Test Report Report No.: 220713105GZU-047 Date: Aug 12, 2022

Applicant: AILUN ELECTRONIC TECHNOLOGY (H.K) LIMITED

Room 01, 21/F Prosper Commercial Building 9 Yin Chong Street, Kowloom, H.K

Sample Description:
The following submitted sample(s) said to be:

Item Name	:	**Dip Aluminum Eletrolytic Capacitor (medium and high voltage)**
Model No.	:	NA
Date of Sample Received	:	Jul 15, 2022
Testing Period	:	Jul 15, 2022 to Aug 1, 2022

Tests conducted:
As requested by the applicant, refer to following page(s) for details.

Conclusion:

Tested Sample	Standard	Result
Tested components of submitted sample	Restriction of the use of certain hazardous substance in electrical and electronic equipment (RoHS Directive 2011/65/EU and (EU) 2015/863)	Pass

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch:

Prepared by: Leo Yao

Leo Yao
Project Engineer

Reviewed by: Silva Zhou

Silva Zhou
Asst. Manager

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Tel: (86-20) 8213 9688 Fax: (86-20) 32057538 Website: www.intertek.com

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Tests conducted:

RoHS Chemical Test

(A) Test Result Summary:

Test Item	Result (mg/kg)		
	(1)	(2)	(3)
Cadmium (Cd) Content	ND	ND	ND
Lead (Pb) Content	ND	ND	ND
Mercury (Hg) Content	ND	ND	ND
Chromium (VI)(Cr^{6+}) Content	ND	ND	ND
Chromium (VI)(Cr^{6+}) Content (By Boiling Water Extraction on Metal) ($\mu g/cm^2$)	-	-	-
Sum of Polybrominated Biphenyls (PBBs)	ND	ND	ND
Monobromobiphenyl (MonoBB)	ND	ND	ND
Dibromobiphenyl (DiBB)	ND	ND	ND
Tribromobiphenyl (TriBB)	ND	ND	ND
Tetrabromobiphenyl (TetraBB)	ND	ND	ND
Pentabromobiphenyl (PentaBB)	ND	ND	ND
Hexabromobiphenyl (HexaBB)	ND	ND	ND
Heptabromobiphenyl (HeptaBB)	ND	ND	ND
Octabromobiphenyl (OctaBB)	ND	ND	ND
Nonabromobiphenyl (NonaBB)	ND	ND	ND
Decabromobiphenyl (DecaBB)	ND	ND	ND
Sum of Polybrominated Diphenyl Ethers (PBDEs)	ND	ND	ND
Monobromodiphenyl Ether (MonoBDE)	ND	ND	ND
Dibromodiphenyl Ether (DiBDE)	ND	ND	ND
Tribromodiphenyl Ether (TriBDE)	ND	ND	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND	ND	ND
Pentabromodiphenyl Ether (PentaBDE)	ND	ND	ND
Hexabromodiphenyl Ether (HexaBDE)	ND	ND	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND	ND	ND
Octabromodiphenyl Ether (OctaBDE)	ND	ND	ND
Nonabromodiphenyl Ether (NonaBDE)	ND	ND	ND
Decabromodiphenyl Ether (DecaBDE)	ND	ND	ND
Phthalates			
Bis(2-ethylhexyl) phthalate (DEHP)	ND	ND	ND
Butyl benzyl phthalate (BBP)	ND	ND	ND
Dibutyl phthalate (DBP)	ND	ND	ND
Diisobutyl phthalate (DIBP)	ND	ND	ND

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Test Item	Result (mg/kg)			
	(4)	(5)	(6)	(7)
Cadmium (Cd) Content	ND	ND	ND	ND
Lead (Pb) Content	ND	ND	ND	ND
Mercury (Hg) Content	ND	ND	ND	ND
Chromium (VI)(Cr^{6+}) Content	-	-	-	-
Chromium (VI)(Cr^{6+}) Content (By Boiling Water Extraction on Metal) ($\mu g/cm^2$)	Negative	Negative	Negative	Negative
Sum of Polybrominated Biphenyls (PBBs)	ND	ND	ND	ND
Monobromobiphenyl (MonoBB)	ND	ND	ND	ND
Dibromobiphenyl (DiBB)	ND	ND	ND	ND
Tribromobiphenyl (TriBB)	ND	ND	ND	ND
Tetrabromobiphenyl (TetraBB)	ND	ND	ND	ND
Pentabromobiphenyl (PentaBB)	ND	ND	ND	ND
Hexabromobiphenyl (HexaBB)	ND	ND	ND	ND
Heptabromobiphenyl (HeptaBB)	ND	ND	ND	ND
Octabromobiphenyl (OctaBB)	ND	ND	ND	ND
Nonabromobiphenyl (NonaBB)	ND	ND	ND	ND
Decabromobiphenyl (DecaBB)	ND	ND	ND	ND
Sum of Polybrominated Diphenyl Ethers (PBDEs)	ND	ND	ND	ND
Monobromodiphenyl Ether (MonoBDE)	ND	ND	ND	ND
Dibromodiphenyl Ether (DiBDE)	ND	ND	ND	ND
Tribromodiphenyl Ether (TriBDE)	ND	ND	ND	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND	ND	ND	ND
Pentabromodiphenyl Ether (PentaBDE)	ND	ND	ND	ND
Hexabromodiphenyl Ether (HexaBDE)	ND	ND	ND	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND	ND	ND	ND
Octabromodiphenyl Ether (OctaBDE)	ND	ND	ND	ND
Nonabromodiphenyl Ether (NonaBDE)	ND	ND	ND	ND
Decabromodiphenyl Ether (DecaBDE)	ND	ND	ND	ND
Phthalates				
Bis(2-ethylhexyl) phthalate (DEHP)	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	ND	ND	ND	ND
Dibutyl phthalate (DBP)	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	ND	ND	ND	ND

Tested samples:
(1) Brown plastic with white printing (8-1)
(2) Beige paper (electrolytic paper) (8-2)
(3) Black soft plastic (8-3)
(4) Silvery metal (case) (8-4)
(5) Dull silver-grey metal sheet (electrolytic paper) (8-5)
(6) Bright silver-grey metal sheet (electrolytic paper) (8-6)
(7) Silvery metal (pin) (8-7)

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ND = Not detected
mg/kg = milligram per kilogram
Negative = The Cr (VI) concentration is less than 0.10 μg/cm^2.The sample is negative for Cr (VI).

(B) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr^{6+})	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Phthalates (DEHP, BBP, DBP, DIBP)	0.1% (1000 mg/kg)

The above limits were quoted from 2011/65/EU and (EU) 2015/863 for homogeneous material.

(C) Test Method:

Test Item	Test Method	Detection Limit
Cadmium (Cd) Content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Mercury (Hg) Content	With reference to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and determined by ICP - OES	2 mg/kg
Chromium (VI)(Cr^{6+}) Content	With reference to IEC 62321-7-2 Edition 1.0: 2017, Hexavalent chromium – Determination of hexavalent chromium (Cr (VI) in polymers and electronics by the colorimetric method	10 mg/kg
Chromium (VI) (Cr^{6+}) Content	With reference to IEC 62321-7-1 Edition 1.0: 2015, by boiling water extraction and determined by UV-VIS Spectrophotometer	0.10 μg/cm^2
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs) Content	With reference to IEC 62321-6 Edition 1.0: 2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg
Phthalates (DEHP, BBP, DBP, DIBP) Content	With reference to IEC 62321-8 Edition 1.0: 2017, by solvent extraction and determined by GC/MS	100 mg/kg

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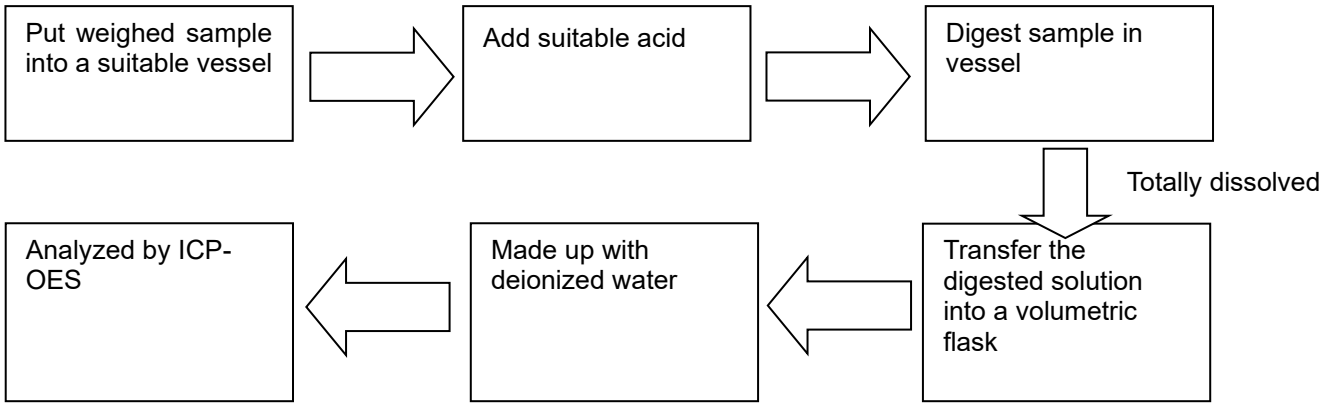
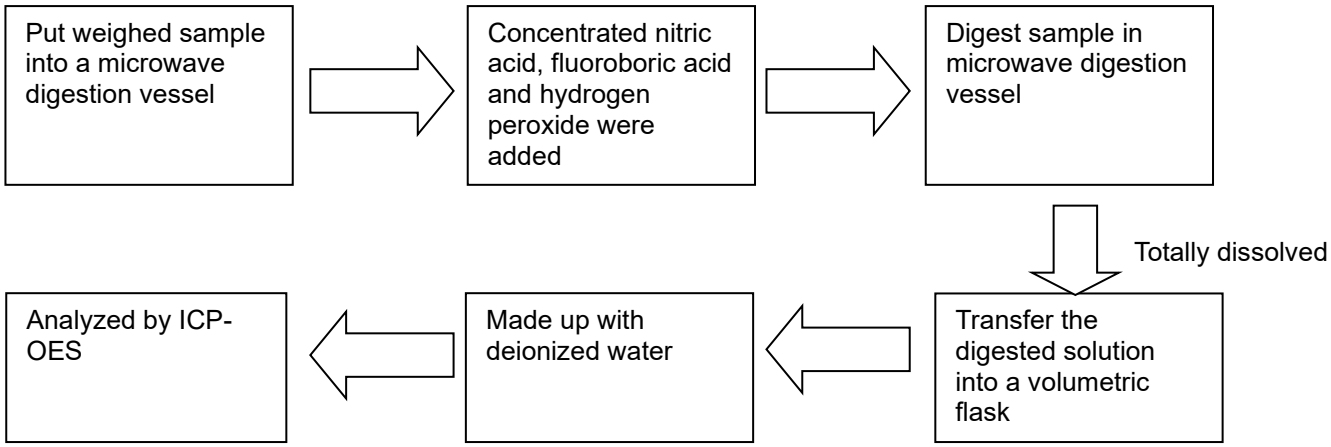
(D) Measurement Flowchart:

1. Test for Cd/Pb Contents



2. Test for Hg Content



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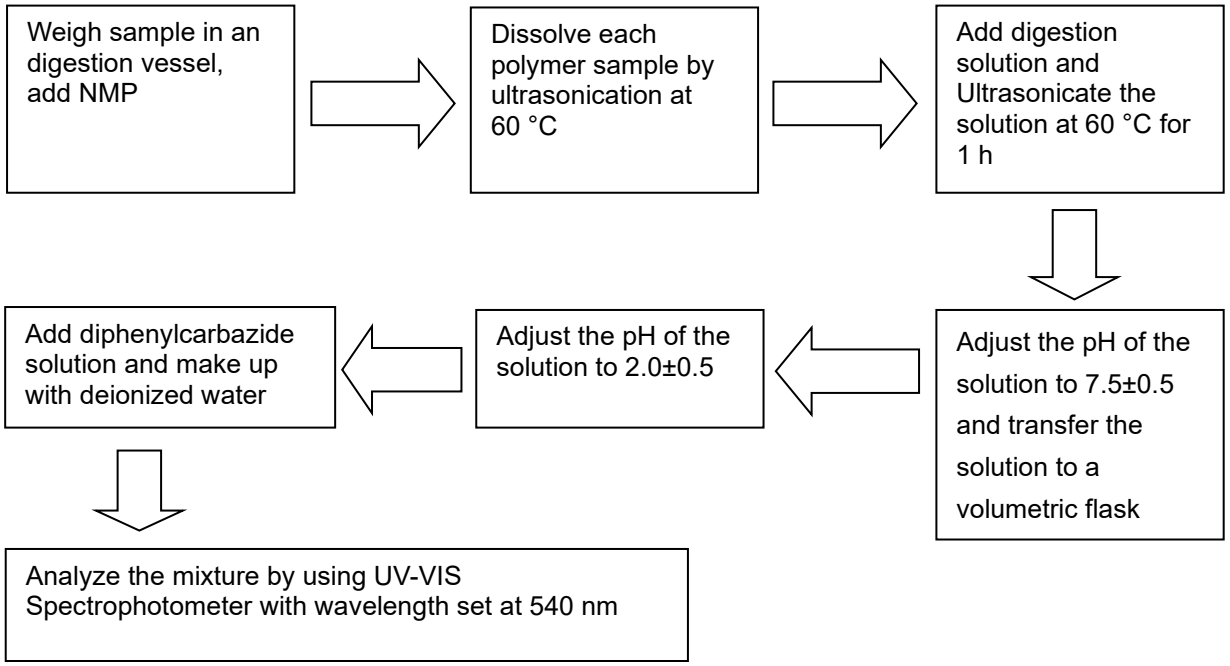
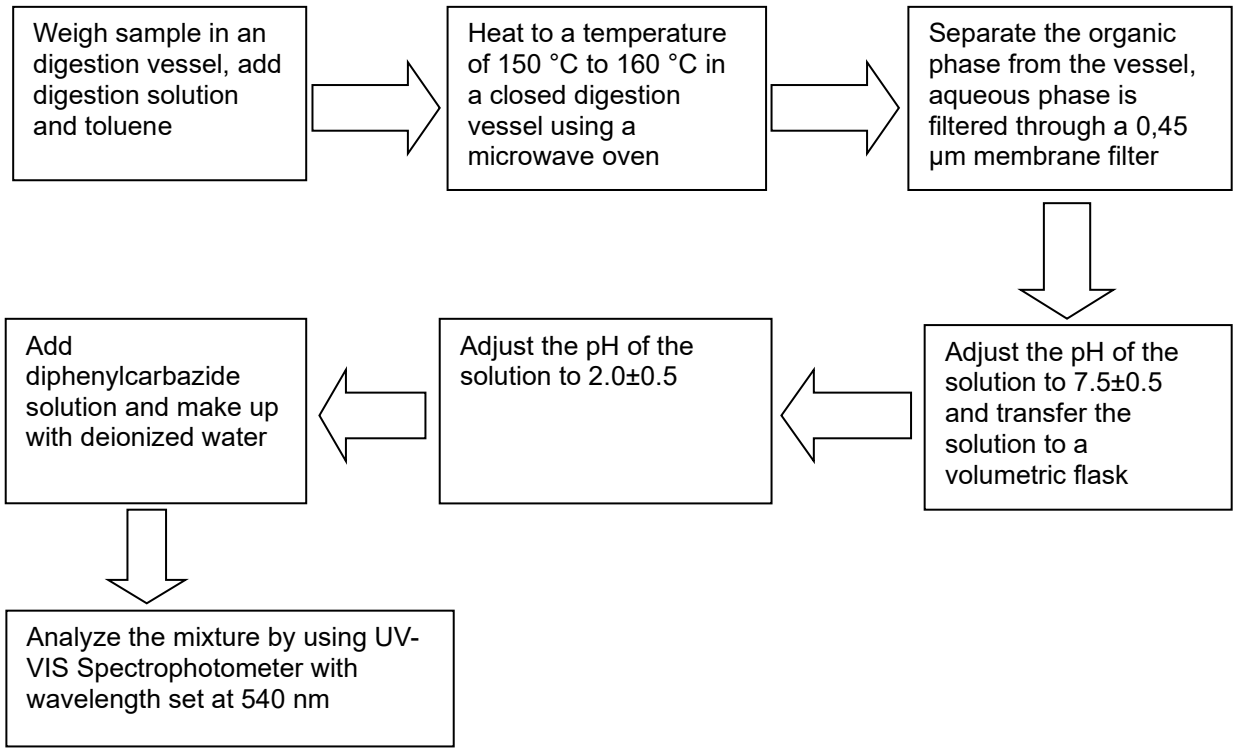
3. Test for Chromium (VI) (Cr^{6+}) Content

Soluble polymers:



Insoluble/unknown polymers and electronics without Sb:



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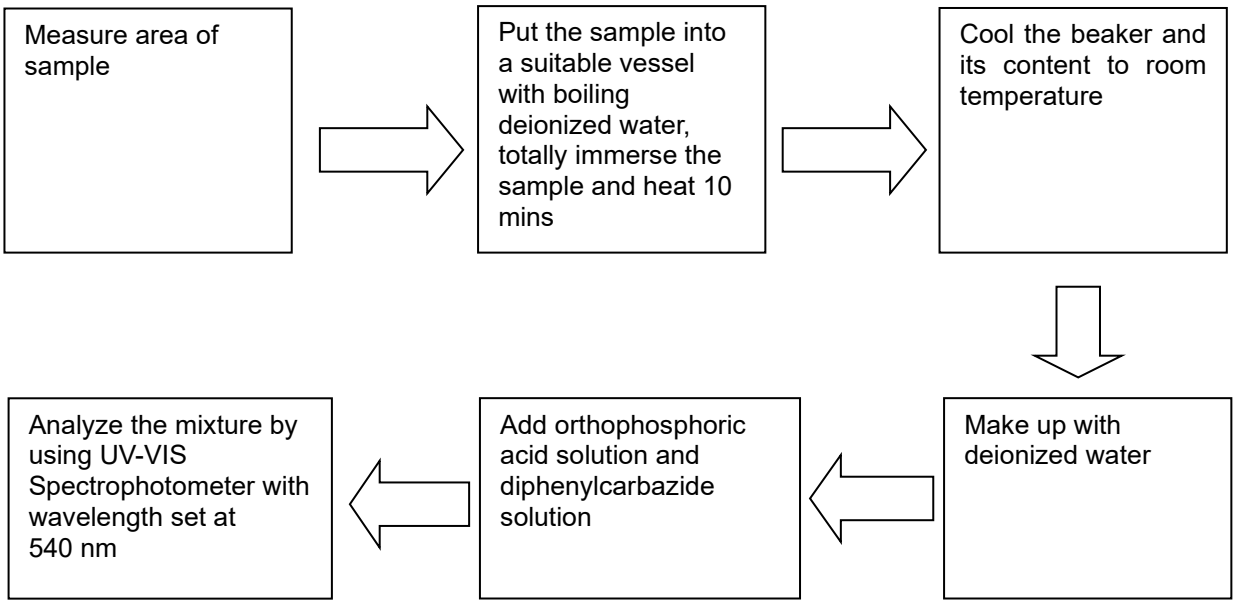
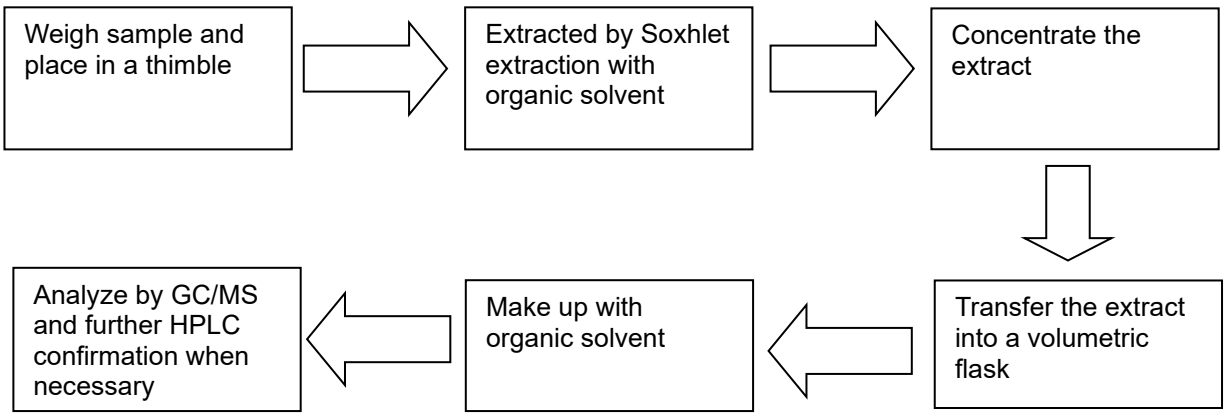
4. Test for Chromium (VI) (Cr^{6+}) Content (Boiling Water Extraction)



5. Test for PBBs/PBDEs Contents



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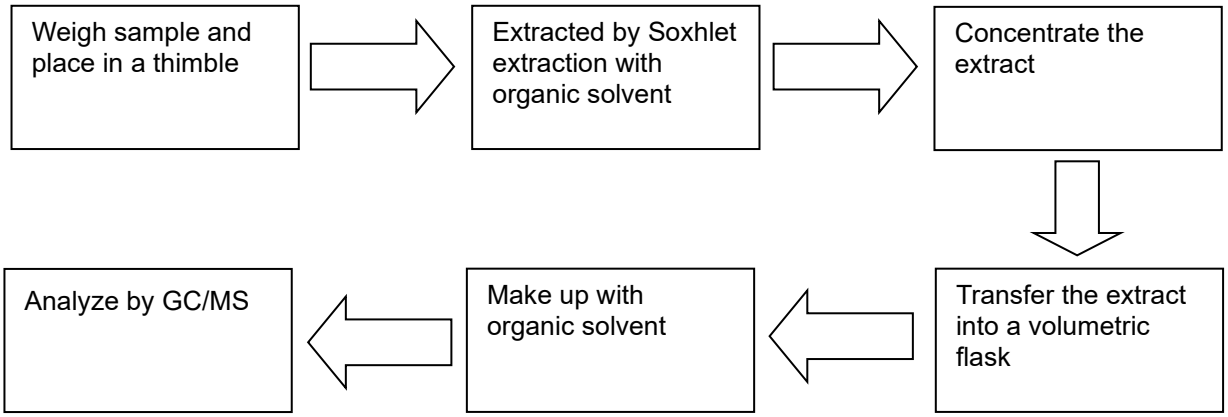
6. Test for Phthalate Contents



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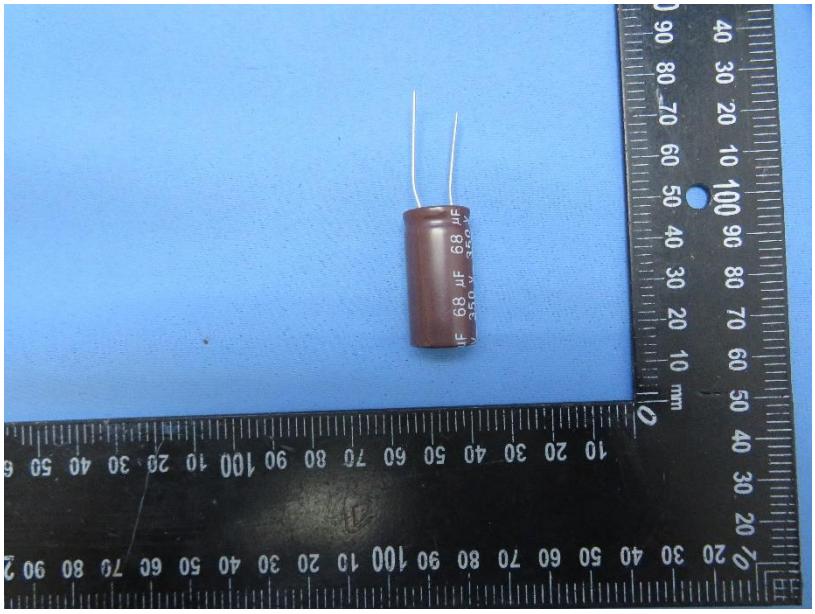
Sample photo



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End of report

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