FCC PART 15 B

MEASUREMENT AND TEST REPORT

For

Jieyang Kailiya Electricals Co., LTD.

No. 11 Rongxin Road, Xinwang Village, Konggang District, Jieyang

Model: KLY-138, KLY-139, KLY-360, KLY-365, KLY-188, KLY-189, KLY-168, KLY-169, KLY-199, KLY-108

June 15, 2020

This Report Concerns:	**Equipment Type:**
☒ Original Report	Mosquito lamp

Test Engineer:	Pink /
Report Number:	HY20FR-126F
Test Date:	June 10-15, 2020
Reviewed By:	Terry /
Prepared By:	**Shenzhen HuaYu Test Technology Co,.Ltd.** No. D880, 4th Floor, Building 1, Detai Industrial Park, Huarong Road No. 460, Dalang Street, Longhua New District, Shenzhen Tel: +86-755-85293110 Fax: +86-755-21014842

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen HuaYu Test Technology Co,.Ltd.

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1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	**Jieyang Kailiya Electricals Co., LTD.**
Address of applicant:	No. 11 Rongxin Road, Xinwang Village, Konggang District, Jieyang
Manufacturer:	**Jieyang Kailiya Electricals Co., LTD.**
Address of manufacturer:	No. 11 Rongxin Road, Xinwang Village, Konggang District, Jieyang
Factory:	**Jieyang Kailiya Electricals Co., LTD.**
Address of Factory:	No. 11 Rongxin Road, Xinwang Village, Konggang District, Jieyang

General Description of E.U.T

EUT Description:	Mosquito lamp
Model No.:	KLY-138, KLY-139, KLY-360, KLY-365, KLY-188, KLY-189, KLY-168, KLY-169, KLY-199, KLY-108
Power Rating:	DC 5V , 5W
Note:	/

Remark: ** The test data gathered are from the production sample provided by the manufacturer.*

1.2 Test Standards

The following report is prepared on behalf of the Jieyang Kailiya Electricals Co., LTD. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 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.

1.3 Test Summary

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

The maximum emission levels emanating from the device are compared to the FCC Part 15 Subpart B Class A limits for radiation emissions and the measurement results contained in this test report show that EUT is to be technically compliant with FCC requirements.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Playing	WAN

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
/	/	/	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	±2.88dB
Transmitter Spurious Emissions	Radiated	±5.1dB

1.7 Test Equipment List and Details

Test equipments list of Shenzhen SEM.Test Technology Co., Ltd.

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2020-06-04	2021-06-03
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2020-06-04	2021-06-03
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2020-06-04	2021-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2020-06-04	2021-06-03
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2020-06-04	2021-06-03
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2020-06-04	2021-06-03
SEMT-1042	Horn Antenna	ETS	3117	00086197	2020-06-04	2021-06-03
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2020-06-04	2021-06-03
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2020-06-04	2021-06-03
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2020-06-04	2021-06-03
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2020-06-04	2021-06-03

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	N/A
§15.109(a) Radiated Emission	Compliant

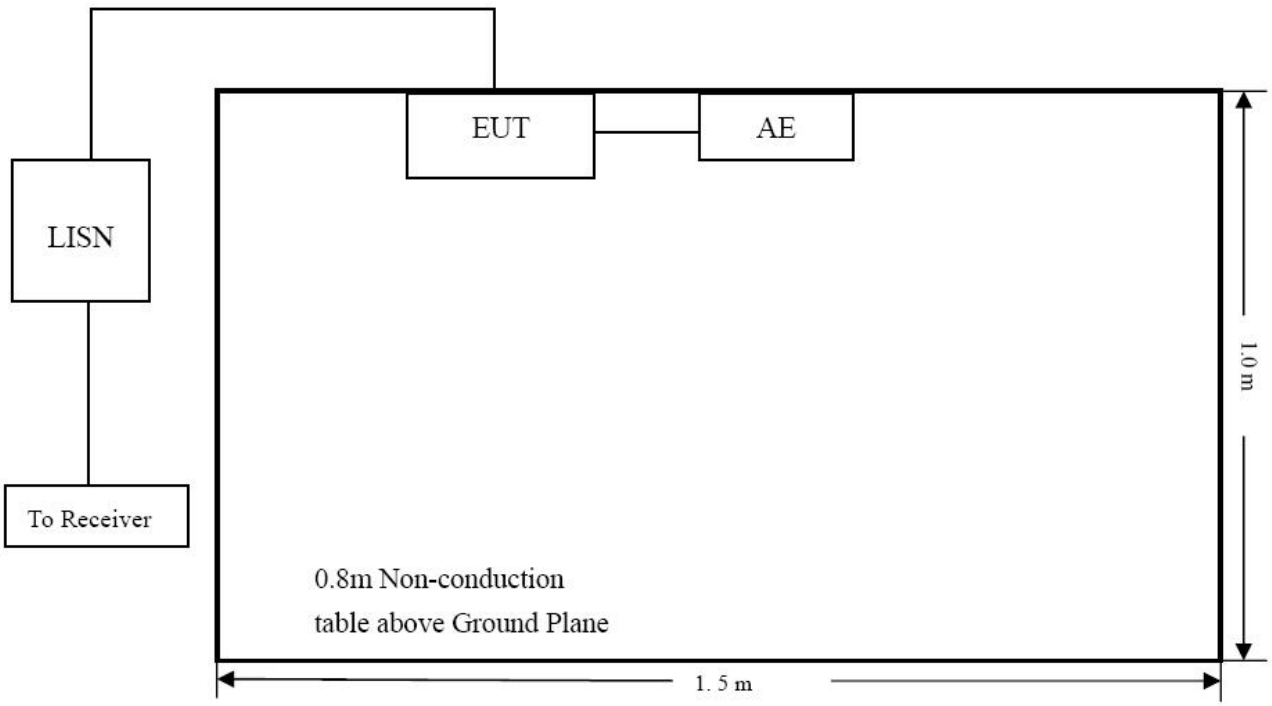
N/A: not applicable

3. Conducted Emissions

3.1 Test Procedure

Test is conducting under the description of ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

3.2 Basic Test Setup Block Diagram



3.3 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.4 Summary of Test Results/Plots

According to the data in section 3.6, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

-6.85 dB at **4.818 MHz** in the **Line**, **Peak** detector, 0.15-30MHz

3.5 Conducted Emissions Test Data

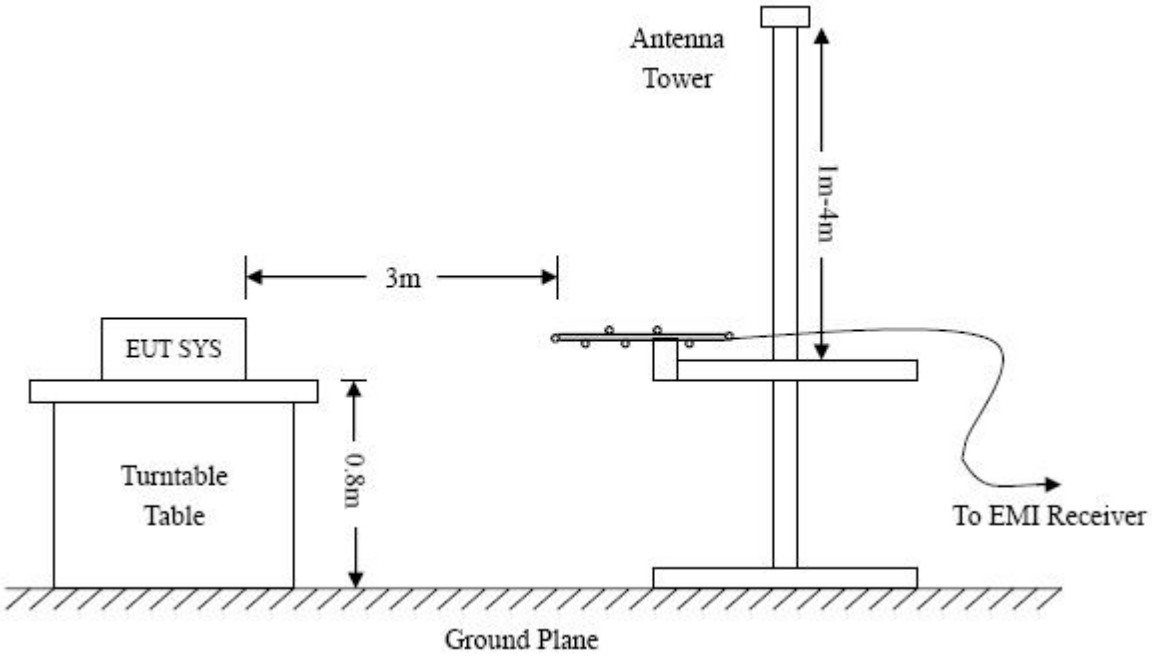
Plot of Conducted Emissions Test Data

EUT:	Mosquito lamp
Tested Model:	KLY-138
Operating Condition:	*5Vdc*
Comment:	*N/A*
Test Specification:	*Neutral*

4. RADIATED EMISSION

4.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.



4.2 Test Receiver Setup

Frequency :9kHz-30MHz
RBW=10KHz,
VBW =30KHz
Sweep time= Auto
Trace = max hold
Detector function = peak

Frequency :30MHz-1GHz
RBW=120KHz,
VBW=300KHz
Sweep time= Auto
Trace = max hold
Detector function = peak, QP

Frequency :Above 1GHz
RBW=1MHz,
VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto
Trace = max hold
Detector function = peak, AV

4.3 Corrected Amplitude & Margin Calculation

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

Corr. Ampl. = Indicated Reading – Corr. Factor

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 a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.4 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

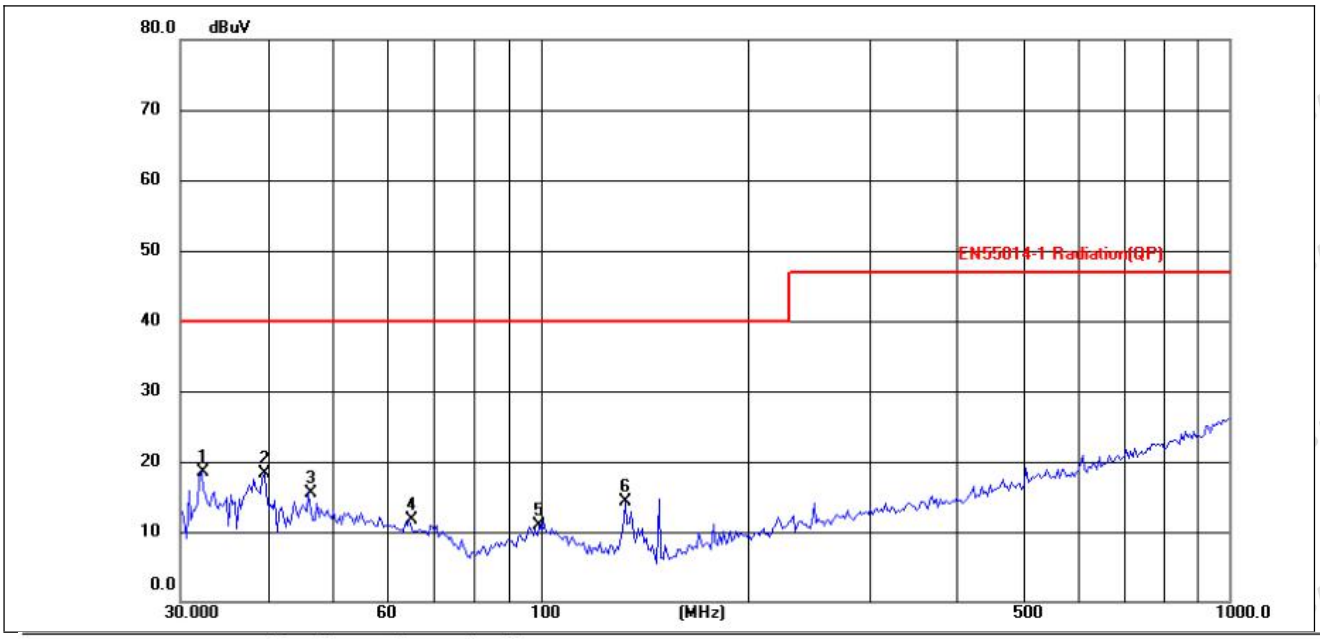
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.08 dB at **323.3204 MHz** in the **Horizontal** polarization, **30 MHz** to **1 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

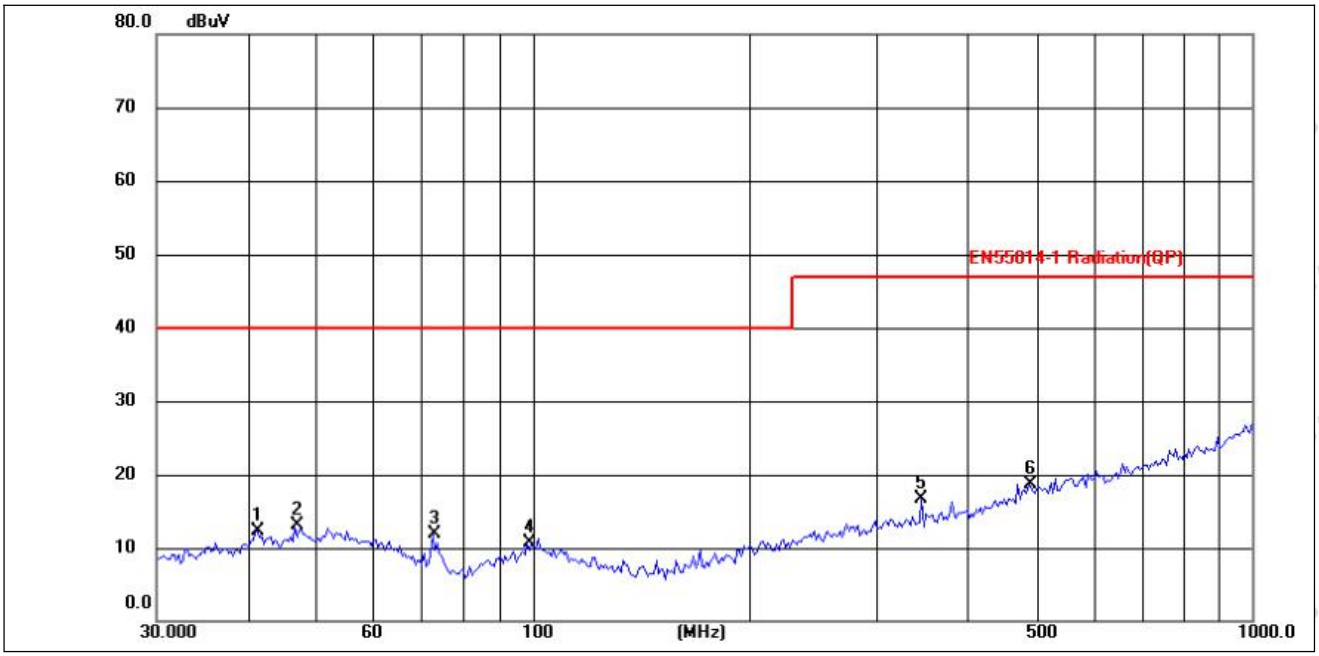
EUT: Mosquito lamp
Tested Model: KLY-138
Operating Condition: *DC 5V*
Comment: *P*

Test Specification: *Horizontal*



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	32.1795	34.59	-16.04	18.55	40.00	-21.45	QP	
2		39.7147	32.74	-14.49	18.25	40.00	-21.75	QP	
3		46.0164	29.00	-13.56	15.44	40.00	-24.56	QP	
4		64.4331	27.20	-15.56	11.64	40.00	-28.36	QP	
5		99.5281	26.06	-15.18	10.88	40.00	-29.12	QP	
6		132.6850	32.46	-18.08	14.38	40.00	-25.62	QP	

Test Specification: *Vertical*



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		41.4215	26.65	-14.26	12.39	40.00	-27.61	QP	
2	*	46.6664	26.70	-13.61	13.09	40.00	-26.91	QP	
3		72.5917	30.21	-18.24	11.97	40.00	-28.03	QP	
4		98.1419	26.23	-15.62	10.61	40.00	-29.39	QP	
5		346.8092	28.15	-11.54	16.61	47.00	-30.39	QP	
6		489.0269	27.67	-8.96	18.71	47.00	-28.29	QP	

EXHIBIT 1 - PRODUCT LABELING

Proposed FCC Label Format

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.

Specifications: Text is Black in color and is justified. Labels are printed in indelible ink on permanent adhesive backing or silk-screened onto the EUT or shall be affixed at a conspicuous location on the EUT. Where the EUT is constructed in two or more sections connected by wires and marketed together, the above statement is required to be affixed only to the main control unit. When the EUT is so small or for such use that it is not practicable to place the statement on it, the above information shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed.

Proposed Label Location on EUT

FCC Label Location

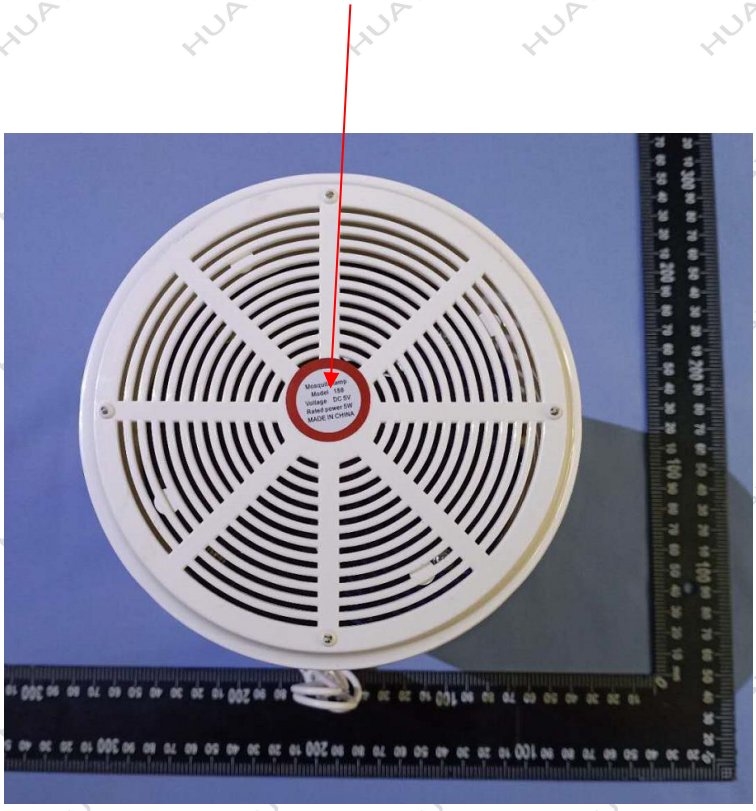
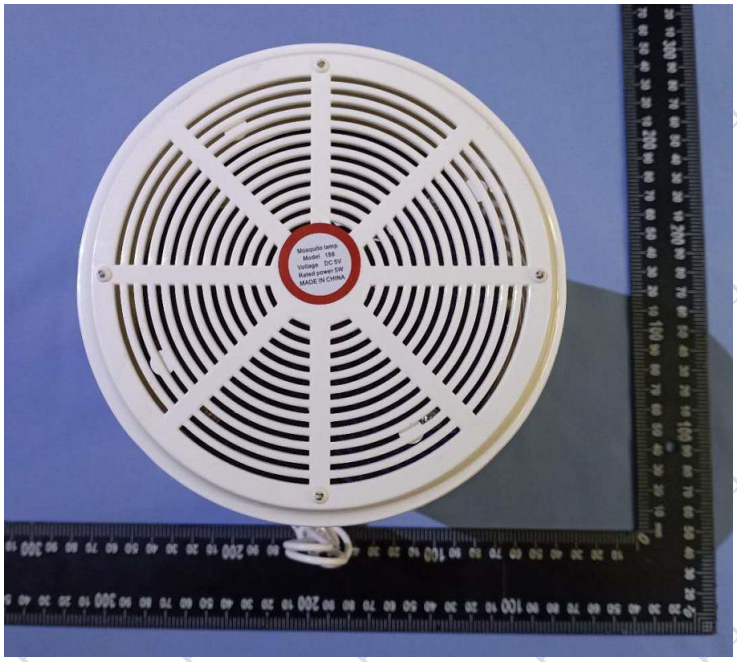


EXHIBIT 2 - EUT PHOTOGRAPHS

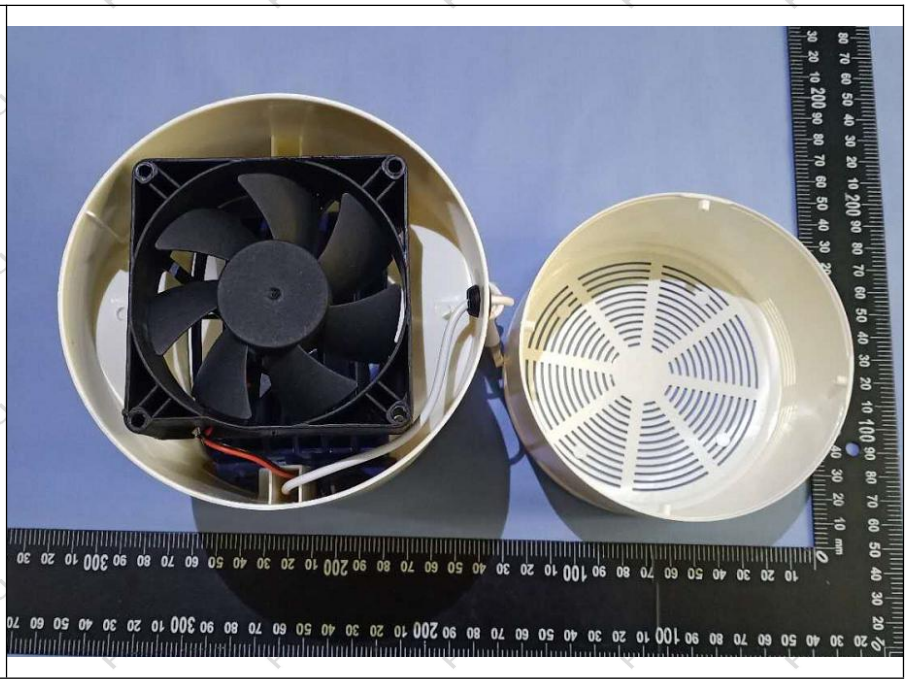
EUT View 1

Photo 1	

EUT View 2

Photo 2	

EUT View 3

Photo 3	

EUT View 4

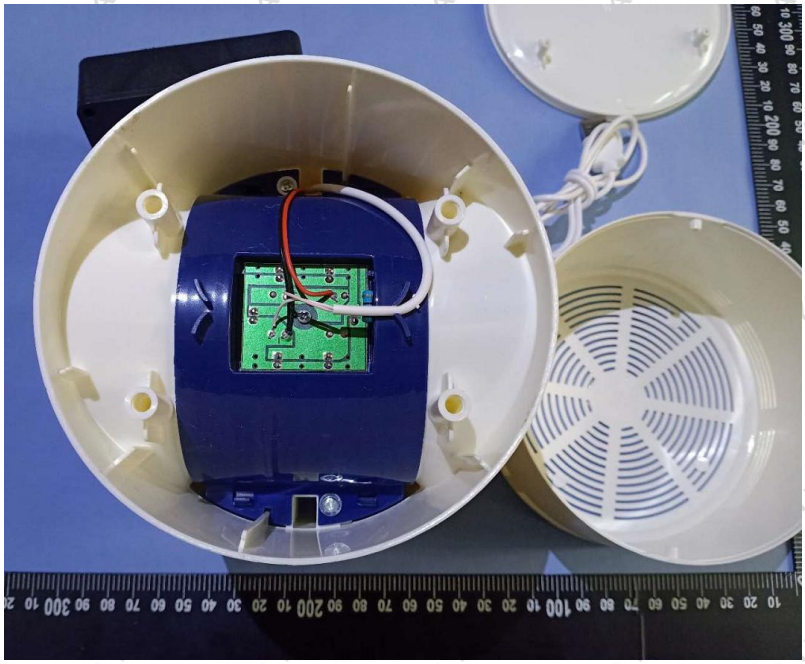
Photo 4	

EXHIBIT 3 - USERS MANUAL

Information to Users

According to the FCC Part 15.19, 15.21, and 15.105 rules, for this EUT, the instructions or operation manual furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

FCC Caution

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.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

******* END OF REPORT *******