

Verification Report No. TAOEC2400461701 Date: 14 Mar 2024 Page 1 of 8

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

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

Sample Name : Slotless Brushless DC Motor

Tested Basic Model No.: 22ZWWC48-22

Client Ref. Information: 10/12/14/16/22/28/36/42

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 - 14 Mar 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-	PASS
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)	

Signed for and on behalf of

SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.

Zhang Bo, Justin Approved Signatory





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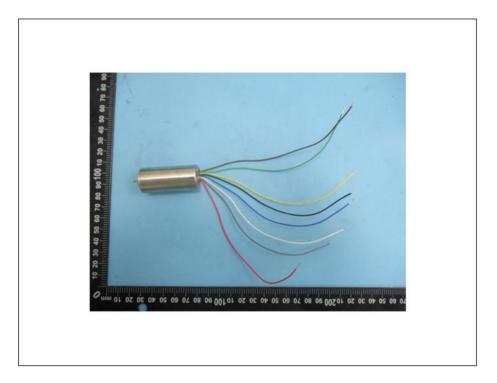


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Photo of Submitted Sample



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	TAO24-004617.001	Silvery metal
SN2	A2	TAO24-004617.002	Silvery metal
SN3	A3	TAO24-004617.003	Silvery metal(inner core)
SN4	A4	TAO24-004617.004	Brown plastic(jacket)
SN5	A5	TAO24-004617.005	Green plastic(jacket)
SN6	A6	TAO24-004617.006	Yellow plastic(jacket)
SN7	A7	TAO24-004617.007	Black plastic(jacket)



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SN ID	Sample No	SGS Sample ID	Description
SN8	A8	TAO24-004617.008	Blue plastic(jacket)
SN9	A9	TAO24-004617.009	White plastic(jacket)
SN10	A10	TAO24-004617.010	Gray plastic(jacket)
SN11	A11	TAO24-004617.011	Red plastic(jacket)
SN12	A12	TAO24-004617.012	Beige plastic
SN13	A13	TAO24-004617.013	Copper-colored metal
SN14	A14	TAO24-004617.014	Copper-colored metal
SN15	A15	TAO24-004617.015	Copper-colored metal
SN16	A16	TAO24-004617.016	Copper-colored metal
SN17	A17	TAO24-004617.017	Copper enamelled wire
SN18	A18	TAO24-004617.018	White paper
SN19	A19	TAO24-004617.019	Silvery metal
SN20	A20	TAO24-004617.020	Yellow transparent adhesive
SN21	A21	TAO24-004617.021	Silvery metal
SN22	A22	TAO24-004617.022	Silvery metal(soldering tin)
SN23	A23	TAO24-004617.023	Green PCB
SN24	A24	TAO24-004617.024	Brown plastic
SN25	A25	TAO24-004617.025	Silvery metal
SN26	A26	TAO24-004617.026	Silvery metal
SN27	A27	TAO24-004617.027	Silvery metal
SN28	A28	TAO24-004617.028	Black body
SN29	A29	TAO24-004617.029	Black body
SN30	A30	TAO24-004617.030	Silvery magnet
SN31	A31	TAO24-004617.031	Silvery metal



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Verification Results:

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

Test Item(s)	A 1	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)▼	ND	ND	BL	BL	BL	BL	BL	BL
PBBs				BL	BL	BL	BL	BL
PBDEs				BL	BL	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	A12	A13	A14	A15	A16
Pb	BL	BL	BL	BL	14709▲	22702▲	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	ND	BL
PBBs	BL	BL	BL	BL				
PBDEs	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	PASS

Test Item(s)	A17	A18	A19	A20	A21	A22	A23	A24
Pb	BL							
Cd	BL							
Hg	BL							
Cr(VI)▼	BL	BL	ND	BL	ND	BL	BL	BL
PBBs	BL	BL		BL			ND	BL



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Test Item(s)	A17	A18	A19	A20	A21	A22	A23	A24
PBDEs	BL	BL		BL			ND	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							

Test Item(s)	A25	A26	A27	A28	A29	A30	A31
Pb	BL						
Cd	BL						
Hg	BL						
Cr(VI)▼	ND	ND	ND	BL	BL	BL	ND
PBBs				BL	BL	BL	
PBDEs				BL	BL	BL	
DBP				ND	ND		
BBP				ND	ND		
DEHP				ND	ND		
DIBP				ND	ND		
Conclusion	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	Polymer Metal			
Cd	BL≤(70-3σ) <x<(130+3σ)≤ol< td=""><td>BL≤(70-3σ)<x<(130+3σ)≤ol< td=""><td>LOD<x<(150+3σ)≤ol< td=""></x<(150+3σ)≤ol<></td></x<(130+3σ)≤ol<></td></x<(130+3σ)≤ol<>	BL≤(70-3σ) <x<(130+3σ)≤ol< td=""><td>LOD<x<(150+3σ)≤ol< td=""></x<(150+3σ)≤ol<></td></x<(130+3σ)≤ol<>	LOD <x<(150+3σ)≤ol< td=""></x<(150+3σ)≤ol<>		
Pb	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(700-3σ)<x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(500-3σ) <x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<>		
Hg	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(700-3σ)<x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(500-3σ) <x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<>		
Br	BL ≤(300-3σ)< X	Not applicable	BL ≤ (250-3σ)< X		
Cr	BL ≤(700-3σ)< X	BL ≤ (700-3σ)< X	BL ≤ (500-3σ)< 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 ≤ 600< X
Benzylbutyl Phthalate (BBP)	85-68-7	BL ≤ 600< X
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	BL ≤ 600< X
Diisobutyl Phthalate (DIBP)	84-69-5	BL ≤ 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						
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/cm².



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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/cm². 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/cm²). The coating is considered a non-Cr(VI) based coating
 - c. The result between 0.10μg/cm² and 0.13μg/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.

- (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.A13,A14 is exempted by EU RoHS directive 2011/65/EU based on |ANNEX III 6(c)|: Copper alloy containing up to 4 % lead by weight.

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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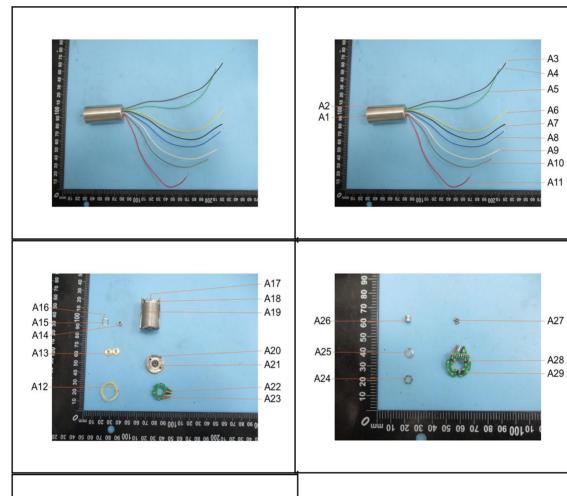
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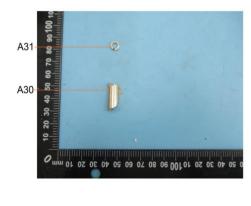


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Sample photo:





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