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| Fest Report  | No.:  | SHAEC24013680827   | Date:                                      | Jul 01, 2024     | Page 1 of 11  |  |  |
|--|---|--|--|------------------|---------------|--|--|
| Client Name: SH  | ANGHAI M                                    | AGNTEK MICRO-ELECTRO   | NICS INC.                                  |                  |               |  |  |
|  | D FLOOR, I<br>ANGHAI, C                     | BUILDING 6, 99 HAIKE ROA<br>HINA   | D, ZHANG                                   | JIANGPUDONG N    | NEW DISTRICT, |  |  |
| Sample Name:   | 0   | pen loop current sensor  |  |                  |               |  |  |
| Model No.:   | С   | B-2-3  |  |                  |               |  |  |
| The above sample(  | s) and infor                                | nation were provided by the  | client.                                    |                  |               |  |  |
| SGS Job No.:   | S   | HP24-019887  |  |                  |               |  |  |
| Sample Receiving I   | Date: Ju                                    | Jun 24, 2024   |  |                  |               |  |  |
| Testing Period:  | Ju  | Jun 24, 2024 ~ Jun 28, 2024  |  |                  |               |  |  |
| Test Requested:  | S   | Select test(s) as requested by the client.   |  |                  |               |  |  |
| Test Method(s):  | Р   | Please refer to next page(s).  |  |                  |               |  |  |
| Test Result(s):  | Р   | ease refer to next page(s).  |  |                  |               |  |  |
| Test Requiremen  | t   |  |  |                  | Conclusion    |  |  |
| - Lead, Mercury, C<br>(PBB), Polybromir<br>(DEHP), Butyl ber<br>phthalate (DIBP) | Cadmium, H<br>nated dipher<br>nzyl phthalat | /863 amending Annex II to D<br>exavalent chromium, Polybro<br>lyl ethers (PBDE), Bis(2-ethy<br>e (BBP), Dibutyl phthalate (D | minated bip<br>Ihexyl) phth<br>IBP) and Di | ohenyls<br>alate | Pass          |  |  |
| EU ROHS Directiv   | e (EU) 2015                                 | /863 amending Annex II to D  | virective                                  |                  | Pass          |  |  |

Signed for and on behalf of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

y Lon

Jenny Lan **Approved Signatory** 

Halogen



Pass

See Results

1



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### Test Report

### No.: SHAEC24013680827

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### Test Result(s):

Test Part Description:

| SN ID | Sample No. | SGS Sample ID           | Description       |
|-------|------------|-------------------------|-------------------|
| SN1   | A22        | SHA24-0136808-0001.C022 | Black body part   |
| SN2   | A23        | SHA24-0136808-0001.C023 | Silvery metal pin |
| SN3   | A24        | SHA24-0136808-0001.C024 | Silvery metal pin |

Remarks:

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

### EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

| Test Item(s)                                 | Limit | Unit(s) | MDL | A22 |
|--|-------|---------|-----|-----|
| Lead (Pb)                                    | 1000  | mg/kg   | 2   | ND  |
| Mercury (Hg)                                 | 1000  | mg/kg   | 2   | ND  |
| Cadmium (Cd)                                 | 100   | mg/kg   | 2   | ND  |
| Hexavalent Chromium (Cr(VI))                 | 1000  | mg/kg   | 8   | ND  |
| Polybromobiphenyl (PBB)                      | 1000  | mg/kg   | -   | ND  |
| Monobrominated biphenyl (MonoBB)             | -     | mg/kg   | 5   | ND  |
| Dibrominated biphenyl (DiBB)                 | -     | mg/kg   | 5   | ND  |
| Tribrominated biphenyl (TriBB)               | -     | mg/kg   | 5   | ND  |
| Tetrabrominated biphenyl (TetraBB)           | -     | mg/kg   | 5   | ND  |
| Pentabrominated biphenyl (PentaBB)           | -     | mg/kg   | 5   | ND  |
| Hexabrominated biphenyl (HexaBB)             | -     | mg/kg   | 5   | ND  |
| Heptabrominated biphenyl (HeptaBB)           | -     | mg/kg   | 5   | ND  |
| Octabrominated biphenyl (OctaBB)             | -     | mg/kg   | 5   | ND  |
| Nonabrominated biphenyl (NonaBB)             | -     | mg/kg   | 5   | ND  |
| Decabrominated biphenyl (DecaBB)             | -     | mg/kg   | 5   | ND  |
| Polybromodiphenyl ether(PBDE)                | 1000  | mg/kg   | -   | ND  |
| Monobrominated diphenyl ether (MonoBDE)      | -     | mg/kg   | 5   | ND  |
| Dibrominated diphenyl ether (DiBDE)          | -     | mg/kg   | 5   | ND  |
| Tribrominated diphenyl ether (TriBDE)        | -     | mg/kg   | 5   | ND  |
| Tetrabrominated diphenyl ether<br>(TetraBDE) | -     | mg/kg   | 5   | ND  |
| Pentabrominated diphenyl ether (PentaBDE)    | -     | mg/kg   | 5   | ND  |
| Hexabrominated diphenyl ether<br>(HexaBDE)   | -     | mg/kg   | 5   | ND  |



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3<sup>rf</sup>Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 中国 • 上海 • 徐汇区宜山路889号3号楼 邮编: 200233

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| Test Report No                         | D.: SHAEC240 | )13680827 | Date: Jul | 01, 2024 | Page 3 of | 11 |
|--|--------------|-----------|-----------|----------|-----------|----|
| Test Item(s)                           |              | Limit     | Unit(s)   | MDL      | A22       |    |
| Heptabrominated diphenyl<br>(HeptaBDE) | ether        | -         | mg/kg     | 5        | ND        |    |
| Octabrominated diphenyl e<br>(OctaBDE) | ether        | -         | mg/kg     | 5        | ND        |    |
| Nonabrominated diphenyl (NonaBDE)      | ether        | -         | mg/kg     | 5        | ND        |    |
| Decabrominated diphenyl (DecaBDE)      | ether        | -         | mg/kg     | 5        | ND        |    |
| Bis(2-ethylhexyl) phthalate            | (DEHP)       | 1000      | mg/kg     | 50       | ND        |    |
| Butyl benzyl phthalate (BB             | P)           | 1000      | mg/kg     | 50       | ND        |    |
| Dibutyl phthalate (DBP)                |              | 1000      | mg/kg     | 50       | ND        |    |
| Diisobutyl phthalate (DIBP             | )            | 1000      | mg/kg     | 50       | ND        |    |

#### Notes:

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

(2) IEC 62321 series is equivalent to EN 62321 series.

(3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

# EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

# **Test Method:** With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 and IEC 62321-7-1:2015, analysis was performed by ICP-OES/AAS and UV-Vis.

| Test Item(s)                  | Limit | Unit(s) | MDL  | A23 | A24 |
|-------------------------------|-------|---------|------|-----|-----|
| Lead (Pb)                     | 1000  | mg/kg   | 2    | 11  | 16  |
| Mercury (Hg)                  | 1000  | mg/kg   | 2    | ND  | ND  |
| Cadmium (Cd)                  | 100   | mg/kg   | 2    | ND  | ND  |
| Hexavalent Chromium (Cr(VI))▼ | -     | µg/cm²  | 0.10 | ND  | ND  |

#### Notes:

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) ▼ = a. The sample is positive for Cr(VI) if the Cr(VI)concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain Cr(VI).
  - b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 μg/cm<sup>2</sup>). The coating is considered a non-Cr(VI) based coating.
  - c. The result between 0.10 μg/cm<sup>2</sup> and 0.13 μg/cm<sup>2</sup> is considered to be inconclusive-unavoidable coating variations may influence the determination.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

#### <u>Halogen</u>

#### **Test Method:** With reference to EN 14582:2016, analysis was performed by IC.

| Test Item(s) | Unit(s) | MDL | A22 |
|--------------|---------|-----|-----|
| Fluorine(F)  | mg/kg   | 20  | ND  |





| Tes | st Report    | No.: | SHAEC240 | 13680827 | Date: | Jul 01, 2024 | Page 4 of 2 | 11 |
|-----|--------------|------|----------|----------|-------|--------------|-------------|----|
|     | Test Item(s) |      |          | Unit(s)  |       | MDL          | A22         |    |
|     | Chlorine(Cl) |      |          | mg/kg    |       | 50           | ND          |    |
|     | Bromine(Br)  |      |          | mg/kg    |       | 50           | ND          |    |
|     | lodine(I)    |      |          | mg/kg    |       | 50           | ND          |    |

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (*w*=0) stated in ILAC-G8:09/2019.



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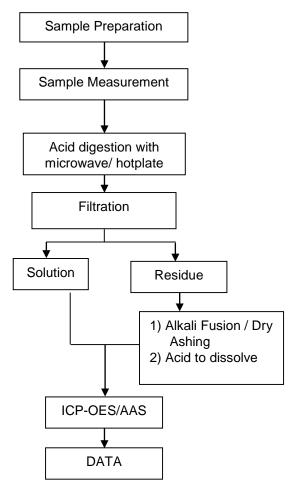


No.: SHAEC24013680827

Date: Jul 01, 2024

### **Elements Testing Flow Chart**

These samples were dissolved totally by pre-conditioning method according to below flow chart.



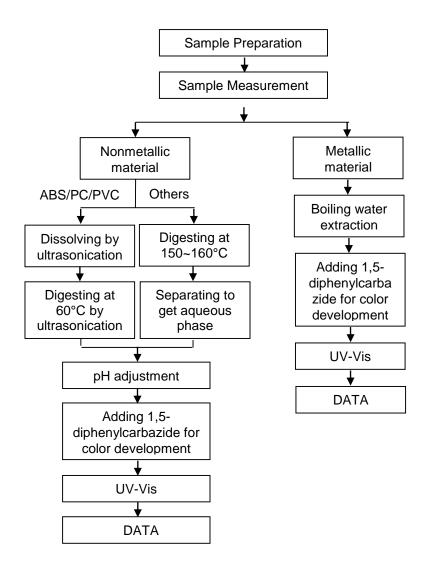


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No.: SHAEC24013680827

Hexavalent Chromium (Cr(VI)) Testing Flow Chart



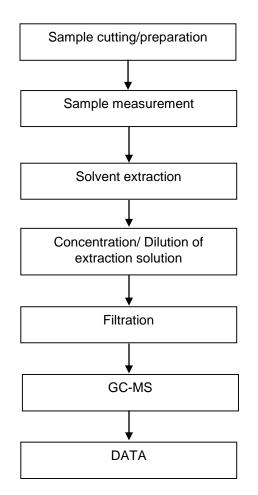


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### **PBB/PBDE Testing Flow Chart**





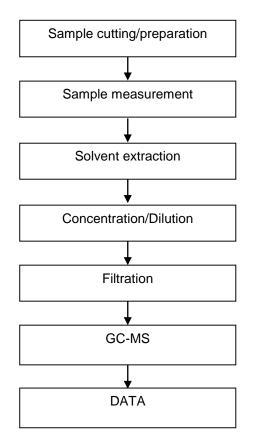
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Date: Jul 01, 2024

### **Phthalates Testing Flow Chart**



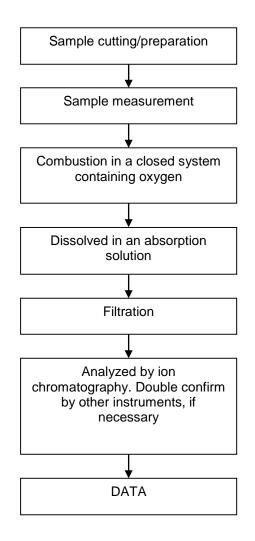


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### Halogen Testing Flow Chart





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