

验证报告

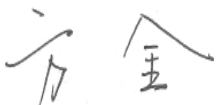
No. SHAEC1803311302

日期: 2018年04月02日 第1页,共8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: EMW3082A
SGS工作编号: SP18-004700 - SH
测试基本型号: EMW3082A
样品接收日期: 2018年02月12日
验证周期: 2018年02月12日 - 2018年03月27日
验证要求: 参考欧盟RoHS指令2011/65/EU的修正指令(EU) 2015/863。
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)、邻苯二甲酸丁苄酯(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(EU) 2015/863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
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Peter Fang 方金
批准签署人



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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, IEC 62321-7-2:2017和ISO 17075-1:2017, 用紫外-可见分光光度计比色法测定六价铬的含量
 - 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 62321-8:2017, 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	EMW3082A-屏蔽盖上白色纸标签	Pb Cd Hg Cr(VI)▼ PBBs PBDEs DBP BBP DEHP DIBP	BL BL BL BL BL BL --- --- --- ---	--- --- --- --- --- --- IN IN IN IN	--- --- --- --- --- --- ND ND ND ND	符合 符合 符合 符合 符合 符合 符合 符合 符合 符合	09 Feb 2018
2	EMW3082A-银色金属屏蔽盖	Pb Cd Hg Cr(VI)▼ PBBs PBDEs DBP BBP DEHP DIBP	BL BL BL BL --- --- --- --- --- ---	--- --- --- --- --- --- --- --- --- ---	--- --- --- --- --- --- --- --- --- ---	符合 符合 符合 符合 --- --- --- --- --- ---	09 Feb 2018



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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
3	EMW3082A-银色晶振本体	Pb	BL	---	---	符合	09 Feb 2018
		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	
4	EMW3082A-黑色IC本体	Pb	BL	---	---	符合	09 Feb 2018
		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			



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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
5	EMW3082A-黑色三极管本体	Pb	BL	---	---	符合	09 Feb 2018
		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	EMW3082A-蓝色PCB本体	Pb	BL	---	---	符合	09 Feb 2018
		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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No. SHAEC1803311302

日期: 2018年04月02日 第6页,共8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



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任何一种PBBs和PBDEs的方法检测限是100 mg/kg;
 聚合物, 复合材料和皮革样品中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/cm²。

- (c) ▼ = 金属样品中
 - a. 当六价铬的浓度高于0.13 µg/cm²时, 样品为阳性, 即含有六价铬;
 - b. 当六价铬的浓度为ND(低于0.10 µg/cm²)时, 样品为阴性, 即未检测到六价铬;
 - c. 当六价铬的浓度介于0.10 µg/cm²与0.13 µg/cm²之间时, 无法直接判定是否检测到六价铬, 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, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

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

检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供内部参考。



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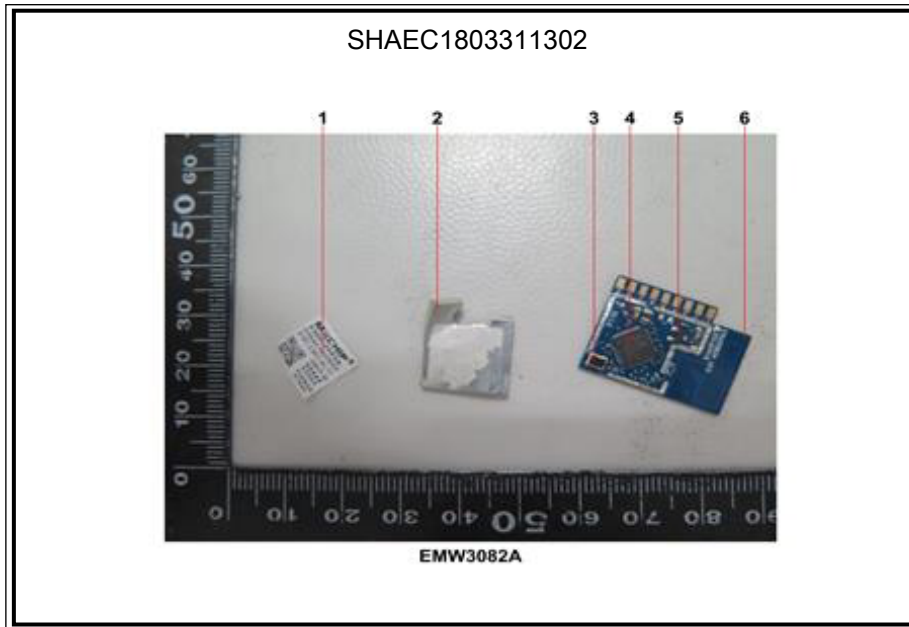
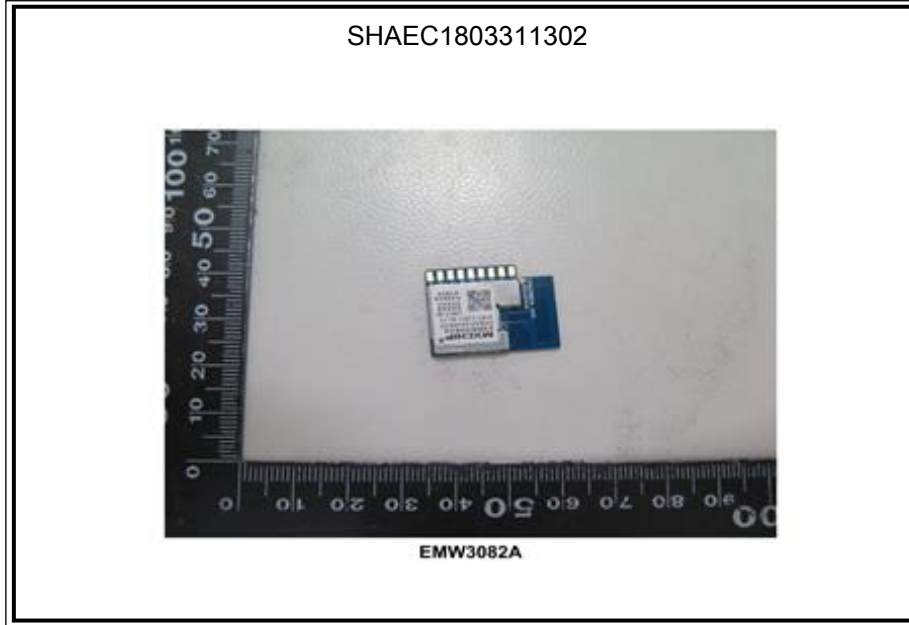
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