Shenzhen CTL Testing Technology Co., Ltd
Tel:+86-755-89486194 E-Mail:ctl@ctl-lab.com

TEST REPORT

UL 499

Standard for Electric Heating Appliances

Report reference No. ..... :	**CTL2406122081-Q**
Tested by (name + signature)..... :	Guest Huang
Supervised by (name + signature).... :	Bright Gao
Approved by (name + signature)..... :	Ethan Chen
Date of issue..... :	August 26, 2024
Testing Laboratory Name ..... :	**Shenzhen CTL Testing Technology Co., Ltd**
Address ..... :	Zone A, 1st Floor, Warehouse 2, Baisha Logistics Company, No. 3011 Shahe West Road, Nanshan District, Shenzhen
Applicant's Name ..... :	**Maester (Jiangsu)Medical Device Technology Co.,LTD**
Address ..... :	No.2-6, Chuangye Road,Lingang Industrial Park,Zhaodun Town, Pizhou City,Xuzhou, Jiangsu Province
Test specification	
Standard..... :	UL 499 Edition 14, May 31, 2023
Test procedure ..... :	Test report
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	**UL 499_1B**
TRF originator..... :	CTL
Master TRF ..... :	Dated 2023-12
Test item description ..... :	**Far-infrared sauna**
Trademark ..... :	N/A
Manufacturer..... :	Maester (Jiangsu)Medical Device Technology Co.,LTD No.2-6, Chuangye Road,Lingang Industrial Park,Zhaodun Town, Pizhou City,Xuzhou, Jiangsu Province
Model and/or type reference ..... :	902, 901, 903, 904, 905, 906, 907, 908, 909, 910
Ratings..... :	120V~ 50/60Hz, 1750W

Summary of testing:

Testing location:

Shenzhen CTL Testing Technology Co., Ltd

Zone A, 1st Floor, Warehouse 2, Baisha Logistics Company, No. 3011 Shahe West Road, Nanshan District, Shenzhen

Tests performed (name of test and test clause):

The sample(s) tested complies with the requirements of UL 499.

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

This test report includes:

Annex 1: Photos

Copy of marking plate:

Name: Far-infrared sauna

Model: 902

Ratings: 120V~ 50/60Hz, 1750W

CAUTION：

Hot Surface. Avoid Contact.

Maester (Jiangsu)Medical Device Technology Co.,LTD

No.2-6, Chuangye Road,Lingang Industrial Park,Zhaodun Town, Pizhou City,Xuzhou, Jiangsu Province

Made In China

Remark: the marking plates of other models are in the same pattern.

The above marking are in the minimum requirements required by safety standard. For the final production sample, the marking which do not give rise to misunderstanding may be add.

Possible test case verdicts:	
- test case does not apply to the test object/ the case does not evaluate..... :	N (Not applicable/Not evaluated)
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Testing..... :	
Date of receipt of test item..... :	June 24, 2024
Date(s) of performance of tests..... :	July 10, 2024 to July 30, 2024

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

General product information:

Far-infrared sauna, powered by mains, electronic components mounted on PCB, housed with wooden enclosure, for indoor use only.

Model difference and model list:

Model list: 902, 901, 903, 904, 905, 906, 907, 908, 909, 910
All the models are identical except for model names, heating wire length, power and appearance.
All tests were conducted on the representative model: 902.

UL 499			
Clause	Requirement	Remark	Result
	Construction		--
5	General		P
6	Components		N
6.1	General		N
6.2	Requirements for Components		N
7	Frame and Enclosure		N
8	Assembly		N
9	Stability		P
10	Corrosion Protection		N
11	Supply Connections – Permanently-Connected Products		N
11.1	General		N
11.2	Wiring terminals		N
12	Supply Connections – Cord Connected Products		P
12.1	General		P
12.2	Strain relief		P
12.3	Pin terminals		P
12.4	Bushings		P
13	Current-Carrying Parts		P
14	Internal Wiring		N
14.1	General		N
14.2	Protection of wiring		N
14.3	Splices		N
14.4	Separation of circuits		N
15	Heating Elements		N
16	Electrical Insulation		N
17	Thermal Insulation		N
18	Motors	No motors	N
19	Overcurrent Protection of Conductors and Heating Elements		N
20	Motor-Running Overload Protection		N
21	Motor and Power-Transformer Short-Circuit and Ground-Fault Protection		N
22	General (Short-Circuit and Ground-Fault) Overcurrent Protection		N
23	Thermal Cutoffs		N
24	Lampholders	No such parts	N
25	Switches		N

UL 499			
Clause	Requirement	Remark	Result
26	Automatic Controls and Control Circuits		N
27	Spacings		N
27.1	Line-voltage circuits		N
27.2	Low-voltage circuits		N
28	Grounding		N
29	Leakage Current Collectors		N
30	Pressure Vessels and Parts Subject to Pressure		N
31	Protection Against Injury to Persons		N
	Performance		--
32	General		P
33	Power Input Test	see appended table 33	P
34	Leakage Current	see appended table 34	P
35	Escape Current Test		N
36	Normal Temperature Test	see appended table 36	P
36.1	General		P
36.2	Ceramics-baking kilns and ovens		N
36.3	Charcoal ignitors		N
36.4	Stock-tank de-icers, stock waterers, and the like		N
36.5	Liquid heaters and vaporizers, cord-connected		N
36.6	Poultry and livestock brooders		N
36.7	Soldering irons and soldering guns and desoldering tools		N
36.8	Solder pots, nonautomatic		N
36.9	Warming trays		N
36.10	Water heaters of the side-arm type		N
36.11	Refrigerator defrosters		N
36.12	Heat guns		N
36.13	Hybrid adhesive guns		N
36.14	Semi-rigid enclosed pet heating mat/pad		N
37	Test of Insulation Resistance and Leakage Current as a Result of Moisture	48 h, 88%, 32°C	P
38	Dielectric Voltage-Withstand Test	see appended table 38	P
39	Mechanical Endurance Test		N
40	Resistance to Impact		N
41	Overflow Test		N
42	Abnormal Operation Test	see appended table 42	N
42.1	General		N

UL 499			
Clause	Requirement	Remark	Result
42.2	Products with breakable exterior surfaces		N
42.3	Products with breakable surfaces		N
42.4	Heat guns		N
42.5	Ceramics-baking kilns and ovens		N
42.6	Charcoal ignitors		N
42.7	Stock-tank de-icers, stock waterers, and the like		N
42.8	Warming trays		N
42.9	Immersion heaters		N
42.10	Liquid heaters		N
42.11	Ovens		N
42.12	Poultry and livestock brooders		N
42.13	Solder pots, nonautomatic		N
42.14	Soldering irons		N
42.15	Hot plates		N
42.16	Ceramic products		N
42.17	Vaporizers of the resistance-wire type		N
42.18	Heating appliances employing fans or blowers		N
42.19	Hybrid adhesive guns		N
43	Testing of Component Switches and Control Devices		N
43.1	Overload test for motor switches		N
43.2	Overload test for automatic controls		N
43.3	Endurance test for thermostats		N
43.4	Limited short circuit test for motor-control devices		N
44	Strain Relief Test		N
45	Push-Back Relief Test		P
46	Test for Permanence of Cord Tag for Outdoor-Use Heating Appliances with Power-Supply Cords Less than 6 Feet (1.8 m)	For use indoor only	N
47	Crushing Resistance for Flexible Pet Heating Mats/Pads		N
48	Appliance Coupler Retention		N
49	Connector Current Interruption		N
	Manufacturing and Production-Line Tests		--
50	Production-Line Dielectric Voltage-Withstand Test		N
51	Polarization and Grounding Continuity Tests		N
51.1	Continuity of grounding connection test		N
51.2	Polarization continuity test		N

UL 499			
Clause	Requirement	Remark	Result
51.3	Electrical indicating device		N
	Ratings		--
52	Details		P
	Markings		--
53	Details		P
54	Instructions	Complies	P
	Electrode-Type Heating Appliances		--
55	Scope		N
56	General		N
57	Construction		N
58	Operation Test		N
59	Vaporizer-Operation Test		N
60	Leakage Current Test		N
61	Disassembly and Reassembly Test		N
62	Markings		N
63	Operating Instructions		N
64	Label Adhesion Tests		N
	Thermostat Override Units		--
65	General		N
66	Temperature Test		N
67	Overload Tests		N
	Steam-Bath Generators		--
68	Scope		N
69	General		N
70	Construction		N
70.1	Supply connection		N
70.2	Temperature-limit controls		N
70.3	Feed water solenoid valve		N
70.4	Feed water sensors and circuits		N
70.5	Low-water sensors and circuits		N
70.6	Drain valve		N
70.7	Pressure vessels and parts subject to pressure		N
70.8	Pressure-relief device		N
70.9	Protection against injury to persons		N
70.10	Output pressure regulating valve		N
71	Performance		N

UL 499			
Clause	Requirement	Remark	Result
71.1	General		N
71.2	Power input test		N
71.3	Leakage current		N
71.4	Test of insulation resistance and leakage current as a result of moisture		N
71.5	Normal temperature test		N
71.6	Abnormal operation - general		N
71.7	Abnormal operation -no water		N
72	Markings		N
73	Instructions		N
73.1	General		N
73.2	Installation instructions		N
73.3	Important safety instructions		N
	Metal Sheathed Heating Elements Components-General		--
74	Scope		N
75	General		N
76	Glossary		N
	Metal Sheathed Heating Elements Components-Construction		--
77	Construction		N
78	Insulation		N
79	Spacings		N
	Metal Sheathed Heating Elements Components-Performance		--
80	General		N
81	Power Input Test		N
82	Dielectric Voltage-Withstand Test		N
83	Leakage Current Test		N
84	Temperature Test		N
	Metal Sheathed Heating Elements Components-Rating		--
85	Details		N
	Metal Sheathed Heating Elements Components-Marking		--
86	Details		N
	Direct Plug-In Heating Appliances		--
87	General		N
88	Construction		N
89	Performance		N
90	Markings		N

UL 499			
Clause	Requirement	Remark	Result
	Appliances Generating Ultraviolet(UV)Radiation		--
91	Appliances Generating Ultraviolet(UV)Radiation		N
91.1	General		N
91.2	Construction		N
91.3	Protection against injury to persons		N
91.4	Performance		N
91.5	Markings		N
91.6	Instructions		N
	Electric Soap Kettles		--
92	Additional Requirements for Electric Soap Kettles		N
92.1	General		N
92.2	Construction		N
92.3	Performance		N
92.4	Markings and instructions		N
	Vivarium Heaters (Repile Tank Heater) Employing Thin Film Resistance Heating Elements		--
93	Vivarium Heaters (Repile Tank Heater) Employing Thin Film Resistance Heating Elements		N
93.1	General		N
93.2	Construction		N
93.3	Performance		N
93.4	Markings		N
93.5	Instructions		N
SUPPLEMENT SA	**ELECTRIC HEATER GUNS FOR GOVERNMENT USE**		--
	INTRODUCTION		--
SA1	Scope		N
	CONSTRUCTION		--
SA2	Switches		N
SA3	Power-Supply Cord		N
SA4	Accessories		N
SA5	Heat Regulation		N
SA6	Dimensions and Tolerance		N
SA7	Finish		N
SA8	Workmanship		N
	REGULATORY REQUIREMENTS		--

UL 499			
Clause	Requirement	Remark	Result
SA9	Recovered Mater		N
	PERFORMANCE		--
SA10	Temperature and Air Flow Tests		N
SA10.1	General		N
SA10.2	Temperature test		N
SA10.3	Air flow test		N
	RATINGS		--
SA11	Details		N
	MARKINGS		--
SA12	Details		N
	PROCUREMENT		--
SA13	Government Procurement and Acquisition Notes		N
SA13.1	Part identification number (PIN)		N
SA13.2	Ordering data		N
SA13.3	National Stock Numbers (NSNs)		N
SUPPLEMENT SB	**Heater Guns Operating from Rechargeable Battery Power**		--
SB1	General		N
SB2	Glossary		N
SB3	Construction		N
SB4	Performance		N
SB4.1	General		N
SB4.2	Input/output test – battery powered heat guns		N
SB4.3	Normal temperature test		N
SB4.4	Charger temperature test		N
SB4.5	Dielectric Voltage Withstand Test		N
SB4.6	Battery enclosure impact test		N
SB4.7	Drop test		N
SB4.8	Abnormal operation/discharging		N
SB4.9	Battery short circuit		N
SB5	Markings		N
SB6	Instructions		N

33	TABLE: Power Input Test			P
U (V)	P(W)	Prated (W)	I (A)	Condition/status
120V/60Hz	1514	1750	12.55	Normal status
120V/60Hz	1506	1750	12.53	Normal status
Note(s): Deviation % (max 5%)				

34	TABLE: Leakage Current			P
Measured between:		Measured (mA)	Limit (mA)	Comments
L/N and wooden enclosure/knob(with foil)		0.005	0.75	P
L/N to control board(with foil)		0.005	0.75	P
Note(s): Test voltage / frequency:				

36	TABLE: Normal Temperature Test			P
	Test voltage	120V/60Hz		--
	Tamb1.....	22.7	--	
	Tamb2.....	23.2	--	
maximum temperature T of part/at::		Max. temperature rise measured, dT (K)		Max.temperature rise limit, dT (K)
Power cord		12.7	--	70-25=50
Fuse(F1)		25.9	--	65
Internal wire(near heating element)		44.7	--	80-25=55
T1 winding		33.6	--	85
T1 Core		31.1	--	Ref.
PCB near U2		22.6	--	130-25=105
C3 body		28.4	--	105-25
Relay K1		23.9	--	65
PCB near U1		22.6	--	130-25=105
C2 body		25.8	--	105-25=80
PCB near TR1		62.9	--	105
Surface of heating plate		51.9	--	Ref.
Wood enclosure of PCB inside		21.7	--	Ref.
Wood enclosure of PCB outside		17.3	--	65
Display surface		46.8°C	--	95°C
Button surface		47.7°C	--	85°C
LED cover		57.9°C	--	95°C
Wooden seat surface		51.9°C	--	75°C
Ambient		25.0°C	--	--

temperature T of winding:	R1 (Ω)	R2 (Ω)	T (℃)	allowed Tmax (℃)	insulation class
--	--	--	--	--	--
Supplementary information					
Note(s):					

37	TABLE: Insulation Resistance	P
Insulation resistance R between:	R (Ω)	Required R (Ω)
L/N and wooden enclosure/knob(with foil)	>100M	>50K
L/N to control board(with foil)	>100M	>50K

38	TABLE: Dielectric Voltage-Withstand Test	P
Test voltage applied between:	Test voltage (V)	Breakdown
L/N and wooden enclosure/knob(with foil)	2500V	No
L/N to control board(with foil)	2500V	No
Note(s): --		

Annex 1:Photo

Photo documentation

Photo 1 Front view

Photo 2 Side view

Annex 1:Photo

Photo 3 Side view

Photo 4 Side view

Annex 1:Photo

Photo 5 Top view

Photo 6 Overall view

Annex 1:Photo

Photo 7 Overall view

Photo 8 Internal view

Annex 1:Photo

Photo 9 Internal view

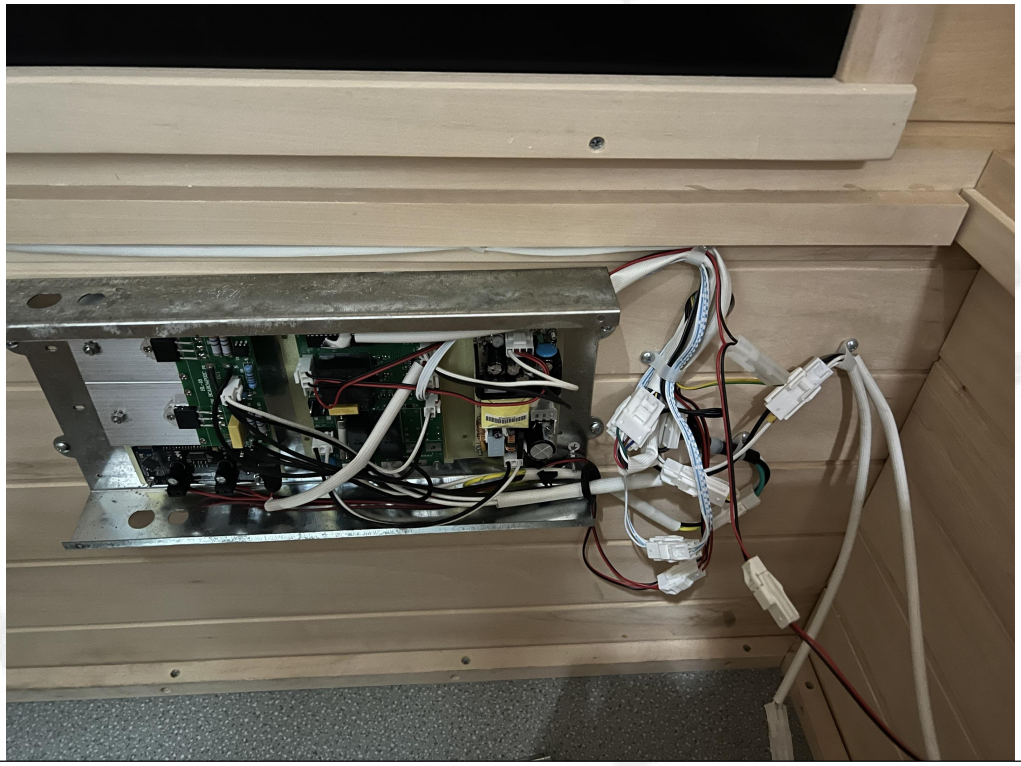
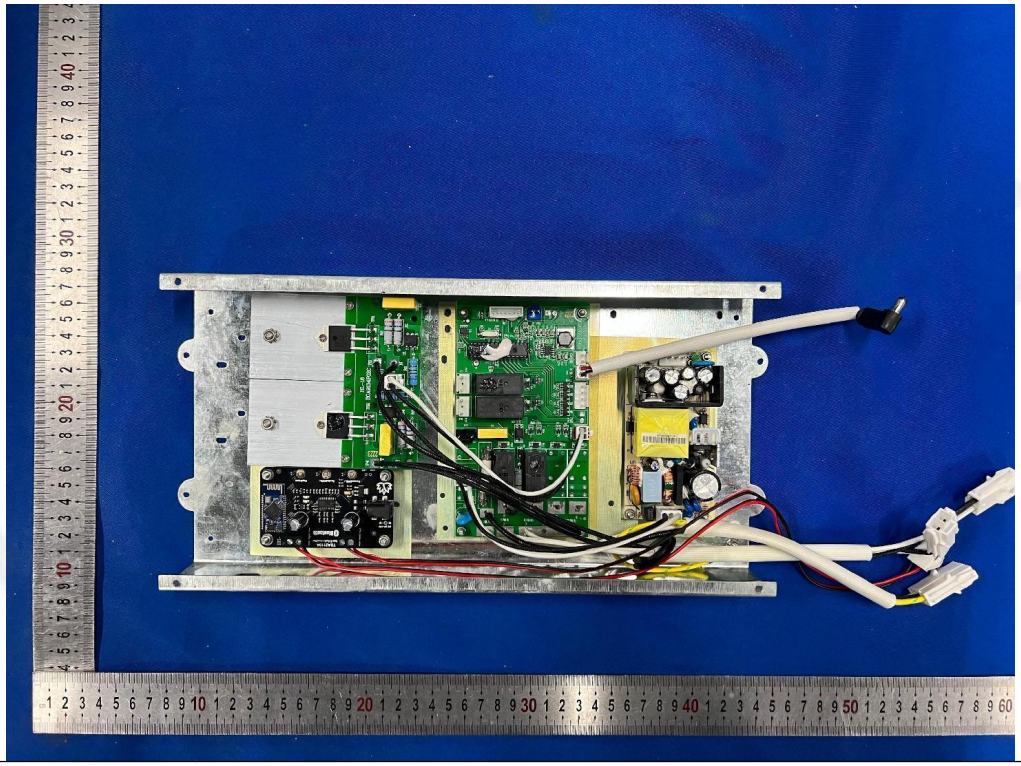


Photo 10 PCB view



Annex 1:Photo

Photo 11 PCB view

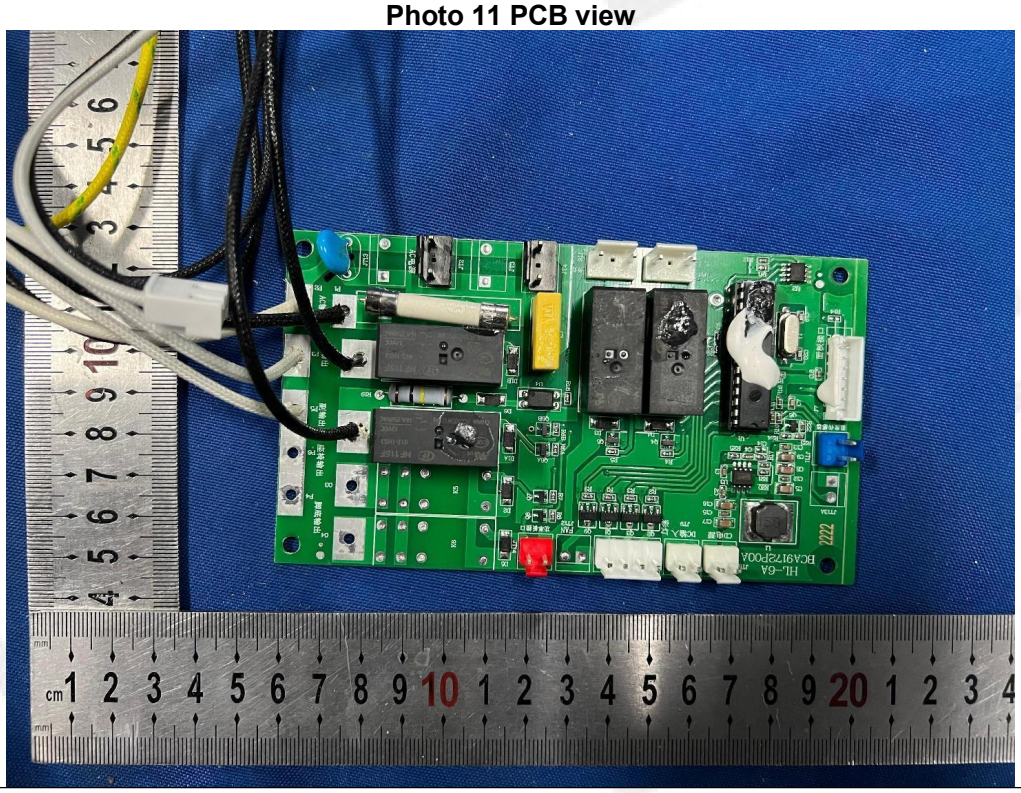
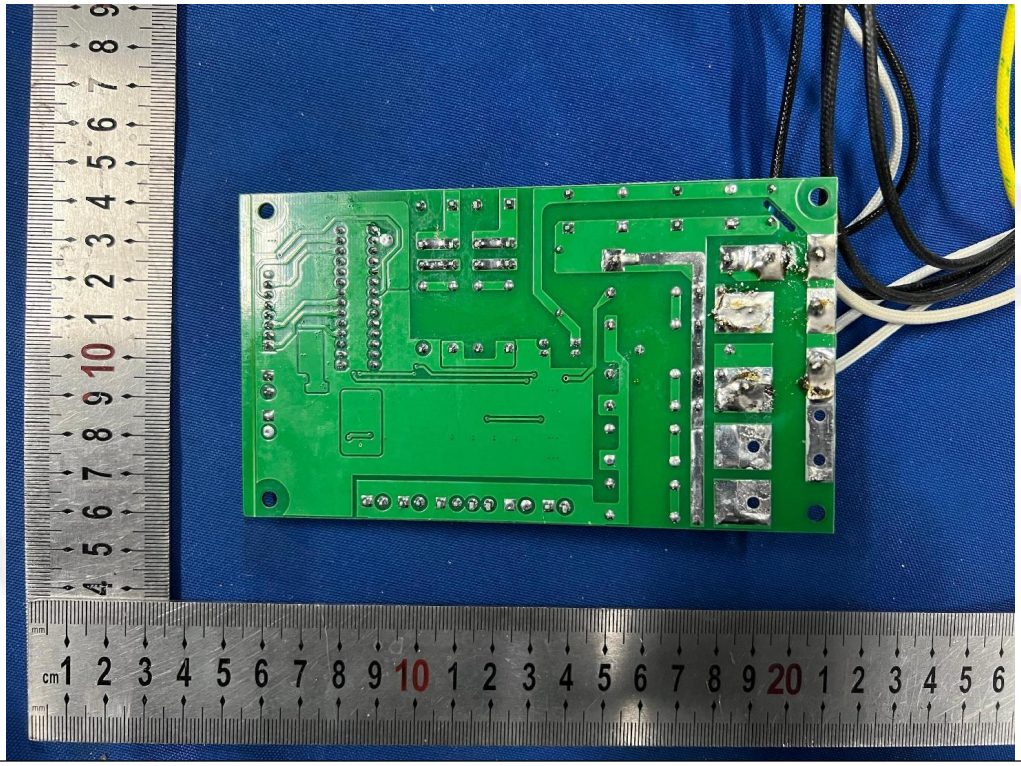


Photo 12 PCB view



Annex 1:Photo

Photo 13 PCB view

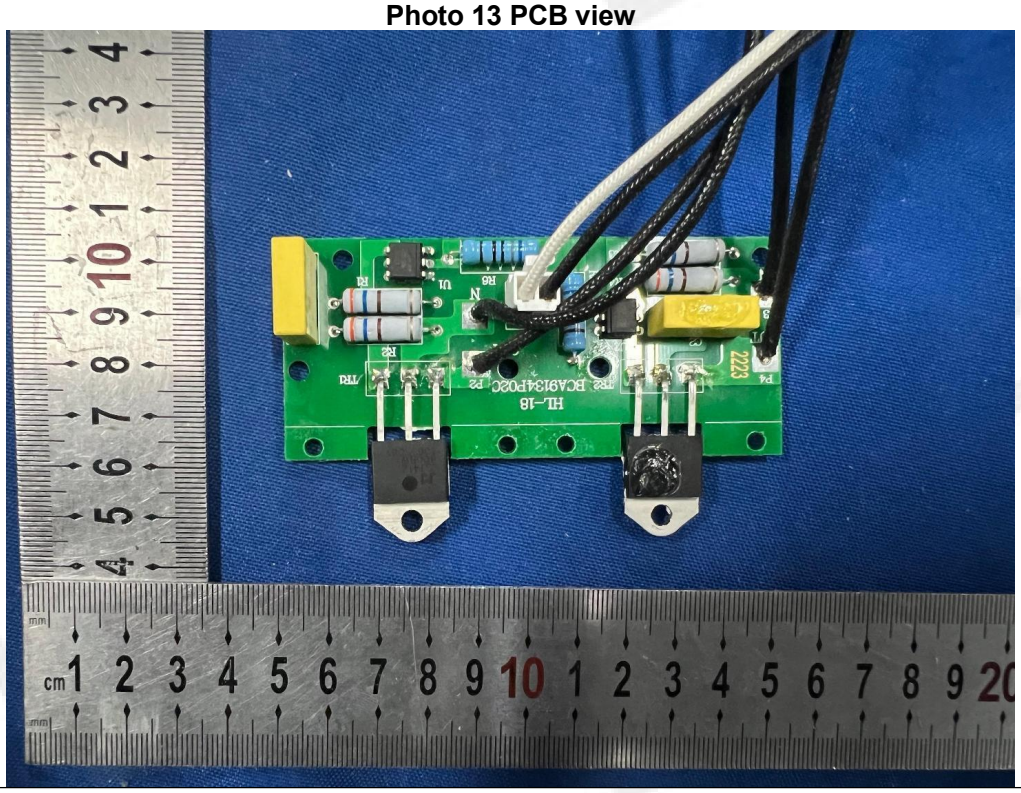
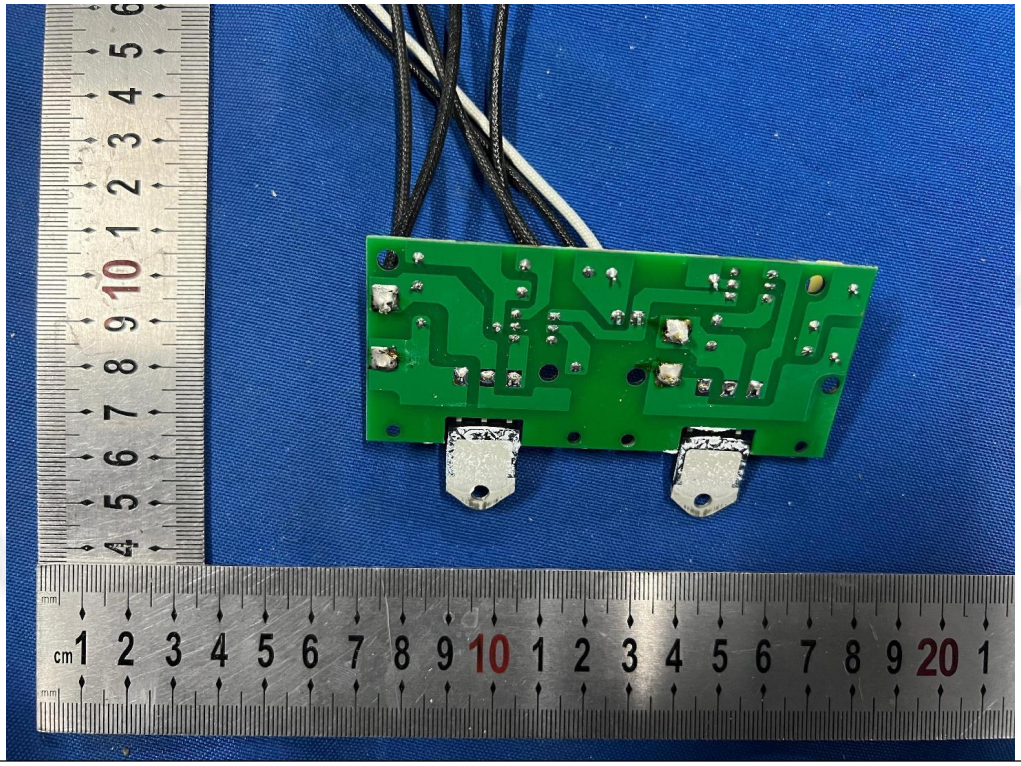


Photo 14 PCB view



---------- END OF THE REPORT ----------