



验证报告

编号: TSNEC2201965002

日期: 2022年09月15日 第1页,共10页

客户名称: 北京鸿基点科技发展有限公司
客户地址: 中国北京市朝阳区大郊亭中街2号院3号楼7层
样品名称: 压力变送器
型号: PG101
生产厂家: 鸿宝时(三河)科技有限公司
以上样品及信息由客户提供。

SGS工作编号: TP22-006093 - TJ
样品接收日期: 2022年07月19日
验证周期: 2022年07月19日 - 2022年09月14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。

检测结果总结

检测项目	结论
欧盟RoHS指令2011/65/EU附录II修正指令(EU) 2015/863- 铅、汞、镉、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs) 和邻苯二甲酸二丁酯 (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)	通过

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Jason Li 李忠号
批准签署人

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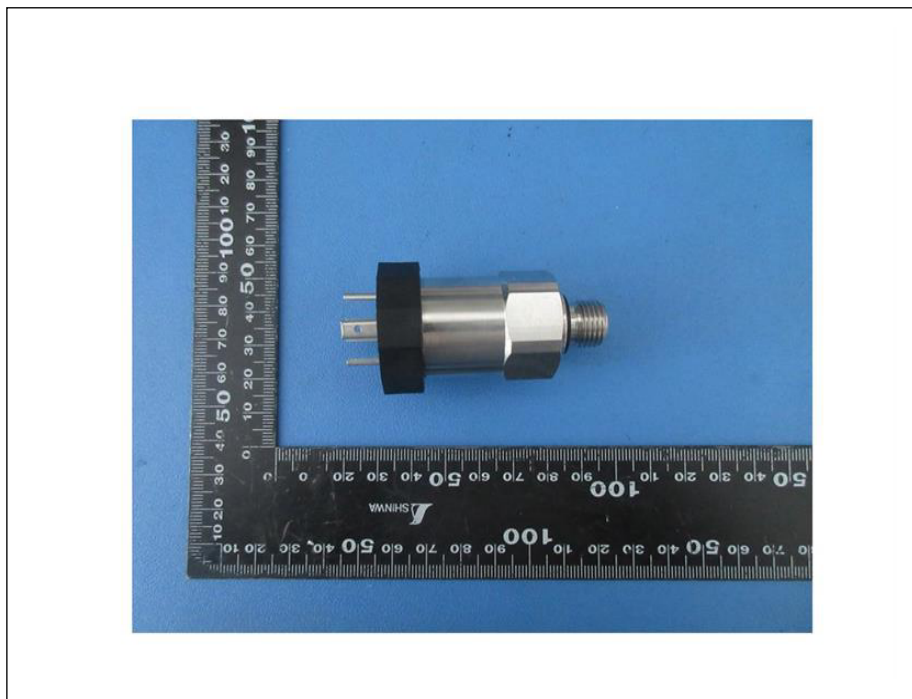
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样品照片



验证方法:

1. 参考IEC 62321-2:2021, 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检测分析。
 - (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) 湿法化学检测方法: 参考IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC 62321-7-2:2017, ISO 17075-1:2017, IEC 62321-6:2015和IEC 62321-8:2017, 采用ICP-OES, UV-Vis和GC- MS进行分析。

验证部件外观描述:

样品序号	样品编号	SGS 样品ID	样品描述
SN1	A1	TSN22-019650.001	银色金属
SN2	A2	TSN22-019650.002	黑色塑料
SN3	A3	TSN22-019650.003	银色金属
SN4	A4	TSN22-019650.004	黑色橡胶
SN5	A5	TSN22-019650.005	银色金属
SN6	A6	TSN22-019650.006	黑色橡胶
SN7	A7	TSN22-019650.007	银色金属焊锡

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样品序号	样品编号	SGS 样品ID	样品描述
SN8	A8	TSN22-019650.008	黑色二极管
SN9	A9	TSN22-019650.009	铜色金属
SN10	A10	TSN22-019650.010	黑色塑料
SN11	A11	TSN22-019650.011	白色固体胶
SN12	A12	TSN22-019650.012	白色塑料
SN13	A13	TSN22-019650.013	银色金属
SN14	A14	TSN22-019650.014	黑色橡胶
SN15	A15	TSN22-019650.015	银色金属
SN16	A16	TSN22-019650.016	黑色固体胶
SN17	A17	TSN22-019650.017	铜色金属
SN18	A18	TSN22-019650.018	银色金属焊锡
SN19	A19	TSN22-019650.019	银色金属
SN20	A20	TSN22-019650.020	黑色塑料热缩管
SN21	A21	TSN22-019650.021	银色金属
SN22	A22	TSN22-019650.022	白色陶瓷
SN23	A23	TSN22-019650.023	PCB上的红色塑料线皮
SN24	A24	TSN22-019650.024	PCB上的银色金属线芯
SN25	A27	TSN22-019650.027	PCB上的黑色塑料线皮
SN26	A28	TSN22-019650.028	PCB上的黑色塑料线皮
SN27	A29	TSN22-019650.029	PCB上的银色金属线芯
SN28	A33	TSN22-019650.033	PCB上的黄色塑料线皮
SN29	A34	TSN22-019650.034	PCB上的蓝色塑料线皮
SN30	A35	TSN22-019650.035	PCB上的红色塑料线皮
SN31	A36	TSN22-019650.036	银色金属螺栓
SN32	A37	TSN22-019650.037	铜色金属螺栓
SN33	A38	TSN22-019650.038	白色陶瓷
SN34	A44	TSN22-019650.044	PCB上的黑色芯片本体
SN35	A45	TSN22-019650.045	PCB上的黑色芯片本体
SN36	A46	TSN22-019650.046	PCB上的银色金属焊锡



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样品序号	样品编号	SGS 样品ID	样品描述
SN37	A47	TSN22-019650.047	蓝色PCB



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验证结果:

除特别标注, 单位均为: mg/kg

检测项目	A1	A2	A3	A4	A5	A6	A7	A8
Pb	ND	BL	BL	BL	BL	BL	BL	OL▲
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	ND	BL	ND	BL	ND	BL	ND	BL
PBBs	---	ND	---	BL	---	BL	---	BL
PBDEs	---	ND	---	BL	---	BL	---	BL
DBP	---	ND	---	ND	---	ND	---	ND
BBP	---	ND	---	ND	---	ND	---	ND
DEHP	---	ND	---	ND	---	ND	---	ND
DIBP	---	ND	---	ND	---	ND	---	ND
结论	符合	符合	符合	符合	符合	符合	符合	符合

检测项目	A9	A10	A11	A12	A13	A14	A15	A16
Pb	BL	BL	BL	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	BL	BL	BL	BL	ND	BL	ND	ND
PBBs	---	BL	BL	BL	---	BL	---	BL
PBDEs	---	BL	BL	BL	---	BL	---	BL
DBP	---	ND	ND	ND	---	ND	---	BL
BBP	---	ND	ND	ND	---	ND	---	BL
DEHP	---	ND	ND	ND	---	ND	---	BL
DIBP	---	ND	ND	ND	---	ND	---	BL
结论	符合	符合	符合	符合	符合	符合	符合	符合

检测项目	A17	A18	A19	A20	A21	A22	A23	A24
Pb	BL	BL	BL	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	ND	ND	ND	BL	ND	BL	BL	BL
PBBs	---	---	---	BL	---	---	BL	---



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检测项目	A17	A18	A19	A20	A21	A22	A23	A24
PBDEs	---	---	---	BL	---	---	BL	---
DBP	---	---	---	ND	---	---	ND	---
BBP	---	---	---	ND	---	---	ND	---
DEHP	---	---	---	ND	---	---	ND	---
DIBP	---	---	---	ND	---	---	ND	---
结论	符合	符合	符合	符合	符合	符合	符合	符合

检测项目	A27	A28	A29	A33	A34	A35	A36	A37
Pb	BL	BL	BL	BL	BL	BL	BL	33100▲
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	BL	BL	BL	BL	BL	BL	ND	BL
PBBs	BL	BL	---	BL	BL	BL	---	---
PBDEs	BL	BL	---	BL	BL	BL	---	---
DBP	ND	ND	---	BL	BL	BL	---	---
BBP	ND	ND	---	BL	BL	BL	---	---
DEHP	ND	204	---	BL	BL	BL	---	---
DIBP	ND	ND	---	BL	BL	BL	---	---
结论	符合	符合	符合	符合	符合	符合	符合	符合

检测项目	A38	A44	A45	A46	A47
Pb	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL
Cr(VI)▼	ND	BL	BL	BL	BL
PBBs	---	BL	BL	---	ND
PBDEs	---	BL	BL	---	ND
DBP	---	BL	BL	---	ND
BBP	---	BL	BL	---	ND
DEHP	---	BL	BL	---	ND
DIBP	---	BL	BL	---	ND
结论	符合	符合	符合	符合	符合



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备注:

(1) X 射线荧光光谱法(XRF)筛选结果说明:

(a) 下表为 IEC62321-3-1: 2013 附录 A 不同基体材料中以 mg/kg 表示的筛选元素限值:

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	$BL \leq (300-3\sigma) < X$	不适用	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(b) 现行法规限制的最大允许值是对 PBB/PBDE 和 Cr(VI) 而不是对 Br 和 Cr 的, 而 XRF 测定的是 Br 和 Cr。

如果元素 Br 和或 Cr 的定量结果均高于限值(Br 计算基于在常见物质中 PBB/PBDE 的组成的理论计算), 则样品的筛选结果为“不确定”。

(c) EDXRF 的结果用于初步筛选, LOD=检出限, BL=低于限值, OL=超出限值, IN (符号“X”标记的区域)=不确定, 需要进一步研究, 我们建议客户用更精确的化学检测方法检测样品, 如用 ICP-OES 检测 Cd/Pb/Hg; 用 UV-Vis 检测 Cr(VI); 用 GC-MS 检测 PBBs/PBDEs。

(d) 对于复合材料, EDXRF 筛选检测 RoHS 元素所得数据可能与样品中实际含量不同。

(2) 邻苯二甲酸酯(PHTH)筛分结果只作初步筛选, 如果检测结果超出下表所规定的警戒范围, 我们采用更精确的化学检测方法检测样品, 用 GC-MS 检测 DBP、BBP、DEHP 和 DIBP (单位: mg/kg)。

检测项目	CAS No.	聚合物/复合材料
邻苯二甲酸二丁酯 (DBP)	84-74-2	$BL \leq 600 < X$
邻苯二甲酸丁苄酯 (BBP)	85-68-7	$BL \leq 600 < X$
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	117-81-7	$BL \leq 600 < X$
邻苯二甲酸二异丁酯 (DIBP)	84-69-5	$BL \leq 600 < X$

(3) 化学检测方法结果说明:

(a) mg/kg = 0.0001%, MDL=方法检测限, ND =未检出(低于 MDL), --- =不适用。

(b) 化学检测方法的表达单位和方法检测限

检测项目	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

任何一种 PBBs 和 PBDEs 的方法检测限是 100mg/kg;

聚合物, 复合材料和皮革样品中 Cr(VI)的方法检测限是 10mg/kg。

金属样品中 Cr(VI)的方法检测限是 0.10µg/cm²。



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(c) ▼ =金属样品中

- a. 当六价铬的浓度高于 $0.13\mu\text{g}/\text{cm}^2$ 时, 样品为阳性, 即含有六价铬;
- b. 当六价铬的浓度为 ND (低于 $0.10\mu\text{g}/\text{cm}^2$) 时, 样品为阴性, 即未检测到六价铬;
- c. 当六价铬的浓度介于 $0.10\mu\text{g}/\text{cm}^2$ 与 $0.13\mu\text{g}/\text{cm}^2$ 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。

(4) RoHS 指令中限制物质及均质材料中最大允许浓度值: Cd: 0.01%, Pb/Hg/Cr(VI)/PBBs/PBDEs /DEHP/DBP/BBP/DIBP: 0.1%, 限值引用自 RoHS 指令(EU) 2015/863。

(5) IEC 62321 系列等同于 EN 62321 系列。

(6)▲根据客户提供的声明, 编号A8中的铅(Pb)被欧盟RoHS指令2011/65/EU豁免, 相应豁免条文(请以英文原文为准) |ANNEX III 7(c)-II: 电子电气元件中玻璃或陶瓷材料(电容中陶瓷介质除外)所含的铅, 如压电设备、玻璃或陶瓷基复合元件。

▲根据客户提供的声明, 编号A37中的铅(Pb)被欧盟RoHS指令2011/65/EU豁免, 相应豁免条文(请以英文原文为准) |ANNEX III 6(c)|: 铜合金中的铅含量不得超过4%。

除非另有说明, 参照ILAC-G8:09/2019, 使用简单接受 ($w=0$) 的二元判定规则进行符合性判定。

除非另有说明, 此报告结果仅对检测的样品负责。本报告未经本公司书面许可, 不可部分复制。

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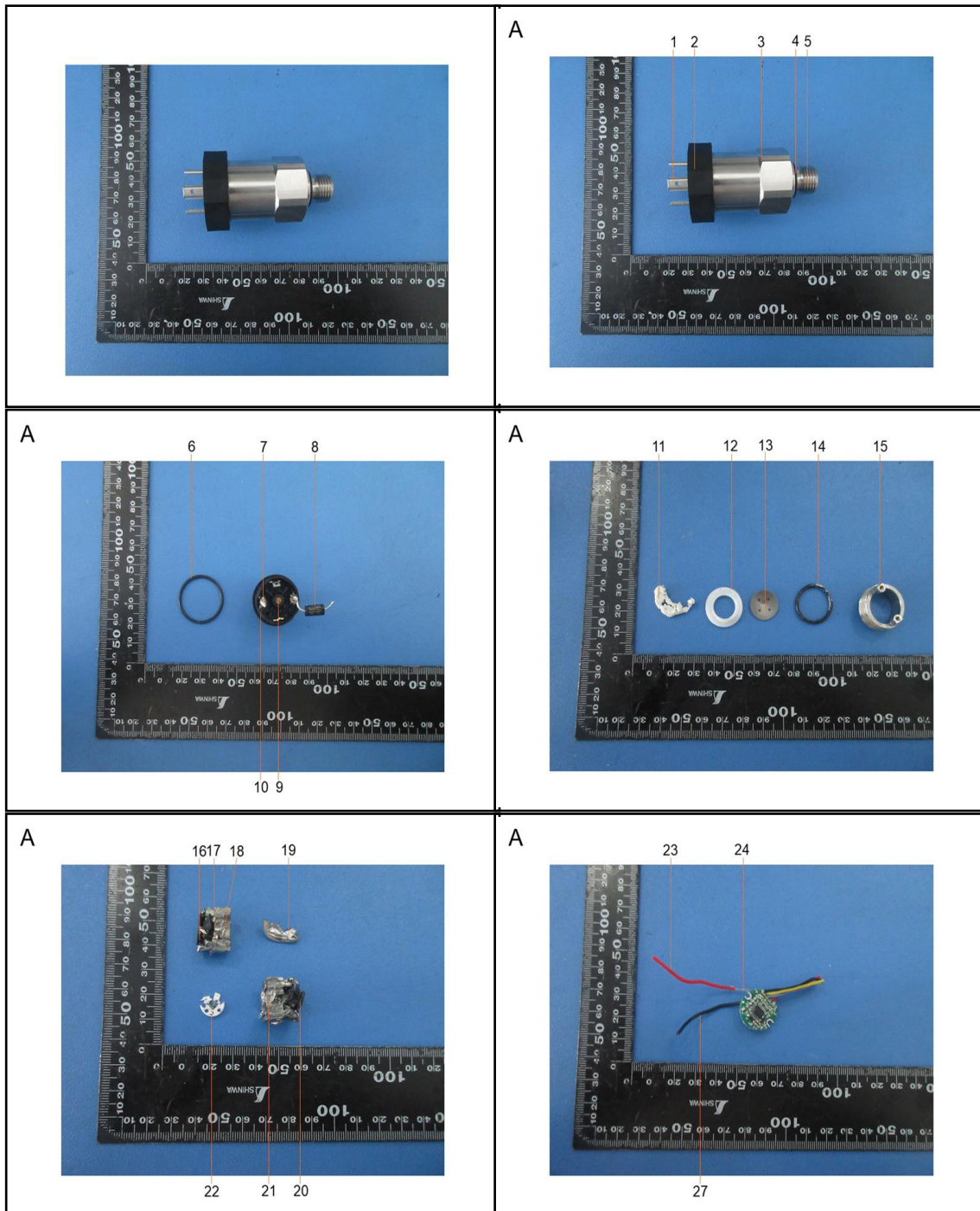
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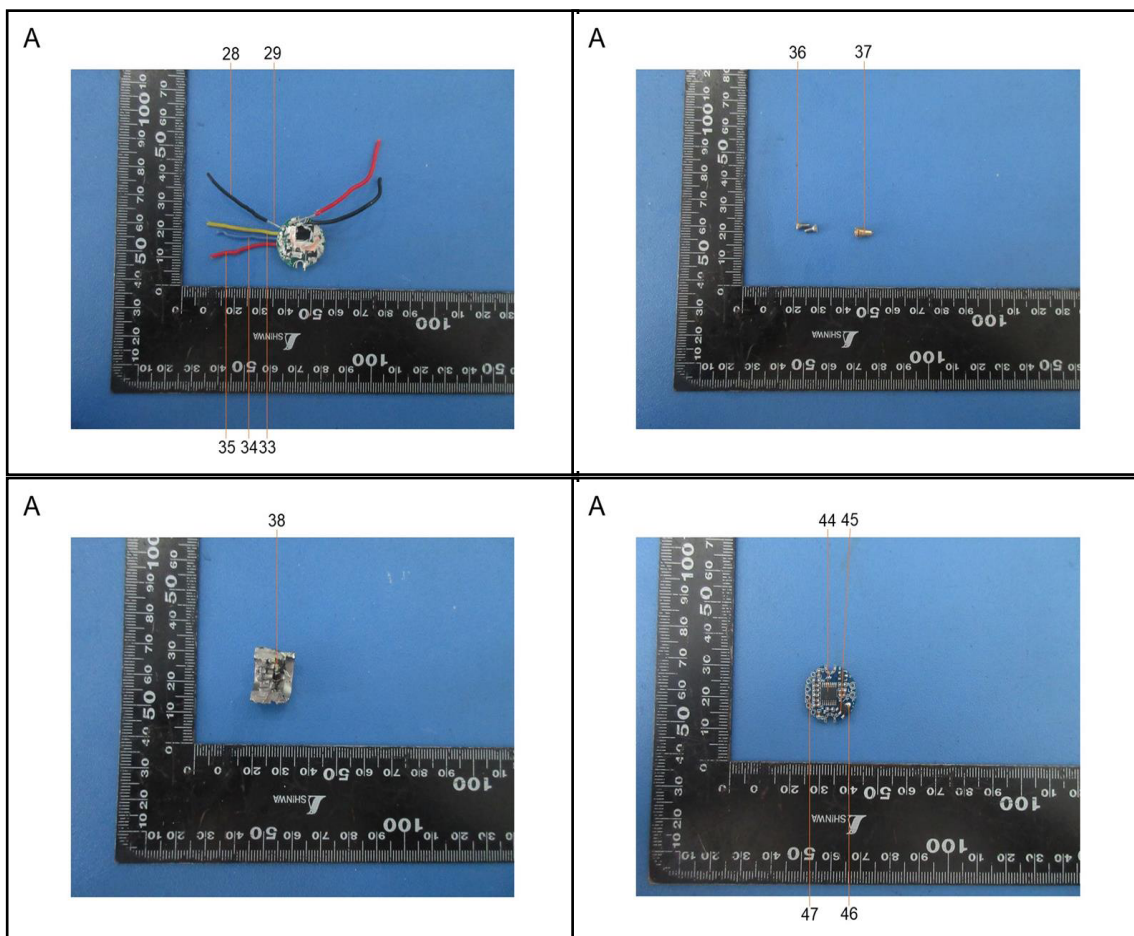
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