

# EMC Test Report

**Application No.** : HX1905018803  
**Applicant** : Shenzhen Aowei Technology Co., Ltd.  
**Equipment Under Test (EUT)**  
**EUT Name** : Intelligent mosquito repellent  
**Model No.** : M1  
**Serial No.** : See Page 3  
**Brand Name** : N/A  
**Receipt Date** : 2019-05-23  
**Test Date** : 2019-05-23 to 2019-05-28  
**Issue Date** : 2019-05-28  
**Standards** : EN 55014-1: 2017  
EN 55014-2: 2015  
**Conclusions** : **PASS**

In the configuration tested, the EUT complied with the standards specified above. The EUT technically complies with the 2014/30/EU directive requirements.

**Test/Witness Engineer**

*Tim Chen*

**Approved & Authorized**

*Andy Zhang*



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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# 1. General Information

## 1.1. Client Information

Applicant	:	Shenzhen Aowei Technology Co., Ltd.
Address	:	Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen
Manufacturer	:	Shenzhen Aowei Technology Co., Ltd.
Address	:	Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen

## 1.2. General Description of EUT (Equipment Under Test)

EUT Name	:	Intelligent mosquito repellent
Model No.	:	M1
Serial No.	:	M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20
Brand Name	:	N/A
Power Supply	:	DC5.0V, 1A
<b>Remark:</b> All above models are identical in schematic, structure and critical components except for only different appearance; therefore, EMC testing was performed with M1 only.		

## 1.3. Block Diagram Showing the Configuration of System Tested



## 1.4. Description of Support Units

The EUT has been tested as an independent unit.

## 1.5. Performance Criterion

**Criterion A:** The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended.

**Criterion B:** After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended.

**Criterion C:** Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions.

## 1.6. Classification of Apparatus

**Category I:** Apparatus containing no electronic control circuitry.

**Category II:** Transformer toys, dual supply toys, mains powered motor operated appliances, tools, heating appliances and similar electric apparatus (for example-UV radiators, IR radiators and microwave ovens) containing electronic control circuitry with no internal clock frequency or oscillator frequency higher than 15MHz.

**Category III:** Battery powered apparatus (with built-in batteries or external batteries), which in normal use is not connected to the mains, containing an electronic control circuitry with no internal clock frequency or oscillator frequency higher than 15MHz.

This category includes apparatus provided with rechargeable batteries which can be charged by connecting the apparatus to the mains power. However, this apparatus shall also be tested as an apparatus in category III while it is connected to the mains network.

**Category IV:** All other apparatus covered by the scope of this standard.

## 1.7. Test Facility

The testing report were performed by the The testing report were performed by the Shenzhen HX Detect Certification Co., Ltd., in their facilities located at 5/F, Building B15, Zongtai Cultural and Creative Industrial Park, Yintian Creative Park, Xixiang Town, Bao 'an District, Shenzhen.

## 2. Test Results Summary

<b>EMISSION</b>		
<b>Description of test items</b>	<b>Standards</b>	<b>Results</b>
Conducted disturbance at mains terminals	EN 55014-1: 2017	N/A
Disturbance Power	EN 55014-1: 2017	N/A
Click measurement	EN 55014-1: 2017	N/A
Radiated disturbance	EN 55014-1: 2017	Pass
Harmonic current emissions	EN61000-3-2: 2014	N/A
Voltage fluctuation and flicker	EN61000-3-3: 2013	N/A
<b>IMMUNITY</b>		
<b>Description of test items</b>	<b>Basic Standards</b>	<b>Results</b>
Electrostatic Discharge (ESD)	EN61000-4-2: 2009	Pass
Radio-frequency, Continuous Radiated Disturbance	EN61000-4-3: 2006 + A1: 2008 + A2: 2010	Pass
EFT/B Immunity	EN61000-4-4: 2012	N/A
Surge Immunity	EN61000-4-5: 2014	N/A
Conducted RF Immunity	EN61000-4-6: 2014	N/A
Voltage dips, 40% reduction	EN61000-4-11: 2004	N/A
Voltage dips, 70% reduction		
Voltage interruptions		
<b>Note:</b> N/A is an abbreviation for Not Applicable.		

### 3. Test Equipment Used

<b>3.1. Test Equipment Used to Measure Conducted Emission</b>					
<b>No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Last Cal.</b>	<b>Cal. Interval</b>
HX-EMC001	EMI Test Receiver	Rohde & Schwarz	ESCS30	Jan.02, 2019	1 Year
HX-EMC002	AMN	Rohde & Schwarz	ENV216	Jan.02, 2019	1 Year
HX-EMC003	AMN	SCHWARZBECK	NNBL 8226	Jan.02, 2019	1 Year
<b>3.2. Test Equipment Used to Measure Disturbance Power</b>					
<b>No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Last Cal.</b>	<b>Cal. Interval</b>
HX-EMC001	EMI Test Receiver	Rohde & Schwarz	ESCS30	Jan.02, 2019	1 Year
HX-EMC028	Power Clamp	Luthi	MDS-21	Jan.02, 2019	1 Year
<b>3.3. Test Equipment UseTest Equipment Used to Measure Radiated Emission</b>					
<b>No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Last Cal.</b>	<b>Cal. Interval</b>
HX-EMC004	EMI Test Receiver	Rohde & Schwarz	ESI26	Jan.02, 2019	1 Year
HX-EMC005	Bilog Antenna	SCHWARZBECK	VULB9163	Jan.02, 2019	1 Year
HX-EMC006	Positioning Controller	C&C	CC-C-1F	N/A	N/A
<b>3.4. Test Equipment Used to Measure Harmonic Current/ Voltage Fluctuation and Flicker</b>					
<b>No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Last Cal.</b>	<b>Cal. Interval</b>
HX-EMC007	Harmonic Flicker Test System	CI	5001ix-CTS-40	Jan.02, 2019	1 Year
<b>3.5. Test Equipment Used to Measure Electrostatic Discharge Immunity</b>					
<b>No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Last Cal.</b>	<b>Cal. Interval</b>
HX-EMC008	ESD Tester	TESEQ	NSG437	Jan.02, 2019	1 Year
<b>3.6. Test Equipment Used to Measure Conducted Immunity</b>					
HX-EMC009	RF Generator	FRANKONIA	CIT-10/75	Jan.10, 2019	1 Year
HX-EMC010	Attenuator	FRANKONIA	59-6-33	Jan.10, 2019	1 Year
HX-EMC011	M-CDN	LUTHI	M2/M3	Jan.10, 2019	1 Year
HX-EMC012	CDN	LUTHI	AF2	Jan.10, 2019	1 Year
HX-EMC013	EM Injection Clamp	LUTHI	EM101	Jan.10, 2019	1 Year

**3.7. Test Equipment Used to Measure Radio Frequency Electromagnetic Fields Immunity**

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HX-EMC014	Signal Generator	Rohde & Schwarz	SMT03	Jan.02, 2019	1 Year
HX-EMC015	Power Meter	Rohde & Schwarz	NRVD	Jan.02, 2019	1 Year
HX-EMC016	Voltage Probe	Rohde & Schwarz	URV5-Z2	Jan.02, 2019	1 Year
HX-EMC017	Voltage Probe	Rohde & Schwarz	URV5-Z2	Jan.02, 2019	1 Year
HX-EMC018	Power Amplifier	AR	150W1000	Jan.02, 2019	1 Year
HX-EMC019	Bilog Antenna	Chase	CBL6111C	Jan.02, 2019	1 Year

**3.8. Test Equipment Used to Measure Electrical Fast Transient/Burst Immunity**

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HX-EMC020	Simulator	EMTEST	UCS500N5	Jan.02, 2019	1 Year
HX-EMC021	Auto-transformer	EMTEST	V4780S2	Jan.02, 2019	1 Year

**3.9. Test Equipment Used to Measure Surge Immunity**

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HX-EMC022	Simulator	EMTEST	UCS500N5	Jan.02, 2019	1 Year
HX-EMC023	Coupling Clamp	EMTEST	HFK	Jan.02, 2019	1 Year

**3.10. Test Equipment Used to Measure Voltage Dips and Interruptions Immunity**

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HX-EMC022	Simulator	EMTEST	UCS500N5	Jan.02, 2019	1 Year
HX-EMC023	Coupling Clamp	EMTEST	HFK	Jan.02, 2019	1 Year

## 4. Radiated Emission Test

### 4.1. Test Standard and Limit

#### 4.1.1. Test Standard

EN 55014-1: 2017.

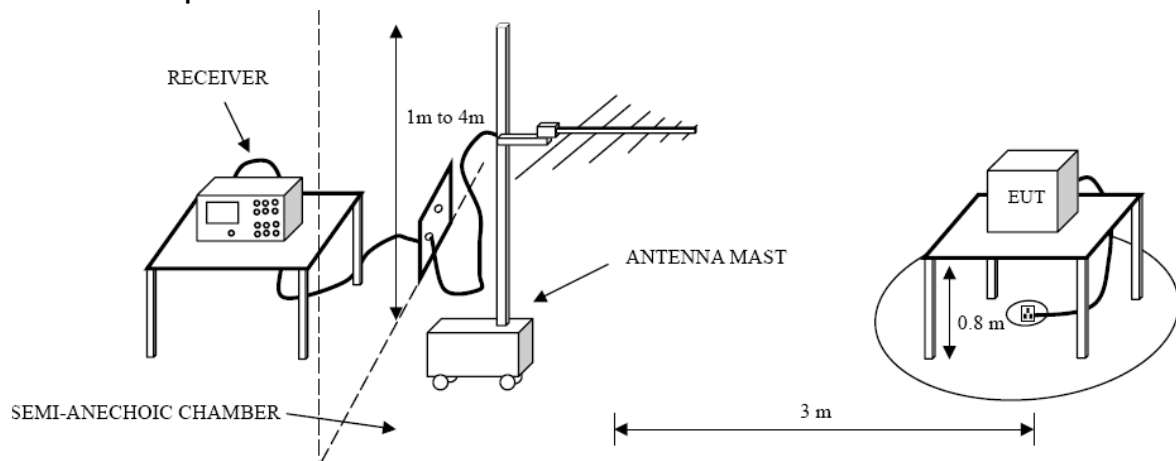
#### 4.1.2. Test Limit

Radiated Disturbance Test Limit

Frequency	Limit (dB $\mu$ V/m)
	Quasi-peak Level
30MHz~230MHz	40
230MHz~1000MHz	47

**Remark:** 1. The lower limit shall apply at the transition frequency.  
2. The test distance is 3m.

### 4.2. Test Setup



### 4.3. Test Procedure

The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m. The table was rotated 360 degrees to determine the position of the highest radiation.

The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

The initial step in collecting radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range.

If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.



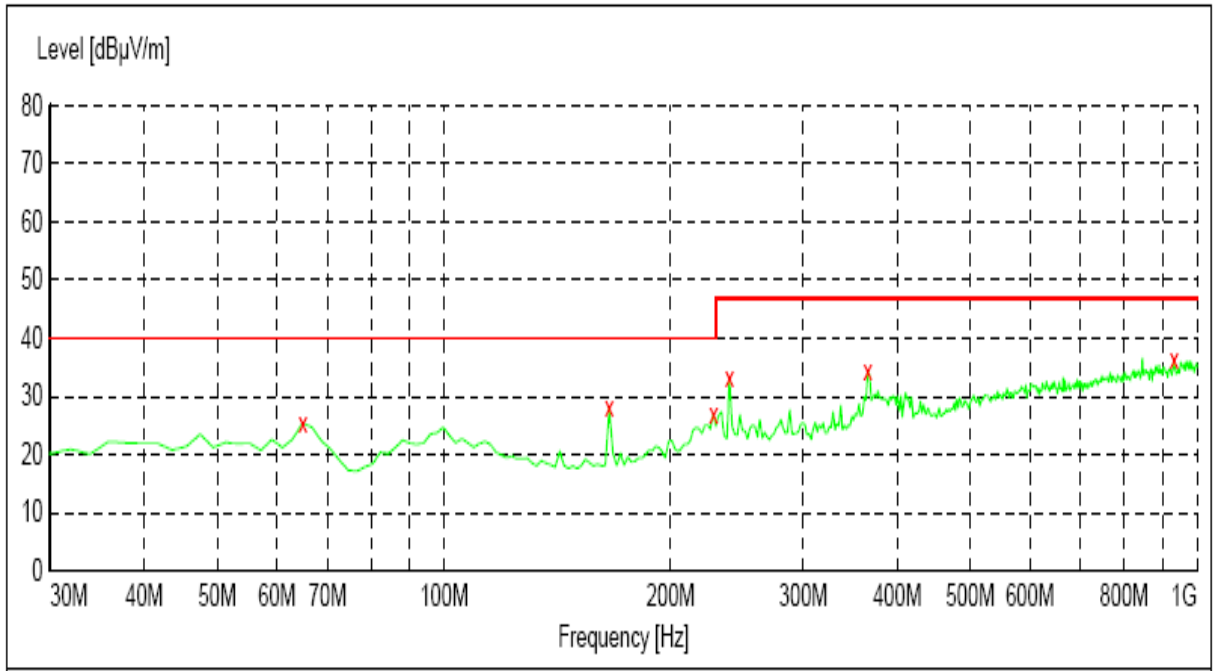
#### 4.4. Test Condition

Temperature	:	23 °C
Relative Humidity	:	52 %
Pressure	:	1010 hPa
Test Power	:	DC 6V

#### 4.5. Test Data

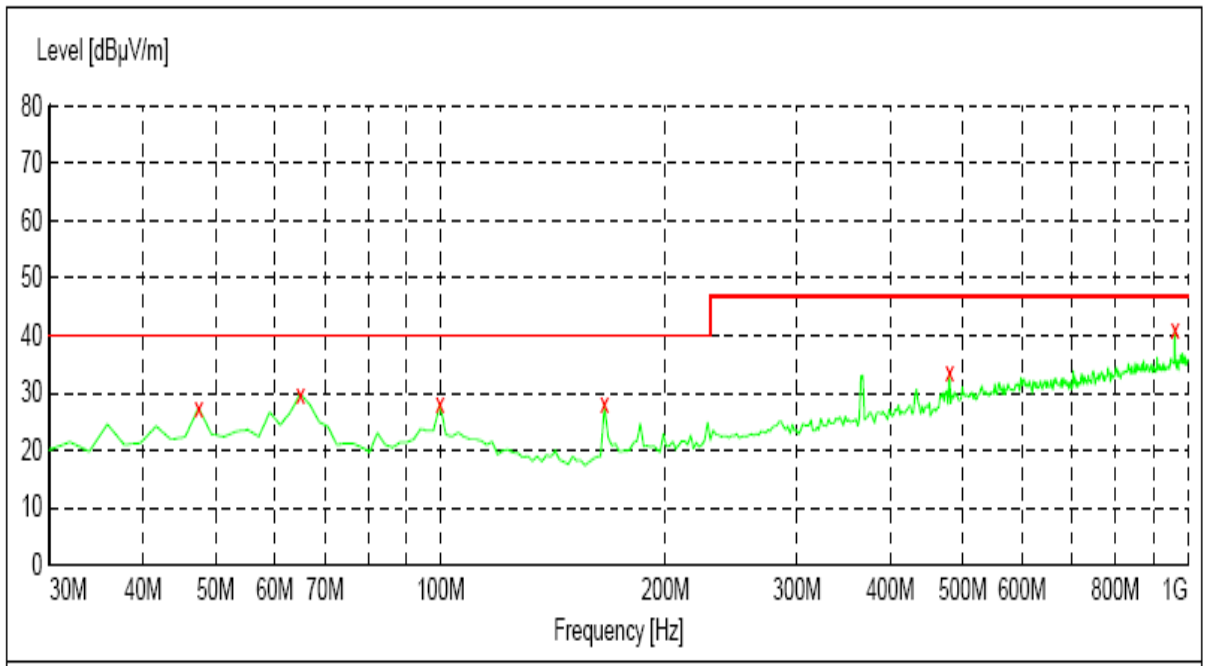
Please refer to the following pages.

**Operating Condition: Normal**  
**Test Specification: Horizontal**



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
64.920000	25.40	13.5	40.0	14.6	---	0.0	0.00	HORIZONTAL
165.800000	28.20	13.0	40.0	11.8	---	0.0	0.00	HORIZONTAL
227.880000	27.00	16.0	40.0	13.0	---	0.0	0.00	HORIZONTAL
239.520000	33.10	16.9	47.0	13.9	---	0.0	0.00	HORIZONTAL
365.620000	34.30	20.7	47.0	12.7	---	0.0	0.00	HORIZONTAL
932.100000	36.60	29.4	47.0	10.4	---	0.0	0.00	HORIZONTAL

**Operating Condition: Normal**  
**Test Specification: Vertical**



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
47.460000	27.40	15.8	40.0	12.6	---	0.0	0.00	VERTICAL
64.920000	29.80	13.5	40.0	10.2	---	0.0	0.00	VERTICAL
99.840000	28.10	17.5	40.0	11.9	---	0.0	0.00	VERTICAL
165.800000	28.00	13.0	40.0	12.0	---	0.0	0.00	VERTICAL
480.080000	33.80	23.1	47.0	13.2	---	0.0	0.00	VERTICAL
961.200000	41.20	29.6	47.0	5.8	---	0.0	0.00	VERTICAL

## 5. Electrostatic Discharge Immunity Test

### 5.1. Test Requirements

#### 5.1.1. Test Standard

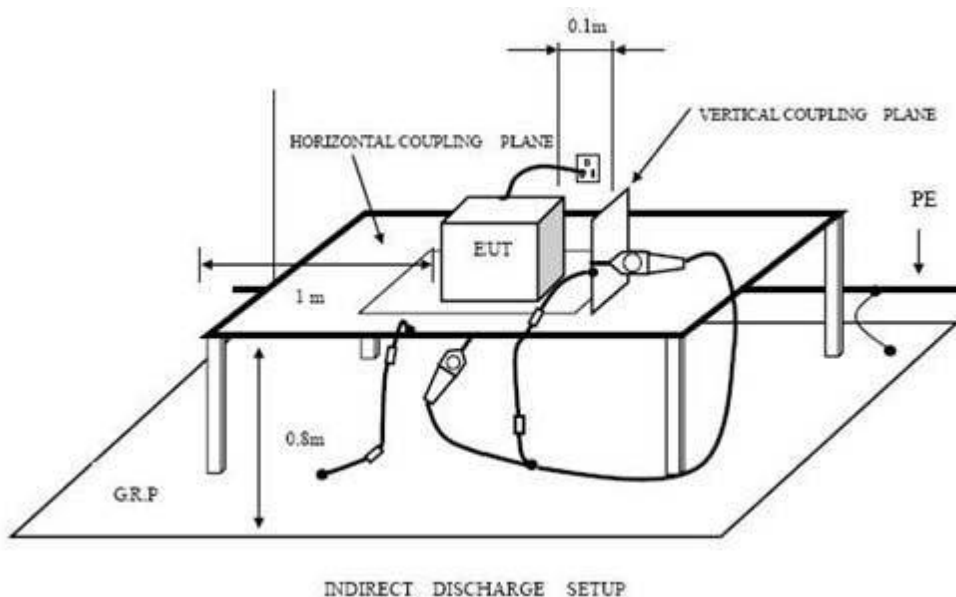
EN 55014-2: 2015 (EN 61000-4-2:2009)

#### 5.1.2. Test Level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.0	±2	±2
2.0	±4	±4
3.0	±6	±8
4.0	±8	±15
X	Special	Special

#### 5.1.3. Performance criterion: B

### 5.2. Test Setup



### 5.3. Test Procedure

#### 5.3.1. Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

#### 5.3.2. Contact Discharge:

All the procedure shall be same as air discharge. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

#### 5.3.3. Indirect discharge for horizontal coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

#### 5.3.4. Indirect discharge for vertical coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

### 5.4. Test Data

Please refer to the following page.

## Electrostatic Discharge Test Result

EUT : <u>Intelligent mosquito repellent</u>	M/N : <u>M1</u>	
Temperature : <u>22°C</u>	Humidity : <u>50%</u>	
Power supply : <u>DC6V</u>	Test Mode : <u>Normal</u>	
Criterion: B		
Air Discharge: ±8kV    Contact Discharge: ±4kV		
For each point positive 10 times and negative 10 times discharge.		
Location	Kind A-Air Discharge C-Contact Discharge	Result
Nonconductive Enclosure	A	PASS
Button	A	PASS
Conductive Enclosure	C	PASS
HCP	C	PASS
VCP of front	C	PASS
VCP of rear	C	PASS
VCP of left	C	PASS
VCP of right	C	PASS
<b>Remark:</b>		

## 6. Radiated Electromagnetic Field Immunity test

### 6.1. Test Requirements

#### 6.1.1. Test Standard

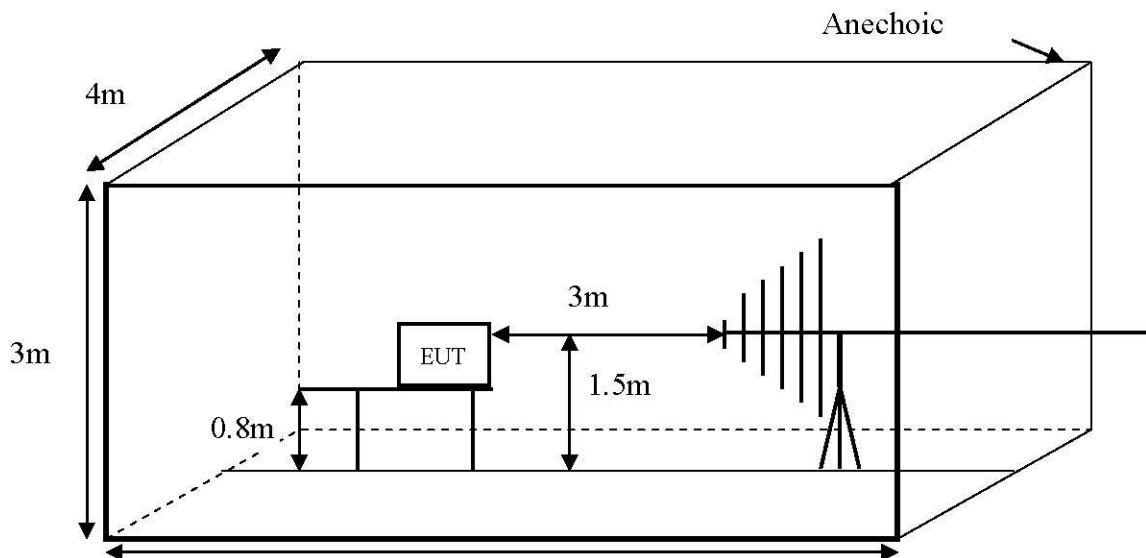
EN55014-2: 2015 (EN 61000-4-3: 2006 + A1: 2008 + A2:2010)

#### 6.1.2. Test Level

Level	Field Strength V/m
1.0	1
2.0	3
3.0	10
X	Special

#### 6.1.3. Performance criterion: A

### 6.2. Test Setup



### 6.3. Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a camera is used to monitor its screen.

All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	3V/m (Severity Level 2)
2. Radiated Signal	Modulated
3. Scanning Frequency	80-1000MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	1 Sec.

#### 6.4. Test Data

Please refer to the following page.



## RF Field Strength Susceptibility Test Results

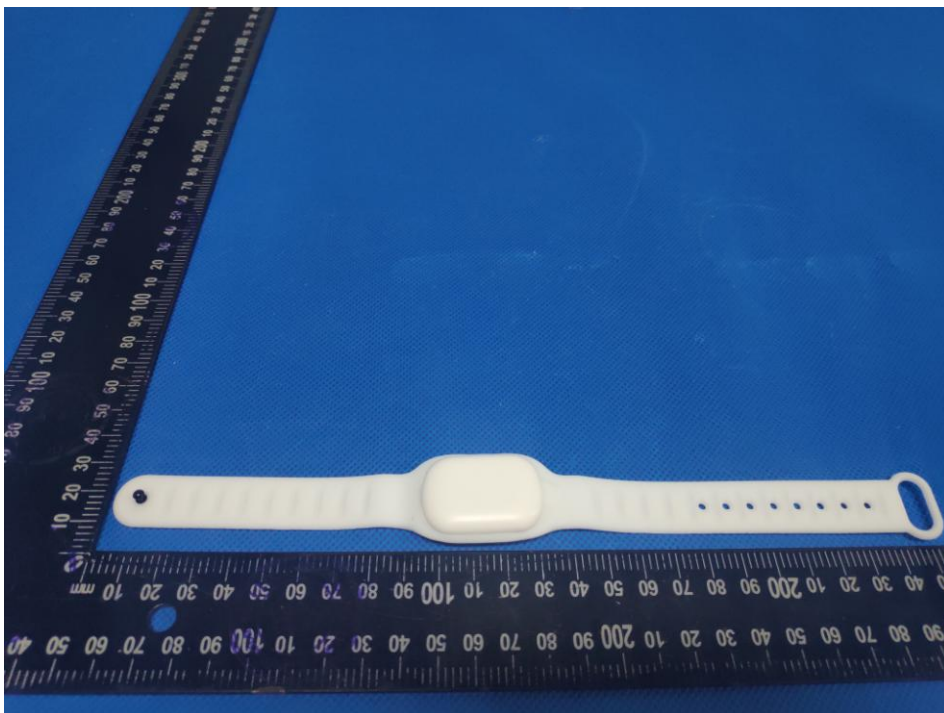
EUT	: <u>Intelligent mosquito repellent</u>	M/N	: <u>M1</u>	
Temperature	: <u>22°C</u>	Humidity	: <u>50%</u>	
Power supply	: <u>DC6V</u>	Test Mode	: <u>Normal</u>	
Criterion: A				
Modulation: Unmodulated				
Pulse: AM 1KHz 80%				
	Frequency Range 1		Frequency Range 2	
	80~1000MHz		/	
	Horizontal	Vertical	Horizontal	Vertical
Front	PASS	PASS	/	/
Right	PASS	PASS	/	/
Rear	PASS	PASS	/	/
Left	PASS	PASS	/	/

## 7. Photographs - Constructional Details

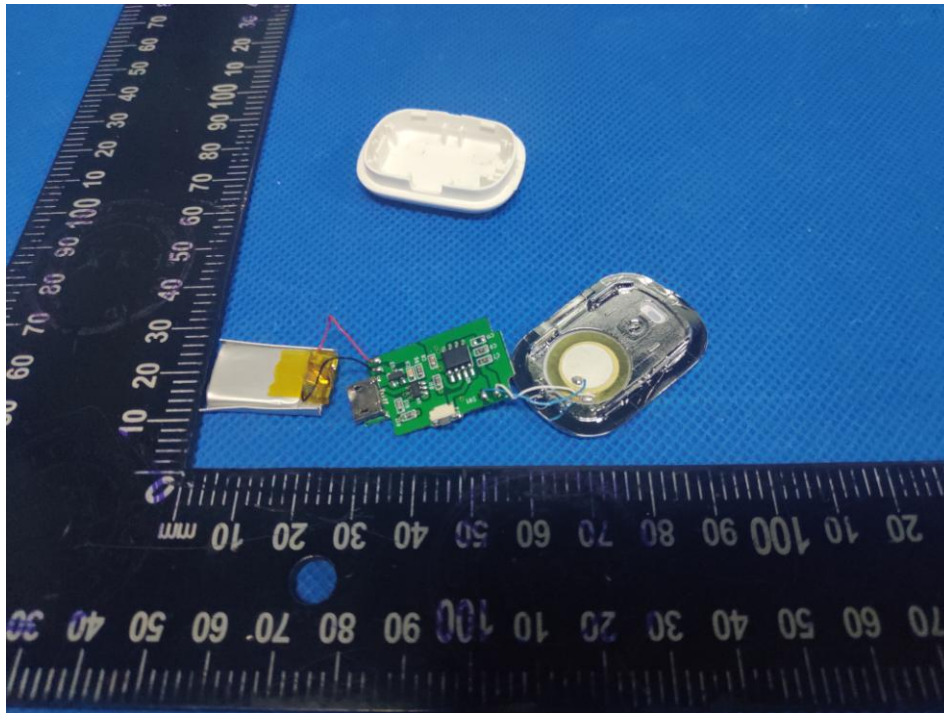
Photo 1 Appearance of EUT



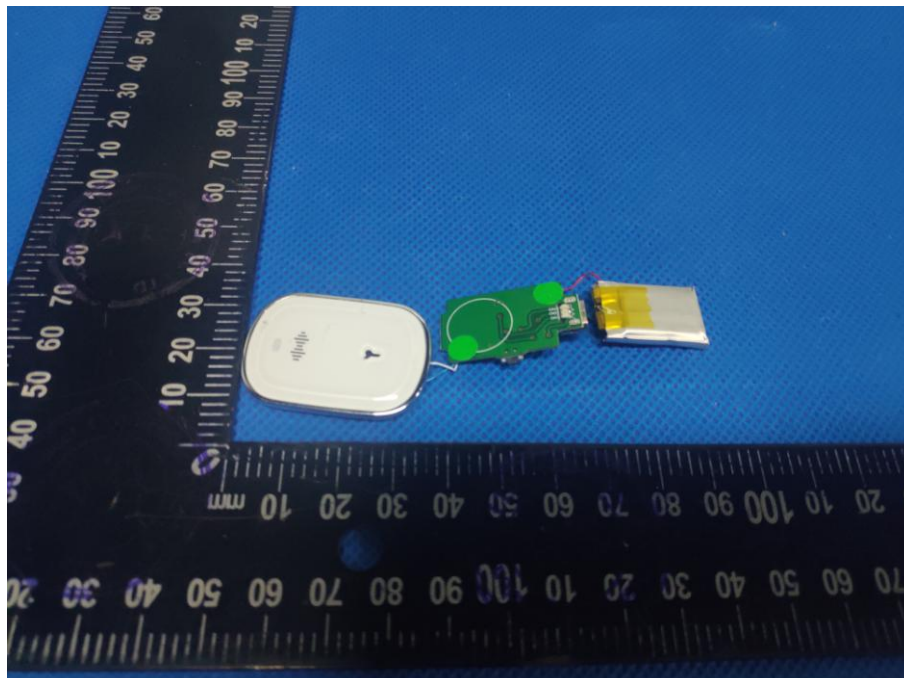
Photo 2 Appearance of EUT



**Photo 3 Appearance of EUT**



**Photo 4 Appearance of EUT**



**END OF REPORT**

## CERTIFICATE OF CONFORMITY

**No.** : HX1905018803

**Applicant** : Shenzhen Aoweisi Technology Co., Ltd.

**Address** : Room 201, Building 2, Jinxing Industrial Park, Huachang Road,  
Langkou Community, Dalang Street, Longhua New District,  
Shenzhen

**Manufacturer** : Shenzhen Aoweisi Technology Co., Ltd.

**Address** : Room 201, Building 2, Jinxing Industrial Park, Huachang Road,  
Langkou Community, Dalang Street, Longhua New District,  
Shenzhen

**Product** : Intelligent mosquito repellent

**Model(s)** : M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14,  
M15, M16, M17, M18, M19, M20

**Trademark** : N/A

**Test Standard(s)** : **EN 55014-1: 2017;**  
**EN 55014-2: 2015.**

The EUT described above has been tested by us with the listed standards and found in compliance with the Council EMC Directive 2014/30/EU. It is possible to use CE marking to demonstrate the compliance with the EMC Directive.

The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production. It is only valid in connection with the test report number: HX1905018804.



Shenzhen HX Detect Certification Co., Ltd.

5/F, Building B15, Zongtai Cultural and Creative Industrial Park, Yintian Creative Park,  
Xixiang Town, Bao 'an District, Shenzhen

HOTLINE:0755-29116082 Email: huaxunprc@163.com Http://www.hx-lab.com



## RoHS Consolidated Test

**Applicant** : Shenzhen Aoweisi Technology Co., Ltd.  
**Address** : Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen  
**Manufacturer** : Shenzhen Aoweisi Technology Co., Ltd.  
**Address** : Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen

### SAMPLE INFORMATION

**Sample name** : Intelligent mosquito repellent  
**Model No.** : M1  
**Serial No.** : M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20  
**Trademark** : N/A

### TEST INFORMATION

**Date of Receipt** : 2019-05-23  
**Date of Test** : 2019-05-23 to 2019-05-28  
**Results** : Please refer to next page(s).  
**Test Items** : **PASS**

### TEST REQUEST

A EU RoHS Directive 2011/65/EU & (EU)2015/863 and its amendment directives

*Tim Chen*

Test/Witness Engineer



**Results:**

**A. EU RoHS Directive 2011/65/EU & (EU)2015/863 and its amendment directives on XRF**

Test method: With reference to IEC 62321-3-1: 2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
<b>A</b>	<b>Intelligent mosquito repellent</b>					
1	Shell	BL	BL	BL	BL	BL
2	Switch Button	BL	BL	BL	BL	BL
3	PCB	BL	BL	BL	BL	BL
4	Chip Resistor	BL	BL	BL	BL	BL
5	Chip Capacitors	BL	BL	BL	BL	BL
6	SMD crystal	BL	BL	BL	BL	BL
7	Wire	BL	BL	BL	BL	BL
8	Ink	BL	BL	BL	BL	BL
9	Iron	BL	BL	BL	BL	BL
10	USB Interface	BL	BL	BL	BL	BL
11	Solder	BL	BL	BL	BL	BL
12	Nickel Plating	BL	BL	BL	BL	BL
13	Copper Wire	BL	BL	BL	BL	BL

\*\*\*\*\*

**Note:**

- BL = Below Limit
- OL = Over Limit
- X = Inconclusive

- ii The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- iii The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2011/65/EU & (EU)2015/863:

Disclaimers:

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr( VI ))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenylethers (PBDEs)	1000

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

\*\*\*\*\*

**B. The Test Results of Chemical Method:**

Test method:

Lead & Cadmium Content:

With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-AES)

Mercury Content:

With reference to IEC 62321-4:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-AES)

Hexavalent Chromium Content:

With reference to IEC 62321-7-1:2015, by alkaline digestion and analysis was performed by UV-visible spectrophotometer (UV-Vis)

PBBs & PBDEs Content:

With reference to IEC 62321-6: 2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

\*\*\*\*\*



Note:

- Negative = Absence of Cr( VI ) on the tested areas
- MDL = Method Detection Limit
- mg/kg = ppm
- \*\* = Spot-test:

Negative = Absence of Cr(VI ) coating/ surface layer, Positive = Presence of Cr(VI ) coating/ surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed)

Boiling-water-extraction:

Negative = Absence of Cr( VI) coating/ surface layer, Positive = Presence of Cr( VI) coating/ surface layer;

(The detected concentration in boiling- water-extraction solution is equal or greater than 0.02 mg/kg with 50cm sample surface areas.)

- #=

Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of Cr(VI ) on the tested areas and result be regarded as no conflict with RoHS requirement.

- #1 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.
- #2 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted in electronic ceramic parts (e.g. piezoelectronic devices).
- #3 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.
- #4 According to RoHS directive 2011/65/EU & (EU)2015/863 and its amendments, Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

\*\*\*\*\*

## 2) The test results of PBBs & PBDEs

PBBs	1	2	3	4	5	6	7
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBBs	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PBDEs	1	2	3	4	5	6	7
Monobromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl Ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sum of PBDEs	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

PBBs	8
Monobromobiphenyl	N.D.
Dibromobiphenyl	N.D.
Tribromobiphenyl	N.D.
Tetrabromobiphenyl	N.D.
Pentabromobiphenyl	N.D.
Hexabromobiphenyl	N.D.
Heptabromobiphenyl	N.D.
Octabromobiphenyl	N.D.
Nonabromobiphenyl	N.D.
Decabromobiphenyl	N.D.
Sum of PBBs	N.D.
PBDEs	8
Monobromodiphenyl Ether	N.D.
Dibromodiphenyl Ether	N.D.
Tribromodiphenyl Ether	N.D.
Tetrabromodiphenyl Ether	N.D.
Pentabromodiphenyl Ether	N.D.
Hexabromodiphenyl Ether	N.D.
Heptabromodiphenyl Ether	N.D.
Octabromodiphenyl Ether	N.D.
Nonabromodiphenyl Ether	N.D.
Decabromodiphenyl Ether	N.D.
Sum of PBDEs	N.D.

- ◆ PBBs Limit = 1000 ppm, PBDEs Limit = 1000 ppm.
- ◆ “ N.D. ” means “ Not Detected ”, method detection limit = 5mg/kg.

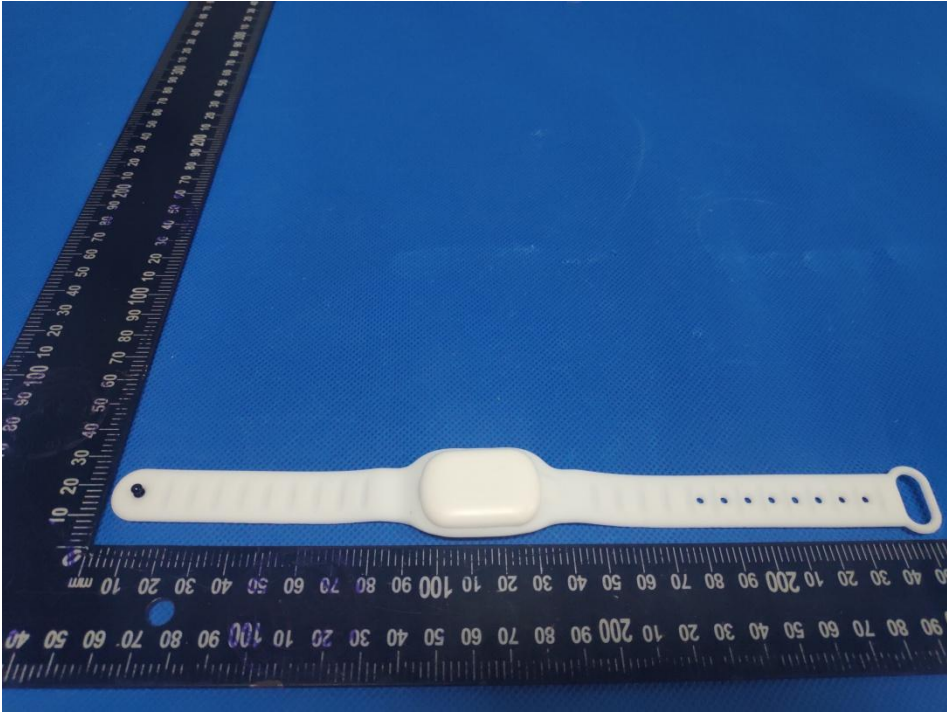
### 3) The test results of DBP & BBP & DEHP & DIBP

Phthalate	1	2	3	4	5	6
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Diisobutyl Phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Pentabromoniphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Phthalate	7	8
Dibutyl Phthalate (DBP)	N.D.	N.D.
Benzylbutyl Phthalate (BBP)	N.D.	N.D.
Bis(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.
Diisobutyl Phthalate (DIBP)	N.D.	N.D.
Pentabromoniphenyl	N.D.	N.D.

**Appendix**

**Photograph of Sample**



**END OF REPORT**

## CERTIFICATE OF CONFORMITY

**No.** : HX1905018805

**Applicant** : Shenzhen Aoweisi Technology Co., Ltd.

**Address** : Room 201, Building 2, Jinxing Industrial Park, Huachang Road,  
Langkou Community, Dalang Street, Longhua New District,  
Shenzhen

**Manufacturer** : Shenzhen Aoweisi Technology Co., Ltd.

**Address** : Room 201, Building 2, Jinxing Industrial Park, Huachang Road,  
Langkou Community, Dalang Street, Longhua New District,  
Shenzhen

**Product** : Intelligent mosquito repellent

**Models** : M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14,  
M15, M16, M17, M18, M19, M20

**Trademark** : N/A

**Test Standard(s)** : IEC 62321-3-1: 2013, IEC 62321-4: 2013, IEC 62321-5: 2013,  
IEC 62321-6: 2015, IEC 62321-7-1: 2015, IEC 62321: 2008

The EUT described above has been examined by us with the listed standards and found in compliance with the Council RoHS Directive 2011/65/EU & (EU)2015/863. It is possible to use RoHS marking to demonstrate the compliance with the RoHS Directive.

The test data obtained and the report issued by laboratories other than HX are provided by the applicant to us for data consolidation purpose. The report shall not be reproduced in part without written approval of us. It is only valid in connection with the test report number: HX1905018806.



# RoHS



May. 28, 2019

Shenzhen HX Detect Certification Co., Ltd.

5/F, Building B15, Zongtai Cultural and Creative Industrial Park, Yintian Creative Park,

Xixiang Town, Bao 'an District, Shenzhen

HOTLINE:0755-29116082 Email: huaxunprc@163.com Http://www.hx-lab.com

# FCC SUPPLIER'S DECLARATION OF CONFORMITY

## Product information

**Product Name:** Intelligent mosquito repellent

**Model No.:** M1

**Applicable standards:** FCC Part 15: 2018 Subpart B

This device complies with related 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 test result has been evaluated by Shenzhen HX Detect Certification Co., Ltd. laboratory and showed in the test report

**The test report number: HX1905018808.**

It is understood that each unit marketed is identical to the device as tested, and any changes to the device that could adversely affect the emission characteristics will require retest.

The following responsible party designated in FCC §2.909 is responsible for this declaration:

Company Name:

Company

Address:

Signature

(Full Name):

Title:

Telephone Number:

Fax:

Date:

Email:



# FCC Part 15B Test Report

**Application No.** : HX1905018808  
**Applicant** : Shenzhen Aowei Technology Co., Ltd.  
**Equipment Under Test (EUT)**  
**EUT Name** : Intelligent mosquito repellent  
**Model No.** : M1  
**Serial No.** : See Page 3  
**Brand Name** : N/A  
**Receipt Date** : 2019-05-23  
**Test Date** : 2019-05-23 to 2019-05-28  
**Issue Date** : 2019-05-28  
**Standards** : FCC Part 15: 2018 Subpart B  
**Conclusions** : **PASS**

In the configuration tested, the EUT complied with the standards specified above. The EUT technically complies with the FCC requirements

**Test/Witness Engineer** : *Tim Chen*

**Approved & Authorized** : *Andy Zhang*



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.



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# 1. General Information

## 1.1 Client Information

Applicant	:	Shenzhen Aoweisi Technology Co., Ltd.
Address	:	Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen
Manufacturer	:	Shenzhen Aoweisi Technology Co., Ltd.
Address	:	Room 201, Building 2, Jinxing Industrial Park, Huachang Road, Langkou Community, Dalang Street, Longhua New District, Shenzhen

## 1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Intelligent mosquito repellent
Model No.	:	M1
Serial No.	:	M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20
Brand Name	:	N/A
Power Supply	:	DC5.0V, 1A
<b>Remark:</b> All above models are identical in schematic, structure and critical components except for only different appearance; therefore, EMI testing was performed with M1 only.		

## 1.3 Block Diagram Showing The Configuration of System Tested



## 1.4 Test standards

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.107, 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

## 1.5 Test Facility

The testing report were performed by the Shenzhen HX Detect Certification Co., Ltd., in their facilities located at 5/F, Building B15, Zongtai Cultural and Creative Industrial Park, Yintian Creative Park, Xixiang Town, Bao 'an District, Shenzhen.

## 1.6 Equipment Used Test

### 1.6.1 Test Equipment Used to Measure Conducted Emission

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HX-EMC001	EMI Test Receiver	Rohde & Schwarz	ESCS30	Jan.02, 2019	1 Year
HX-EMC002	AMN	Rohde & Schwarz	ENV216	Jan.02, 2019	1 Year
HX-EMC003	AMN	SCHWARZBECK	NNBL 8226-2	Jan.02, 2019	1 Year

### 1.6.2 Test Equipment Used to Measure Radiated Emission

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HX-EMC004	EMI Test Receiver	Rohde & Schwarz	ESI26	Jan.02, 2019	1 Year
HX-EMC005	Bilog Antenna	SCHWARZBECK	VULB9163	Jan.02, 2019	1 Year
HX-EMC006	Positioning Controller	C&C	CC-C-1F	N/A	N/A

## 2. Test Summary

Test Items	Test Requirement	Test Method	Result
Conducted Emission	FCC Part 15: 2018 Subpart B	ANSI C63.4	N/A
Radiated Emission	FCC Part 15: 2018 Subpart B	ANSI C63.4	Pass

**Note:** N/A is an abbreviation for Not Applicable.

### 3. Conducted Emission Test

#### 3.1 Test Standard and Limit

##### 3.1.1 Test Standard

FCC Part 15 B: 2018

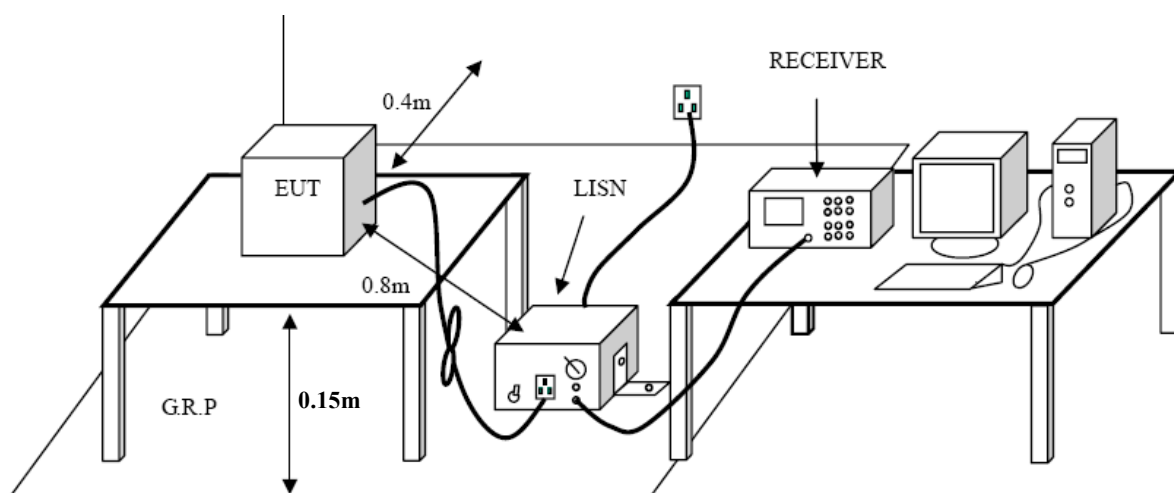
##### 3.1.2 Test Limit

Conducted Emission Test Limit (Class B)

Frequency	Maximum RF Line Voltage (dB $\mu$ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

\*decreasing linearly with logarithm of the frequency

#### 3.2 Test Setup



#### 3.3 Test Procedure

The EUT was placed 0.15 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

The cables shall be insulated (by up to 15 cm) from the horizontal ground reference plane, and shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

### 3.4 Test Data

This test is not applicable.

## 4. Radiated Emission Test

### 4.1 Test Standard and Limit

4.1.1 Test Standard  
FCC Part 15 B: 2018

#### 4.1.2 Test Limit

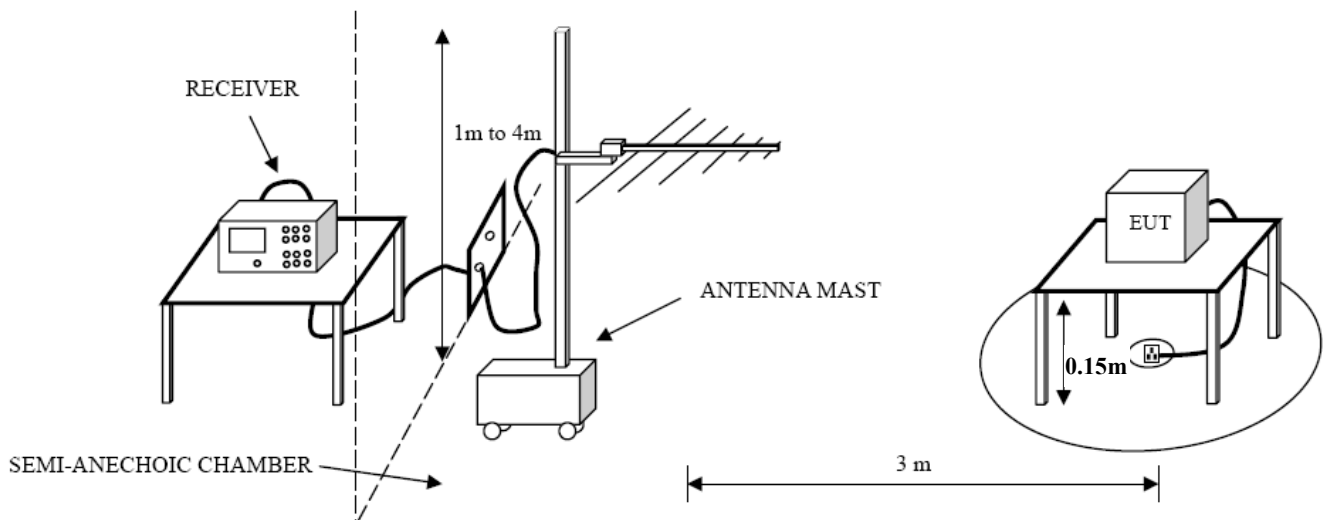
Radiated Emission Test Limit (Class B)

Frequency MHz	Field Strengths Limits dB( $\mu$ V/m)
30 ~ 88	40.0
88 ~ 216	43.5
216 ~ 960	46.0
960 ~ 1000	54.0

\* The lower limit shall apply at the transition frequency.

\* The test distance is 3m.

### 4.2 Test Setup



### 4.3 Test Procedure

The EUT was placed on the top of a rotating table which is 0.15 meters above the ground. EUT is set 3.0 meters away from the receiving antenna that mounted on a antenna tower. The table was rotated 360 degrees to determine the position of the highest radiation, the antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30MHz to 1000MHz. If the Peak Mode measured value compliance with and lower than quasi-peak mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

#### 4.4 Test Condition

Temperature	:	25 °C
Relative Humidity	:	48 %
Pressure	:	1010 hPa
Test Power	:	DC 5V

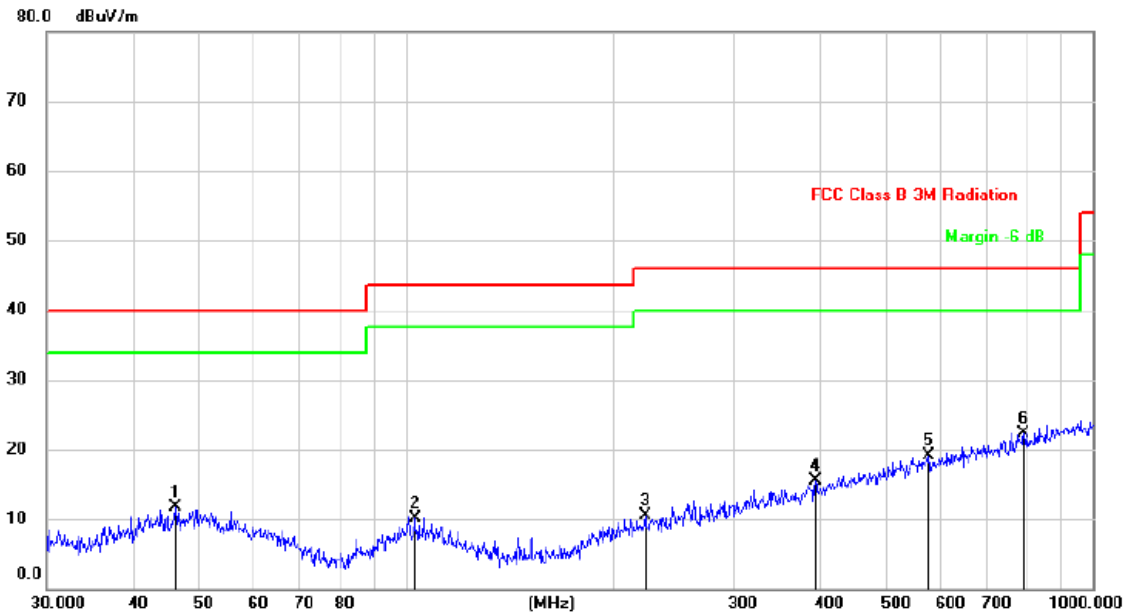
#### 4.5 Test Data

Please refer to the following pages.



**Operating Condition: Normal**

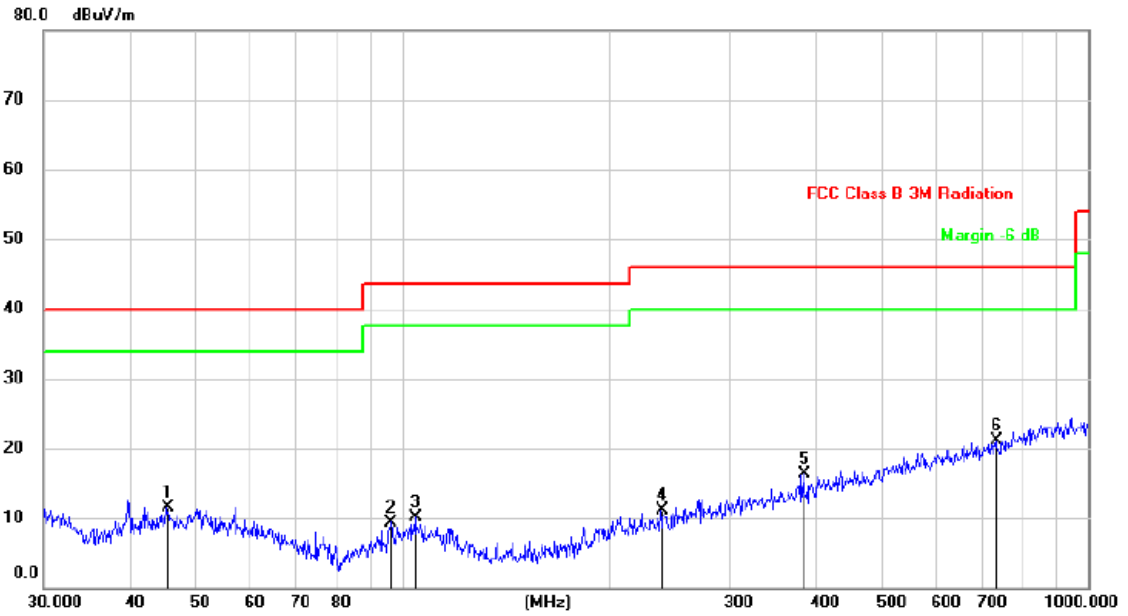
**Test Specification: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		46.1779	24.33	-12.69	11.64	40.00	-28.36	QP
2		103.0800	24.49	-14.44	10.05	43.50	-33.45	QP
3		222.9500	23.47	-12.94	10.53	46.00	-35.47	QP
4		394.8543	24.15	-8.66	15.49	46.00	-30.51	QP
5		576.6443	24.88	-5.75	19.13	46.00	-26.87	QP
6	*	793.3958	25.28	-2.89	22.39	46.00	-23.61	QP

**Operating Condition: Normal**

**Test Specification: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		45.3755	24.23	-12.70	11.53	40.00	-28.47	QP
2		96.4360	24.43	-15.03	9.40	43.50	-34.10	QP
3		104.5361	24.54	-14.44	10.10	43.50	-33.40	QP
4		238.3102	23.46	-12.42	11.04	46.00	-34.96	QP
5		385.2805	25.07	-8.84	16.23	46.00	-29.77	QP
6	*	734.4913	24.78	-3.74	21.04	46.00	-24.96	QP

## 5. Photographs - Constructional Details

Photo 1 Appearance of EUT



Photo 2 Appearance of EUT

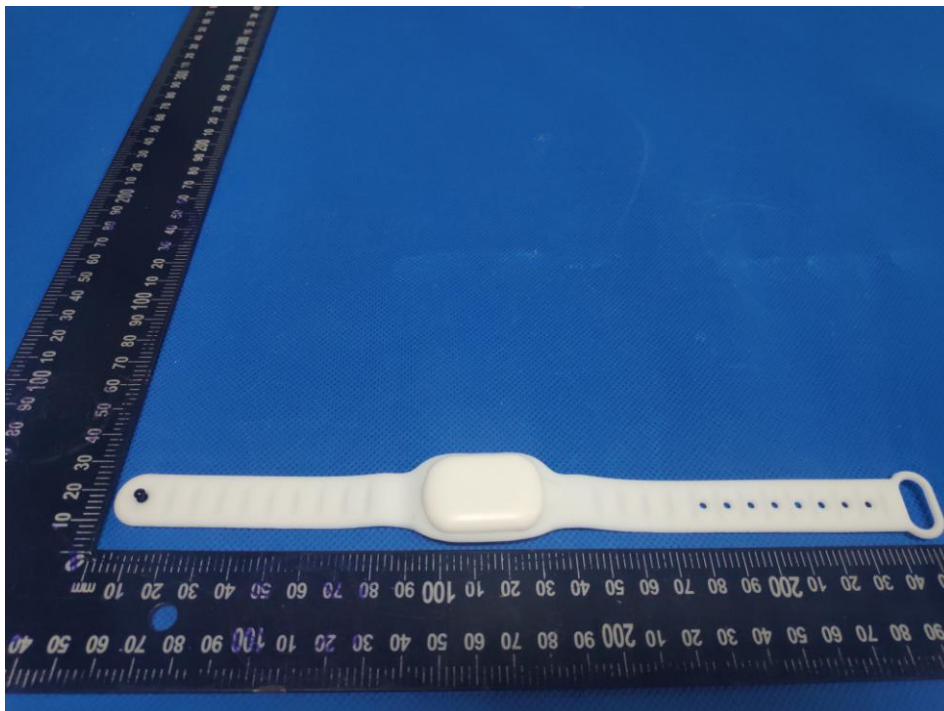


Photo 3 Appearance of EUT

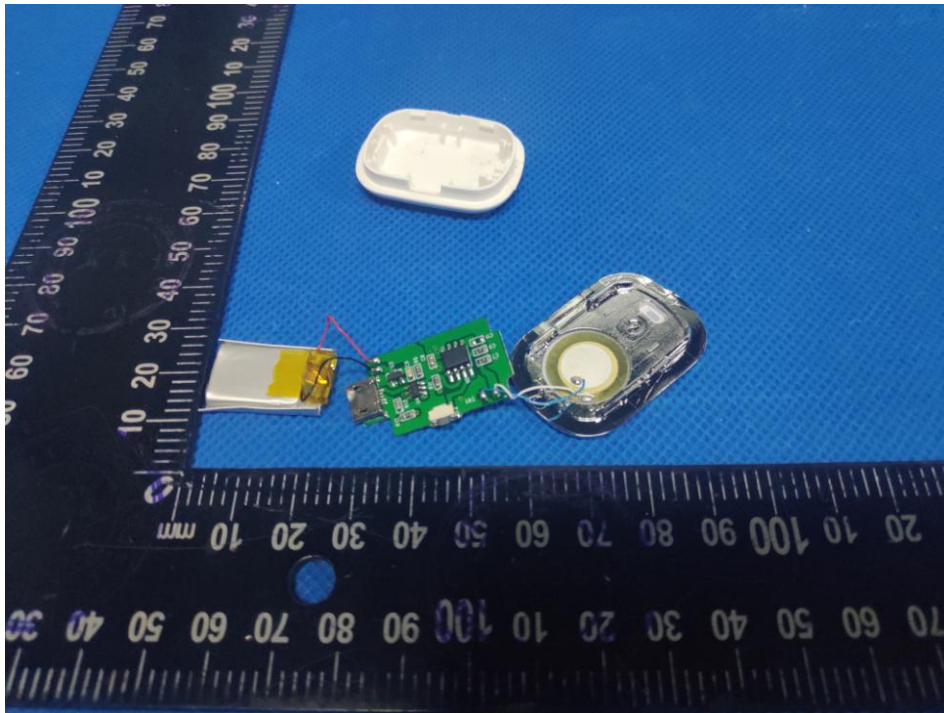
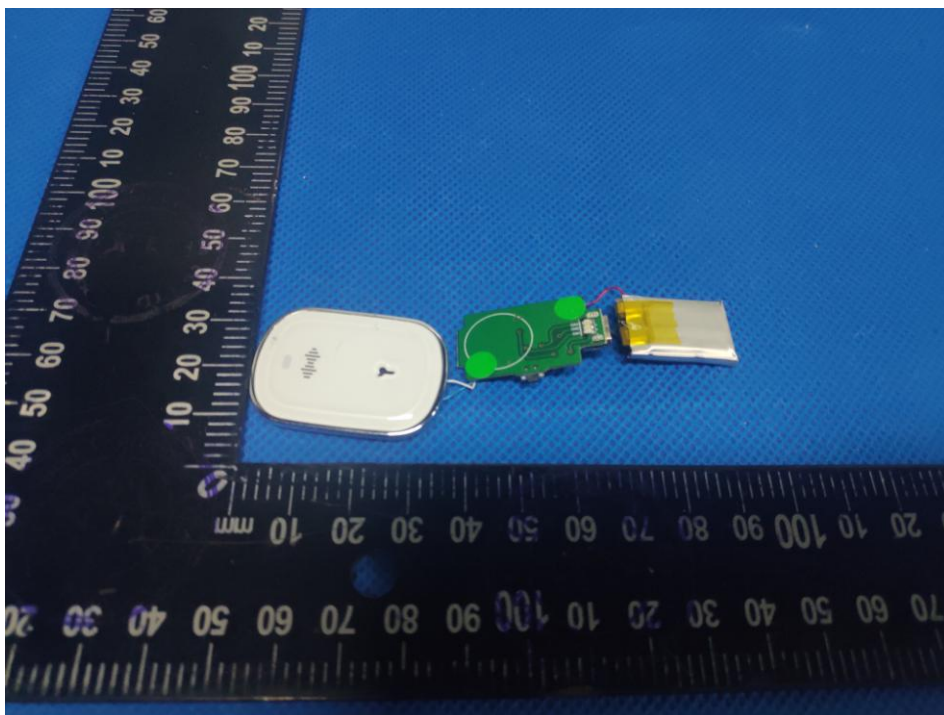


Photo 4 Appearance of EUT



END OF REPORT