zhongcun street, Panyu District, Guangzhou |
| **Manufacturer** | : | The same as above |
| **Address** | : | The same as above |
| **Product Name** | : | Hair clipper |
| **Model No.** | : | HC-W058, HC-W056, HC-W052, HC-W037, HC-W030, HC-W012, HC-W003A, TS7800, HC-W050, HC-W051, HC-W018, HC-W017, HC-W059, HC-W031, HC-W028, HC-W029, HC-W053 |
| **Test specification** | : | 47 CFR PART 15 SUBPART B (Oct.,2021) |
| **Date of Receipt sample** | : | 2024-10-18 |
| **Date of Test** | : | 2024-10-18 |
| **Date of Issue** | : | 2024-10-28 |
| **Test Report Form No.** | : | WEO-FCC15A-01C |
| **Test Result** | : | **Pass** |

Remarks:
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. The report would be invalid without specific stamp of test institute and the signatures of approver.


**Prepared By:**
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Tested by: Jess Chen

Jess Chen

Approved by: Danny Zhou

Danny Zhou

# 1 Test Summary

| Test Item | Test Requirement | Class | Test Method | Test Result |
|---|---|---|---|---|
| Conducted Emission | 47 CFR PART 15 SUBPART B (Oct.,2021) | Class B | ANSI C63.4: 2014 | Pass |
| Radiated Emission | 47 CFR PART 15 SUBPART B (Oct.,2021) | Class B | ANSI C63.4: 2014 | Pass |

Remark:

Pass Test item meets the requirement

Fail Test item does not meet the requirement

N/A Test case does not apply to the test object

## 2 Contents

# 3 General Information

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

| | | |
|---|---|---|
| **Product Name** ..... | : | Hair clipper |
| **Model No.** ..... | : | HC-W058, HC-W056, HC-W052, HC-W037, HC-W030, HC-W012, HC-W003A, TS7800, HC-W050, HC-W051, HC-W018, HC-W017, HC-W059, HC-W031, HC-W028, HC-W029, HC-W053 |
| **Remark**..... | : | All models have the same circuit diagram and internal construction, only different in model names.<br>Therefore the applicable tests were performed on model HC-W056. |

## 3.2 Details of E.U.T.

| | | |
|---|---|---|
| **Technical Data** ..... | : | Charging Voltage: 5Vdc<br>Working Voltage: Battery 3.7V |

## 3.3 Description of Support Units

The EUT has been tested as an independent unit. HC-W056 is the test sample. Both tests were performed in the condition of AC 120V/60Hz input powered by an adapter specified by laboratory. And the RE test was performed in the additional condition of battery 3.7V.

## 3.4 Standards Applicable for Testing

The tests were performed according to following standards:

47 CFR PART 15 SUBPART B (Oct.,2021) Radio frequency devices

## 3.5 Test Facility

The test facility has a test site registered with the following organizations:

- **ISED – Registration No.: 21895**

Waltek Testing Group (Foshan) Co., Ltd. has been registered and fully described in a report filed with the Innovation, Science an Economic Development Canada(ISED). The acceptance letter from the ISED is maintained in our files. Registration ISED number:21895, March 12, 2019

- **FCC – Registration No.: 820106**

Waltek Testing Group (Foshan) 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 820106, August 16, 2018

- **NVLAP – Lab Code: 600191-0**

Waltek Testing Group (Foshan) Co., Ltd. EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 600191-0.
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

## 3.6 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test items: --

Lab information: --

## 3.7 Abnormalities from Standard Conditions

None.

## 4 Equipment Used during Test

| ☐Mains Terminal Disturbance Voltage (Conducted Emission) 1# | | | | | |
|---|---|---|---|---|---|
| **Item** | **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Calibration Status** |
| 1. | EMI Test Receiver | R&S | ESR3 | 102423 | Valid |
| 2. | LISN | R&S | ENV216 | 101343 | Valid |
| 3. | Cable | HUBER+SUHNER | CBL2-NN-6M | 223NN624 | Valid |
| 4. | Switch | CD | RSU-A4 18G | RSUA4008 | Valid |
| ☒Mains Terminal Disturbance Voltage (Conducted Emission) 2# | | | | | |
| **Item** | **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Calibration Status** |
| 1. | EMI Test Receiver | R&S | ESCI | 101178 | Valid |
| 2. | LISN | R&S | ENV216 | 101215 | Valid |
| 3. | Cable | HUBER+SUHNER | CBL2-NN-6M | 6102701 | Valid |
| 4. | Switch | ESE | RSU/M2 | --- | Valid |
| ☐Mains Terminal Disturbance Voltage (Conducted Emission) 3# | | | | | |
| **Item** | **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Calibration Status** |
| 1. | EMI Test Receiver | R&S | ESR3 | 102842 | Valid |
| 2. | LISN | R&S | ENV216 | 101542 | Valid |
| 3. | Cable | YIHENG | LMR195UF-NMNM-2.5 | --- | Valid |
| 4. | Manual RF Switch | YIHENG | SW-2 | RSU0402 | Valid |
| ☒Radiated Emission (30MHz to 1GHz) 1# | | | | | |
| **Item** | **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Calibration Status** |
| 1. | 3m Semi-anechoic Chamber | CHANGCHUANG | 9m×6m×6m | --- | Valid |
| 2. | EMI Test Receiver | R&S | ESR7 | 101566 | Valid |
| 3. | Trilog Broadband Antenna | SCHWARZBECK | VULB 9162 | 9162-117 | Valid |
| 4. | Coaxial Cable (below 1GHz) | H+S | CBL3-NN-12+3 m | 214NN320 | Valid |
| ☐Radiated Emission (30MHz to 1GHz) 2# | | | | | |
| **Item** | **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Calibration Status** |
| 1. | 3m Semi-anechoic Chamber | YIHENG | 9m×6m×6m | YH2021071801 | Valid |
| 2. | EMI Test Receiver | R&S | ESR7 | 102454 | Valid |
| 3. | Trilog Broadband Antenna | SCHWARZBECK | VULB 9163 | 01418 | Valid |
| 4. | Coaxial Cable (below 1GHz) | Times-Microwave Systems | LMR240UF-NMSM-7.5 | --- | Valid |

☐: ***Not Used***

☒: ***Used***

## 4.1 Software List

| Description | Manufacturer | Model | Version |
|---|---|---|---|
| EMI Test Software (Conducted Emission 1#) | FARATRONIC | EZ-EMC | EMEC-3A1 |
| EMI Test Software (Conducted Emission 2#) | FARATRONIC | EZ-CON | FARAD-3A1.1+ |
| EMI Test Software (Conducted Emission 3#) | FARATRONIC | EZ-EMC | EMC-CON 3A1.1+ |
| EMI Test Software (Radiated Emission 1#) | FARATRONIC | EZ-EMC | RA-03A1-2 |
| EMI Test Software (Radiated Emission 2#) | FARATRONIC | EZ-EMC | RA-03A1-2 |

## 4.2 Measurement Uncertainty

| Test Item | Frequency Range | Uncertainty | Note |
|---|---|---|---|
| Conducted Emission | 150kHz~30MHz | ±2.6dB | (1) |
| Radiated Emission | 30MHz~1GHz | ±4.5dB | (1) |

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 4.3 Special Accessories and Auxiliary Equipment

| Item | Equipment | Technical Data | Manufacturer | Model No. |
|---|---|---|---|---|
| 1. | Adaptor | Input:100-240V~50/60Hz, 0.75A<br>Output: 5Vdc/2A, 9Vdc/2A, 10Vdc/2.25A Max | HUAWEI | HW-100225C00 |

## 4.4 Decision Rule

Compliance or non-compliance with a disturbance limit shall be determined in the following manner.

**If $U_{LAB}$ is less than or equal to $U_{cispr}$, then**

-Compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

-Non-compliance is deemed to occur is any measured disturbance level exceeds the disturbance limt.

**If $U_{LAB}$ is greater than $U_{cispr}$, then**

-Compliance is deemed to occur if no measured disturbance level, increased by($U_{LAB}$-$U_{cispr}$) , exceeds the disturbance limit;

-Non-compliance is deemed to occur if any measured disturbance level, increased by(ULAB-Ucispr) , exceeds the disturbance limit.

# 5 Emission Test Results

## 5.1 Conducted Emission

**Test Requirement**..... : 47 CFR PART 15, SUBPART B

**Test Method**..... : ANSI C63.4

**Test Result**..... : Pass

**Test Limit**..... : 47 CFR PART 15, SUBPART B Section 15.107

**Frequency Range**..... : 150kHz to 30MHz

**Class**..... : Class B

### 5.1.1 E.U.T. Operation

**Operating Environment:**

**Temperature** ..... : 20.8°C

**Humidity**..... : 49.3%RH

**Atmospheric Pressure**..... : 101.2 kPa

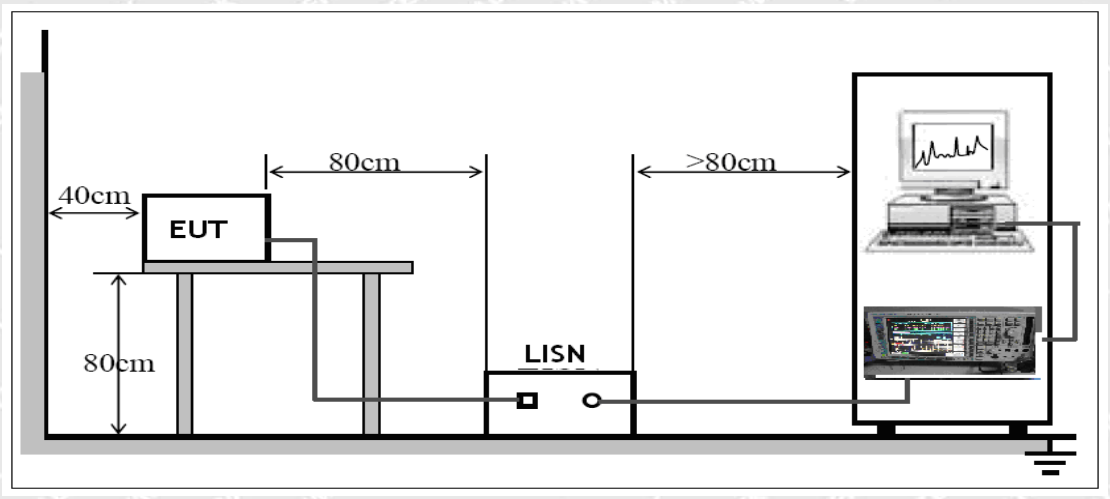
**EUT Operation:**

**Input Voltage** ..... : AC 120V/60Hz

**Operating Mode**..... : Specified Adapter Powered Mode

### 5.1.2 Block Diagram of Test Setup

The Conducted Emission tests were performed in accordance with the ANSI C63.4.




### 5.1.3 Measurement Data

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.

### 5.1.4 Corrected Amplitude & Margin Calculation

The Corrected factor is calculated by adding LISN VDF(Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Measurement = Reading Level + Correct Factor

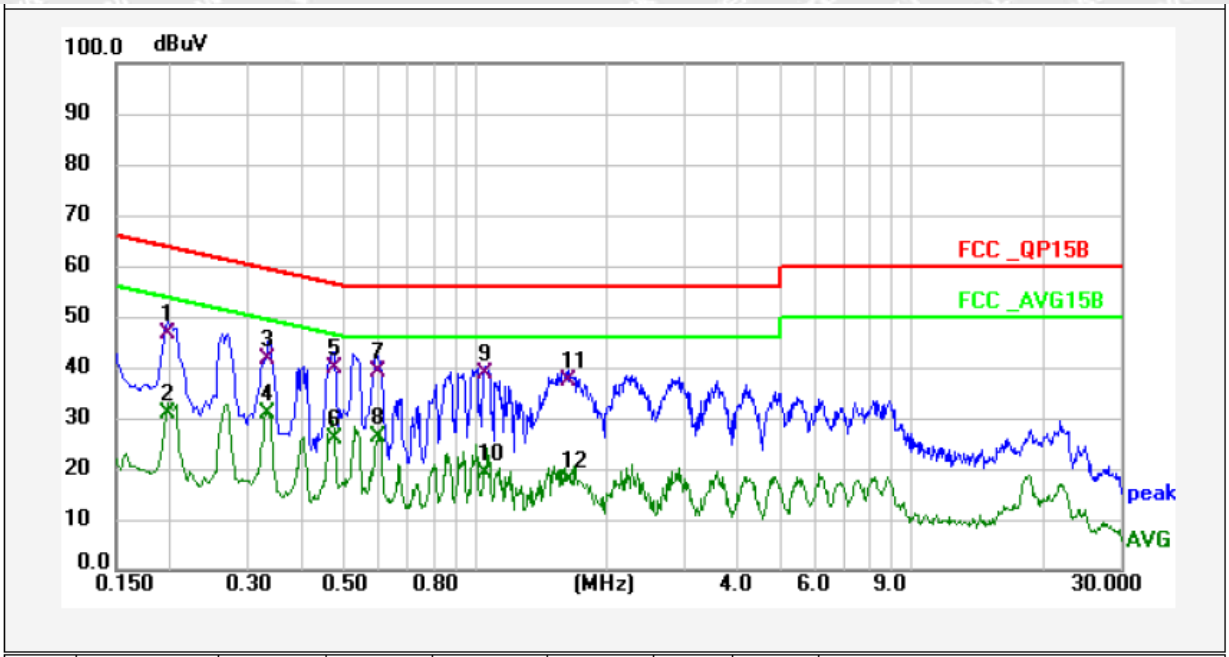
Correct Factor = LISN VDF + Cable Loss

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Measurement - Limit

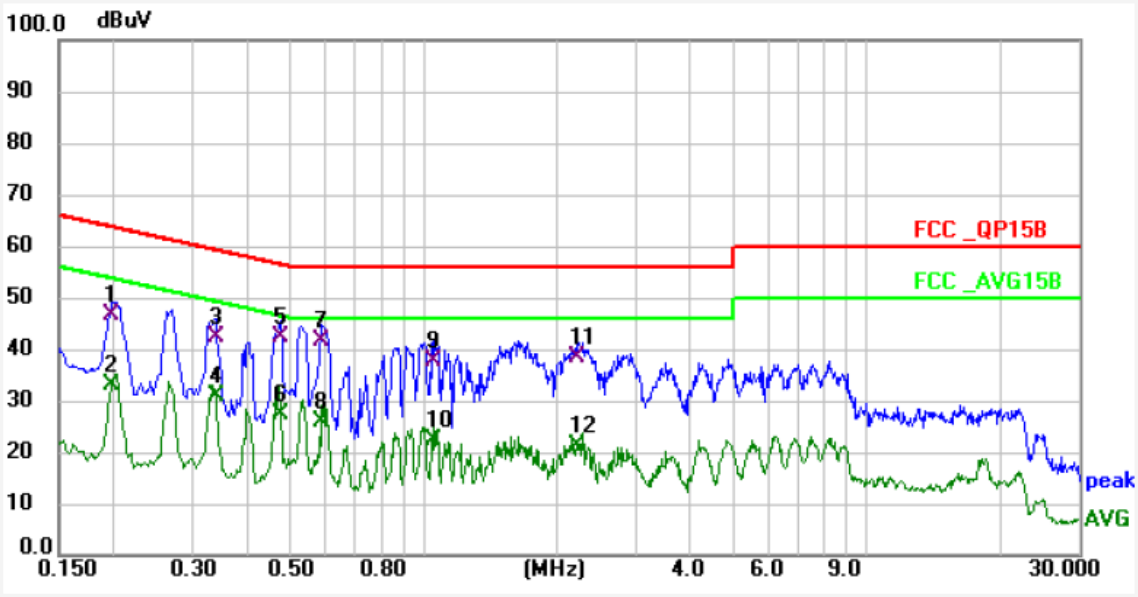
### 5.1.5 Conducted Emission Test Data

### Live Line




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.198 | 46.60 | 9.53 | 37.07 | 63.69 | -17.09 | QP | |
| 2 | 0.198 | 31.00 | 9.53 | 21.47 | 53.69 | -22.69 | AVG | |
| 3 | 0.334 | 41.58 | 9.56 | 32.02 | 59.35 | -17.77 | QP | |
| 4 | 0.334 | 30.75 | 9.56 | 21.19 | 49.35 | -18.60 | AVG | |
| 5 | 0.474 | 39.79 | 9.57 | 30.22 | 56.44 | -16.65 | QP | |
| 6 | 0.474 | 25.99 | 9.57 | 16.42 | 46.44 | -20.45 | AVG | |
| 7 | 0.598 | 38.96 | 9.58 | 29.38 | 56.00 | -17.04 | QP | |
| 8 | 0.598 | 26.14 | 9.58 | 16.56 | 46.00 | -19.86 | AVG | |
| 9 | 1.050 | 38.69 | 9.60 | 29.09 | 56.00 | -17.31 | QP | |
| 10 | 1.050 | 19.25 | 9.60 | 9.65 | 46.00 | -26.75 | AVG | |
| 11 | 1.630 | 37.15 | 9.64 | 27.51 | 56.00 | -18.85 | QP | |
| 12 | 1.630 | 17.76 | 9.64 | 8.12 | 46.00 | -28.24 | AVG | |

## Neutral Line




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.198 | 46.56 | 9.53 | 37.03 | 63.69 | -17.13 | QP | |
| 2 | 0.198 | 32.89 | 9.53 | 23.36 | 53.69 | -20.80 | AVG | |
| 3 | 0.338 | 42.19 | 9.56 | 32.63 | 59.25 | -17.06 | QP | |
| 4 | 0.338 | 31.02 | 9.56 | 21.46 | 49.25 | -18.23 | AVG | |
| 5 | 0.474 | 42.25 | 9.57 | 32.68 | 56.44 | -14.19 | QP | |
| 6 | 0.474 | 27.45 | 9.57 | 17.88 | 46.44 | -18.99 | AVG | |
| 7 | 0.590 | 41.52 | 9.58 | 31.94 | 56.00 | -14.48 | QP | |
| 8 | 0.590 | 25.72 | 9.58 | 16.14 | 46.00 | -20.28 | AVG | |
| 9 | 1.050 | 37.85 | 9.60 | 28.25 | 56.00 | -18.15 | QP | |
| 10 | 1.050 | 22.34 | 9.60 | 12.74 | 46.00 | -23.66 | AVG | |
| 11 | 2.226 | 38.36 | 9.67 | 28.69 | 56.00 | -17.64 | QP | |
| 12 | 2.226 | 21.16 | 9.67 | 11.49 | 46.00 | -24.84 | AVG | |

## 5.2 Radiated Emission

**Test Requirement**..... : 47 CFR PART 15, SUBPART B

**Test Method**..... : ANSI C63.4

**Test Limit**..... : 47 CFR PART 15, SUBPART B Section 15.109

**Test Result**..... : Pass

**Frequency Range**..... : 30MHz to 1000MHz

**Class.**..... : Class B

### 5.2.1 E.U.T. Operation

**Operating Environment:**

**Temperature** ..... : 23.3°C

**Humidity**..... : 51.6%RH

**Atmospheric Pressure**..... : 101.1 kPa

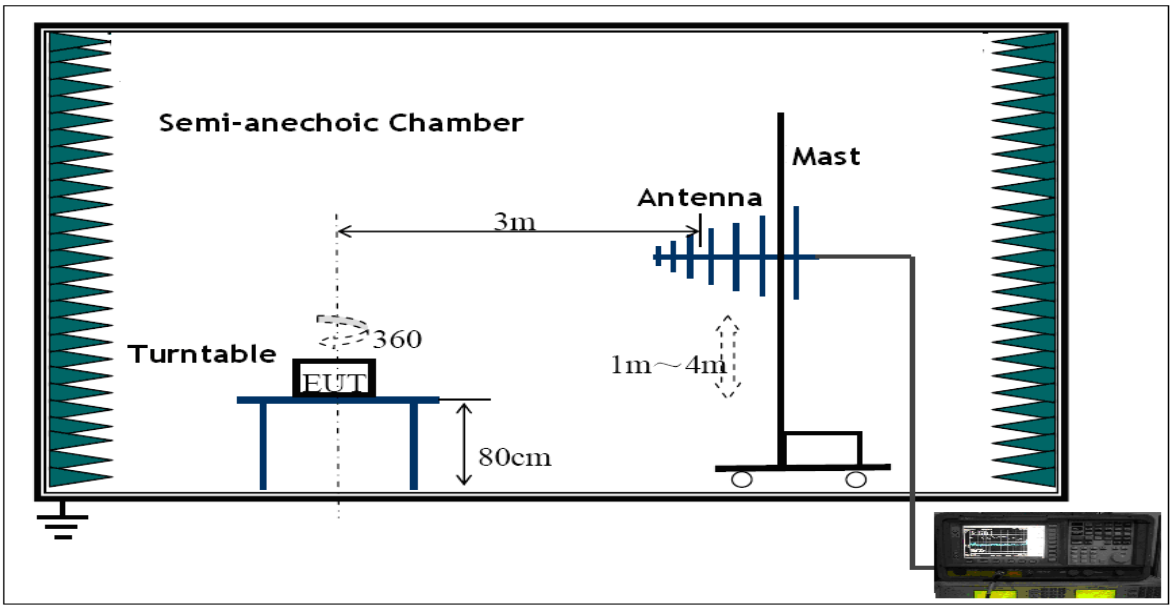
**EUT Operation:**

**Input Voltage** ..... : Refer to section 5.2.5

**Operating Mode**..... : Refer to section 5.2.5

### 5.2.2 Block Diagram of Test Setup

The Radiated Emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.




### 5.2.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for EUT $0^0$-$360^0$.Quasi-peak measurements were performed if peak emissions were within 6dB of the limit line.

### 5.2.4 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:

Corr. Ampl. = Indicated Reading + Corr. Factor

Corr.Factor=Antenna Factor + Cable Factor - Amplifier Gain

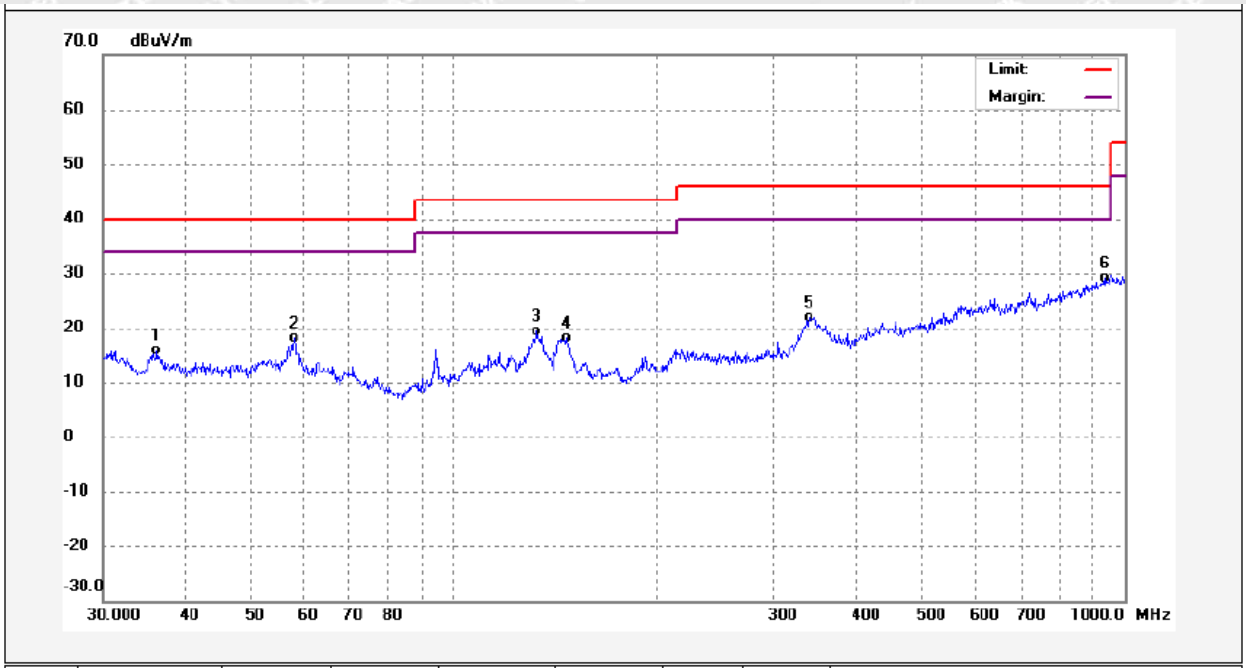
The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Limit

### 5.2.5 Radiated Emission Test Data

**Specified Adapter Powered Mode AC 120V/60Hz input**

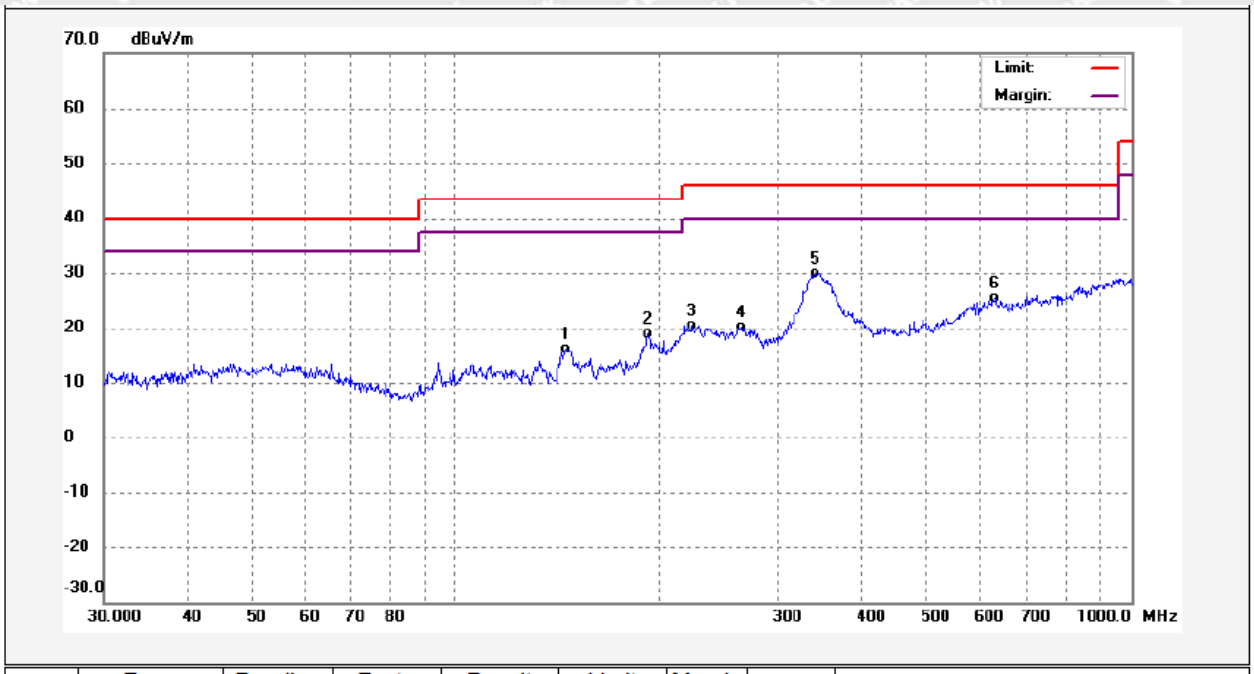
**Vertical Polarization**




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 36.2032 | 3.34 | 12.44 | 15.78 | 40.00 | -24.22 | QP | |
| 2 | 57.9180 | 3.76 | 14.33 | 18.09 | 40.00 | -21.91 | QP | |
| 3 | 133.3847 | 9.30 | 9.99 | 19.29 | 43.50 | -24.21 | QP | |
| 4 | 147.5071 | 8.79 | 9.23 | 18.02 | 43.50 | -25.48 | QP | |
| 5 | 338.4001 | 5.33 | 16.65 | 21.98 | 46.00 | -24.02 | QP | |
| 6 | 934.8905 | 1.57 | 27.45 | 29.02 | 46.00 | -16.98 | QP | |

**Specified Adapter Powered Mode AC 120V/60Hz input**

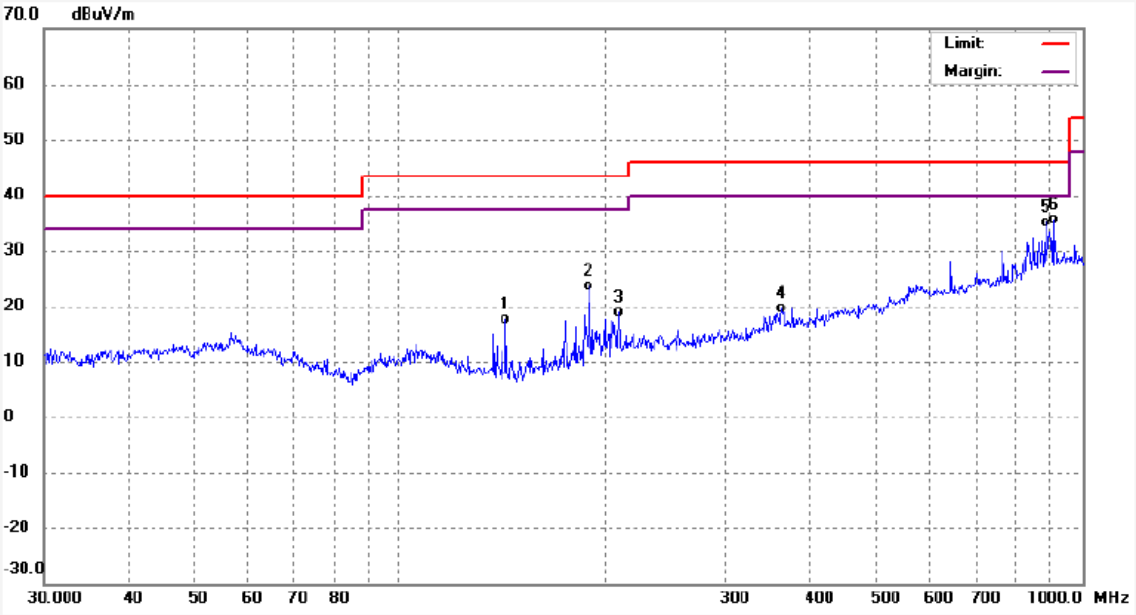
**Horizontal Polarization**




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 145.6056 | 6.93 | 9.22 | 16.15 | 43.50 | -27.35 | QP | |
| 2 | 192.7562 | 6.55 | 12.27 | 18.82 | 43.50 | -24.68 | QP | |
| 3 | 224.2046 | 6.08 | 14.37 | 20.45 | 46.00 | -25.55 | QP | |
| 4 | 265.4894 | 5.41 | 14.64 | 20.05 | 46.00 | -25.95 | QP | |
| 5 | 341.7390 | 13.18 | 16.81 | 29.99 | 46.00 | -16.01 | QP | |
| 6 | 627.2738 | 2.44 | 22.97 | 25.41 | 46.00 | -20.59 | QP | |

**Battery Powered Mode** **Battery 3.7V**

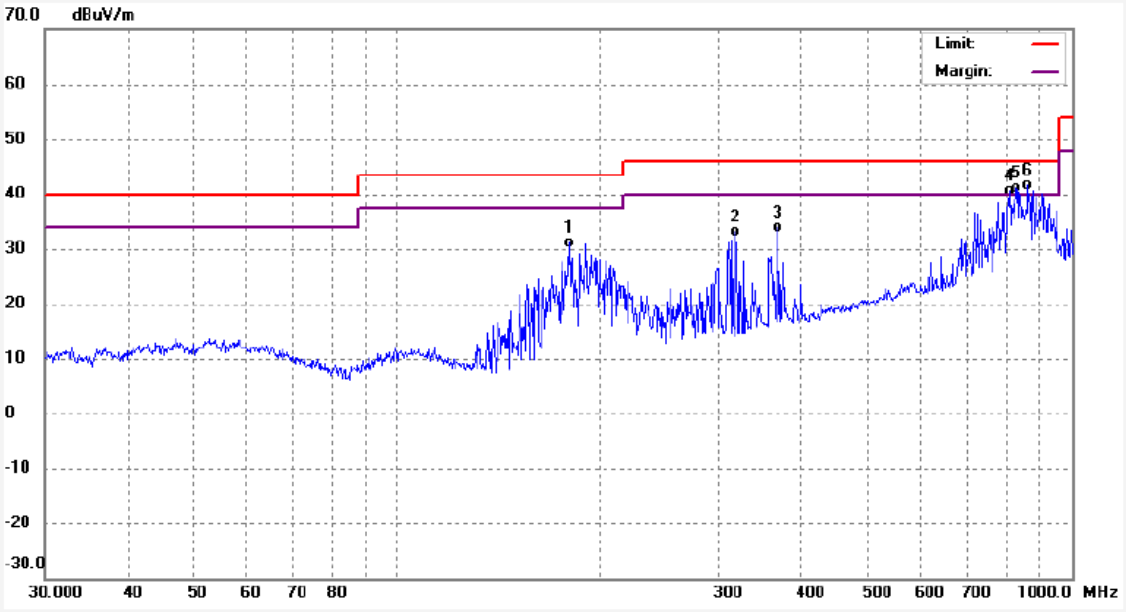
**Vertical Polarization**




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 142.9246 | 8.48 | 9.12 | 17.60 | 43.50 | -25.90 | QP | |
| 2 | 189.1407 | 11.49 | 12.04 | 23.53 | 43.50 | -19.97 | QP | |
| 3 | 209.6802 | 5.55 | 13.30 | 18.85 | 43.50 | -24.65 | QP | |
| 4 | 361.9675 | 1.89 | 17.84 | 19.73 | 46.00 | -26.27 | QP | |
| 5 | 884.1928 | 8.93 | 26.30 | 35.23 | 46.00 | -10.77 | QP | |
| 6 | 906.4824 | 8.96 | 26.73 | 35.69 | 46.00 | -10.31 | QP | |

**Battery Powered Mode** **Battery 3.7V**

**Horizontal Polarization**




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 180.4589 | 19.98 | 11.14 | 31.12 | 43.50 | -12.38 | QP | |
| 2 | 317.8125 | 17.24 | 15.78 | 33.02 | 46.00 | -12.98 | QP | |
| 3 | 367.4668 | 15.91 | 17.91 | 33.82 | 46.00 | -12.18 | QP | |
| 4 | 808.2789 | 14.98 | 25.56 | 40.54 | 46.00 | -5.46 | QP | |
| 5 | 828.9455 | 14.86 | 26.32 | 41.18 | 46.00 | -4.82 | QP | |
| 6 | 862.1488 | 15.56 | 26.15 | 41.71 | 46.00 | -4.29 | QP | |

# 6 Photographs – Test Setup

## 6.1 Photograph – Conducted Emission Test Setup

## 6.2 Photograph – Radiated Emission Test Setup

# 7 Photographs – Constructional Details

## 7.1 EUT – External View

====== End of Report ======