WTH24H09211713C

验证报告
Verification Report

报告编号/ Report No.	:	WTH24H09211713C
委托方/ Applicant	:	苏州沃虎电子科技有限公司 Suzhou Wohu Electronic Technology Co., Ltd.
地址/ Address	:	江苏省苏州市吴江区苏州湾阿尔法大厦 A 栋 5F 5F, Building A, Alpha Building, Suzhou Bay, Wujiang District, Suzhou City, Jiangsu Province
样品名称/ Sample Name	:	网络接口集成磁性元件
检测要求/ Test Requested	:	参照欧盟 RoHS 指令 2011/65/EU 及其修订指令 EU 2015/863，对样品中的铅、镉、汞、六价铬、多溴联苯、多溴二苯醚、DBP、BBP、DEHP、DIBP 的含量进行验证。/ Verify 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.
检测结论/ Test Conclusion	:	合格/ PASS
样品接收日期/ Date of Receipt sample	:	2024-09-09
检测周期/ Testing period	:	2024-09-09 ~ 2024-09-21
报告日期/ Date of Issue	:	2024-09-25
检测结果/ Test Result	:	参见报告下页/ Refer to next page (s)

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Signed for and on behalf of
Shenzhen Hongcai Testing Technology Co., Ltd.

Shenzhen Hongcai Testing Technology Co., Ltd. 深圳市虹彩检测技术有限公司 报告专用章

黄胜明/Michael Huang

检测结果/ Test Result(s)：

铅、镉、汞、六价铬、多溴联苯、多溴二苯醚、DBP、BBP、DEHP、DIBP 的含量(筛选&化学测试)/ Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content(Screen & chemical test) Test)

序号 No.	样品描述 Sample Description	检测项目 Test Item(s)	XRF 结果 XRF Result(s) (1)	化学结果 Chemical Result(s) (2)	样品接收日期 Received Sample(s) Date	备注 Note
3-1	银色金属外壳 Silver metal case	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	NA	---		
		DBP	NA	---		
		BBP	NA	---		
		DEHP	NA	---		
		DIBP	NA	---		
3-2	银色金属焊锡 Silver metal solder	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	NA	---		
		DBP	NA	---		
		BBP	NA	---		
		DEHP	NA	---		
		DIBP	NA	---		
3-3	黑色软胶线皮 Black soft rubber leather	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	BL	---		
		DBP	NA	ND	2024-09-19	
		BBP	NA	ND		
		DEHP	NA	ND		
		DIBP	NA	ND		
3-4	银色金属线芯 Silver metal core	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		

序号 No.	样品描述 Sample Description	检测项目 Test Item(s)	XRF 结果 XRF Result(s) (1)	化学结果 Chemical Result(s) (2)	样品接收日期 Received Sample(s) Date	备注 Note
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	NA	---		
		DBP	NA	---		
		BBP	NA	---		
		DEHP	NA	---		
		DIBP	NA	---		
3-5	黑色塑胶骨架 Black plastic skeleton	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	IN	PBBs:ND PBDEs:ND		
		DBP	NA	ND		
		BBP	NA	ND		
		DEHP	NA	ND		
		DIBP	NA	ND		
3-6	黑色八脚本体 Black eight pins body	Pb	IN	77	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	IN	ND		
		Br(PBBs&PBDEs)	BL	---		
		DBP	NA	ND		
		BBP	NA	ND		
		DEHP	NA	ND		
		DIBP	NA	ND		
3-7	棕色贴片电容 Brown chip capacitor	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	BL	---		
		DBP	NA	ND		
		BBP	NA	ND		
		DEHP	NA	ND		

序号 No.	样品描述 Sample Description	检测项目 Test Item(s)	XRF 结果 XRF Result(s) (1)	化学结果 Chemical Result(s) (2)	样品接收日期 Received Sample(s) Date	备注 Note
		DIBP	NA	ND		
3-8	银色金属插针 Silver metal pin	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	NA	---		
		DBP	NA	---		
		BBP	NA	---		
		DEHP	NA	---		
		DIBP	NA	---		
3-9	米色铜层压板连绿色涂层 Cream copper laminate with green coating	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	IN	PBBs:ND PBDEs:ND		
		DBP	NA	ND		
		BBP	NA	ND		
		DEHP	NA	ND		
		DIBP	NA	ND		
3-10	银色金属焊锡 Silver metal solder	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	NA	---		
		DBP	NA	---		
		BBP	NA	---		
		DEHP	NA	---		
		DIBP	NA	---		
3-11	黄色 LED 灯 Yellow LED light	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		

序号 No.	样品描述 Sample Description	检测项目 Test Item(s)	XRF 结果 XRF Result(s) (1)	化学结果 Chemical Result(s) (2)	样品接收日期 Received Sample(s) Date	备注 Note
		Br(PBBs&PBDEs)	BL	---		
		DBP	NA	ND		
		BBP	NA	ND		
		DEHP	NA	ND		
		DIBP	NA	ND		
3-12	绿色 LED 灯 Green LED light	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	BL	---		
		DBP	NA	ND		
		BBP	NA	ND		
		DEHP	NA	ND		
		DIBP	NA	ND		
3-13	银色金属引脚 Silver metal pin	Pb	BL	---	2024-09-09	●
		Cd	BL	---		
		Hg	BL	---		
		Cr(Cr(VI))	BL	---		
		Br(PBBs&PBDEs)	NA	---		
		DBP	NA	---		
		BBP	NA	---		
		DEHP	NA	---		
		DIBP	NA	---		

备注/ Note:

●=实际检测样品/●=Actual tested sample

说明(Remark)：

(1)：ED-XRF 检测(ED-XRF test)：

(a) 对于限用物质 PBBs/PBDEs，ED-XRF 结果显示的是总 Br 含量；对于限用物质 Cr(VI)，ED-XRF 结果显示的是总 Cr 含量(For the restricted substances PBBs/PBDEs, the ED-XRF results show the total Br content; for the restricted substance Cr(VI), the ED-XRF results show the total Cr content.)。

(b) ED-XRF 所得的检测结果只作初步筛选，如果 ED-XRF 结果超出 IEC 62321-3-1:2013 所规定的警戒范围，建议客户用更精确的化学检测方法检测样品(Results were obtained by ED-XRF for primary screening, and further chemical testing are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013.)。

单位(Unit)：mg/kg

元素 (Elements)	聚合物 (Polymers)	金属 (Metals)	复合材料 (Composite material)
Pb	BL ≤ 100 < X < 1200 ≤ OL	BL ≤ 100 < X < 1200 ≤ OL	BL ≤ 80< X < 1300 ≤ OL
Cd	BL ≤ 30 < X < 120≤ OL	BL ≤ 30 < X < 120≤ OL	BL ≤ 30 < X < 120≤ OL
Hg	BL ≤ 100 < X < 1200 ≤ OL	BL ≤ 100 < X < 1200 ≤ OL	BL ≤ 80< X < 1300 ≤ OL
Cr	BL ≤ 200< X	BL ≤ 200 < X	BL ≤ 150< X
Br	BL ≤ 200 < X	---	BL ≤ 200 < X

(c) BL=ED-XRF 分析低于限值(Below Limit by ED-XRF analysis)，
OL=ED-XRF 分析高于限值(Over Limit by ED-XRF analysis)，IN=不确定(Inconclusive)，
NA=不适用(Not Applicable)，--- =未规定(Not regulated)，X=需要进一步检测(need further chemical analysis)

(d)对于复合材料，ED-XRF 筛选检测元素所得数据可能与样品中实际含量不同(For composite material,the ED-XRF results may be different to the actual content in the sample.)。

(2)：化学检测及法规限值(Chemical test and regulatory limits)：

检测项目 (Test Items)		检测方法 (Test Method)	检测仪器 (Test Equipment)	方法检出限 (MDL)	限值(均一材质) (Limit(by weight in homogeneous materials))
Pb		IEC 62321-5:2013	ICP-OES/AAS	2mg/kg	1000mg/kg
Cd		IEC 62321-5:2013	ICP-OES/AAS	2mg/kg	100mg/kg
Hg		IEC 62321-4:2013+AMD1:2017	ICP-OES	2mg/kg	1000mg/kg
Cr(VI)	金属(Metal)	IEC 62321-7-1:2015	UV-VIS	0.10μg/cm²	1000mg/kg
	其它(Others)	IEC 62321-7-2:2017	UV-VIS	8mg/kg	
PBBs		IEC 62321-6:2015	GC-MS	5mg/kg(Each)	1000mg/kg(Sum)
PBDEs		IEC 62321-6:2015	GC-MS	5mg/kg(Each)	1000mg/kg(Sum)
DBP		IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg
BBP		IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg
DEHP		IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg
DIBP		IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg

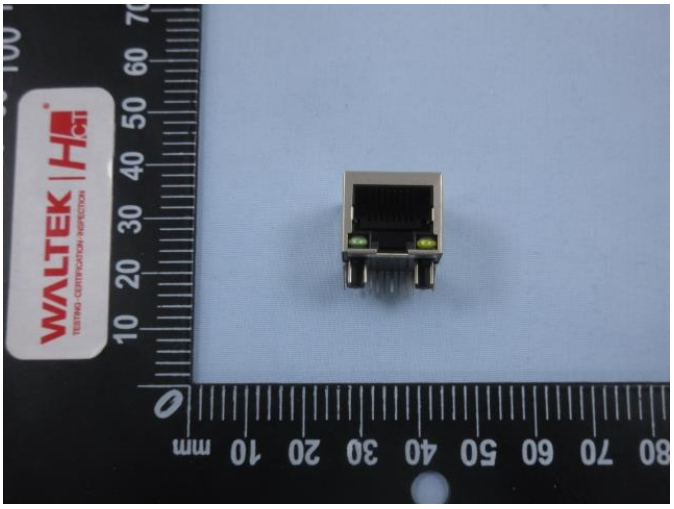
(a) 化学检测结果的单位：金属的 Cr(VI)是 μg/cm²，其余均为 mg/kg(Unit of Chemical test result: Cr(VI) of metal:μg/cm² ,Other:mg/kg)；μg/cm² (microgram per square centimeter 微克每平方厘米), 1mg/kg=1ppm=0.0001%, mg/kg (milligram per kilogram 毫克每千克) = ppm (parts per million 百万分之), ND =未检出(低于方法检出限)(not

detected (less than method detection limit))，MDL=Method Detection Limit 方法检出限，--- =未进行检测(Not Conducted)

(b) 金属镀层中,按照检测方法 IEC 62321-7-1:2015：①当六价铬的浓度高于 0.13μg/cm² 时，样品为阳性，即含有六价铬；②当六价铬的浓度为 ND(低于 0.10μg/cm²)时，样品为阴性，即未检测到六价铬；③当六价铬的浓度介于 0.10μg/cm² 与 0.13μg/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，样品的六价铬检测结果仅能代表检测时样品含六价铬的状态(For corrosion-protected coatings on metals,according to the test method IEC 62321-7-1:2015:①The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13μg/cm². The sample coating is considered to contain Cr(VI); ②The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10μg/cm²). The coating is considered a non-Cr(VI) based coating; ③The result between 0.10μg/cm² and 0.13μg/cm² is considered to be inconclusive -unavoidable coating variations may influence the determination; The surface difference of samples from different individuals may affect the determination results of Cr(VI); Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.)。

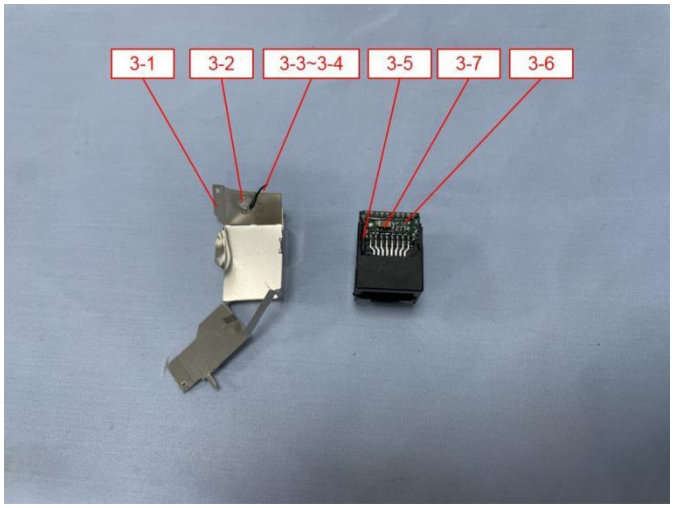
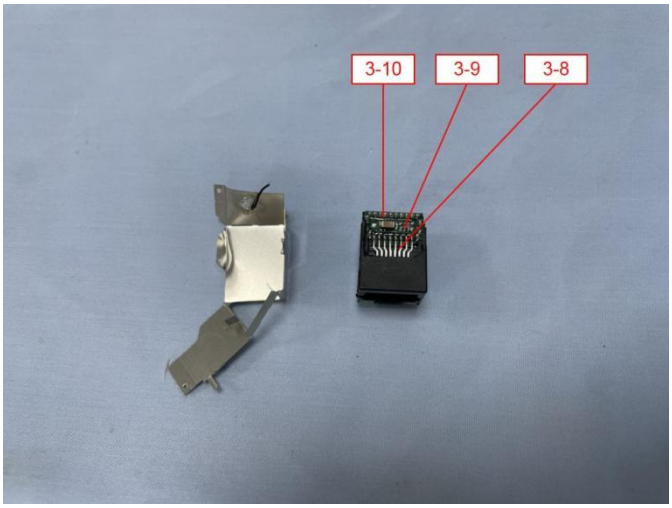
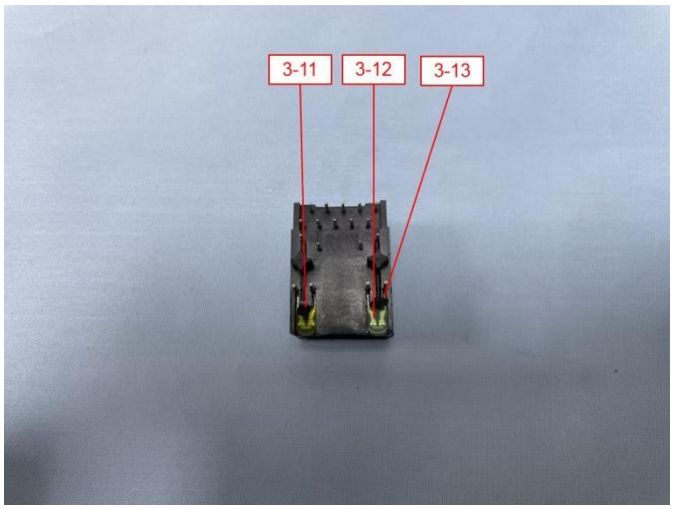
(3)：对本报告图片中标识的样品进行筛选及化学检测(Screening and chemical tests were performed for the samples indicated by the photo in this report.)。

样 品 附 图/ The photo of the sample

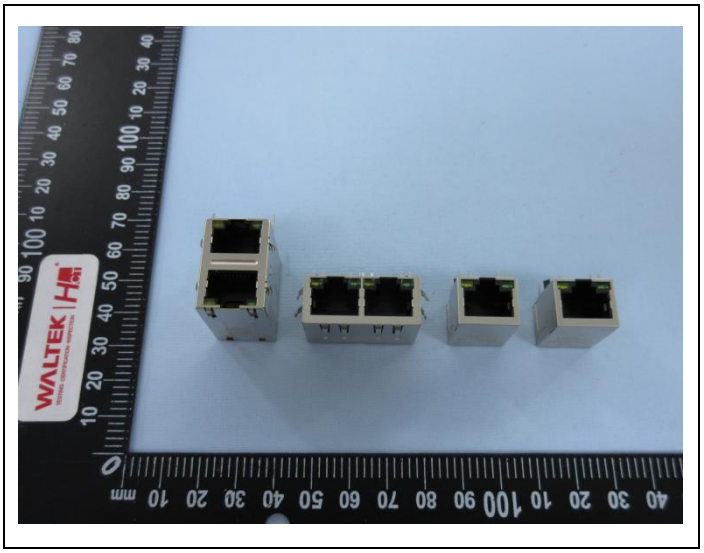


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拆 分 附 图/ The photo of Disassembly

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客户参考图片(未做检测的样品)/ Client's reference photo(Non-tested sample)



声明/ Statement：

1. 检测报告无批准人签字和专用章无效。
   This report is considered invalid without approved signature and special seal.
2. 委托单位及地址，样品和样品信息由委托方提供，委托方应对其真实性负责，HCT 未核实其真实性。
   The Applicant name and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which HCT hasn't verified.
3. 本报告检测结果（结论）仅对受测样品负责。
   The result(s)(conclusion) shown in this report refer(s) only to the sample(s) tested.
4. 未经 HCT 书面同意，不得部分复制本报告。
   Without written approval of HCT, this report can't be reproduced except in full.
5. 无 CMA 标识报告中的结果仅用于客户科研、教学、内部质量控制、产品研发等目的，仅供内部参考。
   The result(s) in no CMA logo report shall only be used for client's scientific research, teaching, internal quality control, product research and development, etc..and just for internal reference.
6. 有 CNAS 标识报告中的“ⁿ”代表该检测项目暂未申请 CNAS 认可。
   The "ⁿ" in CNAS logo report means that the test item(s) was (were) currently not applying for CNAS accreditation.
7. 本报告使用的判定规则：
   Decision rules used in this report:
   (1)按照检测要求列的法规/标准中规定的判定规则；
   (2)如果检测要求列的法规中没有规定判定规则的话，则按照《CNAS-GL015 判定规则和符合性声明指南》6.2.1 简单接受(w=0)的二元判定规则：
   合格(接受)--测得值位于容许区间以内。

不合格(拒绝)--测得值位于容许区间以外。

(1)According to the Decision rules in the regulations/standards listed in the Test Requested;

(2)If there is no Decision rules specified in the regulations listed in the Test Requested, then according to CNAS-GL015 Guidelines on Decision Rules and Statements of Conformity, 6.2.1, Simple Acceptance (*w*=0) of The binary Decision rule:

PASS (Accepted) - The measured value is within the tolerance interval.

FAIL (Rejected) - The measured value is outside the tolerance interval.

======报告结束/ End of Report ======