

## 验证报告

No. SHAEC1615411302

日期: 2016年07月29日 第1页,共12页

上海庆科信息技术有限公司  
上海市普陀区金沙江路2145弄5号9楼

样品名称: EMW5031  
SGS工作编号: SP16-025019 - SUZ  
测试基本型号: EMW5031  
客户参考信息: EMW5031-P/EMW5031-E  
样品接收日期: 2016年07月13日  
验证周期: 2016年07月13日 - 2016年07月28日  
验证要求: 参考欧盟RoHS指令2011/65/EU的修正指令2015/863/EU。  
验证方法: 请参见后续页。  
验证结果: 请参见后续页。  
验证结论: 依据对所提供样品的相关验证, 铅、汞、镉、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs) 和邻苯二甲酸酯(如邻苯二甲酸二丁酯 (DBP)、邻苯二甲酸丁苯酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的测试结果符合欧盟RoHS指令2011/65/EU附录II修正指令2015/863/EU的限值要求。  
备注: 本报告测试数据仅代表所测试样品的结果, 未经实验室书面授权, 不得部分复制本报告。

通标标准技术服务(上海)有限公司  
授权签名

Terry Wang 王卫  
批准签署人



SGS-CSTC (Shanghai) Technical Services (Shanghai) Co., Ltd.  
Testing Center-Chemical Laboratory

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## 验证报告

No. SHAEC1615411302

日期: 2016年07月29日 第2页,共12页

验证方法:

1. 参考IEC 62321-2:2013, 拆分申请者提供的成品。
2. 参考IEC 62321-1:2013, 仅对本报告照片中标识的样品进行了下列测试分析。
  - (1) 参考IEC 62321-3-1: 2013, 用能量色散型X射线荧光分析仪器进行筛选
  - (2) 湿法化学测试方法
    - a. 参考IEC 62321-5:2013, 用ICP-OES测定镉的含量
    - b. 参考IEC 62321-5:2013, 用ICP-OES测定铅的含量
    - c. 参考IEC 62321-4:2013, 用ICP-OES测定汞的含量
    - d. 参考IEC 62321-7-1:2015和IEC 62321:2008, 用紫外-可见分光光度计比色法测定六价格的含量
    - e. 参考IEC 62321-6:2015, 用GC-MS测定多溴联苯和多溴二苯醚的含量
3. 参考IEC 62321-8 (111/321/CD) 用GC-MS测定邻苯二甲酸酯的含量



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样品编号	样品描述	限用物质	EDXRF 测试结果(1)	PHTH筛分结果(2)	化学测试结果(3) (mg/kg)	EU RoHS 结论	样品提交/再次提交日期
1	EMW5031-屏蔽罩上白色塑料标签	Pb	BL	---	---	符合	13 Jul 2016 22 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	BL	---	---	符合	
		PBDEs	BL	---	---	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			
2	EMW5031-银色金属屏蔽罩	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	---	---	---	---	
		PBDEs	---	---	---	---	
		DBP	---	---	---	---	
		BBP	---	---	---	---	
		DEHP	---	---	---	---	
DIBP	---	---	---	---			



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3	EMW5031-插座上白色塑料外壳	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	BL	---	---	符合	
		PBDEs	BL	---	---	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			
4	EMW5031-插座上银色金属插针	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	---	---	---	---	
		PBDEs	---	---	---	---	
		DBP	---	---	---	---	
		BBP	---	---	---	---	
		DEHP	---	---	---	---	
DIBP	---	---	---	---			



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5	EMW5031-银色晶振本体	Pb	BL	---	---	符合	13 Jul 2016 22 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	BL	---	---	符合	
		PBDEs	BL	---	---	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			
6	EMW5031-黑色IC1本体	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	IN	---	ND	符合	
		PBDEs	IN	---	ND	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			



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7	EMW5031-黑色IC2本体	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	BL	---	---	符合	
		PBDEs	BL	---	---	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			
8	EMW5031-黑色二极管本体	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	22 Jul 2016
		Cr(VI)▼	BL	---	---	符合	
		PBBs	BL	---	---	符合	
		PBDEs	BL	---	---	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			



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9	EMW5031-银色金属焊锡	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	---	---	---	---	
		PBDEs	---	---	---	---	
		DBP	---	---	---	---	
		BBP	---	---	---	---	
		DEHP	---	---	---	---	
10	EMW5031-蓝色PCB本体	Pb	BL	---	---	符合	13 Jul 2016
		Cd	BL	---	---	符合	
		Hg	BL	---	---	符合	
		Cr(VI)▼	BL	---	---	符合	
		PBBs	IN	---	ND	符合	
		PBDEs	IN	---	ND	符合	
		DBP	---	IN	ND	符合	
		BBP	---	IN	ND	符合	
		DEHP	---	IN	ND	符合	
DIBP	---	IN	ND	符合			



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# 验证报告

No. SHAEC1615411302

日期: 2016年07月29日 第8页,共12页

## 备注:

- (1) (a) 对于限用物质是PBBs和PBDEs, 其结果显示的是总Br含量; 限用物质是Cr(VI), 其结果显示的是总Cr含量。
- (b) EDXRF所得的测试结果只作初步筛选, 如果EDXRF结果超出IEC62321-3-1:2013所规定的警戒范围, 我们建议客户用更精确的化学测试方法测试样品, 如用ICP-OES测试Cd, Pb, Hg; 用UV-Vis测试Cr(VI); 用GC-MS测试PBBs和PBDEs(单位: mg/kg)。

元素	聚合物	金属	复合材料
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 = 低于限度, OL = 超出限度, IN = 不确定, LOD = 检测限, -- = 未规定。

(d) 对于复合材料, XRF筛选测试RoHS元素所得数据可能与样品中实际含量不同。

- (2) PHTH筛分结果只作初步筛选, 如果测试结果超出下表所规定的警戒范围, 我们采用更精确的化学测试方法测试样品, 用GC-MS测试DBP、BBP、DEHP和DIBP (单位: mg/kg)。

化合物	聚合物
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=方法检测限, ND =未检出(低于MDL), --- =未检测, - = 无清单编号。

(b) 化学测试方法的表达单位和方法检测限

测试项目	Pb	Cd	Hg	DBP	BBP	DEHP	DIBP
单位	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
方法检测限	10	10	10	100	100	100	100





任何一种PBBs和PBDEs的方法检测限是100 mg/kg;  
 聚合物和复合材料样品中Cr(VI)的方法检测限是10 mg/kg;  
 金属样品中Cr(VI)的方法检测限是0.10µg/cm<sup>2</sup>。

- (c) ▼ = 金属样品中
  - a. 当六价格的浓度高于0.13 µg/cm<sup>2</sup>时, 样品为阳性, 即含有六价格;
  - b. 当六价格的浓度为ND(低于0.10 µg/cm<sup>2</sup>)时, 样品为阴性, 即未检测到六价格;
  - c. 当六价格的浓度介于0.10 µg/cm<sup>2</sup>与0.13 µg/cm<sup>2</sup>之间时, 无法直接判定是否检测到六价格, 因不同个体的样品表面差异可能会影响测定结果;

由于未获知样品的存储条件和生产日期, 样品的六价格测试结果仅能代表测试时样品含六价格的状态。

IEC 62321系列等同于 EN 62321 系列

[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)

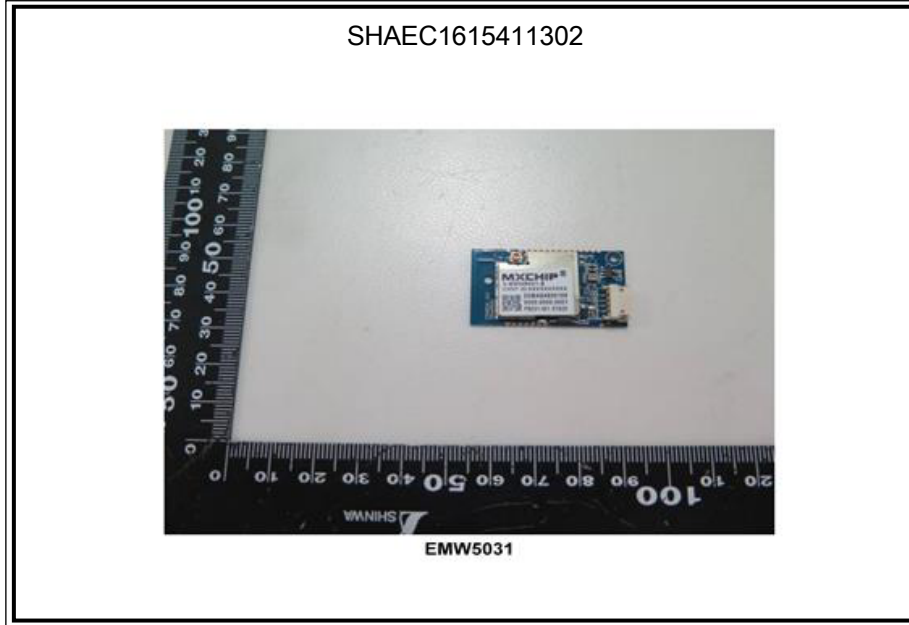
(3) 根据申请商申明, 型号"EMW5031"的材质与型号"EMW5031-P, EMW5031-E"的相同, 其测试结果用于替代型号"EMW5031-P, EMW5031-E"的测试结果。申请公司将承担所有的差异和风险。

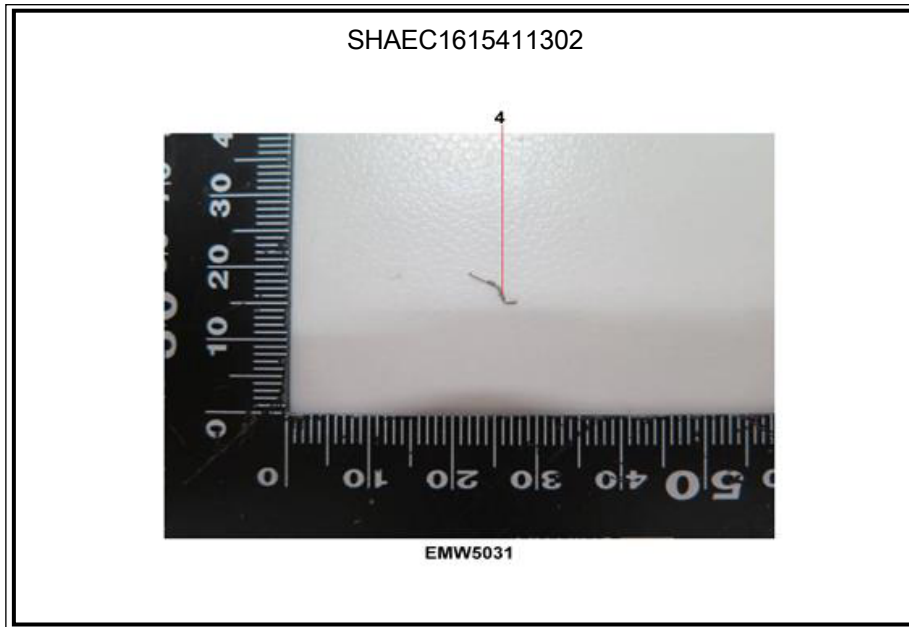
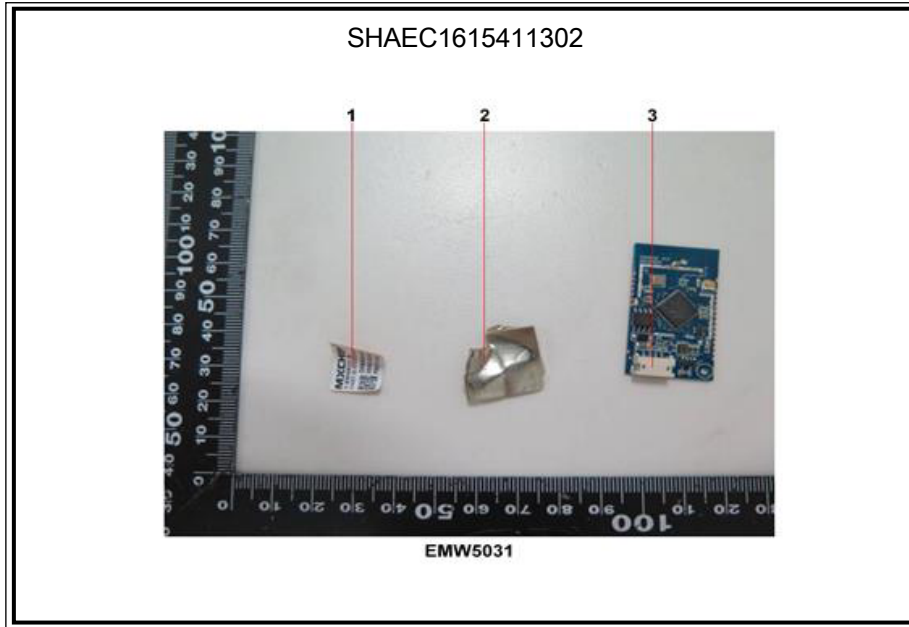


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样品照片:

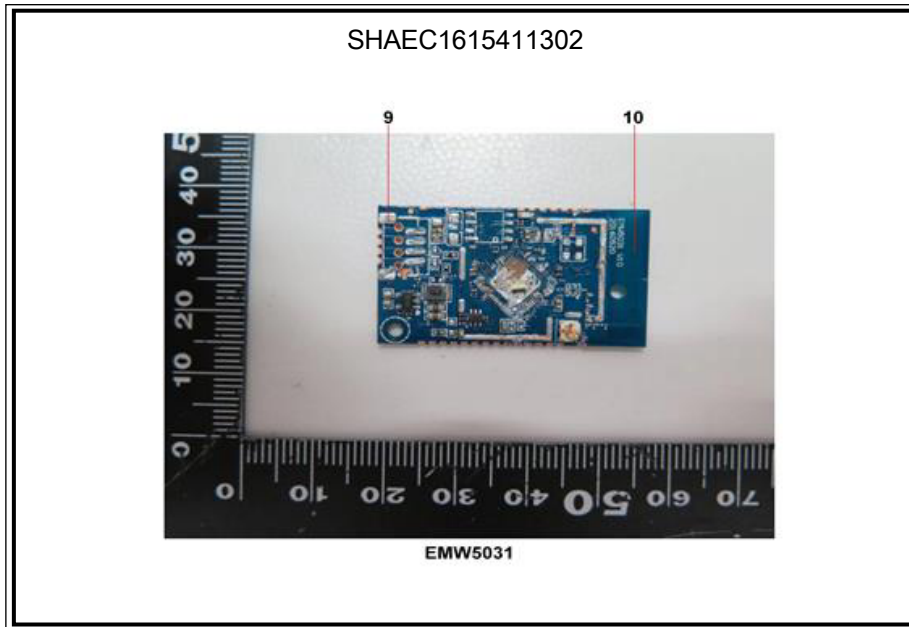
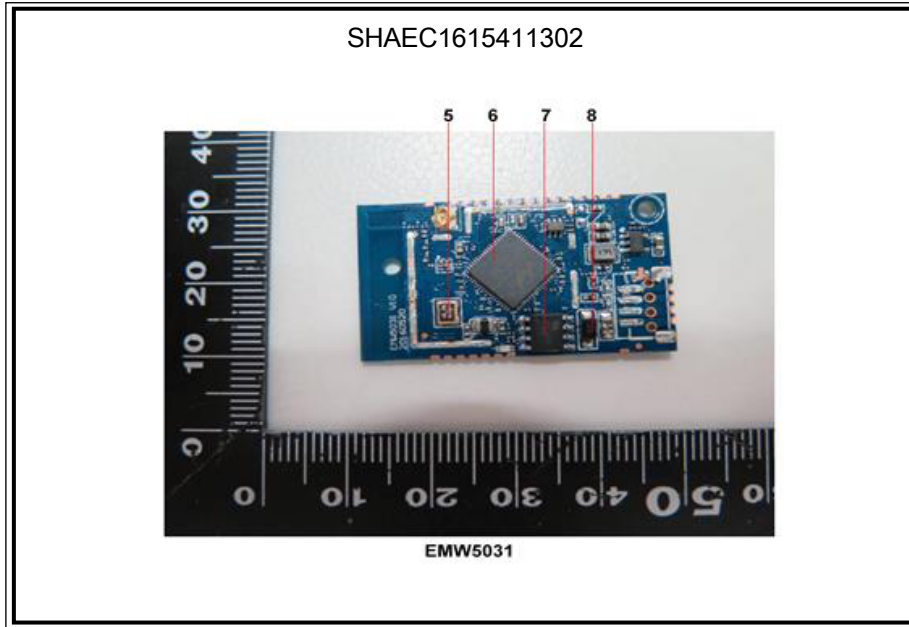




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