



检测报告

TEST REPORT

报告编号/ Report No..... : WTH24H01003419C
 委托方/ Applicant : 梅州市超捷电子有限公司/ Meizhou Chaojie Electronics Co., Ltd
 地址/ Address : 梅州市丰顺县汤坑镇新坑边 513 号厂房/ Plant 513, xinkengbian, tangkeng Town, Fengshun County, Meizhou City
 样品名称/ Sample Name : 单面 PCB/ Single-sided PCB
 检测要求/ Test Requested : 参见报告下页/ Refer to next page (s)
 样品接收日期/ Date of Receipt sample : 2024-01-05
 检测周期/ Testing period : 2024-01-05 ~ 2024-01-09
 报告日期/ Date of Issue..... : 2024-01-09
 检测结果/ Test Result..... : 参见报告下页/ Refer to next page (s)

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检测要求/ Test Requested

1. 参照欧盟 RoHS 指令 2011/65/EU 及其修订指令 EU 2015/863, 检测样品中的铅、镉、汞、六价铬、多溴联苯、多溴二苯醚、DBP、BBP、DEHP、DIBP 的含量。/ Determine the Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the sample with reference to EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863.
2. 参照欧盟 RoHS(Pack 15) 推荐限值, 检测样品中的中链氯化石蜡 (MCCPs)、四溴双酚 A (TBBP-A) 的含量。/ Determine the Middle Chain Chlorinated Paraffins (MCCPs), Tetrabromobisphenol A (TBBP-A) content in the sample with reference to EU RoHS(Pack 15) Recommended Limit.

检测结果/ Test Result(s):

欧盟 RoHS-铅、镉、汞、六价铬、多溴联苯、多溴二苯醚、DBP、BBP、DEHP、DIBP 的含量/ EU RoHS-Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content

检测方法/仪器/ Test Method/Equipment: IEC 62321-5:2013, IEC 62321-4:2013+AMD1:2017, IEC 62321-7-2:2017, IEC 62321-6:2015, IEC 62321-8:2017; ICP-OES, UV-VIS, GC-MS

检测项目 Test Item(s)	单位 Unit	方法检出限 MDL	结果 Result(s)	限值 Limit
			(1+2+3+4+5+6+7+8+9)##	
铅 Lead(Pb)	mg/kg	2	ND	1000
镉 Cadmium(Cd)	mg/kg	2	ND	100
汞 Mercury(Hg)	mg/kg	2	ND	1000
六价铬 Hexavalent Chromium(Cr(VI))	mg/kg	8	ND	1000
一溴联苯 Mono-bromobiphenyl	mg/kg	5	ND	—
二溴联苯 Di-bromobiphenyl	mg/kg	5	ND	—
三溴联苯 Tri-bromobiphenyl	mg/kg	5	ND	—
四溴联苯 Tetra-bromobiphenyl	mg/kg	5	ND	—
五溴联苯 Penta-bromobiphenyl	mg/kg	5	ND	—
六溴联苯 Hexa-bromobiphenyl	mg/kg	5	ND	—
七溴联苯 Hepta-bromobiphenyl	mg/kg	5	ND	—
八溴联苯 Octa-bromobiphenyl	mg/kg	5	ND	—
九溴联苯 Nona-bromobiphenyl	mg/kg	5	ND	—
十溴联苯 Deca-bromobiphenyl	mg/kg	5	ND	—
多溴联苯 Polybrominated Biphenyls(PBBs)	mg/kg	—	ND	1000
一溴二苯醚 Mono-bromodiphenyl ether	mg/kg	5	ND	—
二溴二苯醚 Di-bromodiphenyl ether	mg/kg	5	ND	—
三溴二苯醚 Tri-bromodiphenyl ether	mg/kg	5	ND	—
四溴二苯醚 Tetra-bromodiphenyl ether	mg/kg	5	ND	—
五溴二苯醚 Penta-bromodiphenyl ether	mg/kg	5	ND	—
六溴二苯醚 Hexa-bromodiphenyl ether	mg/kg	5	ND	—



检测项目 Test Item(s)	单位 Unit	方法检出限 MDL	结果 Result(s)	限值 Limit
			(1+2+3+4+5+6+7+8+9) ^{##}	
七溴二苯醚 Hepta-bromodiphenyl ether	mg/kg	5	ND	—
八溴二苯醚 Octa-bromodiphenyl ether	mg/kg	5	ND	—
九溴二苯醚 Nona-bromodiphenyl ether	mg/kg	5	ND	—
十溴二苯醚 Deca-bromodiphenyl ether	mg/kg	5	ND	—
多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)	mg/kg	—	ND	1000
邻苯二甲酸二正丁酯 Dibutyl phthalate(DBP)	mg/kg	30	ND	1000
邻苯二甲酸丁苄酯 Butylbenzyl phthalate(BBP)	mg/kg	30	ND	1000
邻苯二甲酸二(2-乙基己基)酯 Di-(2-ethylhexyl) phthalate(DEHP)	mg/kg	30	ND	1000
邻苯二甲酸二异丁酯 Di-iso-butyl phthalate(DIBP)	mg/kg	30	ND	1000

中链氯化石蜡(MCCPs)、四溴双酚 A(TBBP-A)的含量/ Medium Chain Chlorinated Paraffins (MCCPs), Tetrabromobisphenol A (TBBP-A) content

检测方法/仪器/ Test Method/Equipment: HCT/SZ-SOP-YJ-PI030,GB/T 32889-2016; GC-MS

检测项目 Test Item(s)	单位 Unit	方法检出限 MDL	结果 Result(s)	限值 Limit
			(1+2+3+4+5+6+7+8+9) ^{##}	
中链氯化石蜡 Middle Chain Chlorinated Paraffins (MCCPs)	mg/kg	100	ND	1000
四溴双酚 A Tetrabromobisphenol A (TBBPA)	mg/kg	5	ND	1000

备注/ Note:

对于检测铅, 镉, 汞, 样品已完全消解。/ The sample(s) had been dissolved totally tested for Lead,Cadmium,Mercury.

mg/kg (毫克每千克) = ppm (百万分之)/ mg/kg (milligram per kilogram) = ppm (parts per million)

ND=未检出/ ND=Not Detected

MDL=Method Detection Limit

结果显示为 ND 不计入总和的计算。/ Results shown as ND are ignored in the sum calculation.

检测的铬(Cr)含量是“ND”，则六价铬(Cr(VI))含量也是“ND”，不需要进行六价铬(Cr(VI))的确认性测试。若铬(Cr)含量超过六价铬(Cr(VI))方法检出限，需要进行六价铬(Cr(VI))的确认性测试。/ The detected Chromium (Cr) content is "ND", therefore, the Hexavalent Chromium (Cr (VI)) content is "ND", No need for validation test of the Hexavalent Chromium (Cr (VI)). If Chromium (Cr) content exceeds Hexavalent Chromium (Cr (VI)) method detection limit, Validation test of the Hexavalent Chromium (Cr (VI)) is required.

^{##}= 根据客户要求等进行等比混合检测，检测结果基于样品总质量计算。本报告中显示的结果可能与任何均质材料的含量不同。/ ^{##}= As specified by client,the samples were equal mass proportional mixed to test, and the test results



are calculated based on the total sample quality. The result(s) shown on this report may be different from the content of any homogeneous material.

样品描述/ Sample Description:

序号 No.	HCT 样品 ID HCT Sample ID	检测点描述 Test Part Description		备注 Note
1	WTH24H01003419C~3421C.1	1	浅黄色覆铜层压板连深蓝色, 白色涂层 (PCB板)	•
2	WTH24H01003419C~3421C.2	2	棕色覆铜层压板连绿色, 白色涂层 (PCB板)	•
3	WTH24H01003419C~3421C.3	3	浅棕色覆铜层压板连绿色, 黑色, 红色涂层 (PCB板)	•
4	WTH24H01003419C~3421C.4	4	黄色覆铜层压板连绿色, 黑色, 红色, 白色涂层 (PCB板)	•
5	WTH24H01003419C~3421C.5	5	浅棕色覆铜层压板连绿色, 黑色, 红色涂层 (PCB板)	•
6	WTH24H01003419C~3421C.6	6	浅黄色覆铜层压板连绿色, 黑色, 红色, 白色涂层 (PCB板)	•
7	WTH24H01003419C~3421C.7	7	米白色覆铜层压板连绿色, 黑色, 红色, 白色涂层 (PCB板)	•
8	WTH24H01003419C~3421C.8	8	黄色覆铜层压板连绿色, 黑色, 红色涂层 (PCB板)	•
9	WTH24H01003419C~3421C.9	9	黄色覆铜层压板连绿色, 黑色, 红色涂层 (PCB板)	•

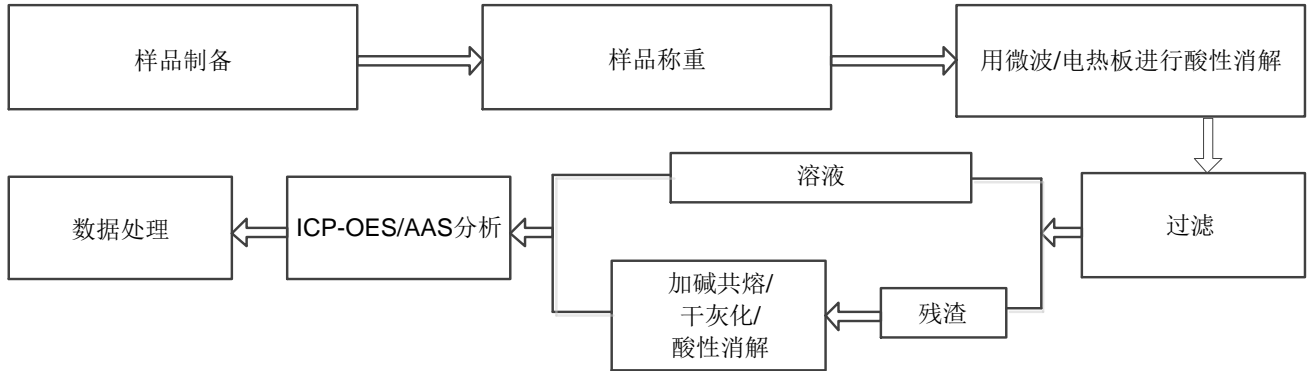
备注/ Note:

●=实际检测样品/●=Actual tested sample

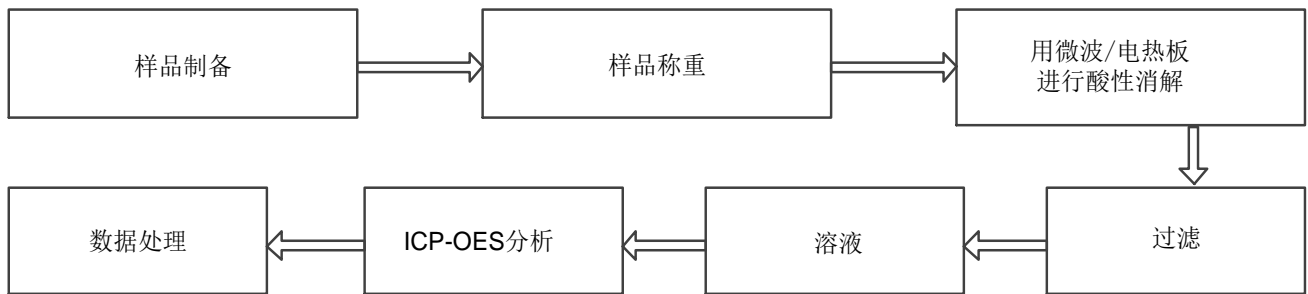


检测流程图/ Test Flow Chart:

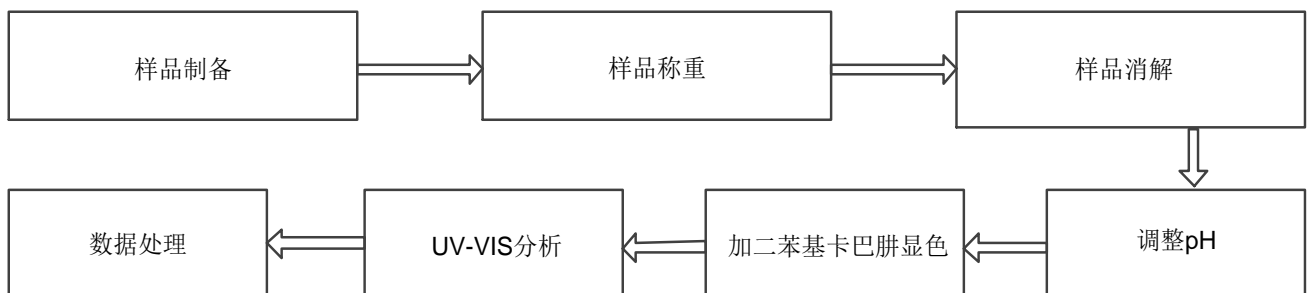
铅(Pb)、镉(Cd)、铬(Cr)



汞(Hg)



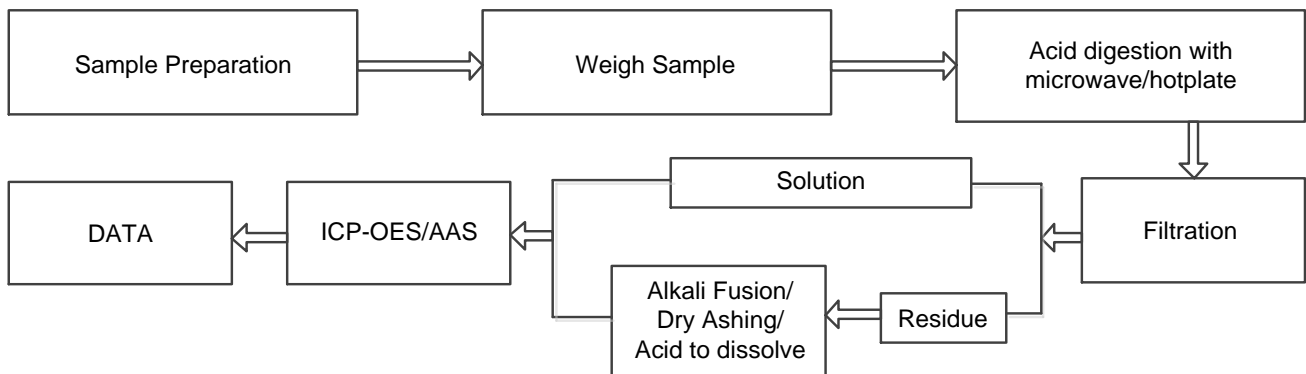
六价铬(Cr(VI))



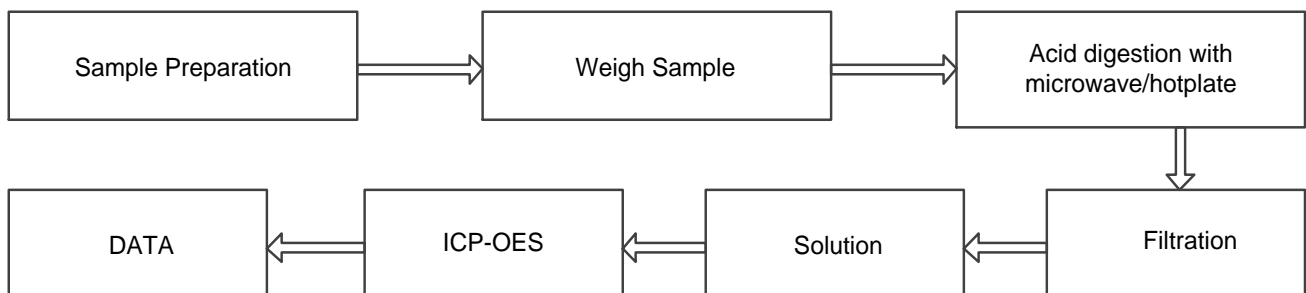
多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸二正丁酯(DBP)、邻苯二甲酸丁苄酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)、邻苯二甲酸二异丁酯(DIBP)、中链氯化石蜡 (MCCPs)、四溴双酚 A (TBBP-A)



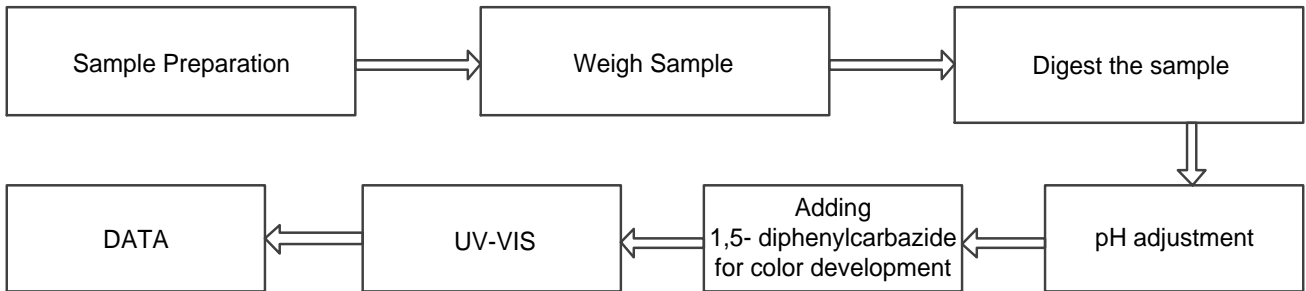
Lead(Pb), Cadmium(Cd), Chromium(Cr)



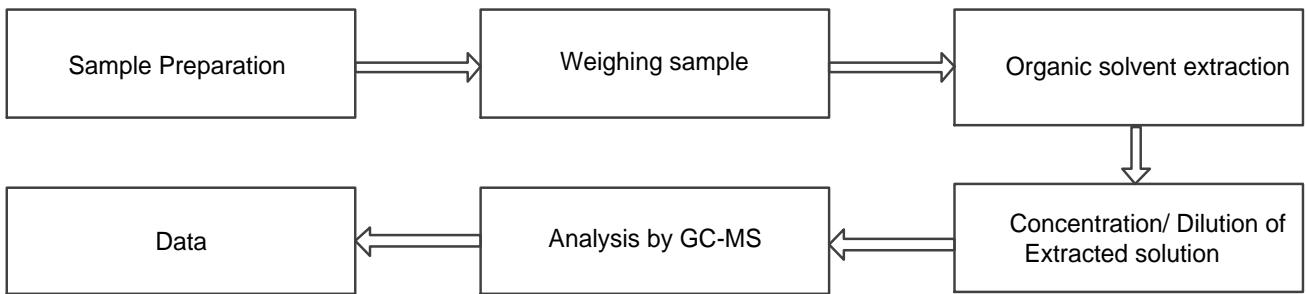
Mercury(Hg)



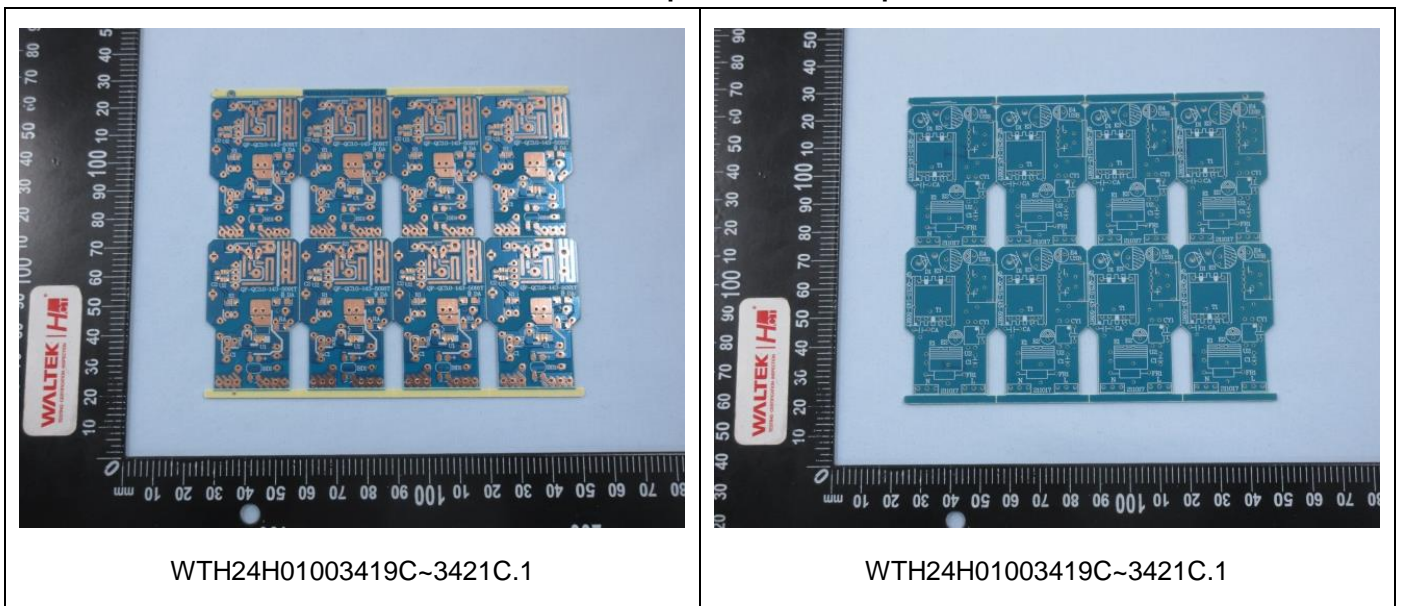
Hexavalent Chromium(Cr(VI))

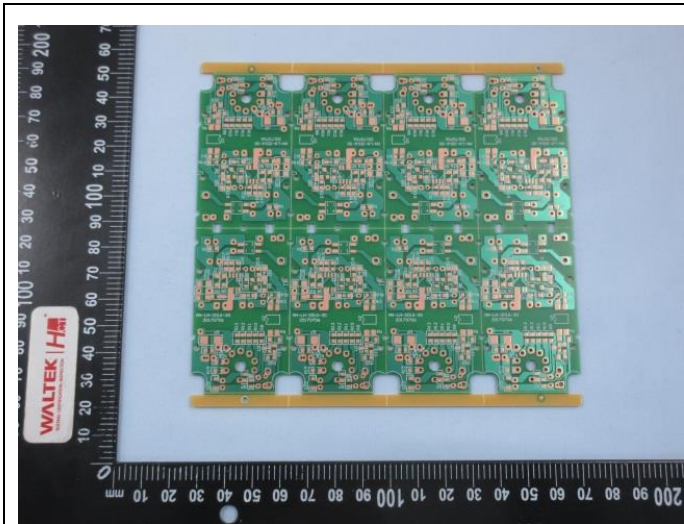


Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Dibutyl phthalate(DBP), Butylbenzyl phthalate(BBP), Di-(2-ethylhexyl) phthalate(DEHP), Di-iso-butyl phthalate(DIBP), Middle Chain Chlorinated Paraffins (MCCPs), Tetrabromobisphenol A (TBBP-A)

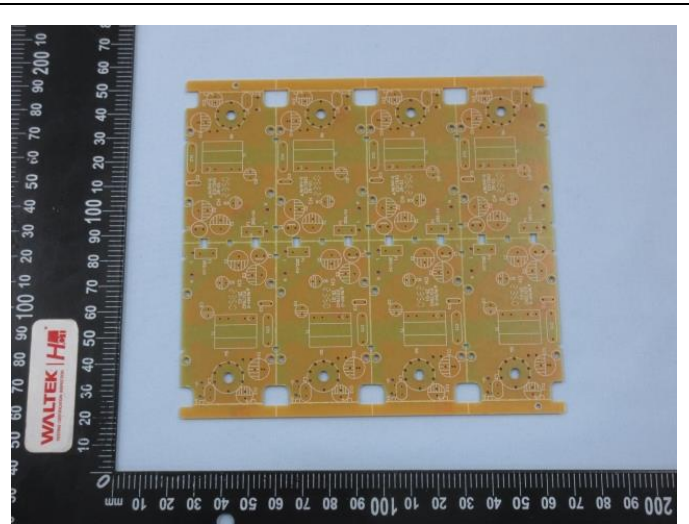


样品附图/ The photo of the sample

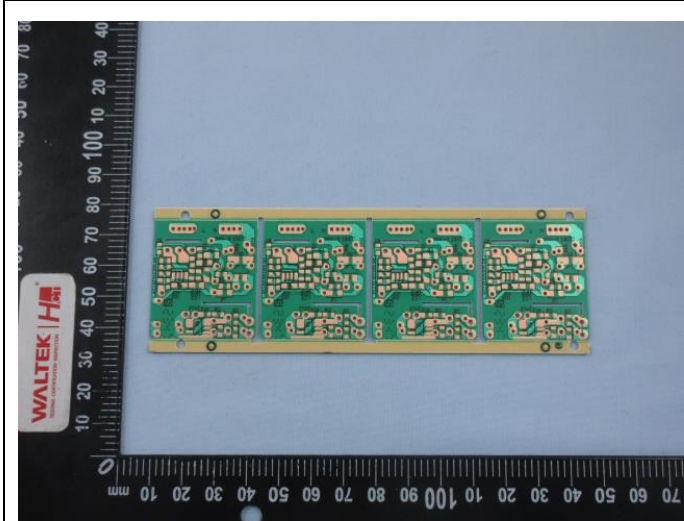




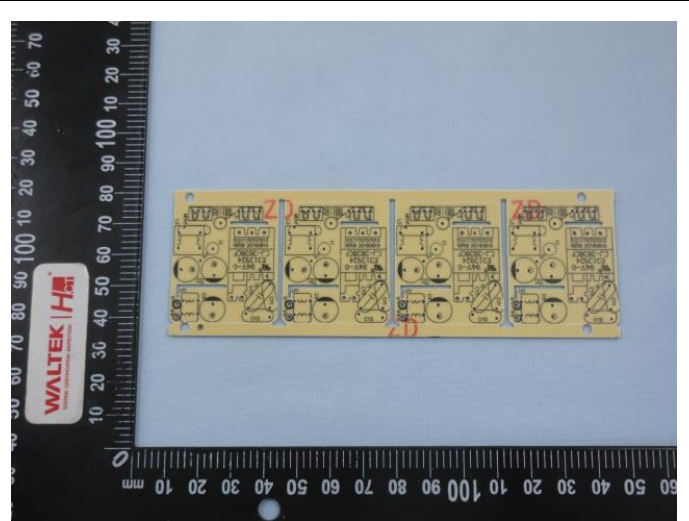
WTH24H01003419C~3421C.2



WTH24H01003419C~3421C.2

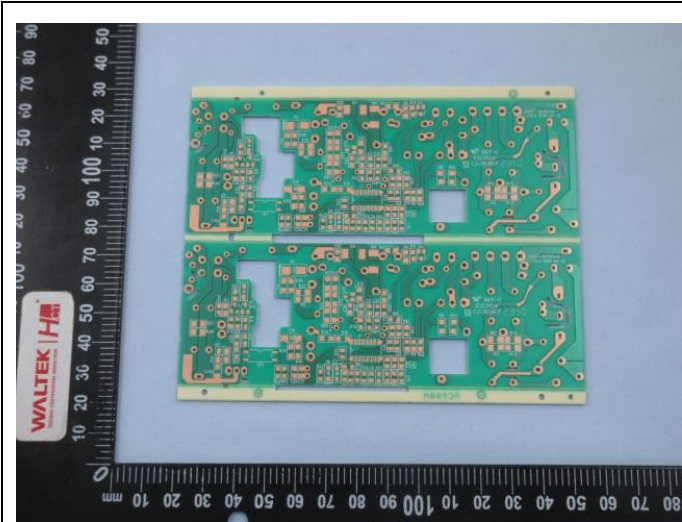


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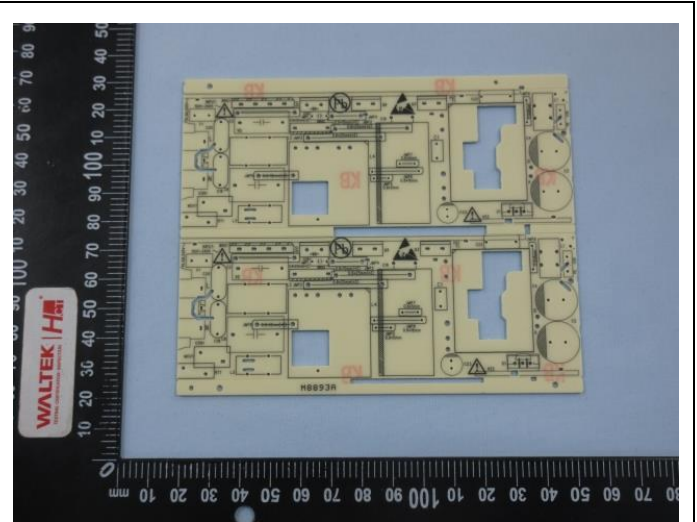


WTH24H01003419C~3421C.3

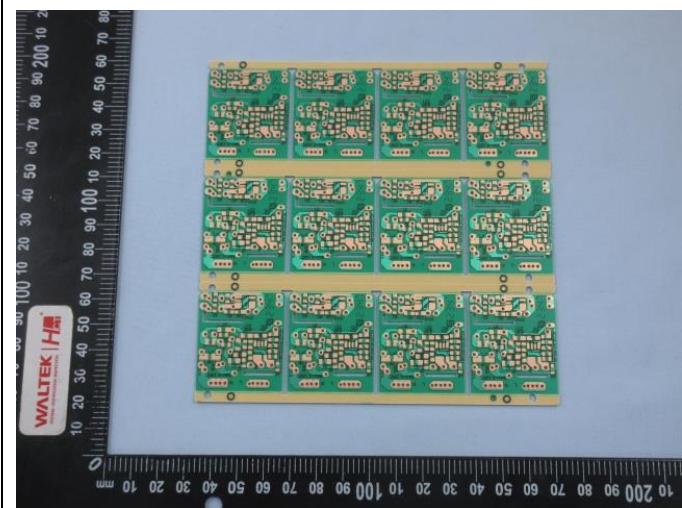




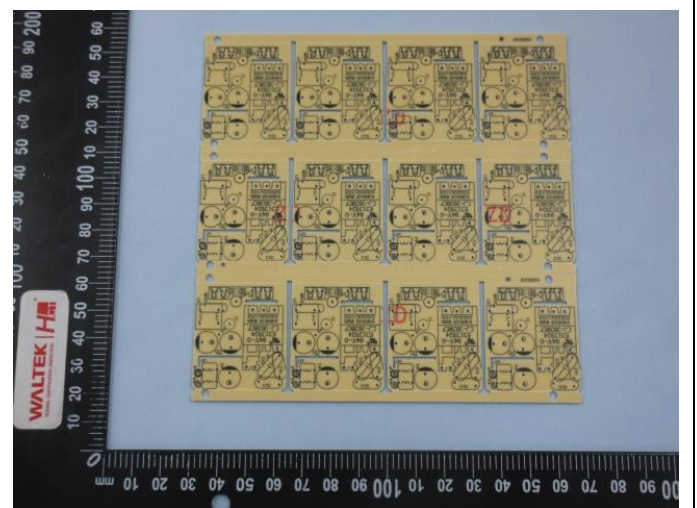
WTH24H01003419C~3421C.4



WTH24H01003419C~3421C.4

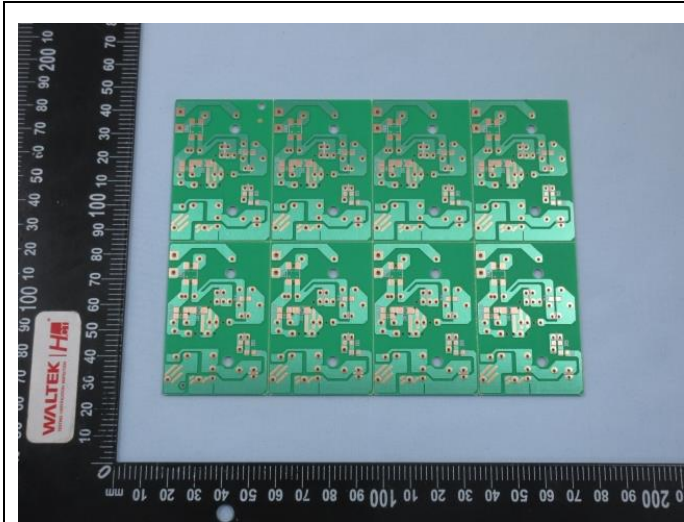


WTH24H01003419C~3421C.5

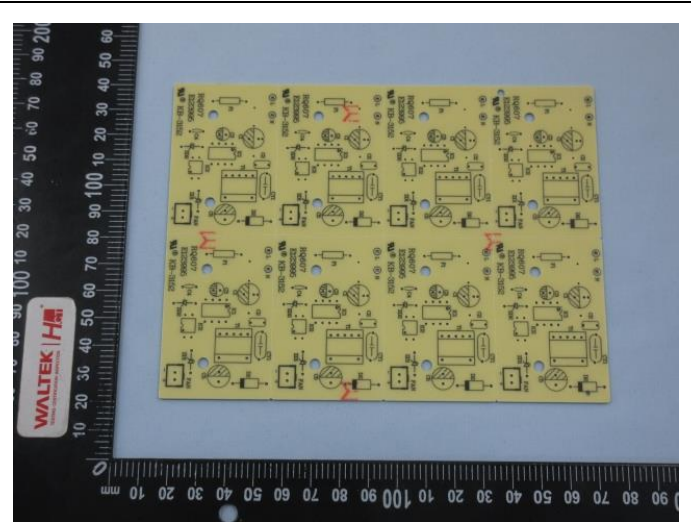


WTH24H01003419C~3421C.5

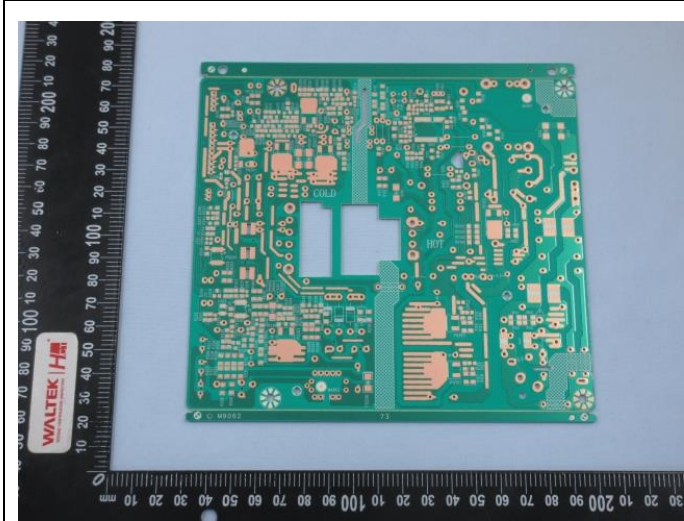




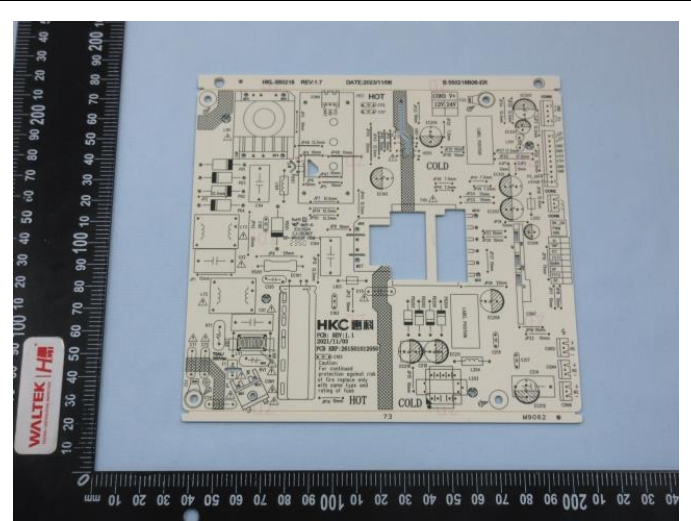
WTH24H01003419C~3421C.6



WTH24H01003419C~3421C.6

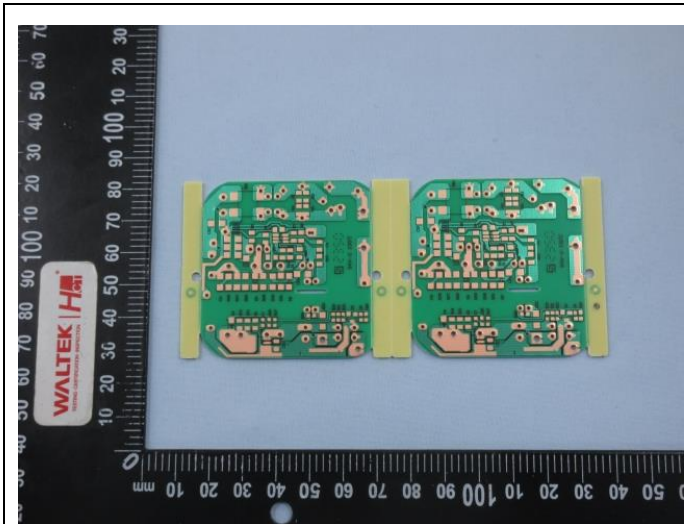


WTH24H01003419C~3421C.7

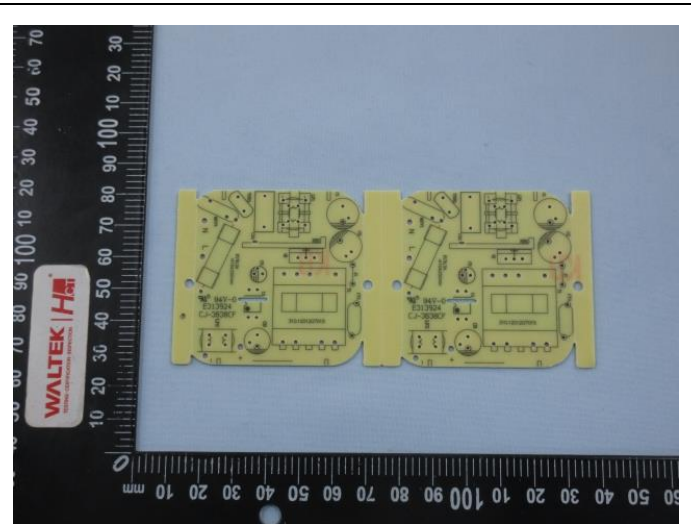


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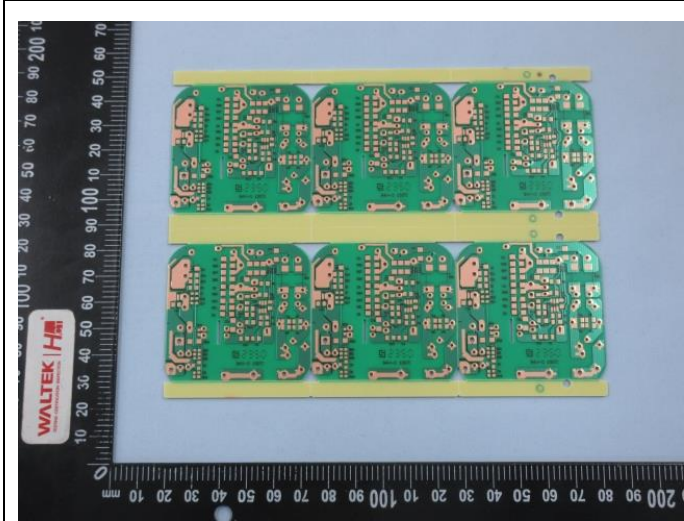




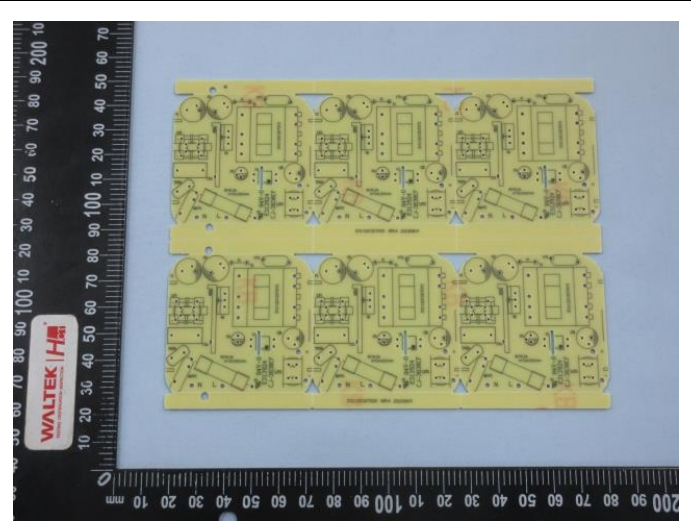
WTH24H01003419C~3421C.8



WTH24H01003419C~3421C.8



WTH24H01003419C~3421C.9



WTH24H01003419C~3421C.9



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