DTEST REPORT

Reference No.	:	WTX26F08239970Q
Applicant	:	TANGCAI(HK)IMPORT& EXPORTCO.,LIMITED
Address	:	Unit 127, Room 701, 7/F, Block B, New Mandarin Centre, 14 Science Museum Road, Tsim Sha Tsui, Hong Kong
Manufacturer	:	Guangdong IAIA Intelligent Sanitary Ware Co., Ltd.
Address	:	No. 33 Laicuo Industrial Park, Nanlong Village, Fengtang Town, Chao anDistrict, Chaozhou City, Guangdong Province, China
Product Name	:	Smart Toilet
Model No.	:	OPT46
Test specification	:	STANDARD FOR SAFETY Personal Hygiene and Health Care Appliances UL 1431:2011 Ed.3+R:Jun20, 2019
Date of Receipt sample	:	2026-07-01
Date of Test	:	2026-07-01 to 2026-08-17
Date of Issue	:	2026-08-28
Test Report Form No.	:	WSL-6059821A-04B
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.

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Tested by: PH Yuan

PH Yuan

Approved by: Allen Le

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Test item description .....:	Smart Toilet
Trade Mark .....:	N/A
Model/Type reference .....:	OPT46
Ratings .....:	110V, 60Hz, 55W

Copy of marking plate:

Smart Toilet
Model: OPT46
110V, 60Hz, 55W
Warning:
READ ALL INSTRUCTIONS BEFORE USING
HOUSEHOLD USE ONLY
DO NOT IMMERSE IN WATER
CONFORMS TO UL STD.1431

Model Similarity:

N/A

Summary of testing:

1. These samples are tested and complied with the requirements of standards listed on this report.
2. Full tests were performed on model OPT46.

General Remark:

N/A

List of test items :

No.	Test Items	Requirement + Test	Result
1	Operational Test	UL 1431	Pass
2	Leakage Current Test	UL 1431	Pass
3	Leakage Current Following Humidity Conditioning Test	UL 1431	Pass
4	Starting Current Test	UL 1431	Pass
5	Input Test	UL 1431	Pass
6	Temperature Test	UL 1431	Pass
7	Dielectric Voltage Withstand Test	UL 1431	Pass
8	Abnormal Operation Tests	UL 1431	Pass
9	Dispenser Leakage Test	UL 1431	Pass
10	Cleaning Test	UL 1431	Pass
11	Strain Relief Test	UL 1431	Pass
12	Abnormal Voltage Test	UL 1431	Pass
13	Grounding Impedance Test	UL 1431	Pass
14	Thermostats Test - Overload	UL 1431	Pass

Subcontract

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: --

Possible test case verdicts: N/A

- test case does not apply to the test object.....: P (Pass)

- test object does meet the requirement.....: F (Fail)

1. Operational Test

Test Method:

An as-received sample was set up or installed in accordance with the manufacturer's instructions. The samples was operated in - accordance with the manufacturer's instruction with respect to - the intended uses of the product, including maintenance and cleaning; and with all accessories recommended by the manufacturer for use with the product and lack of such maintenance and cleaning. The product was manipulated as it would be in actual use. The product was operated for a sufficient length of time or through a sufficient number of cycles so that all reasonably foreseeable complications were revealed.

Test Result:

There (☐was /☒ was no) risk of fire, electric shock, or injury to persons when operated as intended.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements

2.Leakage Current Test

Test Method:

One “as received sample was placed on an insulated surface and was connected to a _____110_____V, ____60_____Hz source of supply. Leakage currents to earth ground were measured from all exposed conductive surface of the unit by a meter having an input impedance of 1500Ω resistive shunted by a capacitance of 0.15μF. For enclosure surface other than metal, the leakage current was measured using a metal foil with an area of 10 × 20cm in contact with the surface.

The test sequence was as follows:

a) With switch S1 open, the appliance was connected to the measuring circuit. Leakage current was measured using both positions of switch S2. (**S1 - OFF, S2 - P1 / S1 - OFF, S2 - P2**)

b) Switch S1 was then closed, energizing the appliance, and within a period of 5 second, the leakage current was measured using both positions of switch S2, and with the appliance operated at maximum heat setting of controls. (**S1 - ON, S2 - P1 / S1 - ON, S2 - P2**)

c) Leakage current was monitor until thermal stabilization under the maximum heat condition. Both positions of switch S2 were used.

d) For the appliance employs a single pole switch, monitoring of leakage was continued until the leakage current stabilized or decreased after the appliance was turn off.

The leakage current of a cord-connected appliance rated for a nominal 120V or 240V supply shall not be more than:

a) **0.5mA**, and

b) **0.75mA** for a grounded (3-wire) permanently connected appliance, or a cord connected appliance that is intended to be fastened in place or located in a dedicated space.

Test Result:

Condition	S1	S2	Measured maximum leakage current (mA)
a. - Unit ON	OFF OFF	P1 P2	<0.05 <0.05
b. - Unit ON (0 - 5 seconds)	ON ON	P1 P2	<0.05 <0.05
c. - Unit ON (Thermal stabilization)	ON ON	P1 P2	<0.05 <0.05
d. - Unit OFF (Leakage current stabilized or decreased)	ON ON	P1 P2	<0.05 <0.05

Conclusion:

These results (☒complied / ☐did not comply) with the requirements

3.Leakage Current Following Humidity Conditioning Test

Test Method:

A sample of the appliance that had been preheated to a temperature just above 34°C was contained in a chamber having a relative humidity of 88 ± 2 percent at a temperature of 32 ± 2°C for 48 hours.

Following the conditioning, while still in the chamber, the sample was tested unenergized as described in 43.6(a). Immediately after removal from the chamber, the sample was energized and tested as described in 43.6 (b) and (c). The test was discontinued when the leakage current stabilized or decreased.

The leakage current of a cord-connected appliance rated for a nominal 120V or 240V supply shall not be more than:

a) **0.5mA**, and
b) **0.75mA** for a grounded (3-wire) permanently connected appliance, or a cord connected appliance that is intended to be fastened in place or located in a dedicated space.

Test Result:

Condition	S1	S2	Measured maximum leakage current (mA)
a. - Unit ON	OFF OFF	P1 P2	<0.05 <0.05
b. - Unit ON (0 - 5 seconds)	ON ON	P1 P2	<0.05 <0.05
c. - Unit ON (Thermal stabilization)	ON ON	P1 P2	<0.05 <0.05
d. - Unit OFF (Leakage current stabilized or decreased)	ON ON	P1 P2	<0.05 <0.05

Conclusion:

These results (☒complied / ☐did not comply) with the requirements

4.Starting Current Test

Test Method:

The sample was connected to a ____110____ volt, 60Hz source of supply protected by a _____15_____ ampere, non-time delay fuse. The product was started three times, with the product at room temperature at the beginning of normal operation - the beginning of the normal operation cycle, in the case of an automatic product - and the motor was allowed to come to rest between successive starts.

A switch or other device that controls a solenoid, relay coil, or the like and had not been tested and shown to be acceptable was subjected to an overload test consisting of 50 cycles of operation. The sample was connected to a grounded circuit of rated frequency and 110 percent of maximum rated voltage. The load on the device under test was the same as that which it was intended to control in intended service. During the test, exposed metal parts of the product were connected to ground through a 3-A fuse, and the connection was such that any single-pole, current-rupturing device was located in the ungrounded conductor of the supply circuit.

Test Result:

☒For each start, the 15 ampere fuse remained intact.

☐The _____ ampere fuse opened on the (first / second / third) start.

☐The switch or other control device (could / could not) withstand the overload test.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements

5. Input Test

Test Method:

The power input was measured with the unit at normal operating temperature under full-load conditions and while connected to the supply circuit of the marked voltage rating, or the highest voltage of the applicable range of voltages specified.

Test Result:

Operating Condition	Supply Voltage (V)	Current (A)	Wattage (W)	Marked Rating (W)	Wattage Limit (W)
Max load	110	0.47	47.53	55	60.5
Max load	120	0.54	59.4	55	60.5

The measured power input (☐ was /☒ was not) more than 110 percent of its marked rating.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

6. Temperature Test

Test Method:

The sample was connected to a ____/___ volt, a.c., ___/____ Hz supply and operated at maximum normal load. Using thermocouples and a hybrid recorder, temperature were monitored on the components itemized on the next page.

[☐] Denture Cleaners
The product is to be operated through four operation cycles, each of 15 minutes duration, with a 5 minute off period between successive operations.

[☐] Oral Irrigation appliances
The product is to be operated through four cycles, emptying the reservoir each time at a reasonably strong pressure setting to result in a 4 minute operating on period, with a 5 minute off period between successive operations. A lesser on time may be employed if the reservoir empties during this time at the lowest pressure setting of the product. Tepid water, approximately 37°C (100°F) is to be employed for this test.

[☐] Charger units for battery-operated toothbrushes
The temperature test is to be conducted with the output of the charger unit short-circuited and operation continued until constant temperatures have been attained.

[☐] Toothbrushes
A cord-connected product is to be operated through six operational cycles, each of 3 minutes duration, with a 1 minute of period between successive operations.

Test Result:

The temperature of a surface that may be contacted by the user (☐attained /☒ did not attain) a temperature more than the maximum acceptable value as specified.

The sample (☐attained / ☒did not attain) a temperature at any point high enough to constitute a risk of fire or to damage any material employed in the appliance.

The sample (☐showed /☒ did not show) greater temperature rises at certain specified points itemized on the next page.

A thermal- or overload-protective device (☐opened / ☒did not open) the circuit during the temperature test.

Conclusion:

These results (☒complied /☐ did not comply) with the requirements.

37 Surface Temperatures
37.1 During the normal temperature test described in Temperature Test, Section 50, the temperature of a surface that may be contacted by the user shall not be more than the maximum acceptable value specified in Table 37.1.
37.2
All values for temperatures specified in Table 37.1 are based on a 25° C (77° F) ambient temperature; however, tests may be conducted at any ambient temperature within the range of 10 – 40°C (50 – 104°F) and corrected to 25°C (77°F). See 50.1.3 – 50.1.8.

Table 37.1
Surface temperatures

Location	Composition of surface[a]	
	Metallic	Nonmetallic
A handle or knob that is grasped for lifting, carrying or holding	50°C (122°F)	60°C (140°F)
A handle or knob that is contacted but does not involve lifting, carrying, or holding and other surfaces subject to contact in operation and user maintenance	60°C (140°F)	85°C (185°F)
A surface subject to casual contact	70° (158°F)	95°C (203°F)

[a] A handle, knob or the like made of a material other than metal, that is plated or clad with metal having a thickness of 0.005 inch (0.13 mm) or less is evaluated as a nonmetallic part.

Input: 120 V, 60Hz, 0.54A, 59.4W

Load: Unit was operated continuously until thermal equilibrium.

RESULTS:

Ch.	Location	Temp Rise (°C)	Rise Limit (°C)
101	Plug	6.8	Ref.
102	Power cord	7.2	80
103	PCB	21.2	105
104	Varistor	27.6	65
105	X2 capacitor	26.9	Ref.
106	Wire connector	23.0	Ref.
107	Transformer winding1	20.8	Ref.
108	Transformer winding2	19.8	Ref.
109	PCB box	19.5	Ref.
110	Water valve1	16.8	Ref.
111	Water valve2	17.5	Ref.
112	Heater	9.5	Ref.
113	Heater holder	8.9	Ref.
114	Heater lead wire	8.1	Ref.
115	Thermal link	21.3	Ref.
116	Thermal link lead wire	20.2	Ref.
117	Lamp	3.1	Ref.
118	Lamp holder	3.0	Ref.
119	Lamp lead wire	2.6	80
120	Showing panel PCB	10.2	105
201	Showing panel holder	9.5	Ref.
202	Showing panel lead wire	9.0	Ref.
203	Control panel	1.6	60
204	Plastic cushion (top)	10.8	60
205	Plastic cushion (bottom)	10.1	60
206	Lid	0.7	60
207	Ceramic surface	6.5	60
208	Ambient Temperature	23.5	--

7. Dielectric Voltage-Withstand Test

Test Method:

A 60 Hz dielectric withstand potential was applied between the points indicated below. For this test, the sample was at its maximum normal operating temperature and all switches were set so that all circuits were energized. In each case, the test potential was gradually achieved starting from zero and held at the indicated value for a period of one minute.

1. ___1000_ volts between live parts of primary circuit and dead metal parts.
2. _____ volts between primary circuit and secondary circuit.
3. _____ volts between live parts of secondary circuit and dead metal with grounded secondary of transformer disconnected.

Test Result:

☒ In each case, there was no indication of dielectric breakdown or arc-over.

☐ A dielectric breakdown between live parts of the primary circuit and dead metal parts occurred at a potential of _____ volts.

☐ A dielectric breakdown between live parts of the primary circuit and secondary circuit occurred at a potential of _____ volts.

☐ A dielectric breakdown between live parts of the secondary circuit and dead metal parts occurred at a potential of _____ volts.

Conclusion:

These results (☒complied /☐ did not comply) with the requirements.

8. Abnormal Operation Test

General

Each abnormal test was followed by a dielectric voltage withstand test (Ref.: Section 48).

Each test was conducted on a separate sample unless agreeable to those concerned that more than one test could be conducted on the same sample.

During each test the grounding means, if provided, was connected to ground through a 3-A nontime-delay fuse.

During the tests, the unit was draped with a double layer of cheesecloth conforming to the outline of the product.

Component Breakdown Test

Test Method:

The components in the unit, such as diodes, resistors, transistors, capacitors, and the like, were shorted or opened, one at a time. The product was connected to the maximum test voltage and operated until ultimate conditions were observed, or for 4 hours if cycling of an automatically reset protector occured.

Test Result:

There (☐was / ☒was no) risk of fire, electric shock, or injury to persons when operated as intended.

There (☐was /☒ was no) charring of cheesecloth.

The 3-A fuse (☒did / ☐did not) remain intact.

The sample (☒ did /☐did not) comply with Dielectric Voltage-Withstand Test.

There (☐was / ☒was no) flame or molten metal emitted from the unit.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

9.Dispenser Leakage Test

An appliance that employs a device for dispensing a liquid and does not provide acceptable protection of live parts, shall be subjected to the test.

Test Method:

A sample oriented in any position that may be encountered in normal use, an amount equal to 1/2 the capacity of the dispenser reservoir - but not more than one pint of a saline solution consisting of 1/2 gram of salt per liter of water was poured into the chamber or area containing any part of the dispenser.

Immediately thereafter, the sample was tightly wrapped with conductive foil so as to be in contact with all exposed surfaces, and the sample required to acceptably withstand a potential of 2500 V AC applied between the conductive foil and live parts; and maintain a leakage current of less than 0.5 mA between the foil and ground when tested in accordance with the Leakage Current Test.

Test Result:

The samples (☒complied /☐ did not comply) with the requirements of Dielectric Voltage-Withstand Test.

The maximum leakage current recorded was __0.018___mA, which (☒ complied / ☐did not comply) with the requirements of Leakage Current Test.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

10.Cleaning Test

Test Method:

Each product, or portion of a product, that is intended to be cleaned by wiping or washing shall be conditioned as outlined in 58.2 and 58.3, after which the leakage-current test described in Leakage Current Test, Section 46 shall be repeated with no increase in the previously observed leakage current values.

For products intended to be wiped clean, the outer surface of one sample is to be wiped thoroughly with a folded cheesecloth applicator saturated in the cleaning agent specified in the instruction manual. The complete wiping procedure is to be repeated until a total of 5 operations has been completed.

For products intended to be washed, one sample of the product is to be submerged to the level indicated in a liquid bath as recommended in the instruction manual. Immersion time is to be for a total of one hour, after which the product is to be removed and dried thoroughly on the outside using a soft absorbent cheesecloth pad. The immersion and drying procedure is to be repeated until a total of 5 washings and dryings have been completed.

The cheesecloth shall be bleached, running 15 – 15 yd2 /lb (approximately 26 – 28 m2 kg) and have what is known in the trade as a "count of 32 by 28," that is, for any square inch, 32 threads in one direction and 28 threads in the other direction (for any square centimeter, 13 threads in one direction and 11 in the other direction).

Test Result:

After test the Leakage current (☐was /☒ was no) more than 0.5mA.

The sample (☒ did /☐did not) comply with Dielectric Voltage-Withstand Test.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

11.Strain Relief Test

Test Method:

[√] **Supply cord test**
A pull of 35 lbf (156 N) applied to the attached power cord for one minute without displacement, with the connections within the appliance disconnected. The specified force was applied to the cord and so supported by the appliance that the strain relief means will be stressed from any angle that the construction of the appliance permits.

[ ] **Output or interconnecting cable strain relief test**
A pull of 20 lbf (89 N) applied to the output cord or interconnecting cable for one minute, without displacement or breakage of the cord, or cable, or deformation of its anchoring surface. The specified force was applied to the cord and so supported by the appliance that the strain relief means will be stressed from the most severe angle that the construction of the appliance permits.

Test Result:

There (☐was / ☒was no) movement of the leads or cords such that stress would have resulted on the internal connections.

☐ The movement between the power cord and enclosure was _____ mm.
☐ The movement between the insulation and conductor was _____ mm.

☒ There (☐was / ☒was no) displacement or breakage of the cord, or cable, or deformation of its anchoring surface.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

13.Abnormal Voltage Test

Test Method:

The sample was operated at a voltage equal to 1.3 times the rated voltage for 1 minute with no externally added load. After the test, parts that can cause an injury shall not have worked loose.

Test Result:

There (☐was / ☒was no) parts that can cause an injury have worked loose.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

13.Grounding Impedance Test

Test Method:

An appliance with a grounding means, the impedance at 60 Hz between the point of connection of the appliance grounding means, including the supply cord, and any other metal part that is required to be grounded, shall not be more than 0.1 ohm.

It was determined by measuring the voltage when a current of 25 A, derived from a 60-Hz source with a no-load voltage not exceeding 6 V, was passed between the grounding pin of the attachment plug or other grounding means and the metal part.

Test Result:

The measured no-load voltage was __0.375____ V.

The impedance was _____0.015_____ ohm(s).

The impedance between the point of connection of the appliance grounding means, including the supply cord, and any other metal part (☐ exceeded / ☒did not exceed) 0.1 ohm.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements.

14.Thermostats Test - Overload

Test Method:

59.2.1 An automatic control for temperature regulating or temperature limiting shall be capable of performing successfully for 50 cycles of operation when the product is connected to a supply circuit having a potential of 120-percent of the voltage specified in 44.2. There shall be neither electrical nor mechanical malfunction of the control, nor undue burning, pitting, or welding of the contacts.

59.2.2 In a test to determine whether an automatic control complies with the requirements in 59.2.1, the product is to be connected to a grounded supply circuit; the enclosure of the product, if of metal, is to be connected to ground through a 3-A fuse; and the control, if single-pole, is to be connected in an ungrounded conductor of the circuit. The control is to be operated at the rate of ten cycles per minute, except that a faster rate of operation may be employed if agreeable to all concerned. The performance is unacceptable if the fuse in the grounding connection opens during the test.

Test Result:

☒The 3 ampere fuse remained intact.

There (☐was / ☒was not) neither electrical nor mechanical malfunction of the control, nor undue burning, pitting, or welding of the contacts.

Conclusion:

These results (☒complied / ☐did not comply) with the requirements

Photo Documentation:



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7

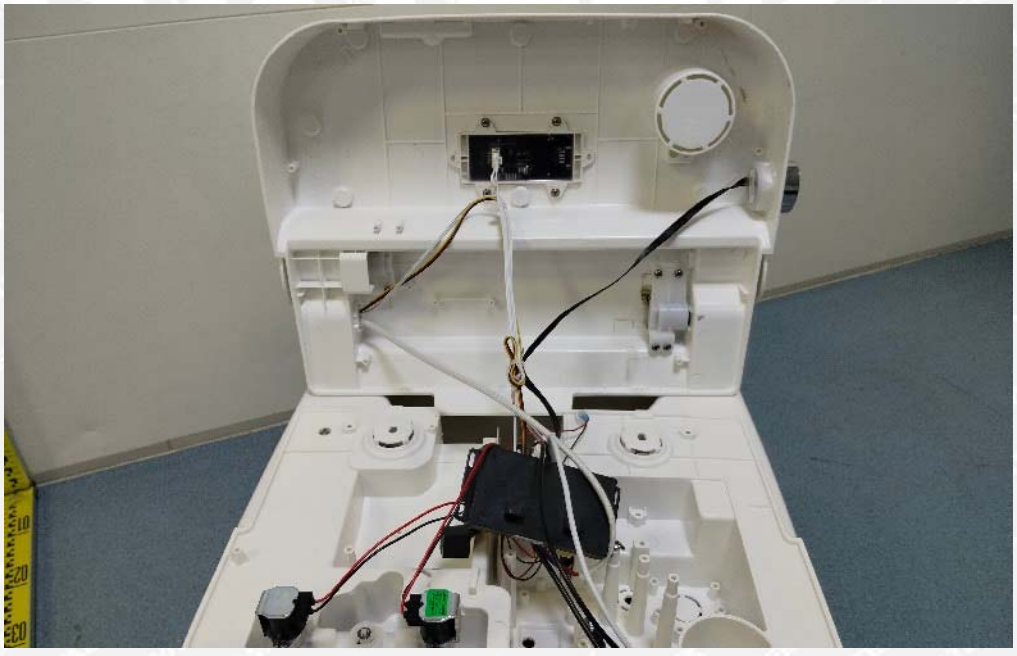


Photo 8

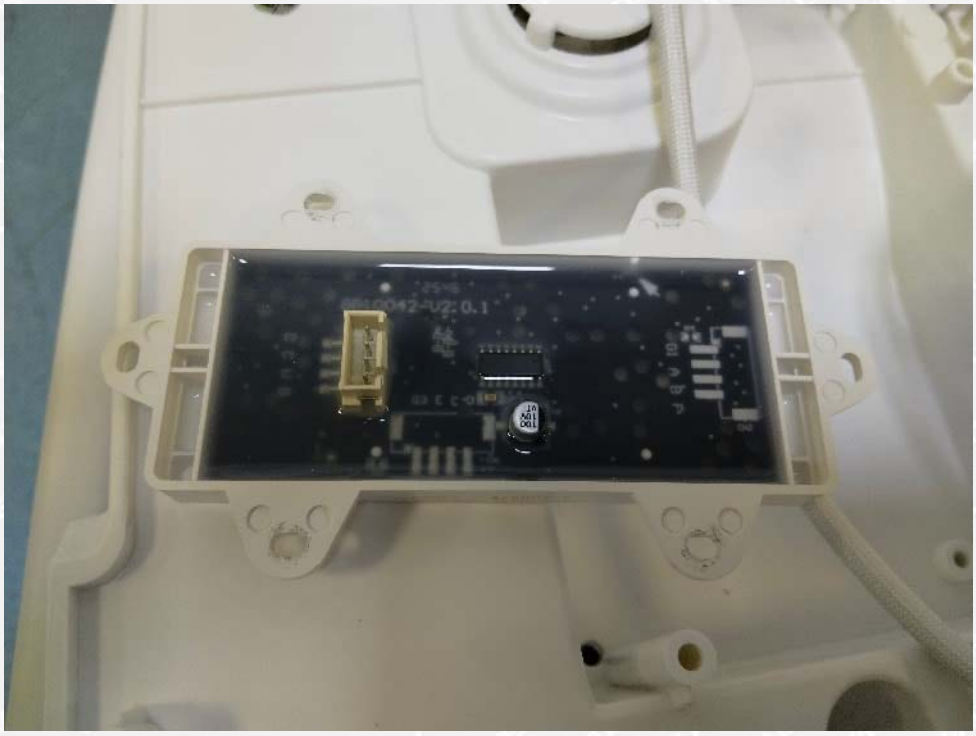


Photo 9

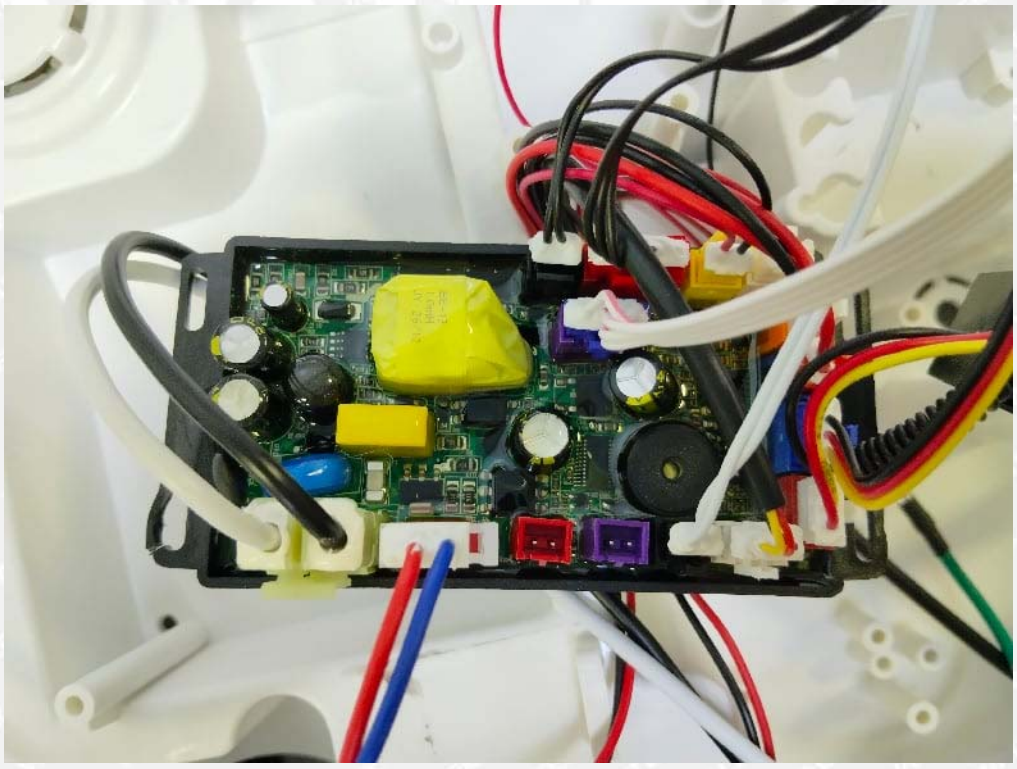


Photo 10



Photo 11

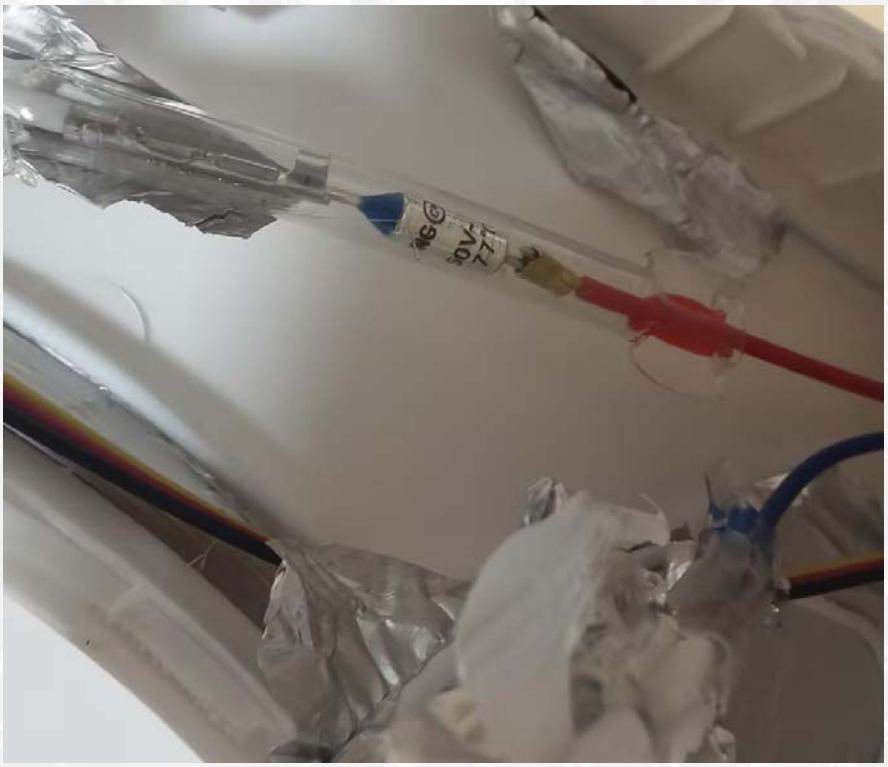


Photo 12



Photo 13



Photo 14



Photo 15

Equipment Used during Test:

Equipment	Model/Type
Temperature & Humidity Datalogger	THG312
Temperature Recorder	34970A
Power Meter	WT210
Dielectric & Insulation Resistance Tester	9012
Digital Multimeter	15B
Multi meter	115C
AC leakage current tester	7611
Walk-in Environmental Test Lab	BUL-50-26
AC Grounding Tester	YD2654B
Clock	HS-70W
Force Gauge	NK-300
Poise	35 LB

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