

# Test Report 检测报告

Report No.报告编号:  
U11205250611604-1Z

Query Password  
查询密码: QW8751


Date: Jun. 16, 2025  
日期: 2025年6月16日

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**Applicant** Ropla Elektronik HP Sp. z o.o.  
委托单位:  
**Contact information** Wroclawska 1C, 52-200 Suchy Dwor POLAND  
联络信息:

## The following sample(s) was (were) submitted and identified by client as:

以下测试样品信息由申请者所提供确认:

Sample Name 样品名称 : Multilayer ceramic capacitors  
Model No.型号 : 0603  
Series Model 系列型号 : 0201, 0402, 0603, 0805, 1206, 1210, 1808, 1812, 2220  
Trade Mark 商标 :   
Manufacturer 制造商 : Ropla Elektronik HP Sp. z o.o.  
Address 地址 : Wroclawska 1C, 52-200 Suchy Dwor POLAND  
Received Date 接收日期 : Jun. 11, 2025  
2025年6月11日  
Testing Period 检测日期 : From Jun. 12, 2025 to Jun. 16, 2025  
2025年6月12日 ~ 2025年6月16日  
**Test Request 检测要求** : Please refer to next page(s). 请参见下页  
**Test Result(s)检测结果** : Please refer to next page(s). 请参见下页

Shen Zhen UONE Test Co., LTD.  
深圳市宇冠检测有限公司

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Summary of Test Results (Tested parts are required partially by client):

检测内容 (依据客户要求, 进行指定性测试):

## TEST REQUEST 测试要求

## CONCLUSION 结论

(1) RoHS Directive 2011/65/EU and its subsequent amendments Directive (EU) 2015/863

RoHS 指令 2011 / 65 / EU 及其修订指令 (EU) 2015/863

To determine Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent

Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated

DiphenylEthers (PBDEs) content by screening test and chemical test

使用筛选测试和化学测试测定铅 (Pb)、镉 (Cd)、汞 (Hg)、六价铬 (Cr(VI))、

多溴联苯 (PBBs) 和多溴二苯醚 (PBDEs) 含量

**PASS**  
合格

To determine Phthalates (DBP, BBP, DEHP, DIBP) content by chemical test

使用化学测试测定邻苯二甲酸盐 (酯) (DBP、BBP、DEHP、DIBP) 含量

**PASS**  
合格

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## Test Material(s) List 测试材料清单:

Material No. 材料编号	Description (Location) 描述 (位置)	Photo(s) of tested materials 测试材料照片
1	Brown body (capacitor) 棕色本体 (电容)	

## Test result(s)测试结果:

(1) Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs), Phthalates

铅 (Pb)、镉 (Cd)、汞 (Hg)、六价铬 (Cr(VI))、多溴联苯 (PBBs) 和多溴二苯醚 (PBDEs)

Test Method: IEC62321-3-1: 2013, IEC62321-4: 2013+A1:2017, IEC62321-5: 2013, IEC62321-6: 2015, IEC 62321-7-1:2015, IEC 62321-7-2: 2017, analyzed by EDXRF &amp; ICP-OES &amp; GC-MS &amp; UV-Vis.

测试方法: IEC 62321-3-1: 2013, IEC62321-4: 2013+A1:2017, IEC 62321-5: 2013, IEC 62321-6:2015, IEC 62321-7-1: 2015, IEC 62321-7-2: 2017, 使用 EDXRF &amp; ICP-OES &amp; GC-MS &amp; UV-Vis 分析。

No. 序号	EDXRF Result EDXRF 结果 <sup>(1)</sup>					Chemical Result 化学结果 <sup>(2)</sup> (mg/kg)	Remark 备注 <sup>(3)</sup>	Conclusion 判定
	Pb	Cd	Hg	Cr	Br			
1	BL	BL	BL	BL	BL	—	—	PASS 合格

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## Remark 备注:

(1) ① Results are obtained by EDXRF for primary screening, and further wet chemical testing by ICP-OES (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as "X" in below table) (unit: mg/kg). EDXRF 初步筛选的结果, 如果出现任何非结论性的结果(如下表中备注为'X'), 建议用 ICP-OES 对铅、镉、汞; UV-VIS 对六价铬; GC-MS 对多溴联苯、多溴二苯醚进行化学测试(单位 mg/kg)。

② OL = Over Limit, BL = Below Limit, X = Inconclusive, NA = Not Applicable. OL = 超出限值, BL = 低于限值, X = 非结论性, NA = 不适用。

③ The EDXRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition. 因样品中不均一的混合成分, RoHS 元素的 EDXRF 筛选结果可能与实际含量有差别。

Element 元素	Polymer 聚合物	Metal 金属	Composite Materials 混合材料
Cd 镉	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb 铅	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg 汞	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br 溴	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$
Cr 铬	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

## Units and limits in EU RoHS Directive 2011/65/EU:

欧盟 RoHS 指令 2011/65 / EU 中的单位和限制:

Element 元素	Pb 铅	Cd 镉	Hg 汞	Cr(VI) 六价铬	PBBs(single) 多溴联苯(单项)	PBDEs(single) 多溴二苯醚(单项)
Unit 单位	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit 限值	1000	100	1000	1000	1000	1000

(2) ① mg/kg = ppm = 0.0001%, N.D. = Not Detected (Less than MDL). N.D. = 未检出(低于 MDL)。

② Unit and MDL (Method detection limit) in wet chemical test. 湿化学检测的单位和 MDL (方法检出限)。

Element 元素	Pb 铅	Cd 镉	Hg 汞	Cr(VI) 六价铬	PBBs(single) 多溴联苯(单项)	PBDEs(single) 多溴二苯醚(单项)
Unit 单位	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	8	5	5

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③ According to IEC 62321-7-1:2015, result on Cr(VI) for metal sample is shown as Positive/Negative.  
Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating.

Storage condition and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

根据 IEC 62321-7-1:2015, 金属样品六价铬的结果表示为阴性/阳性。

阴性=不存在六价铬涂层/表面层; 阳性=存在六价铬涂层/表面层。

由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅代表测试时样品的状态。

④ According to IEC 62321-3-1:2013, this column represents the results of wet chem test.

根据 IEC 62321-3-1:2013, 这一栏体现湿化学的测试结果。

(3) This column represents the exempted decoration of material or other related testing sample's information. 这一栏体现豁免材料或其它相关测试的样品信息。

## (2) Phthalates 邻苯二甲酸盐(酯) (DBP, BBP, DEHP, DIBP)

Test Method: IEC 62321-8: 2017, analyzed by gas chromatographic-mass spectrometer (GC-MS).

测试方法: IEC 62321-8: 2017, 使用气相色谱质谱联用仪(GC-MS)分析。

Test Substances 检测物质	DBP	BBP	DEHP	DIBP	Conclusion 结论
CAS No. CAS号	84-74-2	85-68-7	117-81-7	84-69-5	
Limit 限值 (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	20	20	20	20	
Material No. 材料编号	Test Result 测试结果(mg/kg)				PASS 合格
1	N.D.	N.D.	N.D.	N.D.	

- Note 备注:**
1. mg/kg = milligram per kilogram (ppm). mg/kg = 毫克每千克(ppm)。
  2. MDL= method detection limit. MDL= 方法检出限。
  3. N.D.=not detected(less than MDL). N.D. = 未检测到(小于MDL)。

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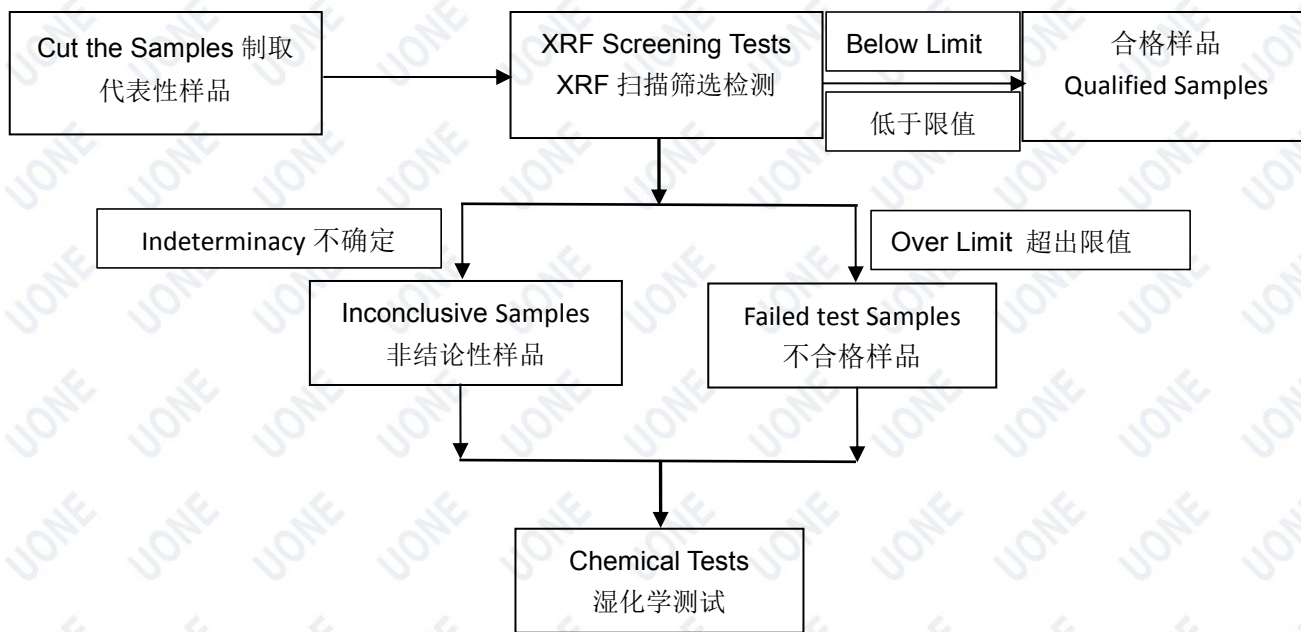
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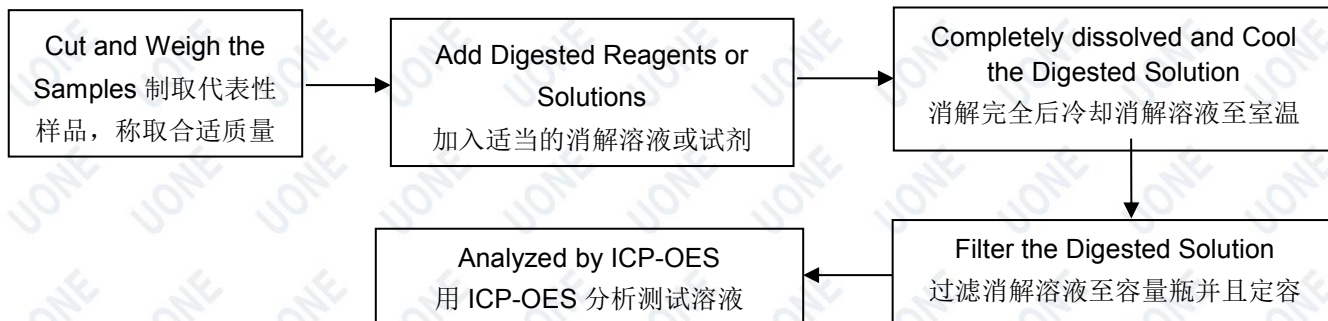
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## Test Process Flow 检测流程图

### 1. XRF Scan XRF 扫描



### 2. Lead, Cadmium, Mercury 铅、镉、汞



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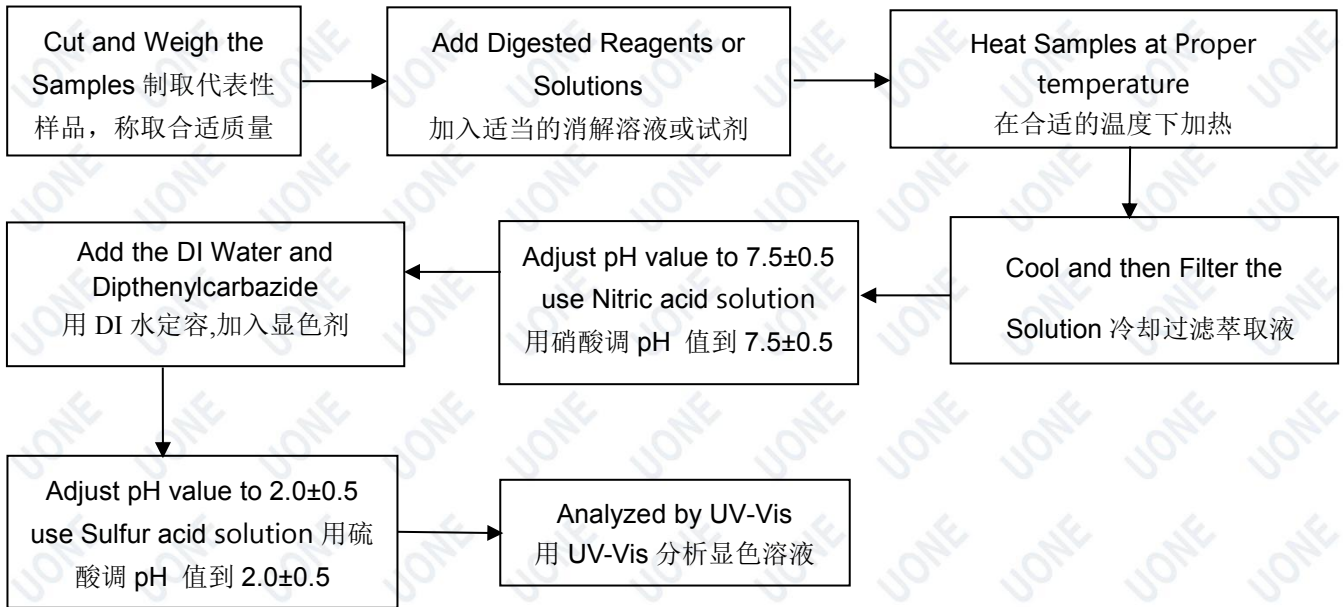
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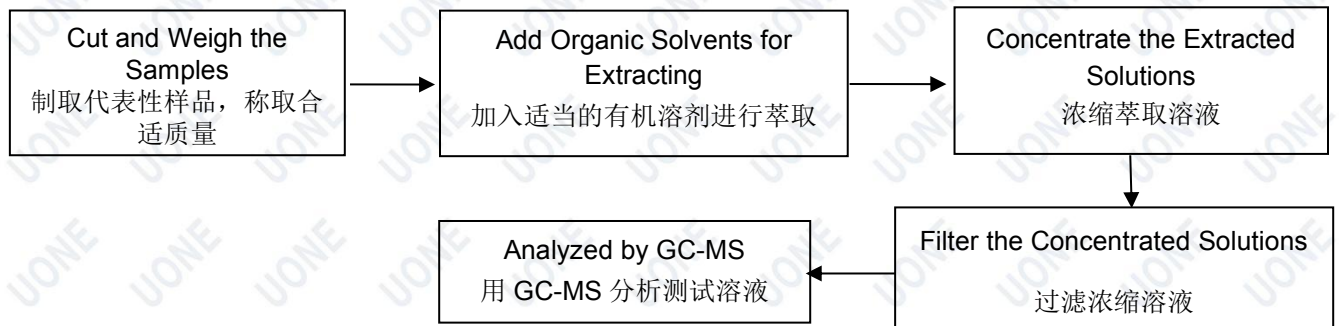
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### 3. Hexavalent Chromium (Non-metal) 六价铬 (非金属)



### 4. PBBs & PBDEs, Phthalates 多溴联苯和多溴二苯醚, 邻苯二甲酸盐 (酯)



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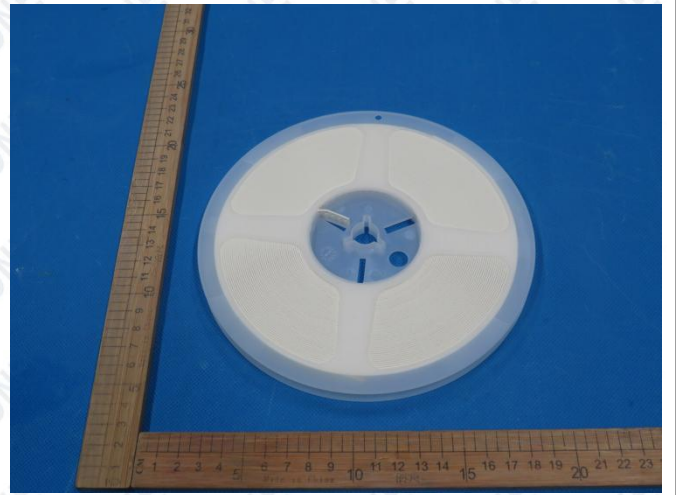
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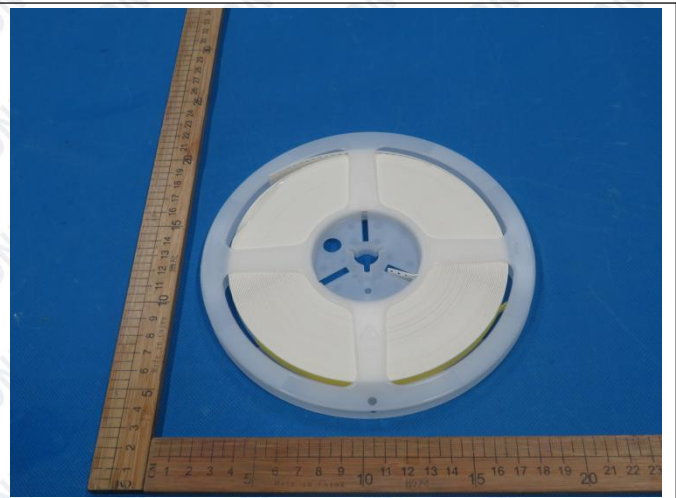
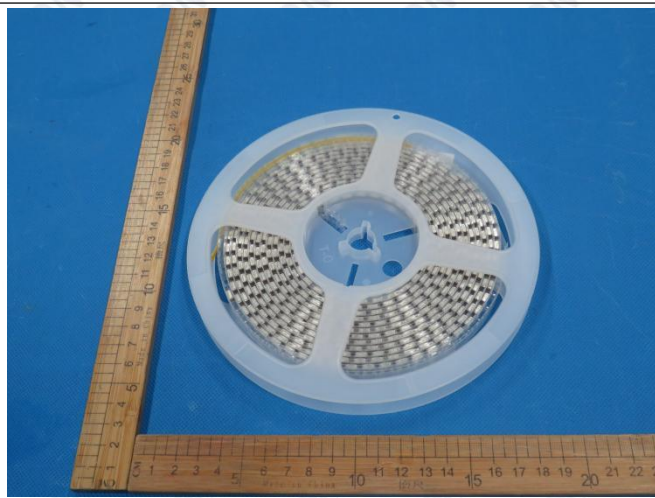
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Photo(s) of Sample  
样品图片



Main test 主测



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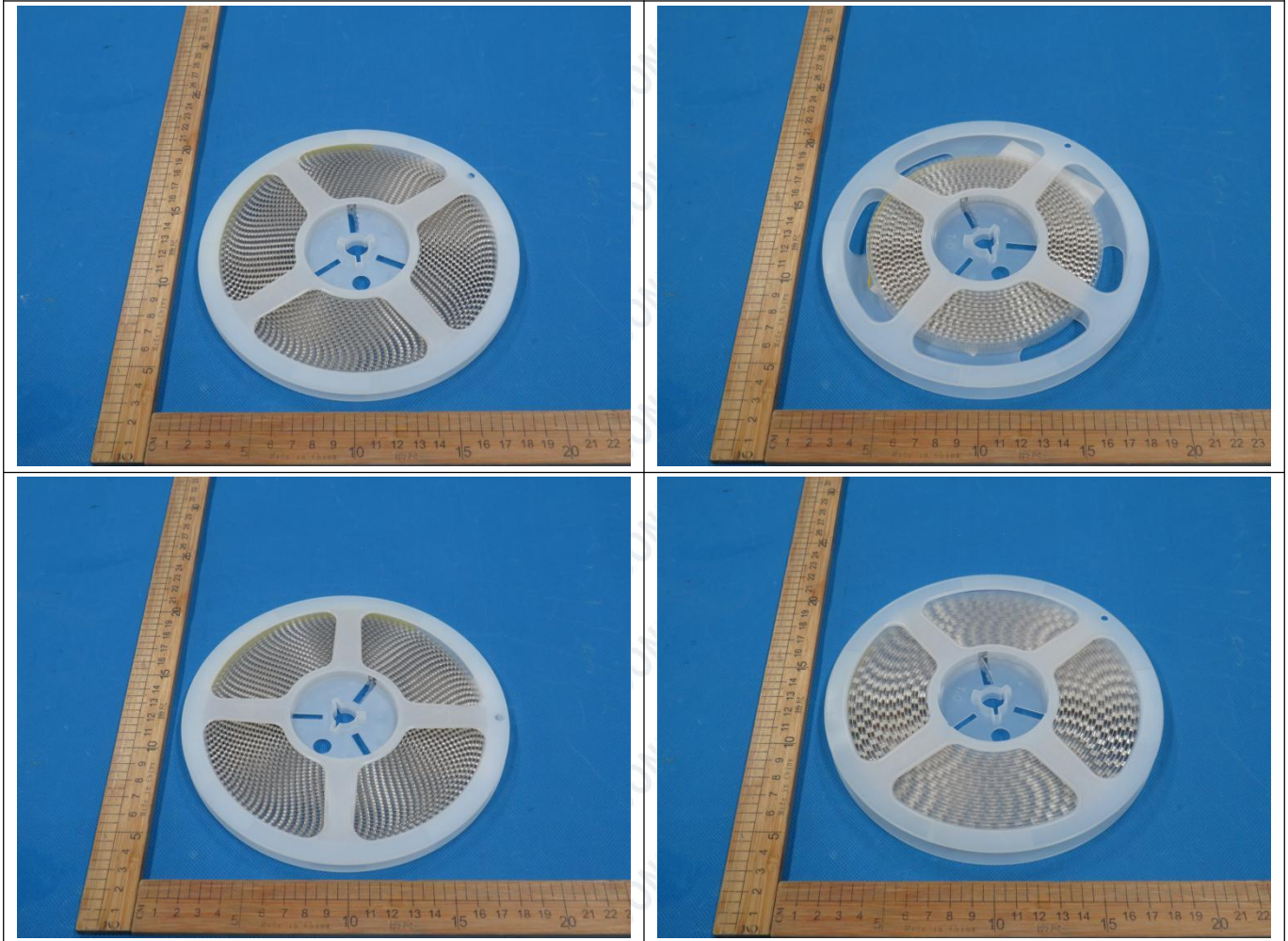
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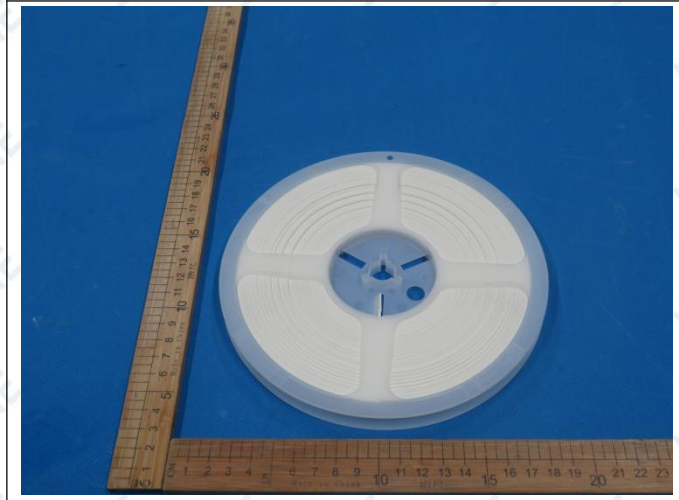
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\*\*\*End of Report 报告结束\*\*\*

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## Statement 声明

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2.The test conclusion of this report are only applicable to the test samples submitted for inspection, and the samples submitted for inspection are only kept for 30 days, and the company does not bear other joint and several liabilities other than the test results.

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