
RoHS Test Report

Report No. : AGC07709210401-001

SAMPLE NAME : Mini Din Connector

MODEL NAME : RHT-633

APPLICANT : Shenzhen Renhotec Technology Electronics Co., Ltd

STANDARD(S) : Please refer to follow page(s).

DATE OF ISSUE : Apr.09, 2021

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Applicant : Shenzhen Renhotec Technology Electronics Co., Ltd
Address : 8th Floor, Building 1, Yongfu Science and Technology Innovation Center
Industrial Park, Nanzha District 5, Humen Town, Dongguan City, China
Test Site : 6/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China

Report on the submitted sample(s) said to be:

Sample Name : Mini Din Connector
Model : RHT-633
Supplier : Renhotec
Manufacturer : Shenzhen Renhotec Technology Electronics Co., Ltd
Address : 8th Floor, Building 1, Yongfu Science and Technology Innovation Center
Industrial Park, Nanzha District 5, Humen Town, Dongguan City, China
Sample Received Date : Apr.02, 2021
Testing Period : Apr.02, 2021 to Apr.09, 2021

Test Requested:

As specified by client, to determine the Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the submitted sample in accordance with Directive 2011/65/EU (RoHS) and its amendment directive (EU) 2015/863 on XRF and Chemical Method.

Conclusion**Pass**Approved by: 

Liangdan, Jessie.Liang

Technical Director

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| No. | Sample Description | |
|--------------------|--------------------|-------------------------|
| Mini Din Connector | | |
| 1 | Connector | Black soft rubber shell |
| 2 | | Black plastic shell |
| 3 | | Silver metal shell |
| 4 | | Black plastic plug |
| 5 | | Meta contact pin |

Test Result:

(Test Method/ Instrument/ MDL and Limit: See Appendix)

| No. | Test result (mg/kg) | | | | | | | | | | Conclusion |
|-----|---------------------|------|------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
| | Pb | Cd | Hg | Cr ⁶⁺ | PBBs | PBDEs | DIBP | DBP | BBP | DEHP | |
| 1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D.* | N.D.* | N.D.* | N.D.* | Conformity |
| 2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D.* | N.D.* | N.D.* | N.D.* | Conformity |
| 3 | N.D. | N.D. | N.D. | N.D. | N/A | N/A | N/A | N/A | N/A | N/A | Conformity |
| 4 | N.D. | N.D. | N.D. | 257 | N.D.* | N.D.* | N.D.* | N.D.* | N.D.* | N.D.* | Conformity |
| 5 | 308 | N.D. | N.D. | N.D. | N/A | N/A | N/A | N/A | N/A | N/A | Conformity |

Note:

mg/kg = milligram per kilogram

 $\mu\text{g}/\text{cm}^2$ = microgram per square centimeter

MDL = Method Detection Limit

N.D.=Not Detected (less than method detection limit)

N/A= Not applicable

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Remark:

- *denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, nonuniformity composition, surface flatness.
- This XRF Scanning report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF scanning report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

- Boiling-water-extraction:

| Number | Colorimetric result (Cr(VI) concentration) | Qualitative result |
|--------|---|--|
| 1 | The sample solution is < the 0,10 $\mu\text{g}/\text{cm}^2$ equivalent comparison standard solution | The sample is negative for Cr(VI) – The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating. |
| 2 | The sample solution is \geq the 0,10 $\mu\text{g}/\text{cm}^2$ and \leq the 0,13 $\mu\text{g}/\text{cm}^2$ equivalent comparison standard solutions | The result is considered to be inconclusive – Unavoidable coating variations may influence the determination. |
| 3 | The sample solution is > the 0,13 $\mu\text{g}/\text{cm}^2$ equivalent comparison standard solution | The sample is positive for Cr(VI) – The Cr(VI) concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI). |

- Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification.

The coating is considered a non-Cr(VI) based coating.

Uncertainty indicates the absence of Cr(VI) on the tested areas unavoidable coating variations may influence the determination.

Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

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Appendix:

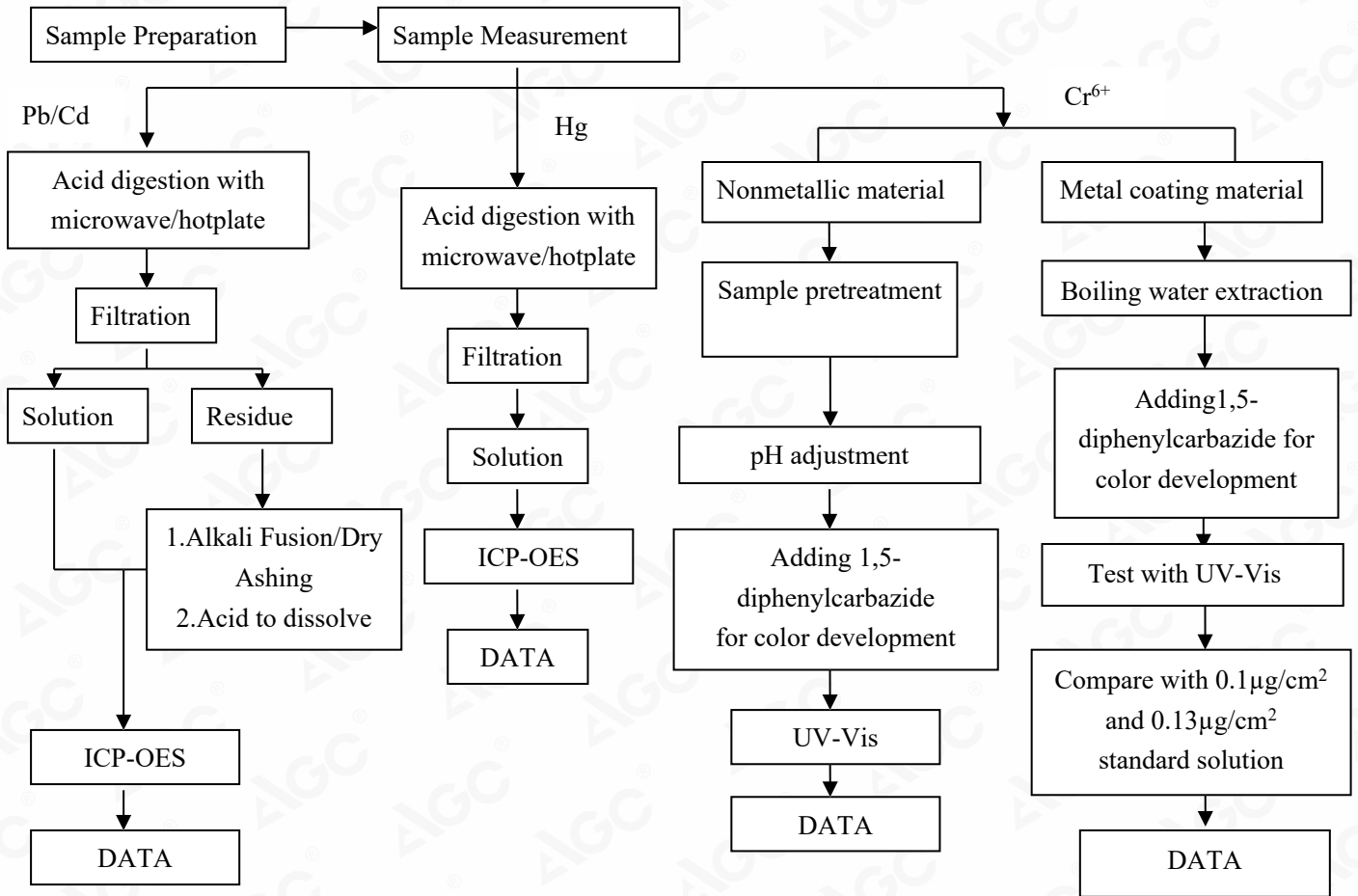
| Test Item | Test Method/ Instrument | MDL | Maximum Limit |
|---|---------------------------------------|-----------------------|------------------|
| X-ray Fluorescence Spectrometry(XRF) | | | |
| Lead (Pb) | IEC 62321-3-1:2013 / XRF | 200mg/kg | 1000mg/kg |
| Cadmium (Cd) | | 50mg/kg | 100mg/kg |
| Mercury (Hg) | | 200mg/kg | 1000mg/kg |
| Total Chromium | | 200mg/kg | / |
| Total Bromine | | 200mg/kg | / |
| Wet Chemistry Method | | | |
| Lead (Pb) | IEC 62321-5:2013/ICP-OES | 10mg/kg | 1000mg/kg |
| Cadmium (Cd) | IEC 62321-5:2013/ ICP-OES | 10mg/kg | 100mg/kg |
| Mercury (Hg) | IEC 62321-4: 2013+A1:2017/ ICP-OES | 10mg/kg | 1000mg/kg |
| Non-metal Hexavalent Chromium (Cr ⁶⁺) | IEC 62321-7-2:2017/ UV-Vis | 8mg/kg | 1000mg/kg |
| Metal Hexavalent Chromium (Cr ⁶⁺) | IEC 62321-7-1:2015/ UV-Vis | 0.1µg/cm ² | / |
| Polybrominated Biphenyls (PBBs) -Monobromobiphenyl (MonoBB) -Dibromobiphenyl (DiBB) -Tribromobiphenyl (TriBB) -Tetrabromobiphenyl (TetraBB) -Pentabromobiphenyl (PentaBB) -Hexabromobiphenyl (HexaBB) -Heptabromobiphenyl (HeptaBB) -Octabromobiphenyl (OctaBB) -Nonabromodiphenyl (NonaBB) -Decabromodiphenyl (DecaBB) | IEC 62321-6:2015/ GC-MS | Single 5mg/kg | Sum 1000mg/kg |
| Polybrominated Diphenylethers (PBDEs) -Monobromodiphenyl ether (MonoBDE) -Dibromodiphenyl ether (DiBDE) -Tribromodiphenyl ether (TriBDE) -Tetrabromodiphenyl ether (TetraBDE) -Pentabromodiphenyl ether (PentaBDE) -Hexabromodiphenyl ether (HexaBDE) -Heptabromodiphenyl ether (HeptaBDE) -Octabromodiphenyl ether (OctaBDE) -Nonabromodiphenyl ether (NonaBDE) -Decabromodiphenyl ether (DecaBDE) | IEC 62321-6:2015/ GC-MS | Single 5mg/kg | Sum 1000mg/kg |
| Di-iso-butyl phthalate (DIBP) | IEC 62321-8:2017/ GC-MS | 50mg/kg | 1000mg/kg |
| Dibutyl phthalate (DBP) | | 50mg/kg | 1000mg/kg |
| Butylbenzyl phthalate (BBP) | | 50mg/kg | 1000mg/kg |
| Di-(2-ethylhexyl) Phthalate (DEHP) | | 50mg/kg | 1000mg/kg |

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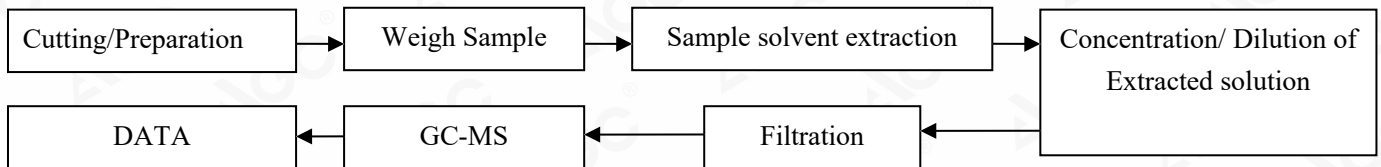
Test Flow Chart

1. For Pb, Cd, Hg, Cr⁶⁺



These sample were dissolved totally by pre-conditioning method according to above flow chart (Cr⁶⁺ test method excluded)

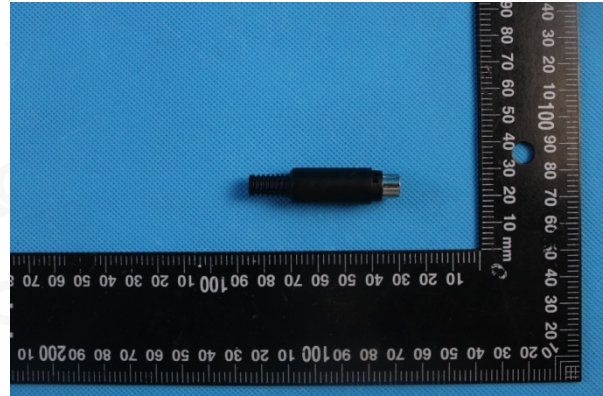
2. For PBBs, PBDEs, DBP, BBP, DEHP, DIBP



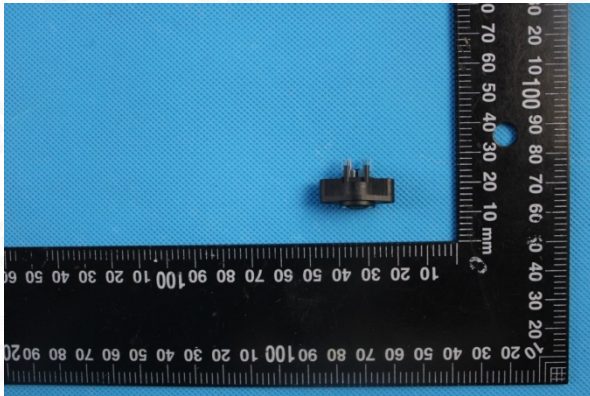
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The photo of the sample



Test sample



AGC07709210401-001

AGC authenticate the photo only on original report

*** End of Report ***

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