

## Verification Report

No. SHAEC1607293301

Date: 27 Apr 2016

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Shanghai MXCHIP Information Technology Co., Ltd

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

Sample Name : EMW3082  
SGS Job No. : SP16-012547 - SUZ  
Tested Basic Model No. : EMW3082  
Client Ref. Information : EMW3082A  
Date of Sample Received : 14 Apr 2016  
Verification Period : 14 Apr 2016 - 22 Apr 2016  
Verification Requested : With reference to RoHS Directive 2011/65/EU recasting 2002/95/EC.  
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) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.  
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.



Terry Wang  
Approved Signatory



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



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
1	White plastic (label) (PCB)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Apr 2016
2	Silvery metal (protective cover) (PCB)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL IN --- ---	--- --- --- ND --- ---	Comply Comply Comply Comply --- ---	14 Apr 2016
3	Silvery crystal resonator (body) (PCB)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Apr 2016
4	Gray capacitor (body) (PCB)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Apr 2016



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
5	Black IC (body) (PCB)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	14 Apr 2016
6	Silvery metal (soldering tin) (PCB)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	14 Apr 2016
7	Blue PCB (body)		Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL IN IN	--- --- --- --- ND ND	Comply Comply Comply Comply Comply Comply	14 Apr 2016



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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	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(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) (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
Unit	mg/kg	mg/kg	mg/kg
MDL	10	10	10

The MDL for single compound of PBBs and PBDEs is 100 mg/kg,  
 MDL of Cr(VI) for polymer and composite sample is 10 mg/kg,  
 MDL of Cr(VI) for metal sample is 0.10 µg/cm<sup>2</sup>.





(c) ▼ =Metal sample

- a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>.  
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/cm<sup>2</sup>).  
The coating is considered a non-CrVI 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.

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



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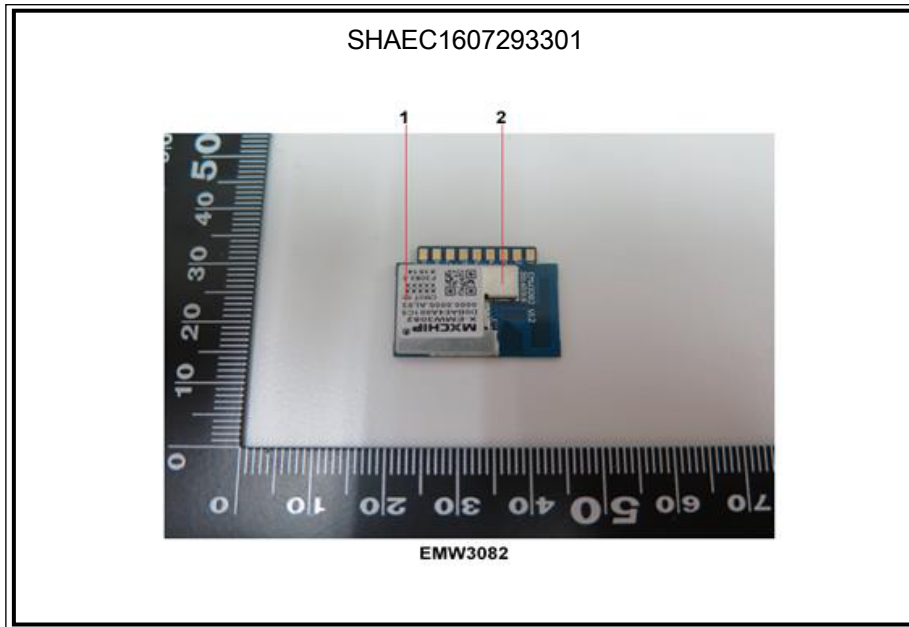
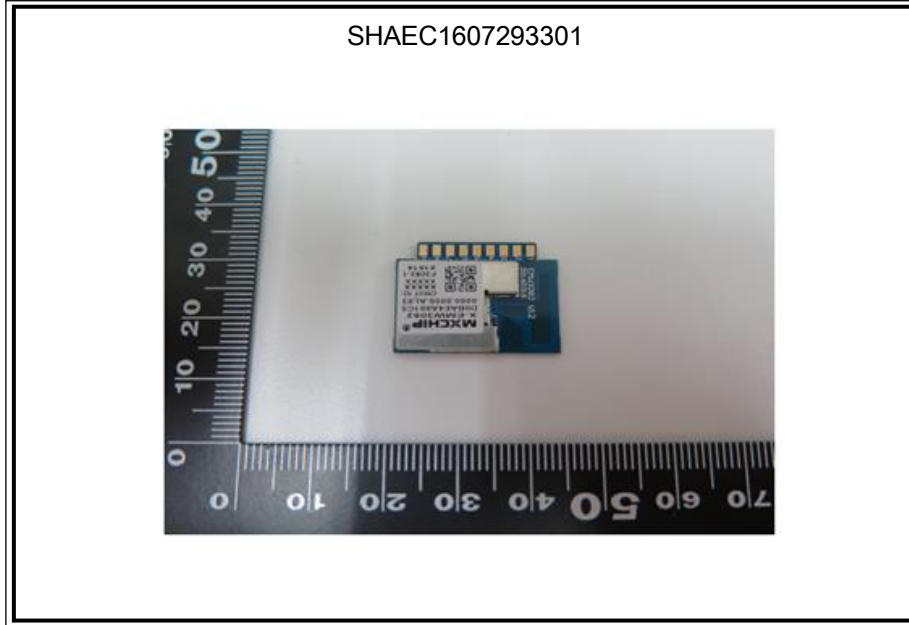
(3) According to the declaration from applicant, the materials of Model "EMW3082" are the same as those in Model "EMW3082A" and its results for support the results of Model "EMW3082A". The applicant will take the responsibility of all discrepancy and risk.



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Sample photo:

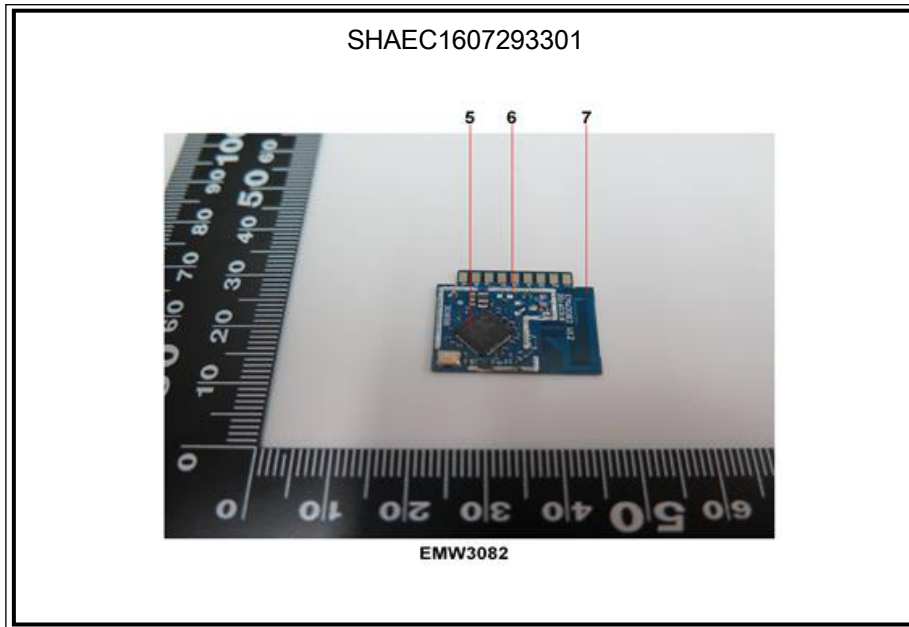
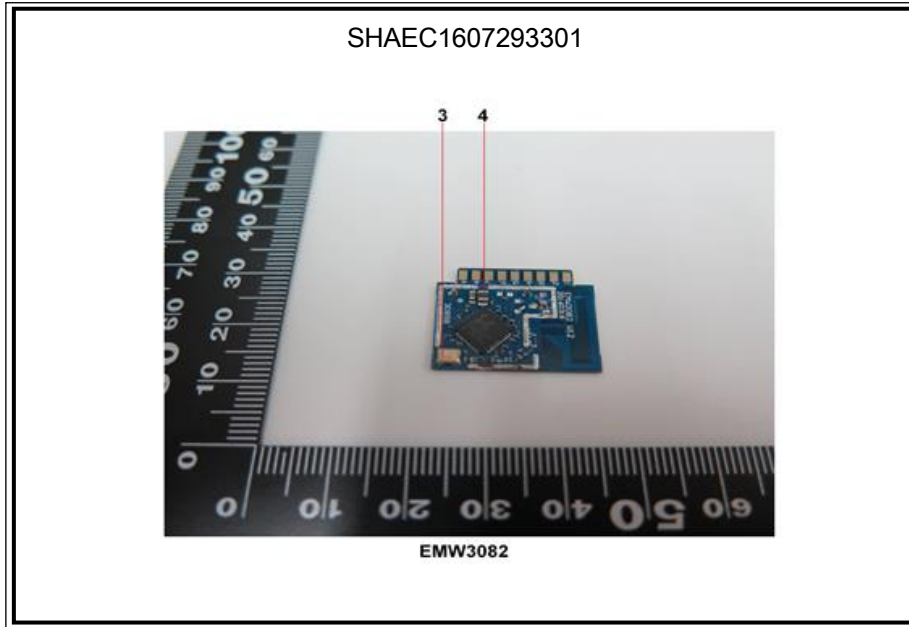


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