

# Test Report

No.: EY210129027C

Date: Feb. 03, 2021

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**Applicant** : RENERGY MICRO-TECHNOLOGIES(SHENZHEN)CO.,LTD  
**委托单位** : 深圳市锐能微科技有限公司  
**Address** : ROOM 401、402,BUILDING5,SHENZHEN SOFTWARE INDUSTRY BASE,NO.13  
HAITIAN 1ST ROAD,NANSHAN DISTRICT,SHENZHEN  
**地 址** : 深圳市南山区深圳软件产业基地第 5 栋裙楼 401、402 室

**Sample Name** : Chip  
**样品名称** : 芯片  
**Model/型号** : RN8217  
**Lot No./ 批号** : KB059AA1AT

**Received Date** : Jan. 29, 2021  
**接收日期** : 2021 年 01 月 29 日  
**Test Period** : Jan. 29, 2021~ Feb. 03, 2021  
**检测日期** : 2021 年 01 月 29 日~2021 年 02 月 03 日

**Test Requested** : As requested by client, according to RoHS Directive(EU) 2015/863 amending Annex II to Directive 2011/65/EU, to determine:  
**检测要求**

根据客户要求, 依据欧盟 RoHS 指令 2011/65/EU 附录 II 的修订指令(EU) 2015/863, 检测以下项目:

- 1) the content of Lead(Pb), Cadmium (Cd) and Mercury(Hg) in the submitted sample;  
样品中的铅(Pb), 镉(Cd)和汞(Hg)的含量;
- 2) the content of Hexavalent Chromium(Cr(VI)) in the submitted sample;  
样品中的六价铬(Cr(VI))的含量;
- 3) the content of Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl-Ethers(PBDEs) in the submitted sample;  
样品中的多溴联苯(PBBs)以及多溴二苯醚(PBDEs)的含量;
- 4) the content of Bis(2-ethylhexyl)phthalate(DEHP), Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP), and Diisobutyl phthalate(DIBP) in the submitted sample.  
样品中的邻苯二甲酸二(2-乙基己)酯(DEHP)、邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苄酯(BBP)和邻苯二甲酸二异丁酯(DIBP)的含量。

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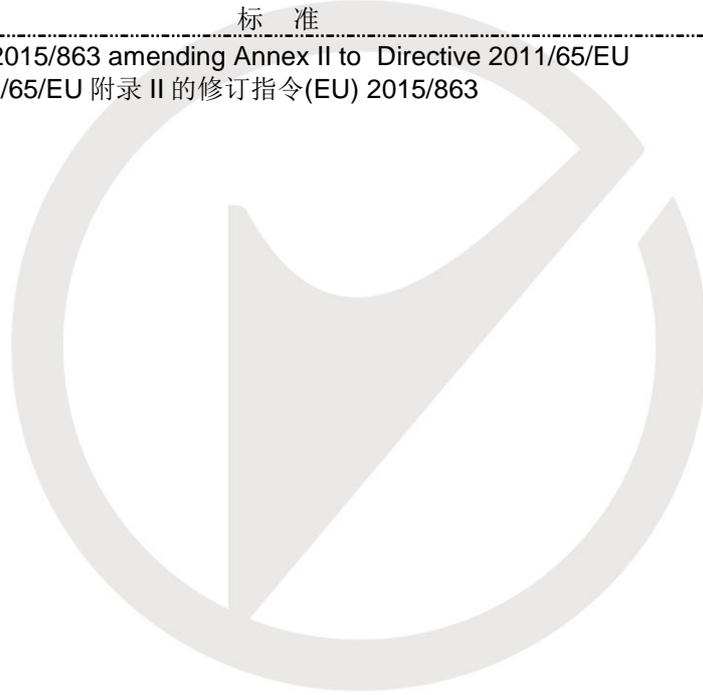
Date: Feb. 03, 2021

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**Test Results** : Please refer to next page (s).  
**检测结果** : 请参看随后页面。

**Executive Summary:**  
**执行测试总结:**

STANDARD 标准	CONCLUSION 结论
RoHS Directive(EU) 2015/863 amending Annex II to Directive 2011/65/EU 欧盟 RoHS 指令 2011/65/EU 附录 II 的修订指令(EU) 2015/863	PASS 合格



Signed for and on behalf of  
EMTEK(Guangzhou) Co., Ltd

Prepared by: Summer  
Lin Senmin, Summer  
Assistant engineer

Reviewed by: Jay  
Yu Chunhua, Jay  
Technical supervisor

Approved by: Hsuar  
Hu Zhenlong, Howar  
Authorized signatory  
Feb. 03, 2021



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## Test Sample List: 检测样品清单:

Sample No. 样品编号	Sample Description 样品描述
1	Black chip 黑色芯片

## Test Results: 检测结果:

### Test Method : 检测方法:

- 1) to refer to IEC 62321-5: 2013, determine the Lead, Cadmium content by ICP-OES.  
参照 IEC 62321-5: 2013, 用 ICP-OES 测定铅、镉的含量。
- 2) to refer to IEC 62321-4: 2013+A1:2017, determine the Mercury content by ICP-OES.  
参照 IEC 62321-4: 2013+A1:2017, 用 ICP-OES 测定汞的含量。
- 3) to refer to IEC 62321-7-2:2017, determine the Hexavalent Chromium content by UV-VIS.  
参照 IEC 62321-7-2:2017, 用 UV-VIS 测定六价铬的含量。
- 4) to refer to IEC 62321-6: 2015, determine the Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl- Ethers(PBDEs) by GC-MS.  
参照 IEC 62321-6: 2015, 用 GC-MS 测定多溴联苯(PBBs)和多溴二苯醚(PBDEs)的含量。
- 5) to refer to IEC 62321-8:2017, determine the Bis(2-ethylhexyl)phthalate (DEHP), Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP) and Diisobutyl phthalate(DIBP) by GC-MS.  
参照 IEC 62321-8:2017, 用 GC-MS 测定邻苯二甲酸二(2-乙基己)酯(DEHP)、邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苄酯(BBP)和邻苯二甲酸二异丁酯(DIBP)的含量。

Analyte 被分析物	Test Result (mg/kg) 检测结果	MDL (mg/kg)	Limit 限值 (mg/kg)
	1		
Lead (Pb) 铅 (Pb)	ND	2	1000
Cadmium (Cd) 镉 (Cd)	ND	2	100
Mercury (Hg) 汞 (Hg)	ND	2	1000
Hexavalent Chromium (Cr(VI)) 六价铬 (Cr(VI))	ND	8	1000

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Analyte 被分析物	Test Result (mg/kg) 检测结果	MDL (mg/kg)	Limit 限值 (mg/kg)
	1		
Polybrominated Biphenyls (Mono – Deca) (PBBs) 多溴联苯 (1 – 10) (PBBs)	ND	--	1000
Monobromobiphenyl 一溴联苯	ND	5	--
Dibromobiphenyl 二溴联苯	ND	5	--
Tribromobiphenyl 三溴联苯	ND	5	--
Tetrabromobiphenyl 四溴联苯	ND	5	--
Pentabromobiphenyl 五溴联苯	ND	5	--
Hexabromobiphenyl 六溴联苯	ND	5	--
Heptabromobiphenyl 七溴联苯	ND	5	--
Octabromobiphenyl 八溴联苯	ND	5	--
Nonabromobiphenyl 九溴联苯	ND	5	--
Decabromobiphenyl 十溴联苯	ND	5	--
Polybrominated Diphenylethers (Mono – Deca) (PBDEs) 多溴二苯醚 (1 – 10) (PBDEs)	ND	--	1000
Monobromodiphenyl ether 一溴二苯醚	ND	5	--
Dibromodiphenyl ether 二溴二苯醚	ND	5	--
Tribromodiphenyl ether 三溴二苯醚	ND	5	--
Tetrabromodiphenyl ether 四溴二苯醚	ND	5	--
Pentabromodiphenyl ether 五溴二苯醚	ND	5	--
Hexabromodiphenyl ether 六溴二苯醚	ND	5	--
Heptabromodiphenyl ether 七溴二苯醚	ND	5	--
Octabromodiphenyl ether 八溴二苯醚	ND	5	--
Nonabromodiphenyl ether 九溴二苯醚	ND	5	--
Decabromodiphenyl ether 十溴二苯醚	ND	5	--
Bis(2-ethylhexyl)phthalate(DEHP) 邻苯二甲酸二(2-乙基己)酯(DEHP)	ND	30	1000
Dibutyl phthalate(DBP) 邻苯二甲酸二丁酯 (DBP)	ND	30	1000
Benzylbutyl phthalate(BBP) 邻苯二甲酸丁苄酯 (BBP)	ND	30	1000
Diisobutyl phthalate (DIBP) 邻苯二甲酸二异丁酯(DIBP)	ND	30	1000

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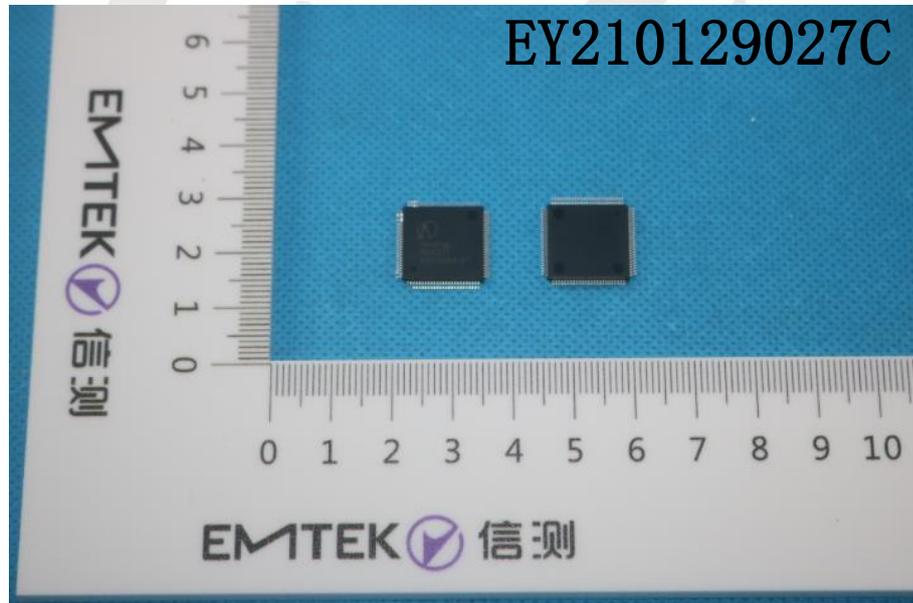
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- Note: (1). mg/kg = milligram per kilogram = ppm MDL = Method Detection Limit  
备注: mg/kg = 毫克/千克 = 百万分之一 MDL = 方法检测限  
ND = Not Detected (Less than MDL)  
ND = 未检测到 (小于 MDL)
- (2). Specimens, which requested to determine Cadmium, Mercury and Lead Content, have been digested thoroughly.  
对于测试铅、镉、汞的样品已完全消解。

Sample Photo:  
样品照片:



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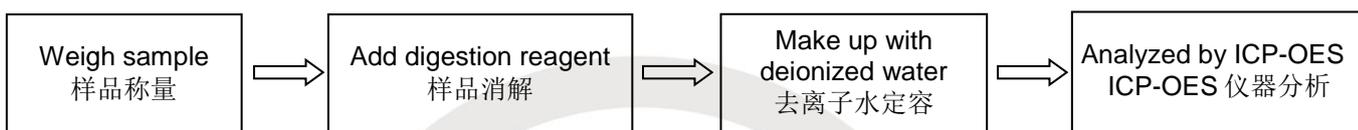
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## Test Flowchart:

### 检测流程图:

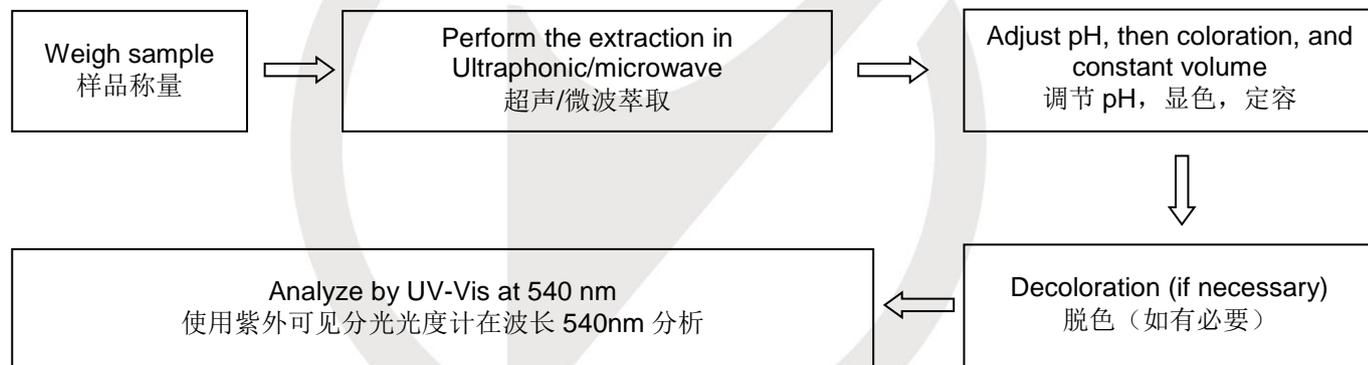
#### Pb/Cd/Hg Test Process :

#### Pb/Cd/Hg 检测流程:



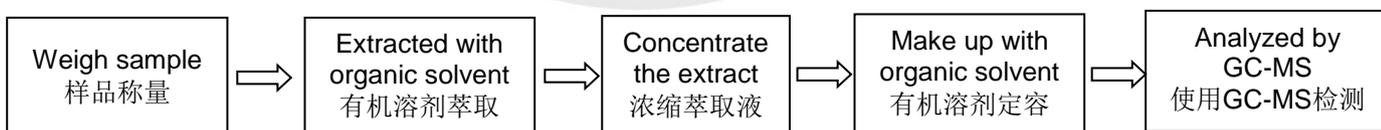
#### Cr(VI) Test Process:

#### Cr(VI) 检测流程:



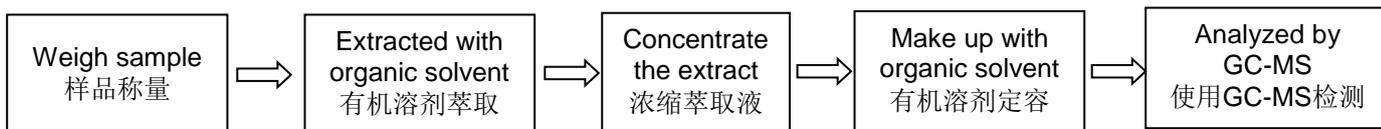
#### PBBs & PBDEs Test Process:

#### PBBs & PBDEs 检测流程:



#### DEHP, DBP, BBP, DIBP Test Process:

#### DEHP, DBP, BBP 和 DIBP 检测流程:



\*\*\* End of Report \*\*\*

\*\*\* 报告结束 \*\*\*

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## 声明 Statement

- 1.本检测报告首页所列信息中除样品来源、接样日期、检测日期、检测结果和检测结论外，均由委托方提供，委托方对样品的代表性和资料的真实性负责，本实验室不承担任何相关责任。  
The information as listed on the first page of this test report was all provided by the client except the sample from, date received, test period, test results and test conclusion. The client shall be responsible for the representativeness of sample and authenticity of materials, for which EMTEK shall bear no responsibilities.
- 2.本检测报告以实测值进行符合性判定，未考虑不确定度所带来的风险，特别约定、标准或规范中有明确规定的除外。此种判定方式所带来的风险由客户自行承担，本实验室不承担相关责任。  
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For other statements, please refer to the footer of the report.

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In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
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Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. 如因使用本公司中心任何报告内的资料，或任何传播信息所描述与之有关的测试或研究导致的任何损失或损害，本公司概不负责。  
The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. 若需要在法院审理程序或者仲裁过程中使用测试报告，客户必须在提交测试样品前将该意图告知本公司。  
Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. 该测试报告的支持数据和信息本公司保存 10 年。个别评审机构有特别要求的，检测数据和报告的保存期可依情况变动。一旦超过上述提交的保存期限，数据和信息将被处理掉。任何情况下，本公司不必提供任何被处理的过期数据或信息。即使本公司事先被告知可能会发生相关的损害，本公司在任何情况下也不必承担任何损害，包括（但不限于）补偿性赔偿、利润损失、数据遗失、或任何形式的特殊损害、附带损害、间接损害、从属损害或任何违反约定、违反承诺、侵权（包括疏忽）、产品责任或其他原因的惩罚性损害。  
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