Test Report

AEM Components (Suzhou) Co., Ltd
461 Zhongnan Street, Suzhou Industrial Park, Jiangsu, P.R.C.

The following sample(s) was/were submitted and identified on behalf of the clients as: Thin Film Fuses

SGS Job No.: SHIN1906038587PC - SH
Product Specification: FF, HI
Date of Sample Received: 06 Jun 2019
Testing Period: 06 Jun 2019 - 13 Jun 2019
Test Requested: Selected test(s) as requested by client.
Test Method: Please refer to next page(s).
Test Results: Please refer to next page(s).

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

Serena Wang
Approved Signatory
Test Results:

Test Part Description:

Specimen No.  SGS Sample ID  Description
SN1  SHA19-120558.001  Green/yellow solid with silver metal(mix all*)

Remarks:

(1) 1 mg/kg = 0.0001%
(2) MDL = Method Detection Limit
(3) ND = Not Detected (< MDL)
(4) "-" = Not Regulated


<table>
<thead>
<tr>
<th>Test Item(s)</th>
<th>Limit</th>
<th>Unit</th>
<th>MDL</th>
<th>001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Cd)</td>
<td>100</td>
<td>mg/kg</td>
<td>2</td>
<td>ND</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>1000</td>
<td>mg/kg</td>
<td>2</td>
<td>ND</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>1000</td>
<td>mg/kg</td>
<td>2</td>
<td>ND</td>
</tr>
<tr>
<td>Hexavalent Chromium (Cr(VI))</td>
<td>1000</td>
<td>mg/kg</td>
<td>8</td>
<td>ND</td>
</tr>
<tr>
<td>Sum of PBBs</td>
<td>1000</td>
<td>mg/kg</td>
<td></td>
<td>ND</td>
</tr>
<tr>
<td>Monobromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Dibromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Tribromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Tetraflourobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Pentabromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Hexabromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Heptabromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Octabromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Nonabromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Decabromobiphenyl</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Sum of PBDEs</td>
<td>1000</td>
<td>mg/kg</td>
<td></td>
<td>ND</td>
</tr>
<tr>
<td>Monobromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Dibromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Tribromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Tetrabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
</tbody>
</table>
## Test Report

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### Test Item(s)

<table>
<thead>
<tr>
<th>Test Item(s)</th>
<th>Limit</th>
<th>Unit</th>
<th>MDL</th>
<th>MDL Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Hexabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Heptabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Octabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Nonabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Decabromodiphenyl ether</td>
<td>-</td>
<td>mg/kg</td>
<td>5</td>
<td>ND</td>
</tr>
<tr>
<td>Di-butyl Phthalate (DBP)</td>
<td>1000</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
<tr>
<td>Benzy1 Butyl Phthalate (BBP)</td>
<td>1000</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
<tr>
<td>Di-2-Ethyl Hexyl Phthalate (DEHP)</td>
<td>1000</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
<tr>
<td>Dibutyl Phthalates (DIBP)</td>
<td>1000</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
</tbody>
</table>

### Notes:

1. The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series. A reference to EN 14582: 2016, analysis was performed by IC.

2. On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the RoHS Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product. 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.

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, placed on the market before 22 July 2021.

4. The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the upgrading of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.

5. The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

### Halogen

<table>
<thead>
<tr>
<th>Test Item(s)</th>
<th>Unit</th>
<th>MDL</th>
<th>MDL Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorine (F)</td>
<td>mg/kg</td>
<td>50</td>
<td>512</td>
</tr>
<tr>
<td>Chlorine (Cl)</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
<tr>
<td>Bromine (Br)</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Test Item(s)</th>
<th>Unit</th>
<th>MDL</th>
<th>001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine (I)</td>
<td>mg/kg</td>
<td>50</td>
<td>ND</td>
</tr>
</tbody>
</table>

*The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value and only for reference.*
1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr$^{6+}$ and PBBs/PBDEs test method excluded)

- **Sample Preparation**
  - Acid digestion with microwave / hotplate
  - Sample solvent extraction
  - Concentration/ Dilution of extraction solution
  - Filtration
  - Solution
  - 1) Alkali Fusion / Dry Ashing
  - 2) Acid to dissolve
  - ICP-OES/AAS
  - DATA

- **Sample Measurement**
  - Pb/Cd/Hg/Cr$^{6+}$/PBBs/PBDEs
  - PBBs/PBDEs
  - Nonmetallic material
  - Metallic material
  - Cr$^{6+}$
  - Pb/Cd/Hg/Cr

- **Nonmetallic material**
  - Dissolving by ultrasonication
  - Digesting at 60°C by ultrasonication
  - Separating to get aqueous phase
  - pH adjustment
  - Adding 1,5-diphenylcarbazide for color development
  - UV-Vis
  - DATA

- **Metallic material**
  - Boiling water extraction
  - Digesting at 150~160°C
  - Adding 1,5-diphenylcarbazide for color development
  - UV-Vis
  - DATA

- **Absorbable/PVC**
  - Others
  - Digesting at 150~160°C
  - Separating to get aqueous phase
  - pH adjustment
  - Adding 1,5-diphenylcarbazide for color development
  - UV-Vis
  - DATA
Phthalates Testing Flow Chart

1. Sample cutting/preparation
2. Sample measurement
3. Solvent extraction
4. Concentration/Dilution
5. Filtration
6. GC-MS
7. DATA
Halogen Testing (oxygen bomb) Flow Chart

1. Sample cutting/preparation
2. Sample measurement
3. Combustion in oxygen bomb
4. Dissolved in an absorption solution
5. Filtration
6. Analyzed by ion chromatography. Double confirm by other instruments, if necessary

DATA
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Sample photo:

SGS authenticate the photo on original report only

*** End of Report ***