

Test Report

No.: CANEC24004171501

Date: Mar 27, 2024

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Client Name: WINDAY ELECTRONIC(DONG GUAN) CO.,LTD

Client Address: LONG QUAN INDUSTRY XIN-JIU-WEI TERRITORY LIAO BU VILLAGE DONGGUAN CITY GUANGDONG CHINA

Sample Name: METALLIZEDFILM CAPACITOR

Model No.: MPP

Client Ref. Information: MEF, MEM,, MPM, PEN, MPH, MEH, PPN, PPS, MTF, MTP, PSM, MMS, MPJ, MPA, MPT, MEA, MET, EMPP, EMPE, TMPE, FMPE, DMPE, DMPP, PEM, PEI, PPI, TMPE, TMPP, EPEM, MPEM

The above sample(s) and information were provided by the client.

SGS Job No.: SZP24-007814

Sample Receiving Date: Mar 11, 2024

Testing Period: Mar 11, 2024 ~ Mar 20, 2024

Test Requested: Select test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium	Pass
Tetrabromobisphenol A (TBBP-A)	See Results
Alkanes C14-C17, chloro (medium- chain chlorinated paraffins) (MCCPs)	See Results
Halogen	See Results
Red Phosphorus	See Results

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Jessie Li

Jessie-JX Li
Approved Signatory

scan to see the report



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Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN24-0041715-0001.C001	Red material 1#
SN2	A2	CAN24-0041715-0001.C002	Colorless transparent film with silvery surface 2#
SN3	A3	CAN24-0041715-0001.C003	Silvery solder with gray material 3#
SN4	A4	CAN24-0041715-0001.C004	Silvery metal 4#

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1	A2	A3
Lead (Pb)	1000	mg/kg	2	ND	ND	31
Mercury (Hg)	1000	mg/kg	2	ND	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND	ND	ND
Polybromobiphenyl (PBB)	1000	mg/kg	-	ND	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	5	ND	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	5	ND	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	5	ND	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	5	ND	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	5	ND	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	5	ND	ND	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	5	ND	ND	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	5	ND	ND	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	5	ND	ND	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	5	ND	ND	ND
Polybromodiphenyl ether(PBDE)	1000	mg/kg	-	ND	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A1	A2	A3
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	5	ND	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	5	ND	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	5	ND	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	5	ND	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	5	ND	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	5	ND	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	5	ND	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	5	ND	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	5	ND	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	5	ND	ND	ND
Bis(2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND	ND	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND	ND	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	ND	ND
Diisobutyl phthalate (DIBP)	1000	mg/kg	50	ND	ND	ND

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 and IEC 62321-7-1:2015, analysis was performed by ICP-OES/AAS and UV-Vis.

Test Item(s)	Limit	Unit(s)	MDL	A4
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Cadmium (Cd)	100	mg/kg	2	ND
Hexavalent Chromium (Cr(VI)) [▼]	-	µg/cm ²	0.10	ND

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) [▼] = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI).



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- b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-Cr(VI) based coating.
- c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination.

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.

Tetrabromobisphenol A (TBBP-A)

Test Method: With reference to US EPA 3550C: 2007, analysis was performed by GC-MS or LC-MS or LC-MS/MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A1	A2	A3
Tetrabromobisphenol A(TBBP-A)	79-94-7	mg/kg	5	ND	ND	ND

Alkanes C14-C17, chloro (medium- chain chlorinated paraffins) (MCCPs)

Test Method: With reference to ISO 22818:2021, analysis was performed by GC-NCI-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A1	A2	A3
Alkanes C ₁₄ -C ₁₇ , chloro (medium- chain chlorinated paraffins) (MCCPs)	85535-85-9 and others	mg/kg	50	ND	ND	ND

Halogen

Test Method: With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit(s)	MDL	A1	A2	A3
Fluorine(F)	mg/kg	20	ND	140	ND
Chlorine(Cl)	mg/kg	50	254	ND	ND
Bromine(Br)	mg/kg	50	ND	ND	ND
Iodine(I)	mg/kg	50	ND	ND	ND

Red Phosphorus

Test Method: SGS In-house method (SGS-CCL-TOP-215-01), analysis was performed by PY-GC/MS/ ICP-OES / GC-MS.

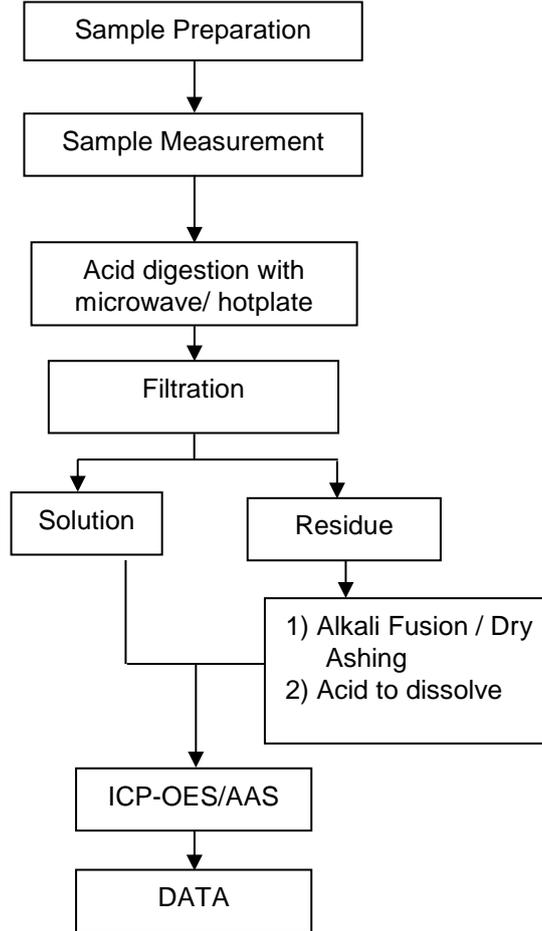
Test Item(s)	CAS No.	Unit(s)	MDL	A1	A2	A3
Red Phosphorus	7723-14-0	mg/kg	500	ND	ND	ND

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.



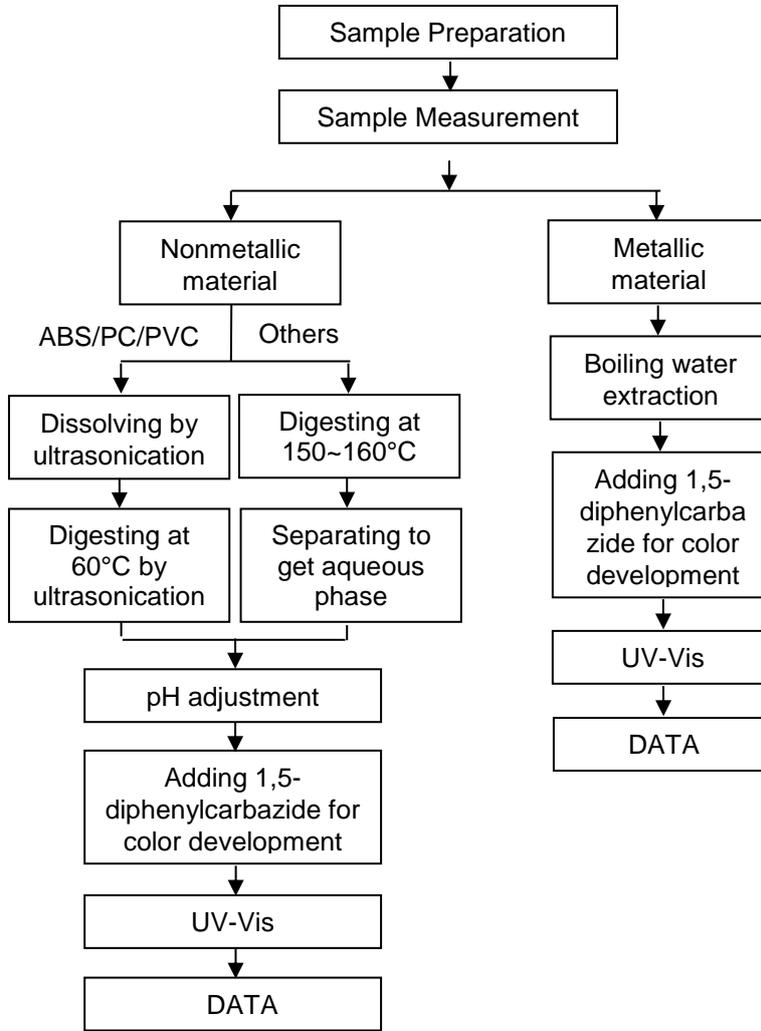
Elements Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.



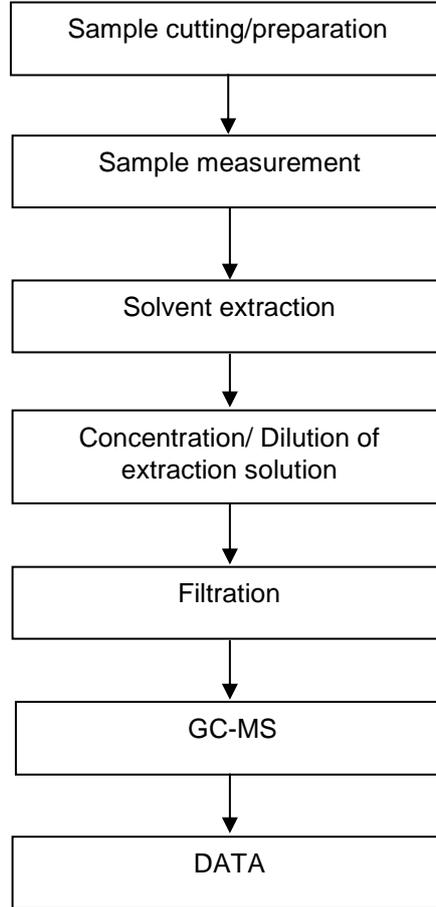
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Hexavalent Chromium (Cr(VI)) Testing Flow Chart

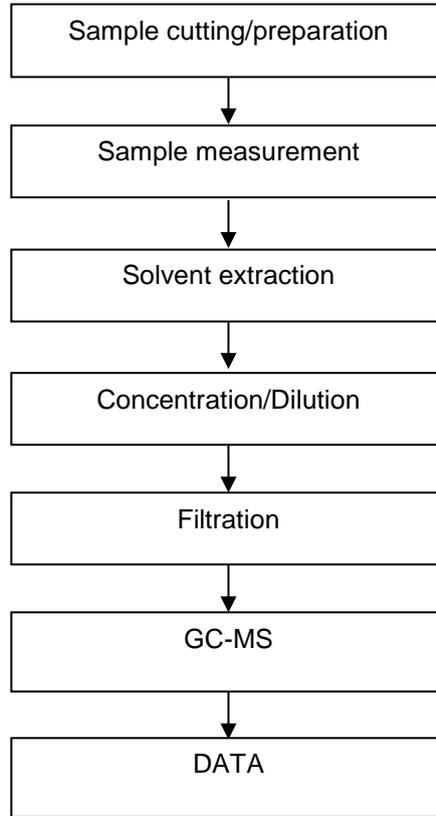


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PBB/PBDE Testing Flow Chart

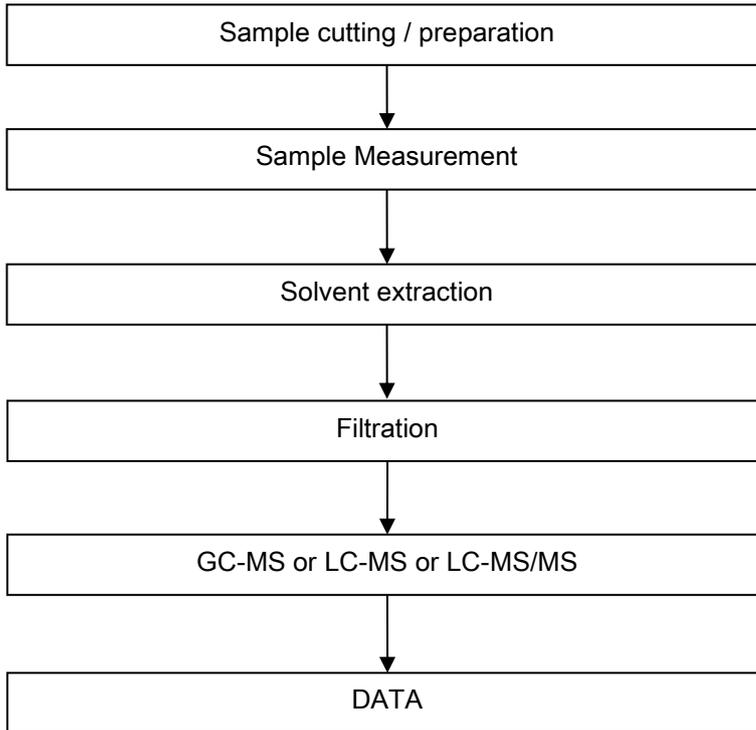


Phthalates Testing Flow Chart



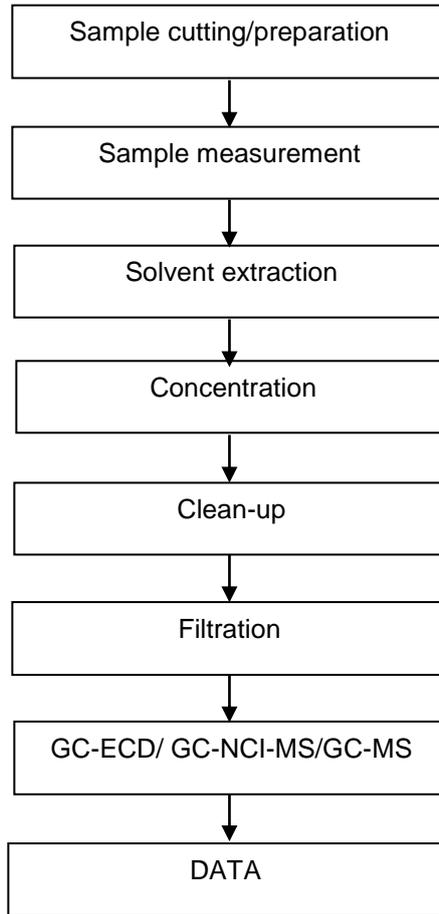
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TBBP-A Testing Flow Chart



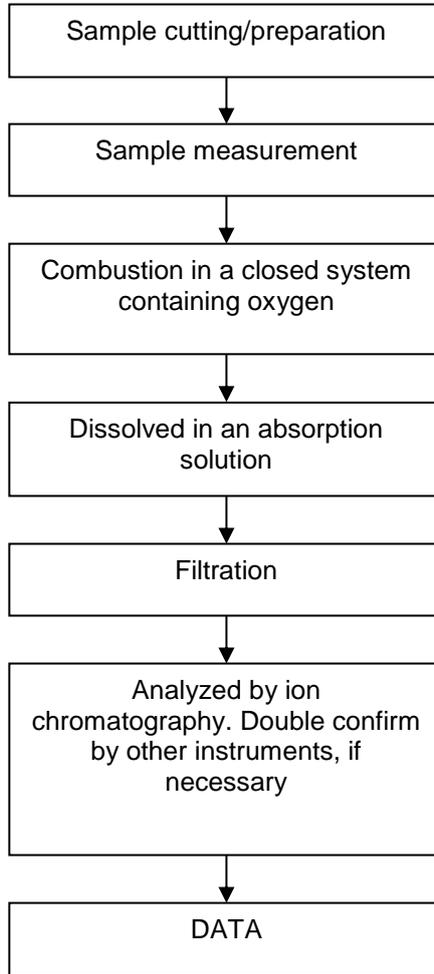
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Chlorinated Paraffin Testing Flow Chart



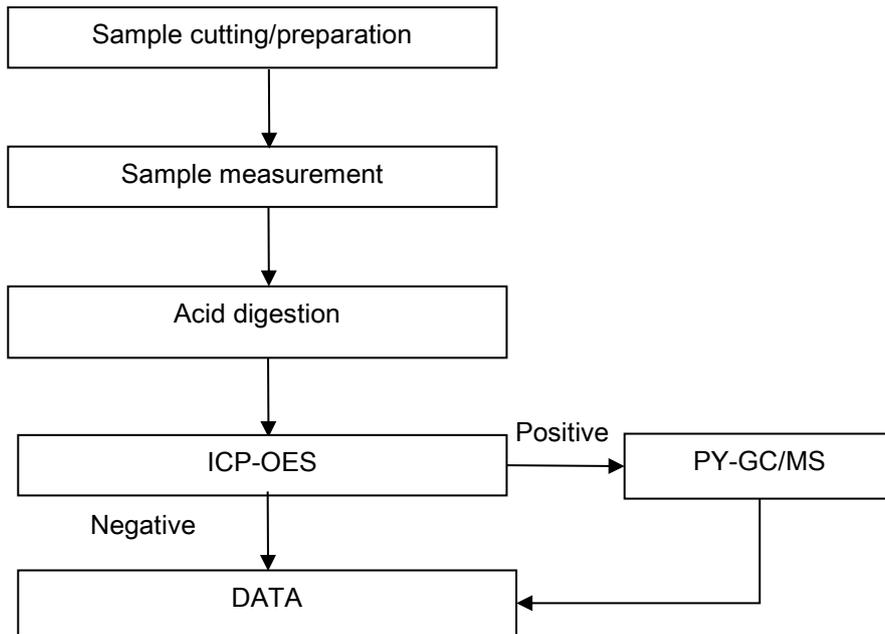
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Halogen Testing Flow Chart



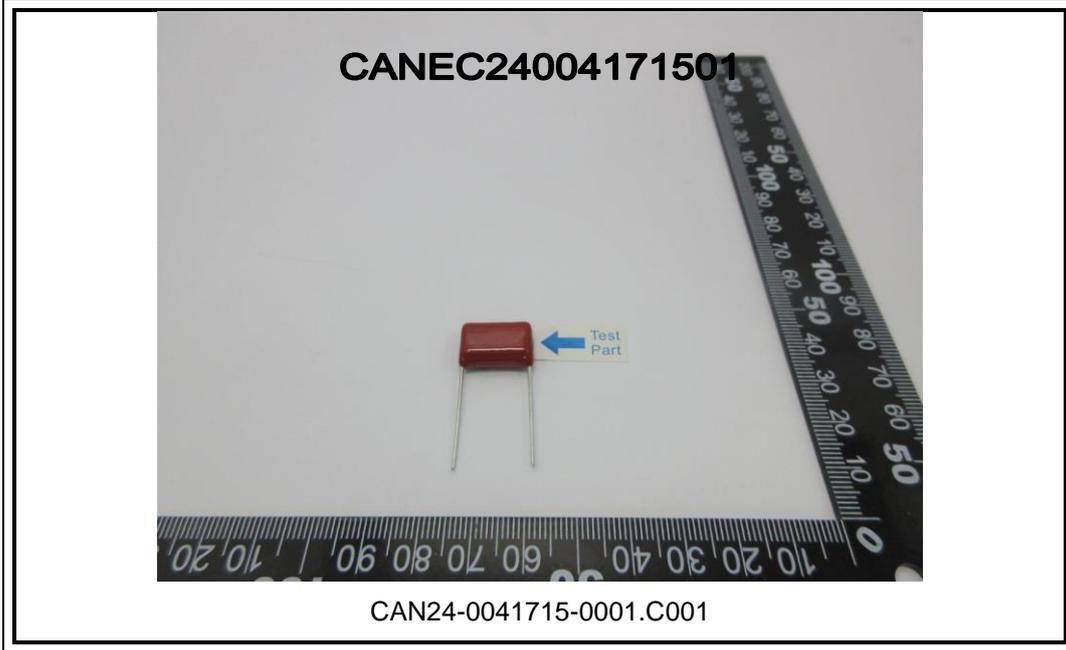
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Red phosphorus Testing Flow Chart



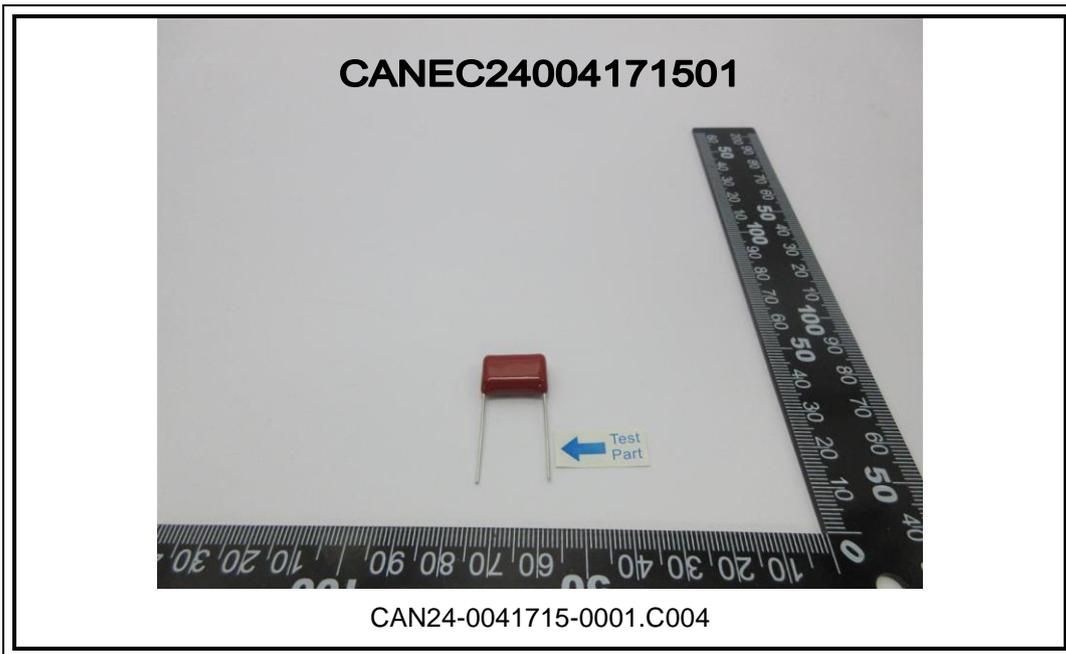
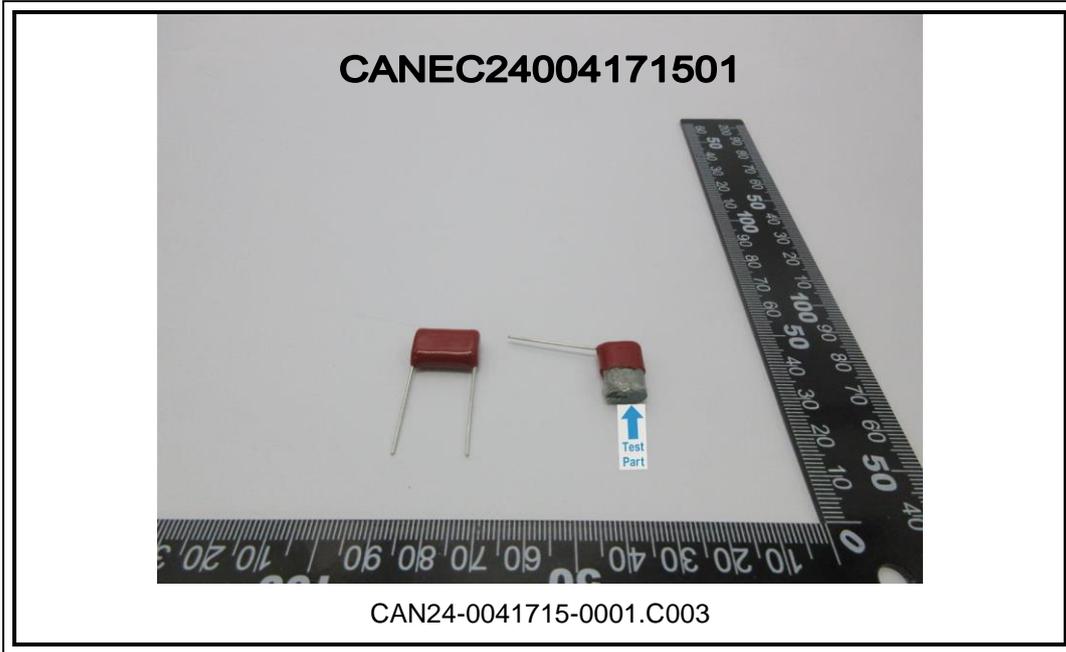
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Sample Photo:



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SGS authenticate the photo on original report only
 *** End of Report ***

