

**Verification Report No.:** CANEC24002645702 **Date:** Feb 28, 2024 Page 1 of 7

Client Name: DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO.,LTD.  
 Client Address: 2ND INDUSTRIAL ZONE, NANMEN VILLAGE, HENGKENG ADMINISTRATIVE ZONE, LIAOBU TOWN, DONGGUAN, GUANGDONG PROVINCE, P.R.C

Sample Name: Plastic fuse  
 Tested Basic Model No.: 932  
 Client Ref. Information: 931, 933, 936, 938

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

SGS Job No.: SZP24-004658  
 Sample Receiving Date: Feb 05, 2024  
 Verification Period: Feb 05, 2024 ~ Feb 27, 2024  
 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 (PBB), Polybrominated diphenyl ethers (PBDE), 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 Co., Ltd. Guangzhou Branch

*Tyler Zhang*

Tyler-Y Zhang  
 Approved Signatory

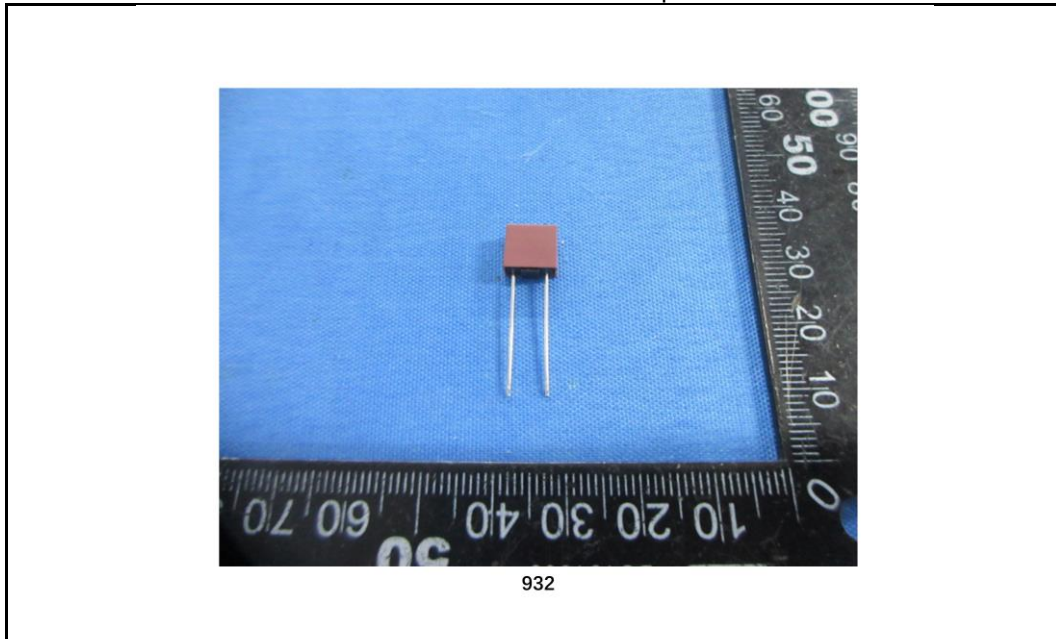
scan to see the report



9F21512E



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+A1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, IEC 62321-7-2:2017, ISO 17075-1:2017, IEC 62321-12:2023, IEC 62321-6:2015 and IEC62321-8:2017 , analyzed by ICP-OES,UV-Vis and GC-MS.



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**Verification Part Description:**

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN24-0026457-0001.C001	Silvery metal pin
SN2	A2	CAN24-0026457-0001.C002	Red-brown plastic shell
SN3	A3	CAN24-0026457-0001.C003	White material grain
SN4	A4	CAN24-0026457-0001.C004	Black plastic part
SN5	A5	CAN24-0026457-0001.C005	White fibre thread
SN6	A6	CAN24-0026457-0001.C006	Silvery metal wire
SN7	A7	CAN24-0026457-0001.C007	Silvery metal solder



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Guangzhou Branch, Guangzhou, China

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**Verification Result(s):**

Unless otherwise specified, the unit is mg/kg.

Test Item(s)	A1	A2	A3	A4	A5	A6	A7
Cd	BL	BL	BL	BL	BL	BL	BL
Pb	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	BL	BL	BL	BL	BL	BL	BL
PBB	---	BL	BL	BL	BL	---	---
PBDE	---	BL	BL	BL	BL	---	---
DBP	---	BL	BL	BL	BL	---	---
BBP	---	BL	BL	BL	BL	---	---
DEHP	---	BL	BL	BL	BL	---	---
DIBP	---	BL	BL	BL	BL	---	---
Conclusion	PASS	PASS	PASS	PASS	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 Cr 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 PBB/PBDE) 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	$BL \leq 600 < X$
Butyl benzyl 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 PBB and PBDE 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 0.10 µg/cm<sup>2</sup>.

(c) ▼ =Metal sample

a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/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 0.10 µg/cm<sup>2</sup>). The coating is considered a non-Cr(VI) based coating

c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/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.

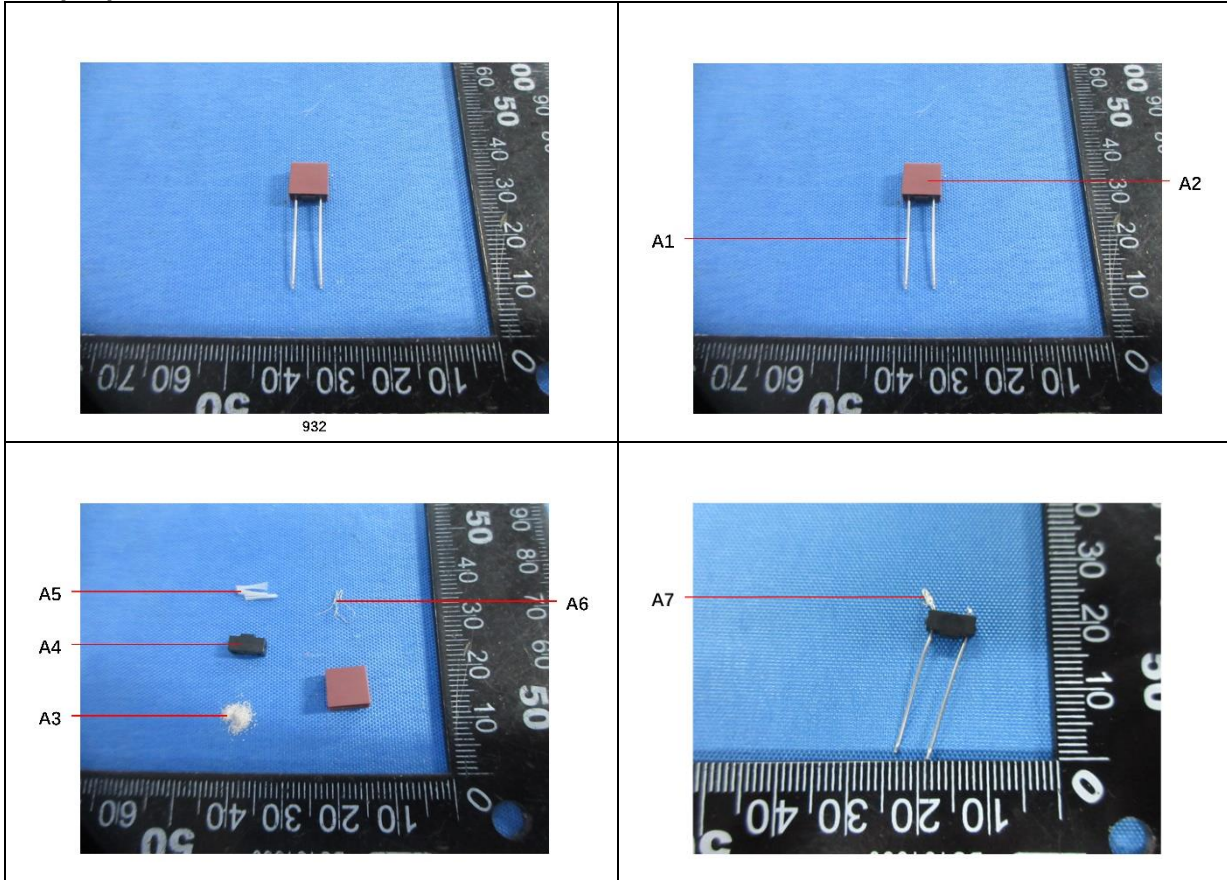
- (4) Restricted substances and maximum concentration values tolerated by weight in homogeneous materials under RoHS Directive: Cd: 0.01%, Pb/Hg/Cr(VI)/PBB/PBDE/DEHP/DBP/BBP/DIBP: 0.1%. The limit is quoted from RoHS Directive (EU) 2015/863.
- (5) IEC 62321 series is equivalent to EN 62321 series.

The location of performance of the laboratory activities: A. No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong; B. Room 101, Building 3, No.1501, Kaichuang Avenue, Huangpu District, Guangzhou, Guangdong

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.



Sample photos:



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



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 Guangzhou Branch Technical Laboratory

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