

## Verification Report

No. TAOEC2300671501

Date: 02 Mar 2023

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Client Name : JINZHOU KAIMEI POWER CO.,LTD.

Client Address : NO.141 JINYI STREET,LINGHE DISTRICT,JINZHOU CITY,LIAONING PROVINCE  
CHINA

Sample Name : WINDING SUPERCAPACITOR

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

SGS Job No. : QP23-000597 - QD

Date of Sample Received : 09 Feb 2023

Verification Period : 09 Feb 2023 - 17 Feb 2023

Verification Requested : With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

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

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

### Test Result Summary

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

Signed for and on behalf of  
SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.

*clair*

Wang Bo, Claire  
Approved Signatory

scan to see the report



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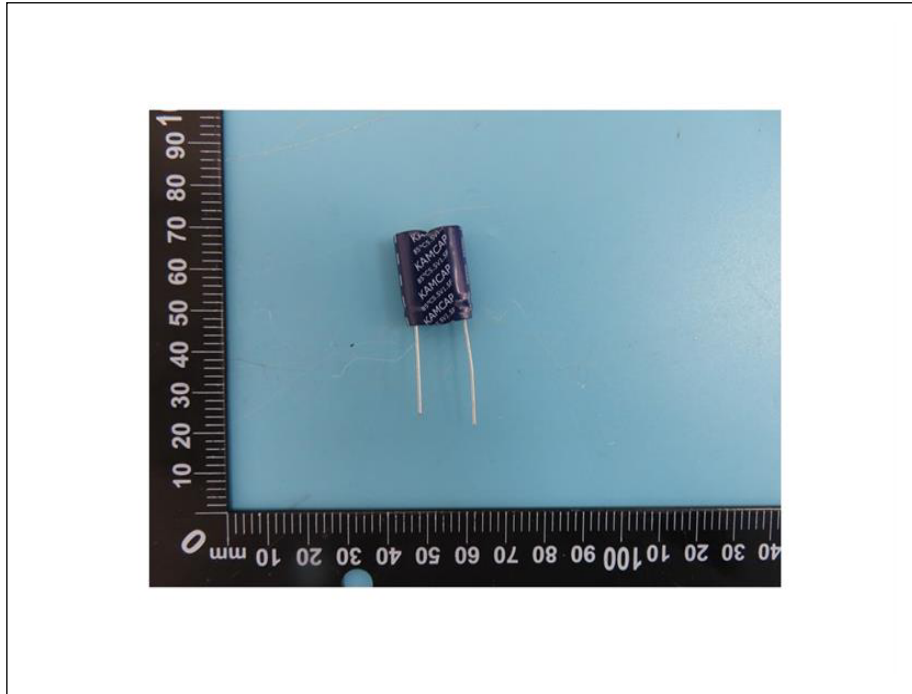
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### Photo of Submitted Sample



### Verification Method(s) :

1. With reference to IEC 62321-2:2021, disassembly and disjointment were performed for the submitted samples.
2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
  - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy.
  - (2) Wet chemical test method: With reference to IEC 62321-4:2013+AMD1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, IEC 62321-7-2:2017, ISO 17075-1:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, AAS,UV-Vis and GC-MS.

### Verification Part Description :

SN ID	Sample No	SGS Sample ID	Description
SN1	A1	TAO23-006715.001	Blue plastic
SN2	A2	TAO23-006715.002	Black plastic
SN3	A3	TAO23-006715.003	Black rubber
SN4	A4	TAO23-006715.004	Blue plastic
SN5	A5	TAO23-006715.005	Silvery metal
SN6	A6	TAO23-006715.006	Silvery metal(soldering tin)
SN7	A7	TAO23-006715.007	Silvery metal



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SN ID	Sample No	SGS Sample ID	Description
SN8	A8	TAO23-006715.008	Yellow plastic(adhesive tape)
SN9	A9	TAO23-006715.009	White paper
SN10	A10	TAO23-006715.010	Black coating
SN11	A11	TAO23-006715.011	Silvery metal

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### Verification Results :

(Unless otherwise specified, the unit is mg/kg).

Test Item(s)	A1	A2	A3	A4	A5	A6	A7	A8
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	BL	BL	BL	BL
PBBs	BL	ND	BL	BL	---	---	---	BL
PBDEs	BL	ND	BL	BL	---	---	---	BL
DBP	BL	BL	BL	BL	---	---	---	BL
BBP	BL	BL	BL	BL	---	---	---	BL
DEHP	BL	BL	BL	BL	---	---	---	BL
DIBP	BL	BL	BL	BL	---	---	---	BL
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Test Item(s)	A9	A10	A11
Pb	BL	BL	BL
Cd	BL	BL	BL
Hg	BL	BL	BL
Cr(VI)▼	BL	BL	BL
PBBs	BL	BL	---
PBDEs	BL	BL	---
DBP	BL	BL	---
BBP	BL	BL	---
DEHP	BL	BL	---
DIBP	BL	BL	---
Conclusion	PASS	PASS	PASS

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### Notes:

- (1) Interpretation of screening results by X-ray fluorescence spectrometry (XRF):
- (a) Screening limits in mg/kg for regulated elements in various matrices according to IEC 62321-1:2013 Annex A as below table.

Element	Polymer	Metal	Composite Materials
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	$BL \leq (300-3\sigma) < X$	Not applicable	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

- (b) If the maximum allowed level restricts PBB/PBDE and Cr(VI) rather than Br and Cr, the exceptions are the XRF determinations of Br and Cr. If the quantitative results for the elements Br and/or are higher than the limit (for Br calculated based on the stoichiometry of Br in the most common congeners of PBB/PBDE), the sample is "inconclusive".
- (c) Results are obtained by EDXRF for primary screening, LOD = Limit of Detection, BL = Below Limit, OL = Over Limit, IN (The symbol X marks the region)= Inconclusive, where further investigation is necessary, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs/PBDEs) are recommended to be performed.
- (d) The EDXRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- (2) Screening results of Phthalates (PHTH) are for primary screening, and further chemical testing by GC-MS (for DBP, BBP, DEHP and DIBP) are recommended to be performed if the concentration exceeds the below warning value (unit: mg/kg)

Test Items	CAS No.	Polymer/ Composite Materials
Dibutyl Phthalate (DBP)	84-74-2	$BL \leq 600 < X$
Benzylbutyl Phthalate (BBP)	85-68-7	$BL \leq 600 < X$
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	$BL \leq 600 < X$
Diisobutyl Phthalate (DIBP)	84-69-5	$BL \leq 600 < X$

- (3) Interpretation of results by chemical tests:

- (a) mg/kg = 0.0001%, MDL=Method detection Limit, ND = Not Detected (<MDL), --- = Not Applicable
- (b) Unit and MDL in wet chemical test

Test Items	Pb	Cd	Hg	DBP	BBP	DEHP	DIBP
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	10	10	10	100	100	100	100

The MDL for single compound of PBBs and PBDEs is 100 mg/kg.

MDL of Cr(VI) for polymer, composite and leather sample is 10 mg/kg.

MDL of Cr(VI) for metal sample is 0.10μg/cm<sup>2</sup>.



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(c) ▼ =Metal sample

- a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13µg/cm<sup>2</sup>.  
The sample coating is considered to contain Cr(VI)
- b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10µg/cm<sup>2</sup>).  
The coating is considered a non-Cr(VI) based coating
- c. The result between 0.10µg/cm<sup>2</sup> and 0.13µg/cm<sup>2</sup> 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.

(4) Restricted substances and maximum concentration values tolerated by weight in homogeneous materials under RoHS Directive: Cd: 0.01%, Pb/Hg/Cr(VI)/PBBs/PBDEs/DEHP/DBP/BBP/DIBP: 0.1%. The limit is quoted from RoHS Directive (EU) 2015/863.

(5) IEC 62321 series is equivalent to EN 62321 series.

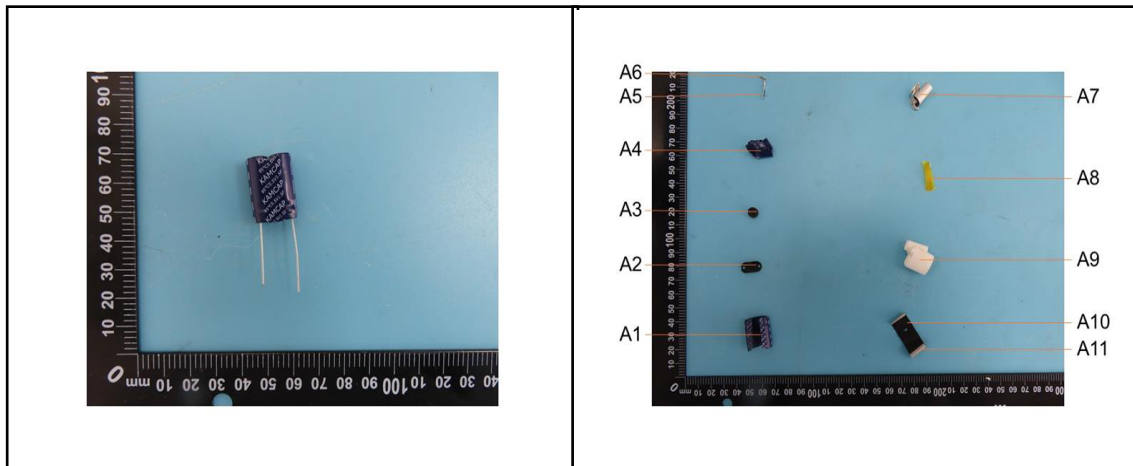
Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.



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Sample photo:



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\*\*\* End of Report \*\*\*

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