



中国认可
国际互认
检测
TESTING
CNAS L7472

TEST REPORT

检测报告



Report No./报告号: A2112058-C01-R05

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Applicant: Shenzhen Esun Industrial Co., Ltd.
申请商: 深圳光华伟业股份有限公司
Address: Wuhan University Building A403-I and A901, No.6 Yuexing 2 Road, Nanshan District, Shenzhen, China
地址: 深圳市南山区粤兴二道 6 号武汉大学深圳产学研大楼 A403-I 及 A901

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client/以下测试之样品及样品信息由申请者提供并确认:

Sample Name eCure Lite
样品名称
Sample Received Date December 06, 2021
样品接收日期 2021 年 12 月 06 日
Testing Period December 06 - 22, 2021
检测日期 2021 年 12 月 06 日至 2021 年 12 月 22 日
Test Method & Test Result Please refer to following pages.
检测依据和检测结果 请参考下一页

Test Requested/检测要求

As specified by client, according to RoHS Directive 2011/65/EU with amendment (EU) 2015/863 to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Phthalates (Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP), Di-2-ethylhexyl phthalate(DEHP), Diisobutyl phthalate(DIBP)) in the tested materials of the submitted sample(s).

根据客户要求, 依据指令 2011/65/EU 及修订指令(EU) 2015/863 对所提交样品检测材料中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁基苯酯(BBP)、邻苯二甲酸二乙基己基酯(DEHP)、邻苯二甲酸二异丁酯(DIBP))进行检测。

Result/结果

Pass /合格

Tested by:
主 检: Anne Zhao

Approved by:
签 发:

Reviewed by:
审 核: Tony Gmy

Date of issue: December 23, 2021
签发日期: 2021年12月23日



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Test Method/检测依据

(1) XRF Screening limits for regulated elements according to IEC 62321-3-1:2013 (Unit:mg/kg)/
IEC 62321-3-1:2013 对管控元素的 XRF 筛选限值 (单位: mg/kg)

Element/ 测试元素	Polymers / 聚合物	Metals/ 金属	Composite material/ 合成材料
Pb	$BL \leq (700-3\sigma) < X$ $< (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X$ $< (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X$ $< (1500+3\sigma) \leq OL$
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X$ $< (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X$ $< (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X$ $< (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	N/A	$BL \leq (250-3\sigma) < X$

(2) Chemical screening limits for Phthalates/邻苯二甲酸酯的筛选限值

Test Item(s)/ 测试项目	Screening limits(Unit: mg/kg) 筛选限值 (单位: mg/kg)
Dibutyl phthalate(DBP) 邻苯二甲酸二正丁酯(DBP)	$BL \leq 600 < IN$
Benzylbutyl phthalate(BBP) 邻苯二甲酸丁基苄酯(BBP)	$BL \leq 600 < IN$
Di-2-ethylhexyl phthalate(DEHP) 邻苯二甲酸二(2-乙基己基)酯(DEHP)	$BL \leq 600 < IN$
Diisobutyl phthalate(DIBP) 邻苯二甲酸二异丁酯(DIBP)	$BL \leq 600 < IN$

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(3). Chemical Test/化学测试

Tested Item(s) 测试项目	Test Method 测试方法	Measured Equipment(s) 测试仪器	MDL 方法检出限	Limit 限值
Lead (Pb)/铅(Pb)	IEC 62321-5:2013	ICP-OES	2 mg/kg	1000 mg/kg
Cadmium (Cd)/镉(Cd)	IEC 62321-5:2013	ICP-OES	2 mg/kg	100 mg/kg
Mercury (Hg)/汞(Hg)	IEC 62321-4: 2013+AMD1:2017	ICP-OES	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI)) 六价铬(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5: 2013	UV-Vis	8 mg/kg	1000 mg/kg
	IEC 62321-7-1:2015		0.10µg/cm ² (LOQ)	1000 mg/kg
Polybrominated Biphenyls (PBBs) 多溴联苯(PBBs)	IEC 62321-6:2015	GC-MS	5mg/kg	1000 mg/kg
Polybrominated Diphenyl Ethers (PBDEs) 多溴二苯醚(PBDEs)	IEC 62321-6:2015	GC-MS	5mg/kg	1000 mg/kg
Phthalates/邻苯二甲酸酯 (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS	50 mg/kg	单项 1000 mg/kg/ 1000 mg/kg for each

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Tested Material Description/测试材料描述

No. 序号	Description 描述	No. 序号	Description 材料描述
1	White silicon cover/白色硅胶罩	21	White plastic head of USB terminal (USB cable)/充电线 USB 端子白色塑胶头
2	White plastic key-press of sterilizer/ 消毒器白色塑料按键	22	Silvery metal of USB terminal (USB cable)/充电线 USB 端子银色金属
3	White plastic lens of sterilizer/ 消毒器白色塑料镜片	23	White plastic of USB terminal (USB cable)/充电线 USB 端子白色塑料
4	Black double faced adhesive tape of lens/ 镜片黑色双面胶	24	White thick wire sheath of USB cable/ 充电线白色粗线皮
5	White plastic shell of sterilizer / 消毒器白色塑料外壳	25	Red thin wire sheath of USB cable/ 充电线红色细线皮
6	White plastic folding frame of shell/ 外壳白色塑料折叠架	26	White thin wire sheath of USB cable/ 充电线白色细线皮
7	Silvery grey adhesive patch of digital display tube/数码显示管银灰色胶贴片	27	White plastic head of Type-C port (USB cable)/充电线 Type-C 接头白色塑胶头
8	Digital display tube/数码显示管	28	Soldering tin on Type-C port PCB (USB cable)/充电线 Type-C 接头 PCB 板焊锡
9	UVC ultraviolet lamp bead / UVC 紫外线灯珠	29	Gray black plastic of Type-C port (USB cable)/充电线 Type-C 接头灰黑色塑料
10	Black plastic shell of buzzer/ 蜂鸣器黑色塑料壳	30	Silvery metal of Type-C port (USB cable)/ 充电线 Type-C 接头银色金属
11	Crystal diode/晶体二极管	31	Transparent plastic tray on display stand/ 展示台透明塑料盘
12	Chip triode/贴片三极管	32	Silvery gray plastic shell of display stand/ 展示台银灰色塑料外壳
13	IC	33	Solar panel on display stand/ 展示台太阳能板
14	IC	34	Soldering tin on solar panel (display stand) 展示台太阳能板焊锡点
15	Soldering tin on main PCB/ 主 PCB 板焊锡	35	Red thin wire sheath of connecting wire/ 连接线红色细线皮
16	Dark green main PCB/ 深绿色主 PCB 板	36	Black thin wire sheath of connecting wire/ 连接线黑色细线皮
17	Silvery metal of Type-C port/ Type-C 接口银色金属	37	Black plastic block of shaft (display stand)/展示台机芯轴黑色塑料块
18	Gray black plastic of Type-C port / Type-C 接口灰黑色塑料	38	Translucent plastic gear of movement /机 芯半透明塑料齿轮
19	Soldering tin on Type-C port PCB/ Type-C 接口 PCB 板焊锡	39	Black plastic shell of movement/ 机芯黑色塑料壳
20	Dark green PCB of Type-C port / Type-C 接口深绿色 PCB 板	40	Silvery metal electrolytic sheet of movement/机芯银色金属电极片

Remark :The tested materials were specified and confirmed by the client.

备注：测试材料是由客户提供并确认。

Shenzhen Alpha Product Testing Co., Ltd./ 深圳阿尔法商品检验有限公司

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

广东省深圳市宝安区福永街道立新路2号i栋阿尔法检验中心

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Test result /检测结果

(1) Screening Result/筛选结果

Tested Item(s)/测试项目	Screening Result/筛选结果 (mg/kg)									
	1	2	3	4	5	6	7	8	9	10
Lead (Pb)/ 铅(Pb)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Cadmium (Cd)/ 镉(Cd)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Mercury (Hg)/ 汞(Hg)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Total Chromium (Cr)/总铬	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Total Bromine (PBBs & PBDEs) 总溴(PBBs & PBDEs)	BL	BL	BL	BL	BL	BL	BL	X	BL	BL
Dibutyl phthalate(DBP) 邻苯二甲酸二丁酯(DBP)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Benzylbutyl phthalate(BBP) 邻苯二甲酸丁基苄酯(BBP)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Di-2-ethylhexyl phthalate(DEHP) 邻苯二甲酸二乙基己基酯(DEHP)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Diisobutyl phthalate(DIBP) 邻苯二甲酸二异丁酯(DIBP)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL

Tested Item(s)/测试项目	Screening Result/筛选结果 (mg/kg)									
	11	12	13	14	15	16	17	18	19	20
Lead (Pb)/ 铅(Pb)	OL ^{<1>}	BL	BL	BL	BL	BL	BL	BL	BL	BL
Cadmium (Cd)/ 镉(Cd)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Mercury (Hg)/ 汞(Hg)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Total Chromium (Cr)/总铬	BL	BL	BL	BL	BL	BL	X	BL	BL	BL
Total Bromine (PBBs & PBDEs) 总溴(PBBs & PBDEs)	BL	BL	BL	BL	N/A	X	N/A	BL	N/A	X
Dibutyl phthalate(DBP) 邻苯二甲酸二丁酯(DBP)	BL	BL	BL	BL	N/A	BL	N/A	BL	N/A	BL
Benzylbutyl phthalate(BBP) 邻苯二甲酸丁基苄酯(BBP)	BL	BL	BL	BL	N/A	BL	N/A	BL	N/A	BL
Di-2-ethylhexyl phthalate(DEHP) 邻苯二甲酸二乙基己基酯(DEHP)	BL	BL	BL	BL	N/A	BL	N/A	BL	N/A	BL
Diisobutyl phthalate(DIBP) 邻苯二甲酸二异丁酯(DIBP)	BL	BL	BL	BL	N/A	BL	N/A	BL	N/A	BL

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Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China
广东省深圳市宝安区福永街道立新路2号i栋阿尔法检验中心

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(1) Screening Result/筛选结果

Tested Item(s)/测试项目	Screening Result/筛选结果 (mg/kg)									
	21#	22	23	24#	25#	26#	27#	28#	29	30
Lead (Pb)/ 铅(Pb)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Cadmium (Cd)/ 镉(Cd)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Mercury (Hg)/ 汞(Hg)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Total Chromium (Cr)/总铬	BL	BL	BL	BL	BL	BL	BL	BL	BL	X
Total Bromine (PBBs & PBDEs) 总溴(PBBs & PBDEs)	BL	N/A	BL	BL	BL	BL	BL	N/A	BL	N/A
Dibutyl phthalate(DBP) 邻苯二甲酸二丁酯(DBP)	BL	N/A	BL	BL	BL	BL	BL	N/A	BL	N/A
Benzylbutyl phthalate(BBP) 邻苯二甲酸丁基苄酯(BBP)	BL	N/A	BL	BL	BL	BL	BL	N/A	BL	N/A
Di-2-ethylhexyl phthalate(DEHP) 邻苯二甲酸二乙基己基酯(DEHP)	BL	N/A	BL	BL	BL	BL	BL	N/A	BL	N/A
Diisobutyl phthalate(DIBP) 邻苯二甲酸二异丁酯(DIBP)	BL	N/A	BL	BL	BL	BL	BL	N/A	BL	N/A

Tested Item(s)/测试项目	Screening Result/筛选结果 (mg/kg)									
	31	32	33	34#	35	36	37	38	39	40
Lead (Pb)/ 铅(Pb)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Cadmium (Cd)/ 镉(Cd)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Mercury (Hg)/ 汞(Hg)	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
Total Chromium (Cr)/总铬	BL	BL	BL	BL	BL	BL	BL	BL	BL	X
Total Bromine (PBBs & PBDEs) 总溴(PBBs & PBDEs)	BL	BL	BL	N/A	BL	BL	BL	N/A	X	N/A
Dibutyl phthalate(DBP) 邻苯二甲酸二丁酯(DBP)	BL	BL	BL	N/A	BL	BL	BL	N/A	BL	N/A
Benzylbutyl phthalate(BBP) 邻苯二甲酸丁基苄酯(BBP)	BL	BL	BL	N/A	BL	BL	BL	N/A	BL	N/A
Di-2-ethylhexyl phthalate(DEHP) 邻苯二甲酸二乙基己基酯(DEHP)	BL	BL	BL	N/A	BL	BL	BL	N/A	BL	N/A
Diisobutyl phthalate(DIBP) 邻苯二甲酸二异丁酯(DIBP)	BL	BL	BL	N/A	BL	BL	BL	N/A	BL	N/A

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Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

广东省深圳市宝安区福永街道立新路2号i栋阿尔法检验中心

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(2) Test result for Chemical Confirmation

化学测试结果

(A) The test result of Hexavalent Chromium (Cr(VI))/ 六价铬(Cr(VI))的测试结果

Testing item/ 测试项目	Result/结果 (mg/kg)		
	17	30	40
Hexavalent Chromium (Cr(VI)) 六价铬(Cr(VI))	N.D	N.D	N.D

(B) The test result of PBBs&PBDEs / 多溴联苯和多溴二苯醚的测试结果

Testing item/ 测试项目	Result/结果 (mg/kg)		
	8	16	20
Sum of Polybrominated Biphenyls / 多溴联苯总和(PBBs)	N.D	N.D	N.D
Sum of Polybrominated Diphenyl Ethers / 多溴二苯醚总和(PBDEs)	N.D	N.D	N.D

Testing item/ 测试项目	Result/结果 (mg/kg)
	39
Sum of Polybrominated Biphenyls / 多溴联苯总和(PBBs)	N.D
Sum of Polybrominated Diphenyl Ethers / 多溴二苯醚总和(PBDEs)	Heptabromodiphenyl ether (HeptaBDE) /七溴二苯醚:10 Octabromodiphenyl ether (OctaBDE) /八溴二苯醚:12 Nonabromodiphenyl ether (NonaBDE) /九溴二苯醚:8 Decabromodiphenyl ether (DecaBDE) /十溴二苯醚:119 Sum of PBDEs/多溴二苯醚 (PBDEs)总量:149

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Remark: N.D. = Not Detected (<MDL or LOQ)/ 未检出 (小于方法检出限或定量限)
备注: MDL = Method Detection Limit/方法检出限
BL = Below the screening limit/低于筛选限值
OL = Over the screening limit/高于筛选限值
IN= InconclusiveFurther chemical test/不确定性, 需要进一步测试
X = The range of needing to do further testing/需要做进一步测试的范围
* = The screened result was found and further chemical test/筛选样品进一步化学测试确认
N/A= Not applicable/不适合
3σ= The reproducibility of analytical instruments/表明分析仪器的重现性
LOD =Limit of detection/检测限
LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 µg/cm²/
定量限, 六价铬的定量限为 0.10 µg/cm²
When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br exclusively,
and then chemical screening was conducted if the XRF result is X.
对于多溴联苯 (PBBs) 和多溴二苯醚 (PBDEs), XRF 筛选时其结果显示为 X 时
将 XRF 结果进一步化学 Br 筛选测试
When conducting the test for Hexavalent Chromium, XRF was introduced to screen
Chromium exclusively/对于六价铬, XRF 筛选时其结果显示的是总铬含量
mg/kg = ppm = parts per million/百万分之一
#:Resubmitted date: December 20, 2021/重新送样日期: 2021 年 12 月 20 日

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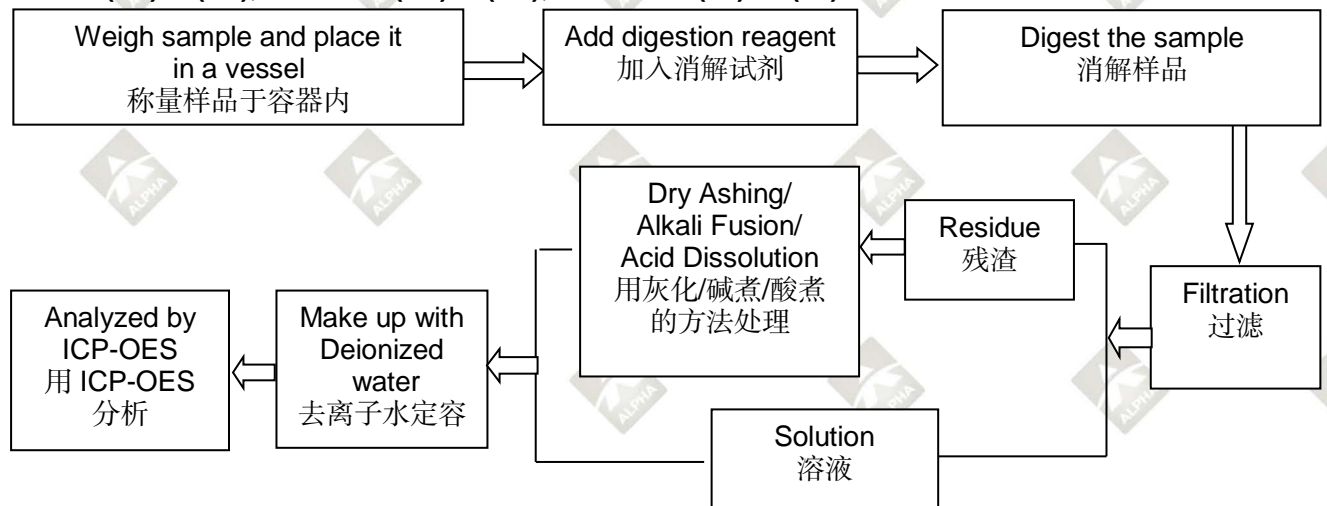


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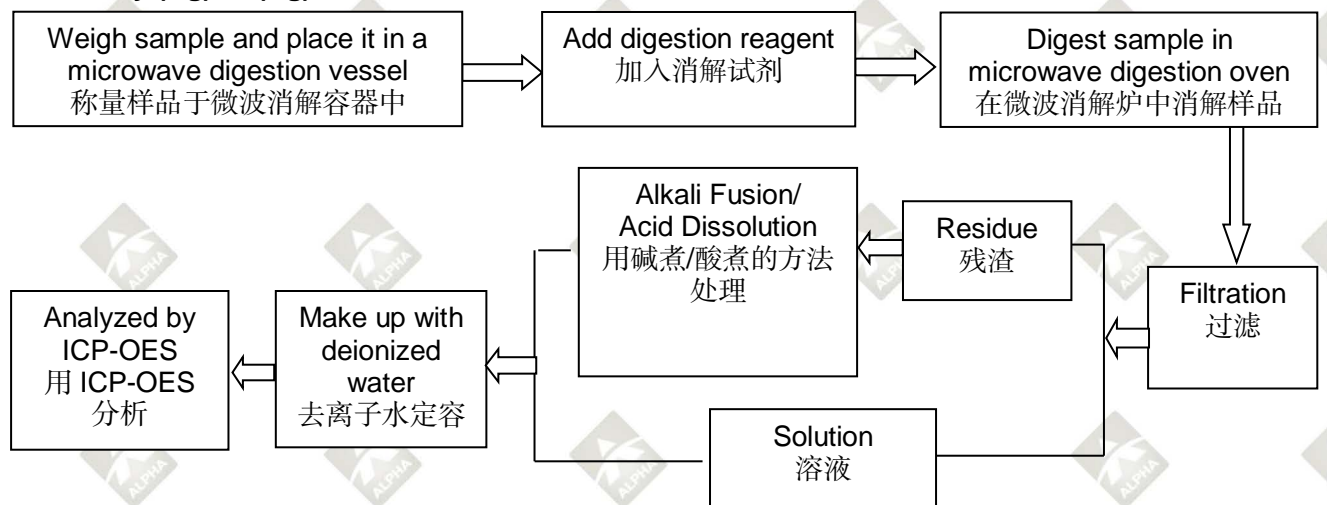
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Test Process /检测流程

1. Lead(Pb)/铅(Pb), Cadmium(Cd)/镉(Cd), Chromium(Cr) /铬(Cr)

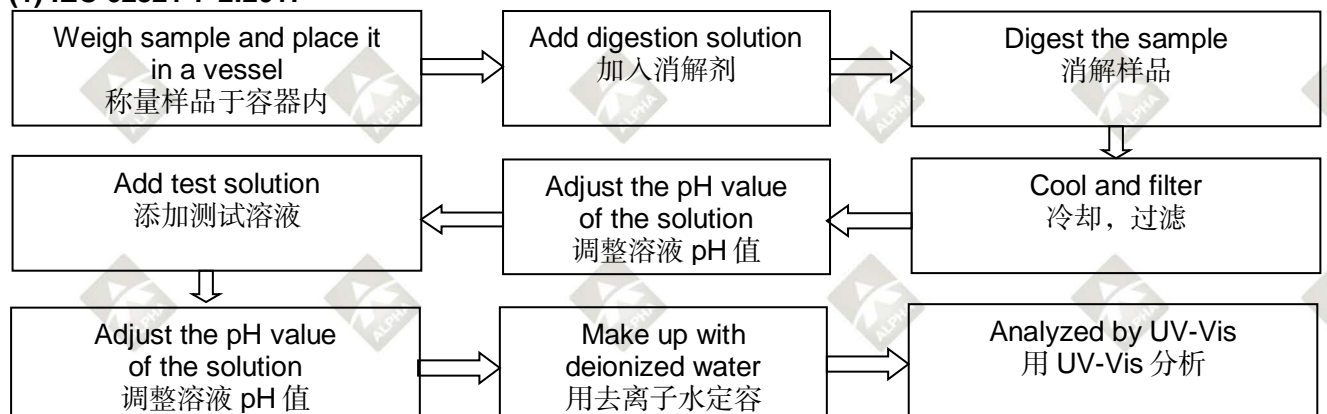


2. Mercury (Hg)/ 汞(Hg)



3. Hexavalent Chromium (Cr(VI))/六价铬(Cr(VI))

(1) IEC 62321-7-2:2017



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广东省深圳市宝安区福永街道立新路2号i栋阿尔法检验中心

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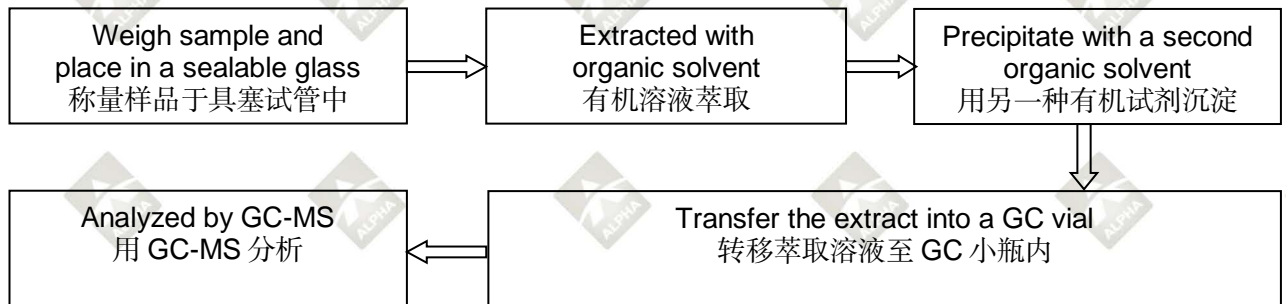
(2) IEC 62321-7-1:2015



4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)/ 多溴联苯(PBBs), 多溴二苯醚(PBDEs)



5. Phthalates/邻苯二甲酸酯 (DBP, BBP, DEHP, DIBP)



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Tested sample photo(s)/检测样品图片



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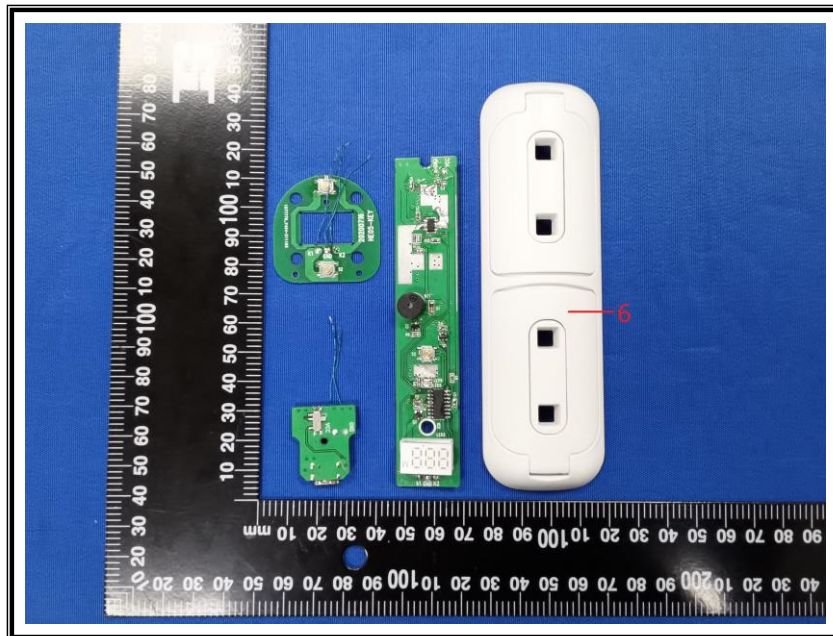
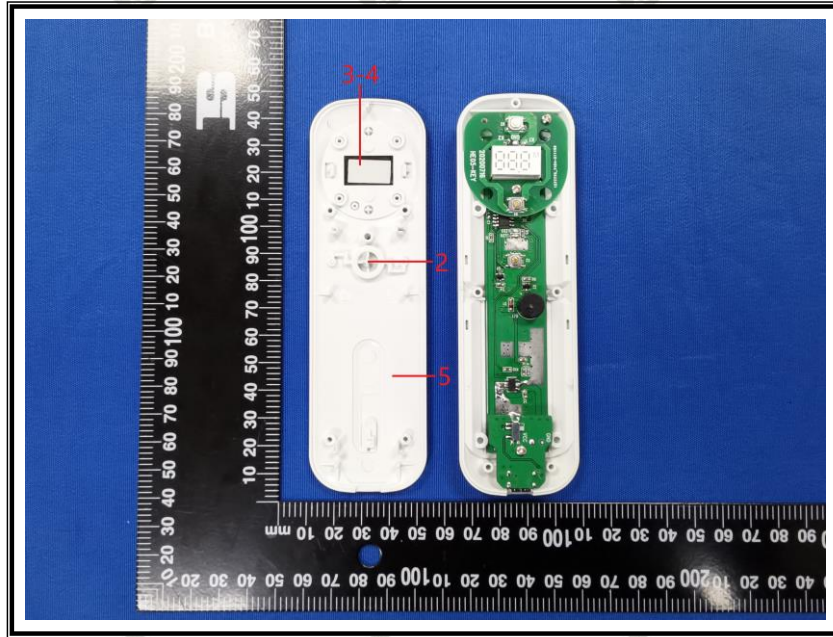
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Tested sample photo(s)/检测样品图片



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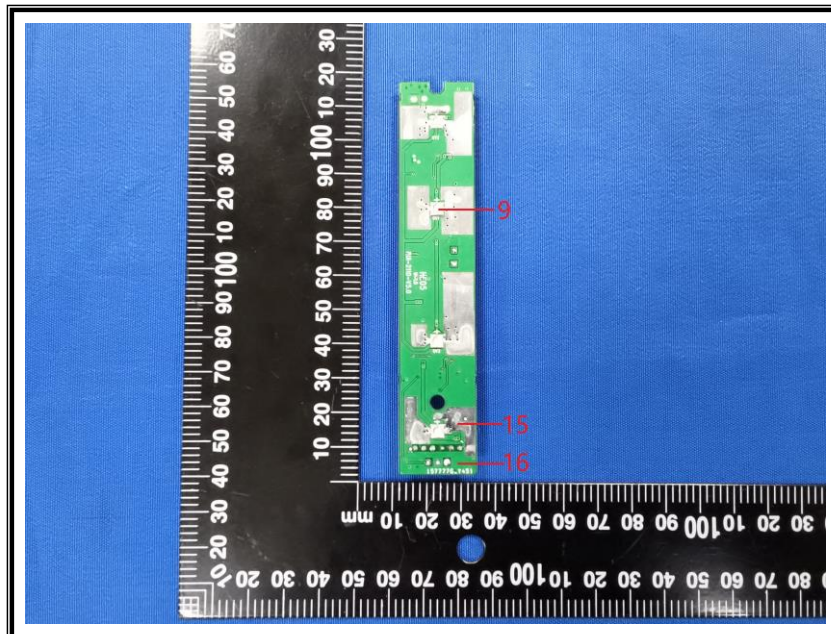
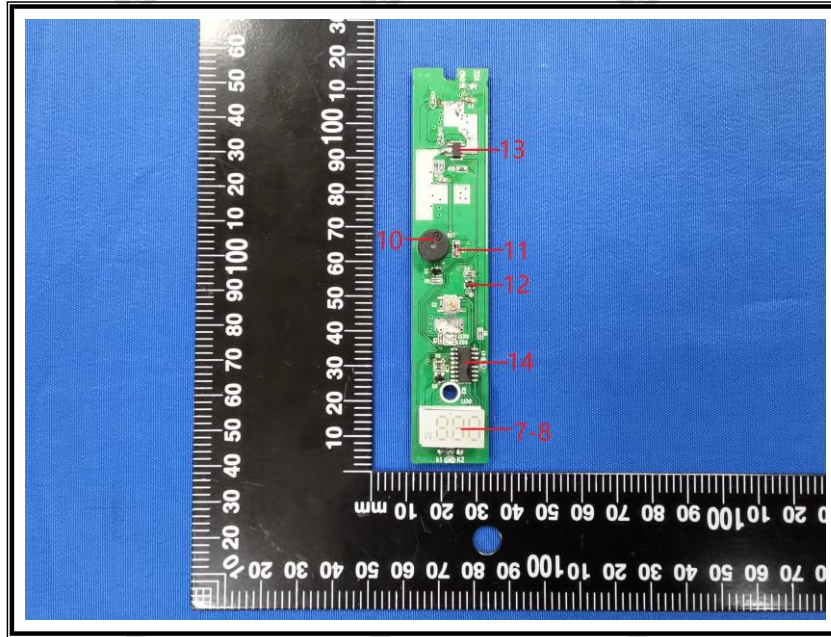
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Tested sample photo(s)/检测样品图片



TEST REPORT

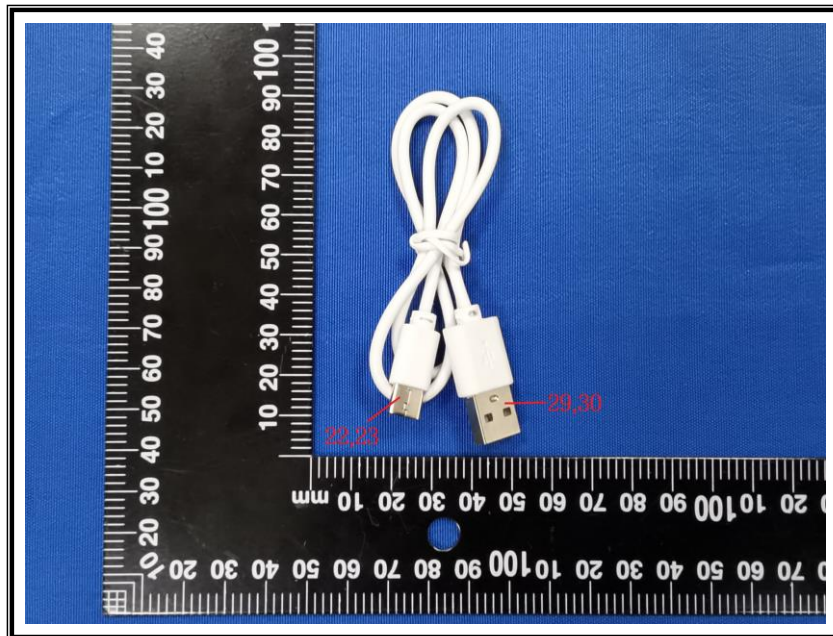
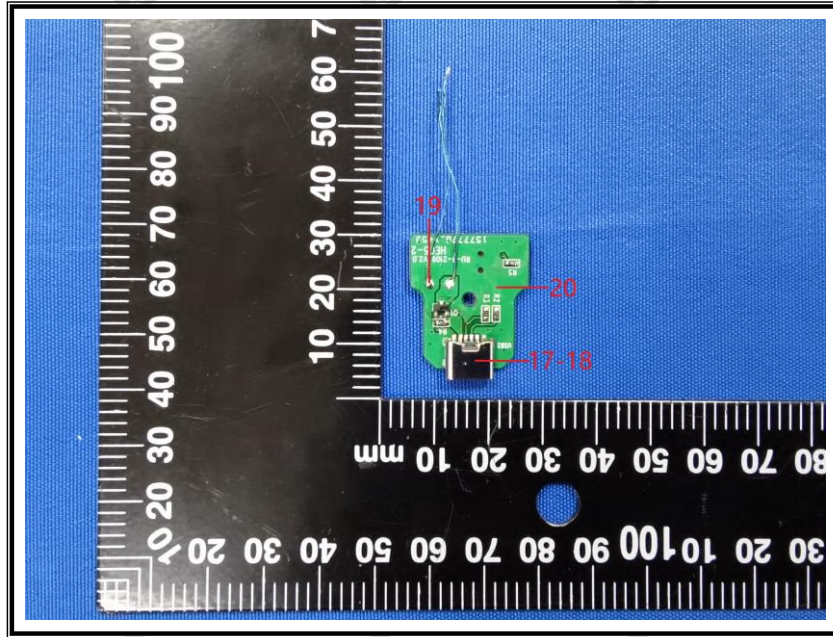
检测报告



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Tested sample photo(s)/检测样品图片



TEST REPORT

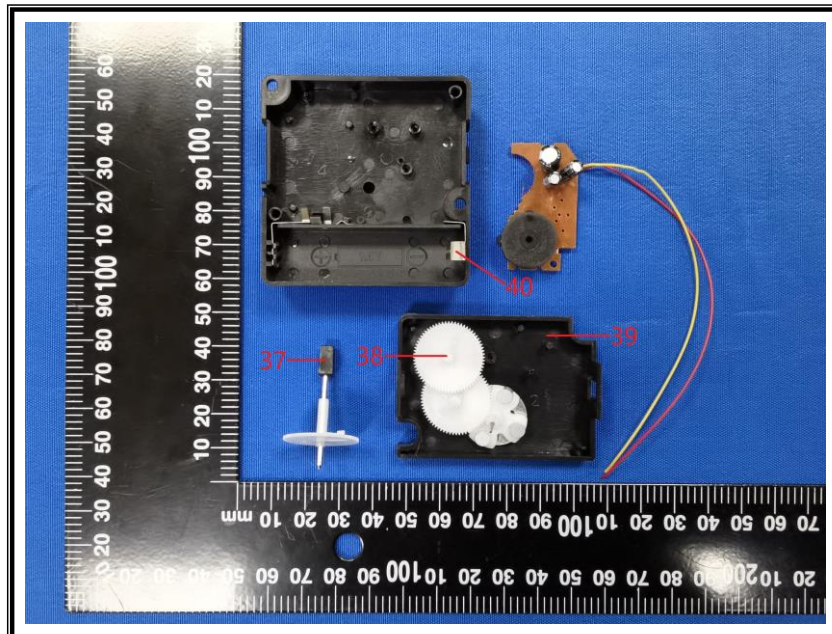
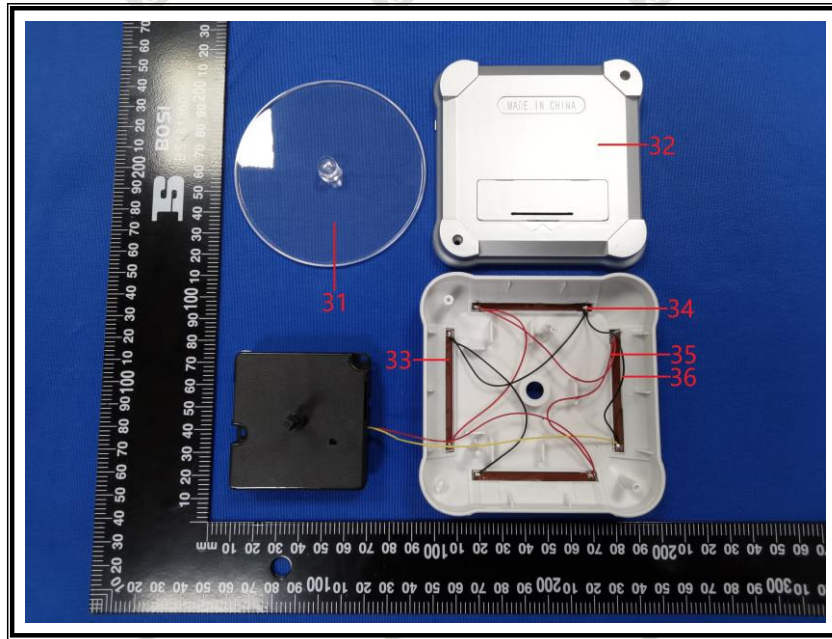
检测报告



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Tested sample photo(s)/检测样品图片



TEST REPORT

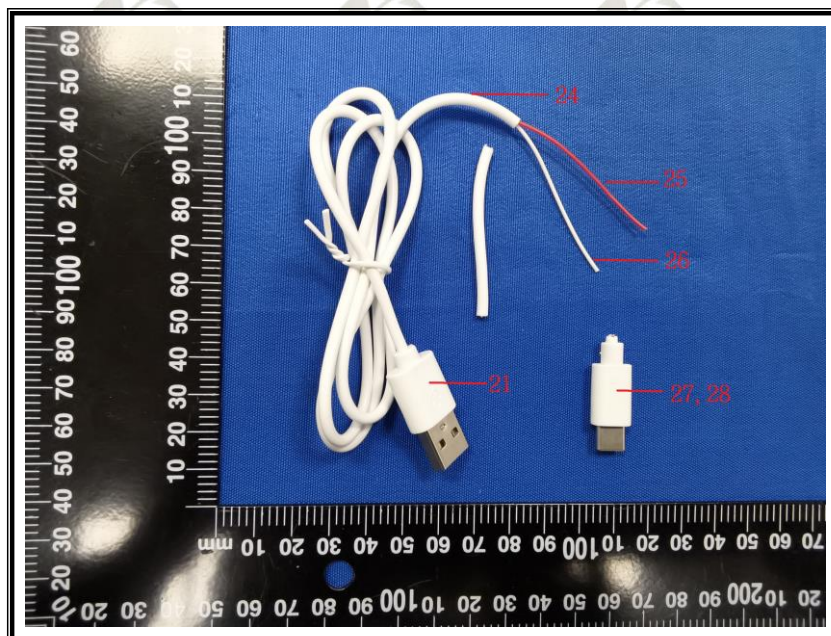
检测报告



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Tested sample photo(s)/检测样品图片



--- End of report /报告结束 ---

Statement/声明:

1. The sample(s) and sample Information was/were provided by the client who should be responsible for the authenticity which ALPHA hasn't verified;
样品及样品信息由申请者提供, 申请者应对其真实性负责, ALPHA 未核实其真实性;
2. The result(s) shown in this report refer(s) only to the sample(s) tested;
本报告检测结果仅对送测样品负责;
3. According to the applicant's requirement, we only test the specified material in the submitted sample(s).
根据客户要求, 我们只测试提交样品中的指定材料;
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