

Verification Report

No. SHAEC1726975601

Date: 02 Jan 2018

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Shanghai MXCHIP Information Technology Co.,Ltd

9th Floor, No.5, Lane 2145 Jinshajiang Road, Putuo District, Shanghai

Sample Name : EMW3060
SGS Job No. : SP17-041216 - SH
Tested Basic Model No. : EMW3060
Client Ref. Information : EMW3060-P;EMW3060-E
Date of Sample Received : 07 Dec 2017
Verification Period : 07 Dec 2017 - 26 Dec 2017
Verification Requested : With reference to RoHS Directive 2015/863/EU amending 2011/65/EU.
Verification Method : Please refer to next page(s).
Verification Result : Please refer to next page(s).
Verification Conclusion : Based on the verification results of the submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
Note : The test results are related only to the tested items. The report shall not be reproduced except in full without the written approval of the testing laboratory.

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

Helen Liu

Helen Liu
Approved Signatory



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Verification Method :

1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
 - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy
 - (2) Wet chemical test method
 - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES
 - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES
 - c. With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES
 - d. With reference to IEC 62321-7-1:2015 & IEC 62321:2008, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
 - e. With reference to IEC 62321-6:2015 , determination of PBBs and PBDEs by GC-MS
3. With reference to IEC 62321-8 (111/321/CD) determination of phthalates by GC-MS



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| Part No. | Part Description | Restricted Substances | Results of EDXRF(1) | Screening Result of PHTH(2) | Result of Wet Chemical Testing(3) (mg/kg) | Conclusion on EU RoHS | Sample Submitted / Resubmitted Date |
|----------|--|-----------------------|---------------------|-----------------------------|---|-----------------------|-------------------------------------|
| 1 | EMW3060-Silvery metal (shielding cover) | Pb | BL | --- | --- | Comply | 07 Dec 2017 |
| | | Cd | BL | --- | --- | Comply | |
| | | Hg | BL | --- | --- | Comply | |
| | | Cr(VI)▼ | BL | --- | --- | Comply | |
| | | PBBs | --- | --- | --- | --- | |
| | | PBDEs | --- | --- | --- | --- | |
| | | DBP | --- | --- | --- | --- | |
| | | BBP | --- | --- | --- | --- | |
| | | DEHP | --- | --- | --- | --- | |
| | | DIBP | --- | --- | --- | --- | |
| 2 | EMW3060-Silvery crystal resonator (body) | Pb | BL | --- | --- | Comply | 07 Dec 2017 |
| | | Cd | BL | --- | --- | Comply | |
| | | Hg | BL | --- | --- | Comply | |
| | | Cr(VI)▼ | IN | --- | ND | Comply | |
| | | PBBs | BL | --- | --- | Comply | |
| | | PBDEs | BL | --- | --- | Comply | |
| | | DBP | --- | IN | ND | Comply | |
| | | BBP | --- | IN | ND | Comply | |
| | | DEHP | --- | IN | ND | Comply | |
| | | DIBP | --- | IN | ND | Comply | |



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|----------|-------------------------|-----------------------|---------------------|-----------------------------|---|-----------------------|-------------------------------------|
| 3 | EMW3060-Black IC (body) | Pb | BL | --- | --- | Comply | 07 Dec 2017 |
| | | Cd | BL | --- | --- | Comply | |
| | | Hg | BL | --- | --- | Comply | |
| | | Cr(VI)▼ | BL | --- | --- | Comply | |
| | | PBBs | BL | --- | --- | Comply | |
| | | PBDEs | BL | --- | --- | Comply | |
| | | DBP | --- | IN | ND | Comply | |
| | | BBP | --- | IN | ND | Comply | |
| | | DEHP | --- | IN | ND | Comply | |
| DIBP | --- | IN | ND | Comply | | | |
| 4 | EMW3060-Blue PCB (body) | Pb | BL | --- | --- | Comply | 07 Dec 2017 |
| | | Cd | BL | --- | --- | Comply | |
| | | Hg | BL | --- | --- | Comply | |
| | | Cr(VI)▼ | BL | --- | --- | Comply | |
| | | PBBs | IN | --- | ND | Comply | |
| | | PBDEs | IN | --- | ND | Comply | |
| | | DBP | --- | IN | ND | Comply | |
| | | BBP | --- | IN | ND | Comply | |
| | | DEHP | --- | IN | ND | Comply | |
| DIBP | --- | IN | ND | Comply | | | |



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|----------|---------------------------------------|-----------------------|---------------------|-----------------------------|---|-----------------------|-------------------------------------|
| 5 | EMW3060-Silvery metal (soldering tin) | Pb | BL | --- | --- | Comply | 07 Dec 2017 |
| | | Cd | BL | --- | --- | Comply | |
| | | Hg | BL | --- | --- | Comply | |
| | | Cr(VI)▼ | BL | --- | --- | Comply | |
| | | PBBs | --- | --- | --- | --- | |
| | | PBDEs | --- | --- | --- | --- | |
| | | DBP | --- | --- | --- | --- | |
| | | BBP | --- | --- | --- | --- | |
| | | DEHP | --- | --- | --- | --- | |
| DIBP | --- | --- | --- | --- | | | |



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Remark :

- (1) (a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).
- (b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

| Element | Polymer | Metal | Composite Materials |
|---------|--|--|--|
| Cd | BL \leq (70-3 σ) < X < (130+3 σ) \leq OL | BL \leq (70-3 σ) < X < (130+3 σ) \leq OL | LOD < X < (150+3 σ) \leq OL |
| Pb | BL \leq (700-3 σ) < X < (1300+3 σ) \leq OL | BL \leq (700-3 σ) < X < (1300+3 σ) \leq OL | BL \leq (500-3 σ) < X < (1500+3 σ) \leq OL |
| Hg | BL \leq (700-3 σ) < X < (1300+3 σ) \leq OL | BL \leq (700-3 σ) < X < (1300+3 σ) \leq OL | BL \leq (500-3 σ) < X < (1500+3 σ) \leq OL |
| Br | BL \leq (300-3 σ) < X | -- | BL \leq (250-3 σ) < X |
| Cr | BL \leq (700-3 σ) < X | BL \leq (700-3 σ) < X | BL \leq (500-3 σ) < X |

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not regulated.

(d) The XRF screening test for RoHS elements - The reading may be different to the actual content in the sample be of non-uniformity composition.

- (2) Screening results of PHTH are for primary screening, and further chemical testing by GC-MS (for DBP, BBP, DEHP and DIBP) are recommended to be performed if the concentration exceeds the below warning value (unit: mg/kg)

| Compound | Polymer |
|----------|-------------------|
| DBP | BL \leq 600 < X |
| BBP | BL \leq 600 < X |
| DEHP | BL \leq 600 < X |
| DIBP | BL \leq 600 < X |

- (3) (a) mg/kg = 0.0001%, MDL=Method detection Limit, ND = Not Detected (<MDL), --- = Not conducted, - = Without BOM.

(b) Unit and MDL in wet chemical test

| Test Item | Pb | Cd | Hg | DBP | BBP | DEHP | DIBP |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| Unit | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| MDL | 10 | 10 | 10 | 100 | 100 | 100 | 100 |



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The MDL for single compound of PBBs and PBDEs is 100 mg/kg,
 MDL of Cr(VI) for polymer, composite and leather sample is 10 mg/kg,
 MDL of Cr(VI) for metal sample is 0.10µg/cm².

(c) ▼ =Metal sample

- a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm².
 The sample coating is considered to contain CrVI
- b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²).
 The coating is considered a non-CrVI based coating
- c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.

IEC 62321 series is equivalent to EN 62321 series

http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

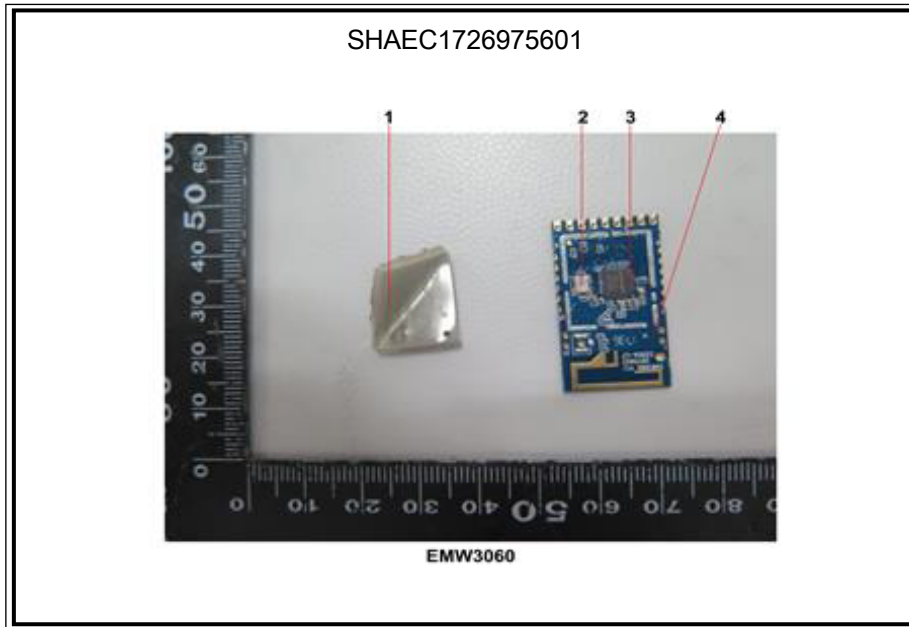
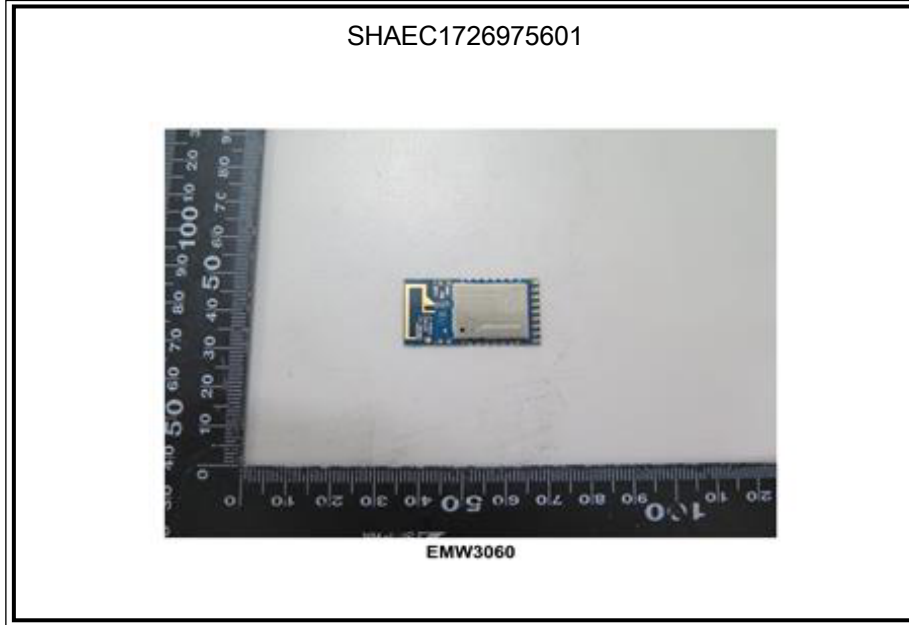
(4) According to the declaration from applicant, the materials of Model "EMW3060" are the same as those in Model "EMW3060-P; EMW3060-E" and its results for support the results of Model "EMW3060-P; EMW3060-E". The applicant will take the responsibility of all discrepancy and risk.



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Sample photo:



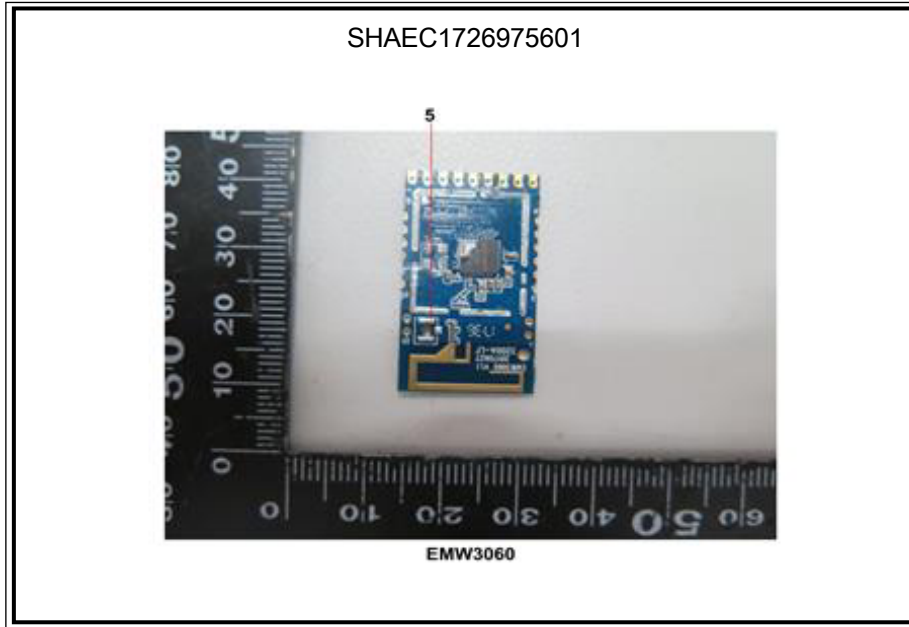
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