

## Verification Report

No. TAOEC2400461603

Date: 16 Apr 2024

Page 1 of 9

Client Name : Jiangsu DINGS' Intelligent Control Technology Co., Ltd.

Client Address : 355 Longjin Road, Changzhou Economic Development Zone, Jiangsu, China

Sample Name : Brushless DC Motor  
 Tested Basic Model No. : 57ZWS75X-1  
 Client Ref. Information : 12/16/22/28/36/42/57/60/86/110/130  
 Supplier : DINGS'  
 Origin of the Product(s) : China  
 Manufacturer : Jiangsu DINGS' Intelligent Control Technology Co., Ltd.

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

SGS Job No. : SHP24-004748 - QD  
 Date of Sample Received : 26 Feb 2024  
 Verification Period : 26 Feb 2024 - 13 Apr 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 (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.

Justin

Zhang Bo, Justin  
 Approved Signatory

scan to see the report



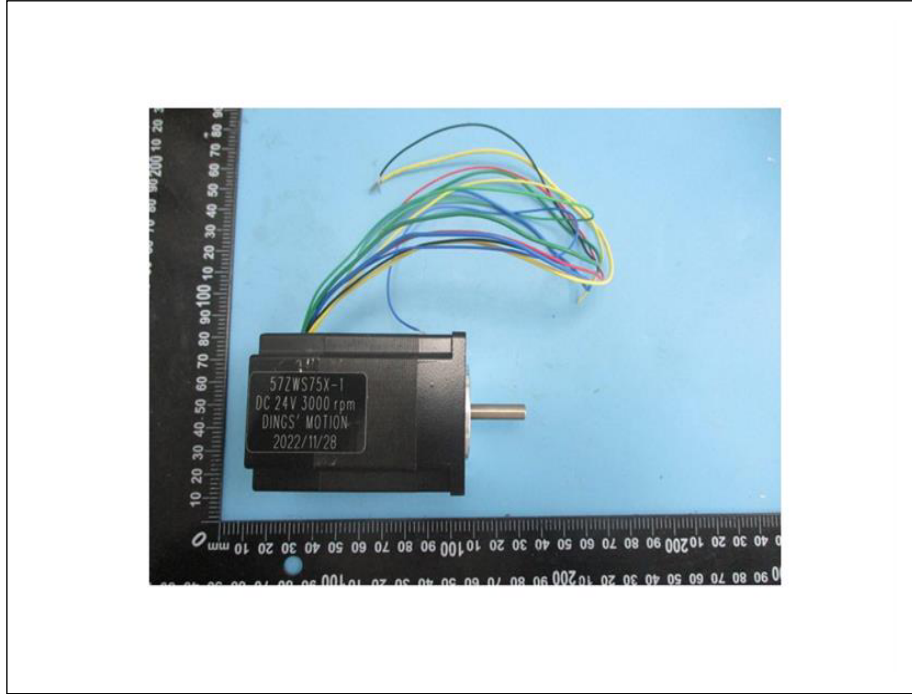
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Photo of Submitted Sample



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	TAO24-004616.001	Black adhesive
SN2	A2	TAO24-004616.002	Silvery metal
SN3	A3	TAO24-004616.003	Silvery metal
SN4	A4	TAO24-004616.004	Black coating
SN5	A5	TAO24-004616.005	Silvery metal
SN6	A6	TAO24-004616.006	Gray metal
SN7	A7	TAO24-004616.007	Silvery metal



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SN ID	Sample No	SGS Sample ID	Description
SN8	A8	TAO24-004616.008	Copper-colored metal
SN9	A9	TAO24-004616.009	Yellow plastic
SN10	A10	TAO24-004616.010	Black magnet
SN11	A11	TAO24-004616.011	Silvery metal
SN12	A13	TAO24-004616.013	White transparent glue
SN13	A15	TAO24-004616.015	Red plastic(jacket)
SN14	A16	TAO24-004616.016	Green plastic(jacket)
SN15	A17	TAO24-004616.017	Yellow plastic(jacket)
SN16	A18	TAO24-004616.018	Blue plastic(jacket)
SN17	A19	TAO24-004616.019	Silvery metal(inner core)
SN18	A20	TAO24-004616.020	Black plastic(jacket)
SN19	A23	TAO24-004616.023	Black coating
SN20	A24	TAO24-004616.024	White plastic
SN21	A25	TAO24-004616.025	Copper-colored metal(thread)
SN22	A26	TAO24-004616.026	Black plastic(pyrocondensation tube)
SN23	A27	TAO24-004616.027	Blue plastic(jacket)
SN24	A28	TAO24-004616.028	Yellow plastic(jacket)
SN25	A29	TAO24-004616.029	Green plastic(jacket)
SN26	A30	TAO24-004616.036	Black body
SN27	A31	TAO24-004616.037	Green PCB
SN28	A32	TAO24-004616.038	Silvery metal(soldering tin)



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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	ND	ND	BL	BL	ND	ND	BL
PBBs	BL	---	---	BL	---	---	---	---
PBDEs	BL	---	---	BL	---	---	---	---
DBP	BL	---	---	ND	---	---	---	---
BBP	BL	---	---	ND	---	---	---	---
DEHP	BL	---	---	ND	---	---	---	---
DIBP	BL	---	---	ND	---	---	---	---
<b>Conclusion</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

Test Item(s)	A9	A10	A11	A13	A15	A16	A17	A18
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	ND	BL	BL	BL	BL	BL
PBBs	BL	BL	---	BL	BL	BL	BL	BL
PBDEs	BL	BL	---	BL	BL	BL	BL	BL
DBP	BL	---	---	BL	BL	BL	BL	BL
BBP	BL	---	---	BL	BL	BL	BL	BL
DEHP	BL	---	---	BL	BL	BL	BL	BL
DIBP	BL	---	---	BL	BL	BL	BL	BL
<b>Conclusion</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

Test Item(s)	A19	A20	A23	A24	A25	A26	A27	A28
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	BL	BL	---	BL	BL	BL



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Test Item(s)	A19	A20	A23	A24	A25	A26	A27	A28
PBDEs	---	BL	BL	BL	---	BL	BL	BL
DBP	---	BL	ND	BL	---	BL	BL	BL
BBP	---	BL	ND	BL	---	BL	BL	BL
DEHP	---	BL	ND	BL	---	BL	BL	BL
DIBP	---	BL	ND	BL	---	BL	BL	BL
<b>Conclusion</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

Test Item(s)	A29	A30	A31	A32
Pb	BL	BL	BL	BL
Cd	BL	BL	BL	BL
Hg	BL	BL	BL	BL
Cr(VI)▼	BL	BL	BL	BL
PBBs	BL	BL	ND	---
PBDEs	BL	BL	ND	---
DBP	BL	ND	ND	---
BBP	BL	ND	ND	---
DEHP	BL	ND	ND	---
DIBP	BL	ND	ND	---
<b>Conclusion</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

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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.

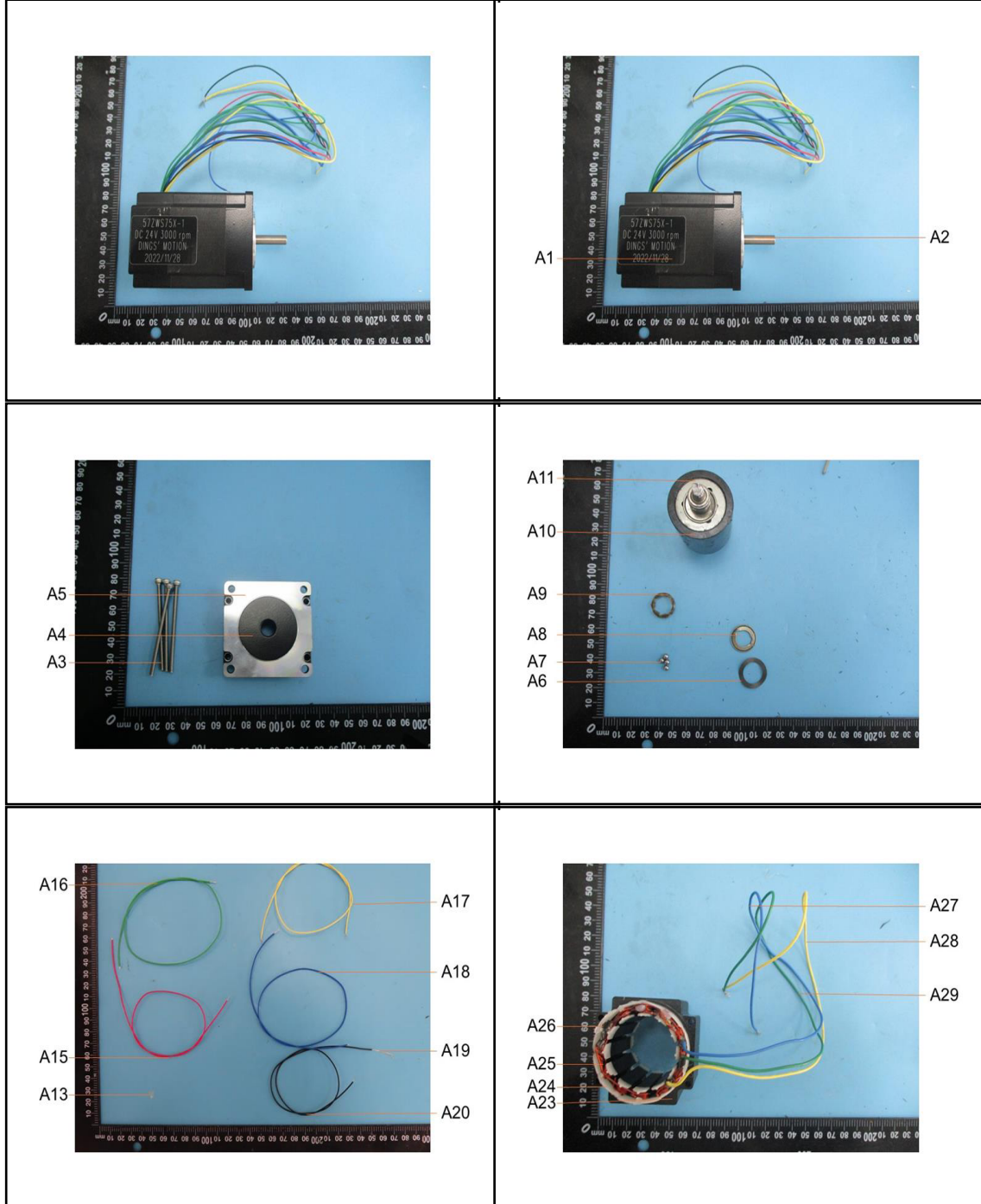
(6) ▲According to the declaration from the client, Lead (Pb) in No.A14,A22 is exempted by EU RoHS directive 2011/65/EU based on [ANNEX III 7(a)]: Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

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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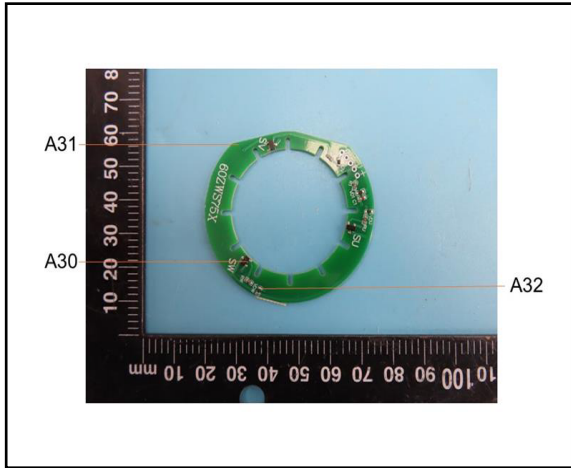


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通标公司 11/14/2024





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

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