

ROHS TEST REPORT

| Report Reference No | ZKT-2401100488R | | | |
|---|--|------------|--|--|
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| Testing Laboratory: | Shenzhen ZKT Technology Co., Ltd. | | | |
| Address: | : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China | | | |
| Applicant's name: | Zhongshan Yiheng Electrical Equipment Co.,Ltd | ł | | |
| Address | | | | |
| Manufacturer's name | Zhongshan Yiheng Electrical Equipment Co.,Lto | k | | |
| Address: | 7th floor, elevator 2, No.1 Fuqing 1st Road, Henglan Town, Zhongshan City | | | |
| Test Requested: | | Conclusion | | |
| RoHS Directive 2011/65/EU Anne Annex (EU)2017/2102 Lead, Cadmium, Mercury, Hexa Di-(2-ethylhexyl) phthalate(DEF (DBP), Diisobutyl phthalate(DIBP) | x II amending Annex (EU)2015/863 and amending avalent Chromium, PBBs and PBDEs Content IP), Benzylbutyl phthalate(BBP), Dibutyl phthalate) Content | PASS | | |
| Test Report Form No | | | | |
| Test Report Form(s) Originator: | ZKT Testing | | | |
| Master TRF: | Dated: 2017-06 | | | |
| This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of ZKT Test. | | | | |
| Test item description: | Water vapor fireplace | | | |
| Trade Mark : | N/A | | | |
| Model/Type reference | | | | |











2. Test Item Description And Photo List

| Sample No. | Description | | | |
|------------|---------------------------|--|--|--|
| 001 | Black plastic | | | |
| 002 | Switch | | | |
| 003 | PCB | | | |
| 004 | IC | | | |
| 005 | TIN | | | |
| 006 | SMD CAPACITOR | | | |
| 007 | SMD RESISTOR | | | |
| 008 | LED | | | |
| 009 | black wire | | | |
| 010 | SMD DIODE | | | |
| 011 | SMD TRANSISTOR | | | |
| 012 | Screw | | | |
| 28 | Data wire | | | |
| 013 | Black plastic wire jacket | | | |
| 014 | Black plastic | | | |
| 015 | Silver metal | | | |
| 016 | Golden metal | | | |
| 017 | White plastic | | | |
| 018 | Copper wire | | | |







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3. Test Results

3.1 Screening test for the specified hazardous substances of RoHS for the selected materials of the submitted sample:

- Heavy Metal (Cadmium, Chromium, Mercury, Lead) Content Test

- Bromine Content Test

According to IEC 62321-3-1:2013, and Quantification analyzed with Energy Dispersive X-ray Fluorescence Spectrometers.

| Sample No. | Total | Total | Total | Total | Total Bromine |
|------------|---------|-------|---------|----------|---------------|
| | Cadmium | Lead | Mercury | Chromium | |
| Sample 001 | BL | BL | BL | BL | BL |
| Sample 002 | BL | BL | BL | BL | BL |
| Sample 003 | BL | BL | BL | BL | BL |
| Sample 004 | BL | BL | BL | BL | BL |
| Sample 005 | BL | BL | BL | BL | N.A. |
| Sample 006 | BL | BL | BL | BL | BL |
| Sample 007 | BL | BL | BL | BL | BL |
| Sample 008 | BL | BL | BL | BL | BL |
| Sample 009 | BL | BL | BL | BL | BL |
| Sample 010 | BL | BL | BL | BL | BL |
| Sample 011 | BL | BL | BL | BL | BL |
| Sample 012 | BL | BL | BL | BL | N.A. |
| Sample 013 | BL | BL | BL | BL | BL |
| Sample 014 | BL | BL | BL | BL | BL |
| Sample 015 | BL | BL | BL | BL | N.A. |
| Sample 016 | BL | BL | BL | BL | N.A. |
| Sample 017 | BL | BL | BL | BL | BL |
| Sample 018 | BL | BL | BL | BL | N.A. |

Note:

All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm

"OL" denotes "over limit"

"BL" denotes "below limit"

"N.A." denotes "Not Applicable"

"Inconclusive" denotes result is intermediate between "OL" and "BL"

"^"denotes the screening result was inconclusive(X) or over limit (OL), thus further confirmation test was conducted, results are listed in 3.2 and 3.3.

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XRF screening limits for different materials:

| | Matariala | Concentration (mg/kg) | | | | | |
|---|-----------|---|---------------|--|---|--|--|
| | Waterials | Cd | Cr | Pb | Hg | Br | |
| | Motol | BL≤(70-3σ) <x<< th=""><th>BL≤(700-3σ)<Χ</th><th>BL≤(700-3σ)<x<< th=""><th>BL≤(700-3σ)<x<< th=""><th>N.A.</th></x<<></th></x<<></th></x<<> | BL≤(700-3σ)<Χ | BL≤(700-3σ) <x<< th=""><th>BL≤(700-3σ)<x<< th=""><th>N.A.</th></x<<></th></x<<> | BL≤(700-3σ) <x<< th=""><th>N.A.</th></x<<> | N.A. | |
| R | Metal | (130+3σ)≤OL | | (1300+3σ)≤OL | (1300+3σ)≤OL | | |
| | Polymore | BL≤(70-3σ) <x<< th=""><th>BL≤(700-3σ)<Χ</th><th>BL≤(700-3σ)<x<< th=""><th>BL≤(700-3σ)<x<< th=""><th>Br N.A. BL≤(300-3σ)< X BL≤(250-3σ)< X</th></x<<></th></x<<></th></x<<> | BL≤(700-3σ)<Χ | BL≤(700-3σ) <x<< th=""><th>BL≤(700-3σ)<x<< th=""><th>Br N.A. BL≤(300-3σ)< X BL≤(250-3σ)< X</th></x<<></th></x<<> | BL≤(700-3σ) <x<< th=""><th>Br N.A. BL≤(300-3σ)< X BL≤(250-3σ)< X</th></x<<> | Br N.A. BL≤(300-3σ)< X BL≤(250-3σ)< X | |
| | Polymers | (130+3σ)≤OL | 6 | (1300+3σ)≤OL | (1300+3σ)≤OL | Х | |
| | Composite | BL≤(50-3σ) <x<< th=""><th>BL≤(500-3σ)<Χ</th><th>BL≤(500-3σ)<x<< th=""><th>BL≤(500-3σ)<x<< th=""><th>BL≤(250-3σ)<</th></x<<></th></x<<></th></x<<> | BL≤(500-3σ)<Χ | BL≤(500-3σ) <x<< th=""><th>BL≤(500-3σ)<x<< th=""><th>BL≤(250-3σ)<</th></x<<></th></x<<> | BL≤(500-3σ) <x<< th=""><th>BL≤(250-3σ)<</th></x<<> | BL≤(250-3σ)< | |
| | material | (150+3σ)≤OL | | (1500+3σ)≤OL | (1500+3σ)≤OL | Х | |

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3. 2 Test for Heavy Metals

Lead, Cadmium, Hexavalent Chromium and Mercury Tests according to IEC 62321-4:2013+A1:2017 & IEC 62321-5:2013 & IEC 62321-7-1:2015& IEC 62321-7-2:2017, Analysis was conducted by ICP-OES, UV-VIS.

| | Total | Total Lead | Total Mercury | Hexavalent | Hexavalent |
|------------------------|---------|------------|----------------------|------------|------------|
| Element | Cadmium | [mg/kg] | [mg/kg] | Chromium | Chromium |
| | [mg/kg] | | | [µg/cm2] | [mg/kg] |
| Detection Limit | 5 | 5 | 5 | 0.10 | 5 |
| Limit | 100 | 1000 | 1000 | 0.10 | 1000 |

Note:

- 1. All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm.
- 2. "N.D." = "Not Detected".
- 3. Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer: the detected concentration in boiling-water-extraction solution is less than 0.10µg with 1cm2 sample surface area. Positive = Presence of Cr(VI) coating / surface layer: the detected concentration in boiling-water-extraction solution is greater than 0.13µg with 1cm2 sample surface area.

Inconclusive =the detected concentration in boiling-water-extraction solution is greater than 0.10µg and less than 0.13µg with 1cm2 sample surface area.

- 4. Positive = result be regarded as not comply with RoHS requirement Negative = result be regarded as comply with RoHS requirement
- 5. "-" =Not regulated





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3. 3 Test for Flame retardants

Test Method: With reference to IEC 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting Limit: 5mg/kg]

| Test Item | | Result [mg/kg] | RoHS | |
|-----------|--------------------------|----------------|---------------------|--|
| | | Sample 003 | Requirement [mg/kg] | |
| S | Monobromobiphenyl | < 5 | | |
| | Dibromobiphenyl | < 5 | | |
| Ī | Tribromobiphenyl | < 5 | | |
| Ī | Tetrabromobiphenyl | < 5 | | |
| Ī | Pentabromobiphenyl | < 5 | | |
| PBBs | Hexabromobiphenyl | < 5 | Sum of PBBs | |
| | Heptabromobiphenyl | < 5 | - < 1000 | |
| Ī | Octabromobiphenyl | < 5 | | |
| | Nonabromobiphenyl | < 5 | | |
| - | Decabromobiphenyl | < 5 | | |
| | Sum of PBBs | < 5 | | |
| | Monobromodiphenyl Ether | < 5 | | |
| Γ | Dibromodiphenyl Ether | < 5 | | |
| Γ | Tribromodiphenyl Ether | < 5 | | |
| Ī | Tetrabromodiphenyl Ether | < 5 | - | |
| | Pentabromodiphenyl Ether | < 5 | | |
| PBDEs | Hexabromodiphenyl Ether | < 5 | Sum of PBDEs | |
| | Heptabromodiphenyl Ether | < 5 | < 1000 | |
| | Octabromodiphenyl Ether | < 5 | | |
| | Nonabromodiphenyl Ether | < 5 | | |
| | Decabromodiphenyl Ether | < 5 | | |
| | Sum of PBDEs | < 5 | | |

Note:

1. All Concentrations express in "mg/kg" (milligram per kilogram), mg/kg ~ ppm.

2. "<" denotes less than

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3.4 Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) Content—RoHS Directive 2011/65/EU Annex II amending Annex (EU)2017/2102

Test method: With reference to IEC 62321-8:2017; Analysis was conducted by GC-MS.

| Element | Di-(2-ethylhexyl) | Benzylbutyl | Dibutyl phthalate | Diisobutyl |
|-----------------|-------------------|-----------------|-------------------|-----------------|
| S | phthalate (DEHP) | phthalate (BBP) | (DBP) | phthalate(DIBP) |
| | [mg/kg] | [mg/kg] | [mg/kg] | [mg/kg] |
| Detection Limit | 50 | 50 | 50 | 50 |
| Limit | 1000 | 1000 | 1000 | 1000 |
| Sample 001 | N.D. | N.D. | N.D. | N.D. |
| Sample 002 | N.D. | N.D. | N.D. | N.D. |
| Sample 003 | N.D. | N.D. | N.D. | N.D. |
| Sample 004 | N.D. | N.D. | N.D. | N.D. |
| Sample 006 | N.D. | N.D. | N.D. | N.D. |
| Sample 007 | N.D. | N.D. | N.D. | N.D. |
| Sample 008 | N.D. | N.D. | N.D. | N.D. |
| Sample 009 | N.D. | N.D. | N.D. | N.D. |
| Sample 010 | N.D. | N.D. | N.D. | N.D. |
| Sample 011 | N.D. | N.D. | N.D. | N.D. |
| Sample 013 | N.D. | N.D. | N.D. | N.D. |
| Sample 014 | N.D. | N.D. | N.D. | N.D. |
| Sample 017 | N.D. | N.D. | N.D. | N.D. |
| | | | | |

Note:

All Concentrations express in "mg/kg"(milligram per kilogram), mg/kg ~ ppm. "N.D." = "Not Detected".

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ANNEX A: Photo-documentation





EUT Photo 2



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