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| TEST REPORT IEC 60335-2-9 Safety of household and similar electrical appliances Part 2: Particular requirements for grills, toasters and similar cooking appliances | |
| Report Number | EFSH15030095-IE-01-L01-A4 |
| Date of issue | 2015-03-16; Amendment 4: 2017-12-13 |
| Total number of pages | 16 pages |
| Applicant's name | Cixi Tianma Electrical Appliance Co., Ltd. |
| Address | No. 483 Zhenxi Road, Zhouxiang Town, Cixi City, Ningbo, 315324, P.R.C |
| Test specification: | |
| Standard | <input checked="" type="checkbox"/> EN 60335-2-9: 2003 + A1: 2004 + A2: 2006 + A12: 2007 + A13: 2010 <input checked="" type="checkbox"/> EN 60335-1: 2012 + A11: 2014 <input checked="" type="checkbox"/> EN 62233: 2008 |
| Test procedure | GS + CE-LVD |
| Non-standard test method | N/A |
| Test Report Form No. | IEC60335_2_9H |
| Test Report Form(s) Originator | LCIE |
| Master TRF | Dated 2012-10 |
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| This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02. | |

| | |
|------------------------------------|---|
| Test item description | Toaster |
| Trade Mark | -- |
| Manufacturer..... | Cixi Tianma Electrical Appliance Co., Ltd. |
| Model/Type reference | TM-2001, TM-2001J, TM-2001F, TM-2001FJ, TM-2001T, TM-2001JT, TM-2001FT, TM-2001FJT, TM-2005, TM-2005J, TM-2005F, TM-2005FJ, TM-2005T, TM-2005JT, TM-2005FT, TM-2005FJT, TM-2006, TM-2006J, TM-2006F, TM-2006FJ, TM-2006T, TM-2006JT, TM-2006FT, TM-2006FJT, TM-2009F, TM-2009FJ, TM-2015T, TM-2016T, TM-2019, TM-2019T, TM-2019TJ, TM-2020, TM-2020T, TM-2020TJ |
| Ratings | 220-240V~, 50/60Hz, Class I for all models TM-2001, TM-2001J, TM-2001F, TM-2001FJ, TM-2001T, TM-2001JT, TM-2001FT, TM-2001FJT: 600-700W, TM-2005, TM-2005J, TM-2005F, TM-2005FJ, TM-2005T, TM-2005JT, TM-2005FT, TM-2005FJT, TM-2006, TM-2006J, TM-2006F, TM-2006FJ, TM-2006T, TM-2006JT, TM-2006FT, TM-2006FJT: 700-800W; TM-2009F, TM-2009FJ: 1100-1300W; TM-2015T, TM-2019, TM-2019T, TM-2019TJ, TM-2020, TM-2020T, TM-2020TJ: 650-750W; TM-2016T: 1280-1480W |

| | | |
|---|---------------------------|---|
| Testing procedure and testing location: | | |
| <input checked="" type="checkbox"/> | Testing Laboratory: | Eurofins Product Testing Service (Shanghai) Co., Ltd. |
| Testing location/ address.....: | | No. 395 West Jiangchang Road, Jing'an District, Shanghai, China |
| <input type="checkbox"/> | Associated CB Laboratory: | N/A |
| Testing location/ address.....: | | N/A |
| Tested by (name + signature).....: | | Jules Xu (Project Engineer) <i>Jules Xu</i> |
| Approved by (name + signature): | | Brian Pan (Project Engineer) <i>Brian Pan</i> |
| <input type="checkbox"/> | Testing procedure: TMP | |
| Testing location/ address.....: | | N/A |
| Tested by (name + signature)....: | | N/A |
| Approved by (name + signature)..: | | N/A |
| <input type="checkbox"/> | Testing procedure: WMT | |
| Testing location/ address.....: | | N/A |
| Tested by (name + signature)....: | | N/A |
| Witnessed by (name + signature): | | N/A |
| Approved by (name + signature): | | N/A |
| <input type="checkbox"/> | Testing procedure: SMT | |
| Testing location/ address.....: | | N/A |
| Tested by (name + signature)...: | | N/A |
| Approved by (name + signature): | | N/A |
| Supervised by (name + signature).....: | | N/A |
| <input type="checkbox"/> | Testing procedure: RMT | |
| Testing location/ address.....: | | N/A |
| Tested by (name + signature) : | | N/A |
| Approved by (name + signature): | | N/A |
| Supervised by (name + signature): | | N/A |

List of Attachments (including a total number of pages in each attachment):

Photo document: 1 page (Incorporated in the main report)

Constructional data form(CDF): 6 pages (separate file)

Summary of testing: From the result of our inspection and tests on the submitted samples, we conclude they comply with the requirements of the standards.

Tests performed (name of test and test clause):

- ☒ CI.10 Power input and current
- ☒ CI.11 Heating
- ☒ CI.13 Leakage current and electric strength at operating temperature
- ☒ CI.15 Moisture resistance
- ☒ CI.16 Leakage current and electric strength

Testing location:

Eurofins Product Testing Service (Shanghai) Co., Ltd.

No. 395 West Jiangchang Road, Jing'an District, Shanghai, China

Summary of compliance with National Differences

List of countries addressed: European Group Differences, Germany and U.K.

Copy of marking plate (representative, may differ with model No. and rated power input)

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Toaster

TM-2001

220-240V~, 50/60Hz, 600-700W, Class I



Cixi Tianma Electrical Appliance Co., Ltd.
No. 483 Zhenxi Road, Zhouxiang Town, Cixi City, Ningbo, 315324, P.R.
China

Imported by:

(Full Name of the EU importer)

(Full EU Address of the importer)

Series number: xxxx – xxxx

| | |
|--|---------------------------|
| Test item particulars : | |
| Classification of installation and use : | Household indoor use only |
| Supply Connection..... : | Type Y |
| Possible test case verdicts: - test case does not apply to the test object.....: N/A - test object does meet the requirement : P (Pass) - test object does not meet the requirement.....: F (Fail) | |
| Testing : | |
| Date of receipt of test item : | 2017-12-11 |
| Date (s) of performance of tests..... : | 2017-12-11 to 2017-12-13 |
| General remarks: <p>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. Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator. The related applicable CTL/OSM decisions and (EU) 2017/1357 have been considered and the requirements found fulfilled. Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods. For GS approval, EK1 601-15e Rev1, EK1 AG2 Rev 9, EK1 222-04 and EK1 527-12 Rev2 were considered.</p> | |
| Manufacturer's Declaration per sub-clause 6.2.5 of IEC 60335-1: The application for obtaining a CB Test Certificate <input type="checkbox"/> Yes includes more than one factory location and a <input checked="" type="checkbox"/> Not applicable declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....: | |
| When differences exist; they shall be identified in the General product information section. | |
| Name and address of factory (ies)..... : | Same as applicant |

General product information:

The appliances covered by this report are toasters for household and indoor use only.

The detail differences are as below:

| No detail differences are as below: | | | |
|-------------------------------------|---------------|-------------|-------------------------|
| Model | Type of shelf | Type of PCB | Type of bread supportor |
| TM-2001 | Movable type | Type A1 | No bread supportor |
| TM-2001J | | | Type A |
| TM-2001F | Fixed type | | No bread supportor |
| TM-2001FJ | | | Type A |
| TM-2001T | Movable type | Type B1 | No bread supportor |
| TM-2001JT | | | Type A |
| TM-2001FT | Fixed type | | No bread supportor |
| TM-2001FJT | | | Type A |
| | | | |
| TM-2005 | Movable type | Type A2 | No bread supportor |
| TM-2005J | | | Type A |
| TM-2005F | Fixed type | | No bread supportor |
| TM-2005FJ | | | Type A |
| TM-2005T | Movable type | Type B2 | No bread supportor |
| TM-2005JT | | | Type A |
| TM-2005FT | Fixed type | | No bread supportor |
| TM-2005FJT | | | Type A |
| | | | |
| TM-2006 | Movable type | Type A3 | No bread supportor |
| TM-2006J | | | Type A |
| TM-2006F | Fixed type | | No bread supportor |
| TM-2006FJ | | | Type A |
| TM-2006T | Movable type | Type B3 | No bread supportor |
| TM-2006JT | | | Type A |
| TM-2006FT | Fixed type | | No bread supportor |
| TM-2006FJT | | | Type A |
| | | | |
| TM-2009F | Fixed type | Type A1 | No bread supportor |
| TM-2009FJ | | | Type B |

After review, TM-2001FJ, TM-2001JT, TM-2005FJ, TM-2005JT, TM-2006FJ, TM-2006JT and TM-2009FJ were subjected to full tests and the most unfavourable data was recorded.

Amendment 1:

The original test report ref. No. EFSH15030095-IE-01-L01, dated 2015-03-16, was modified on 2016-08-29 to include the following changes and/or additions:

1. Update EK 1 decision to EK1 601-15e Rev1.
2. Two new models: TM-2015T and TM-2016T were added.
3. Compared with original model, TM-2015T and TM-2001T share similar construction except appearance and PCB with other models.
4. TM-2016T has different construction, appearance and PCB.

After review, Cl.8, Cl.10, Cl.11, Cl.13, Cl.15, Cl.16, Cl.19, Cl.20, Cl.21, Cl.22, Cl.23, Cl.29 and Cl.30 (Cl.30.1&Cl.30.2.4) were considered on TM-2016T. Cl.8, Cl.10, Cl.13, Cl.15, Cl.16, Cl.19.11, Cl.29 and Cl.30 (Cl.30.1&Cl.30.2.4) were considered on TM-2015T.

Amendment 2:

The original test report ref. No. EFSH15030095-IE-01-L01, dated 2015-03-16, ref. No. EFSH15030095-IE-01-L01-A1, dated 2016-08-29 was modified on 2017-07-28 to include the following changes and/or additions:

1. Six new models: TM-2019, TM-2019T, TM-2019TJ, TM-2020, TM-2020T and TM-2020TJ were added. The detail differences are as below:

| Model | Type of Resistance | With/without bread supportor |
|-----------|---|------------------------------|
| TM-2019 | Mechanical temperature sensing resistor | Without bread supportor |
| TM-2019T | Thermistor | Without bread supportor |
| TM-2019TJ | | With bread supportor |
| TM-2020 | Mechanical temperature sensing resistor | Without bread supportor |
| TM-2020T | Thermistor | Without bread supportor |
| TM-2020TJ | | With bread supportor |

2. Compared with original model, TM-2019 series and TM-2006 series share similar construction except appearance and PCB with other models. TM-2020 series and TM-2005 series share similar construction except appearance and PCB with other models.
3. Update the CDF file.

After review, Cl.8, Cl.10, Cl.11, Cl.13, Cl.15, Cl.16, Cl.19, Cl.20, Cl.21, Cl.22, Cl.23, Cl.24, Cl.29 and Cl.30 (Cl.30.1&Cl.30.2.4) were performed on both TM-2019 and TM-2020T as representative.

Amendment 3:

The original test report ref. No. EFSH15030095-IE-01-L01, dated 2015-03-16, ref. No. EFSH15030095-IE-01-L01-A1, dated 2016-08-29, ref. No. EFSH15030095-IE-01-L01-A2, dated 2017-07-28 was modified on 2017-08-18 to include the following changes and/or additions:

1. Retested the temperature rising of magnetic coil winding.

After review, Cl.11.8(winding measurement) was considered on TM-2019 and TM-2020T.

Amendment 4:

The original test report ref. No. EFSH15030095-IE-01-L01, dated 2015-03-16, ref. No. EFSH15030095-IE-01-L01-A1, dated 2016-08-29, ref. No. EFSH15030095-IE-01-L01-A2, dated 2017-07-28, ref. No. EFSH15030095-IE-01-L01-A3, dated 2017-08-18 was modified on 2017-12-13 to include the following changes and/or additions:

1. The value of resistance on PCB for TM-2020T and TM-2020TJ was changed. Detail refers to photos.

After review, tests of Cl.10, Cl.11, Cl.13, Cl.15 and Cl.16 were performed on TM-2020T as representative.

This report is only valid in conjunction with the original test report: EFSH15030095-IE-01-L01, EFSH15030095-IE-01-L01-A1, EFSH15030095-IE-01-L01-A2 and EFSH15030095-IE-01-L01-A3.

| IEC 60335-2-9 | | | |
|---------------|---|----------------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| 10 | POWER INPUT AND CURRENT | | -- |
| 10.1 | Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 ...: | (see appended table) | P |
| | Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless | | P |
| | the rated power input is related to the arithmetic mean value | | N/A |
| | Power input of induction hotplates measured separately (IEC 60335-2-9) | | N/A |
| 11 | HEATING | | -- |
| 11.1 | No excessive temperatures in normal use | | P |
| | Compliance for toasters is also checked by the test of 11. 101 (IEC 60335-2-9) | | N/A |
| 11.2 | The appliance is held, placed or fixed in position as described | Away from the walls | P |
| 11.3 | Temperature rises, other than of windings, determined by thermocouples | | P |
| | Temperature rises of windings determined by resistance method, unless | | N/A |
| | the windings are non-uniform or it is difficult to make the necessary connections | | N/A |
| 11.4 | Heating appliances operated under normal operation at 1.15 times rated power input (W) | 862,5W | P |
| 11.7 | Tests carried out in compliance with the paragraphs N° 1 to 12 (IEC 60335-2-9) | | P |
| 11.8 | Temperature rises monitored continuously and not exceeding the values in table 3 | (see appended table) | P |
| | If the temperature rise of a motor winding exceeds the value of table 3, or | | N/A |
| | if there is doubt with regard to classification of insulation, | | N/A |
| | tests of Annex C are carried out | | N/A |
| | Sealing compound does not flow out | | P |
| | Protective devices do not operate, except | | P |
| | components in protective electronic circuits tested for the number of cycles specified in 24.1.4 | | N/A |
| | For radiant grills, rotary grills and raclette grills, hotplates and cookers, temperature rise of the wall of the test corner not exceed 75 K (IEC 60335-2-9) | | N/A |

| IEC 60335-2-9 | | | |
|---------------|--|----------------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| | When an appliance connector incorporates a thermostat, the temperature rise limit for the pins of the inlet does not apply (IEC 60335-2-9) | | N/A |
| | The temperature rise limits of motors, transformers, components of electronic circuit and parts directly influenced by them may be exceeded when the appliance is operated at 1,15 times rated power input (IEC 60335-2-9) | | N/A |
| | Cheese used in sandwich toasting attachments doesn't flow into places where it can give rise to a hazard, such as reducing clearances or creepage distances below the values specified in Clause 29 (IEC 60335-2-9). | | N/A |
| 13 | LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE | | -- |
| 13.1 | Leakage current not excessive and electric strength adequate | | P |
| | Heating appliances operated at 1.15 times the rated power input (W) | 862,5W | P |
| | Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V) | | N/A |
| | Protective impedance and radio interference filters disconnected before carrying out the tests | | N/A |
| | grill incorporated in oven, oven or grill operated most unfavourable (IEC 60335-2-9). | | N/A |
| 13.2 | For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990 | | N/A |
| | For other appliances, a low impedance ammeter may be used | | P |
| | Leakage current measurements | (see appended table) | P |
| | If earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn connected to earthed metal not exceeding 0,75 mA (IEC 60335-2-9) | | N/A |
| | If no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn not exceeding 0,25 mA (IEC 60335-2-9) | | N/A |
| 13.3 | The appliance is disconnected from the supply | | P |
| | Electric strength tests according to table 4..... | (see appended table) | P |
| | No breakdown during the tests | | P |

| IEC 60335-2-9 | | | |
|---------------|--|----------------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| 15 | MOISTURE RESISTANCE | | -- |
| 15.3 | Appliances proof against humid conditions | | P |
| | Checked by test Cab: Damp heat steady state in IEC 60068-2-78 | | P |
| | Detachable parts removed and subjected, if necessary, to the humidity test with the main part | | P |
| | Humidity test for 48 h in a humidity cabinet | 23°C, 93%R.H | P |
| | Reassembly of those parts that may have been removed | | P |
| | The appliance withstands the tests of clause 16 | | P |
| 16 | LEAKAGE CURRENT AND ELECTRIC STRENGTH | | -- |
| 16.1 | Leakage current not excessive and electric strength adequate | | P |
| | Protective impedance disconnected from live parts before carrying out the tests | | N/A |
| | Tests carried out at room temperature and not connected to the supply | | P |
| | For hotplates, the tests are carried out with a vessel as specified for normal operation placed on each cooking zone (IEC 60335-2-9). | | N/A |
| 16.2 | Single-phase appliances: test voltage 1.06 times rated voltage (V) | 254,4V~ | P |
| | Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V) | | N/A |
| | Leakage current measurements | (see appended table) | P |
| | Limit values doubled if: | | -- |
| | - all controls have an off position in all poles, or | | N/A |
| | - the appliance has no control other than a thermal cut-out, or | | N/A |
| | - all thermostats, temperature limiters and energy regulators do not have an off position, or | | N/A |
| | - the appliance has radio interference filters | | N/A |
| | With the radio interference filters disconnected, the leakage current do not exceed limits specified | | N/A |
| | If earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn connected to earthed metal not exceeding 0,75 mA (IEC 60335-2-9) | | N/A |

| IEC 60335-2-9 | | | |
|---------------|--|----------------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |
| | If no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn not exceeding 0,25 mA (IEC 60335-2-9) | | N/A |
| 16.3 | Electric strength tests according to table 7.....: | (see appended table) | P |
| | Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified | (see appended table) | P |
| | No breakdown during the tests | | P |

| IEC 60335-2-9 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |

| | | | | | | |
|--|-------------------------------------|-------------|----------------|-----------|--------------------|------------------|
| 10.1 | TABLE: Power input deviation | | | | | P |
| Input deviation of/at: | | P rated (W) | P measured (W) | dP (W, %) | Required dP (W, %) | Remark |
| TM-2020T | | 650 | 635 | -2,3% | -10%~+5% | Supplied at 220V |
| TM-2020T | | 750 | 754 | +0,5% | -10%~+5% | Supplied at 240V |
| Supplementary information: Tests have been done under both 50Hz and 60Hz, the most unfavourable data was recorded. | | | | | | |

| | | | | | | |
|------------------------|---|--|--------|-------|-------------|----------|
| 11.8 | TABLE: Heating test, thermocouples | | | | | P |
| | Test voltage (V) | | | 257,2 | | — |
| | Ambient (°C) | | | 23 | | — |
| Thermocouple locations | | | dT (K) | | Max. dT (K) | |
| Main PCB | | | 36,6 | | 120 | |

| | | | | |
|---|--|--------|---------------------|---|
| 13.2 | TABLE: Leakage current | | | P |
| | Heating appliances: 1.15 x rated input | 862,5W | | — |
| | Motor-operated and combined appliances: 1.06 x rated voltage..... | N/A | | — |
| Leakage current between | | I (mA) | Max. allowed I (mA) | |
| L/N – Earthing metal parts | | 0,114 | 0,75 | |
| L/N – Enclosure (with metal foil or ungrounded metal parts) | | 0,058 | 0,35 peak | |
| L/N – Switch/knob/handle | | 0,064 | 0,35 peak | |
| supplementary information: | | | | |

| | | | | | | |
|---|---------------------------------|--|--|-------------|--------------------|----------|
| 13.3 | TABLE: Electric strength | | | | | P |
| Test voltage applied between: | | | | Voltage (V) | Breakdown (Yes/No) | |
| L/N – Earthing metal parts | | | | 1000 | No | |
| Internal wire – Enclosure (with metal foil or ungrounded metal parts) | | | | 1750 | No | |
| L/N – Switch/knob/handle | | | | 3000 | No | |

| IEC 60335-2-9 | | | |
|---------------|--------------------|-----------------|---------|
| Clause | Requirement - Test | Result - Remark | Verdict |

| | | | |
|---|--|--------|---------------------|
| 16.2 | TABLE: Leakage current | | P |
| | Single phase appliances: 1.06 x rated voltage | 254,4V | — |
| | Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$:..... | N/A | — |
| Leakage current between | | I (mA) | Max. allowed I (mA) |
| L/N – Earthing metal parts | | 0,143 | 0,75 |
| L/N – Enclosure (with metal foil or ungrounded metal parts) | | 0,068 | 0,25 |
| L/N – Handle | | 0,074 | 0,25 |

| | | | |
|---|---------------------------------|-------------|--------------------|
| 16.3 | TABLE: Electric strength | | P |
| Test voltage applied between: | | Voltage (V) | Breakdown (Yes/No) |
| L/N – Earthing metal parts | | 1250 | No |
| Internal wire – Enclosure (with metal foil or ungrounded metal parts) | | 1750 | No |
| L/N – Switch/knob/handle | | 3000 | No |

Photo 1

Description: PCB view 1 for TM-2020T, TM-2020TJ

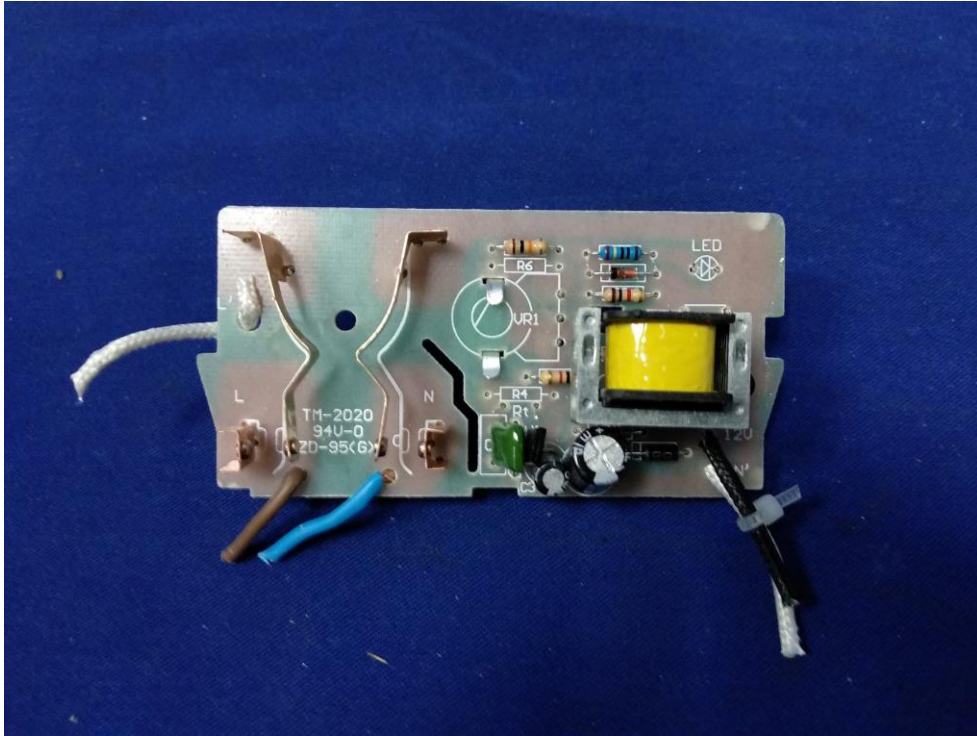


Photo 2

Description: PCB view 2 for TM-2020T, TM-2020TJ

