

Client Name: Jiangsu DINGS' Intelligent Control Technology Co., LTD  
 Client Address: No. 2850 Luheng Road, Economic Development Zone, Changzhou, Jiangsu, 213025 China

Sample Name: Voice Coil Motor  
 Tested Basic Model No.: VC-38-7.7-5.5  
 Tested Extended Model No.: VCM-38-010-01  
 Client Ref. Information: VC/VCHF/VCM

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

SGS Job No.: SHP25-001638  
 Sample Receiving Date: Jan 19, 2025  
 Verification Period: Jan 19, 2025 ~ Feb 24, 2025  
 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 (Qingdao) Co., Ltd.



Sapphire Wang  
 Approved Signatory

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C4E35A02



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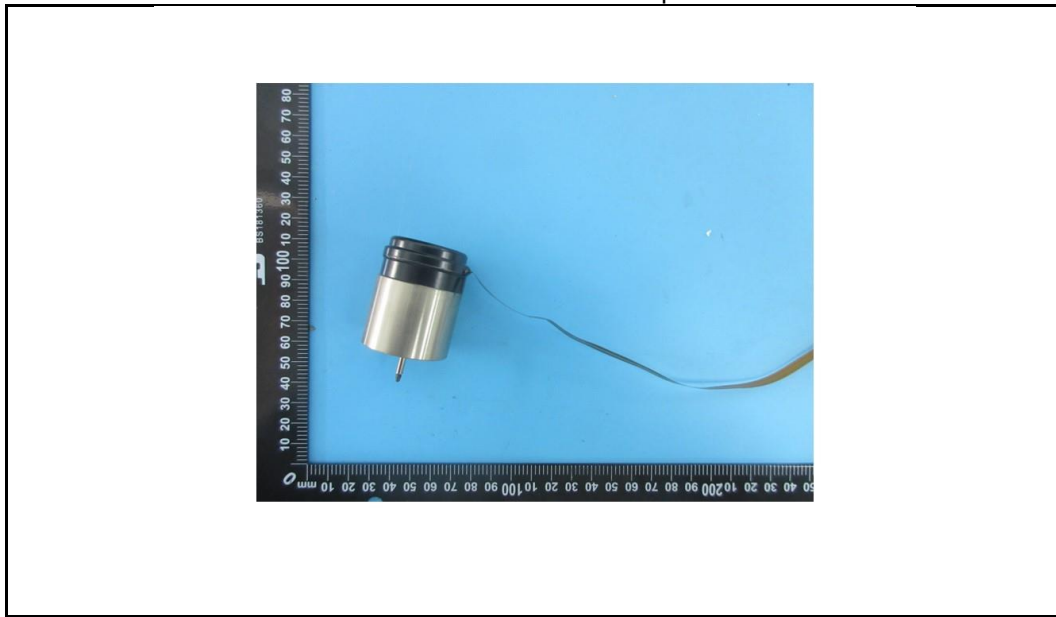
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Photo of Submitted Sample



**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+A1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, IEC 62321-7-2:2017, 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	TAO25-0005460-0001.C001	Yellow FPC
SN2	A2	TAO25-0005460-0001.C002	Transparent adhesive
SN3	A3	TAO25-0005460-0001.C003	Silvery metal(soldering tin)
SN4	A4	TAO25-0005460-0001.C004	Silvery metal
SN5	A5	TAO25-0005460-0001.C005	Silvery metal
SN6	A6	TAO25-0005460-0001.C006	Black metal
SN7	A7	TAO25-0005460-0001.C007	Silvery metal
SN8	A8	TAO25-0005460-0001.C008	White plastic
SN9	A9	TAO25-0005460-0001.C009	White plastic
SN10	A10	TAO25-0005460-0001.C010	Copper-colored metal
SN11	A11	TAO25-0005460-0001.C011	Copper-colored metal
SN12	A12	TAO25-0005460-0001.C012	Copper enamelled wire
SN13	A13	TAO25-0005460-0001.C013	Silvery metal(steel ball)
SN14	B1	TAO25-0005460-0002.C001	Transparent plastic
SN15	B2	TAO25-0005460-0002.C002	White plastic
SN16	B3	TAO25-0005460-0002.C003	Transparent plastic



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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	A8
Pb	BL	BL	BL	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	BL	BL	BL	ND	BL	ND	ND	BL
PBBs	BL	BL	---	---	---	---	---	ND
PBDEs	BL	BL	---	---	---	---	---	ND
DEHP	BL	BL	---	---	---	---	---	ND
BBP	BL	BL	---	---	---	---	---	ND
DBP	BL	BL	---	---	---	---	---	ND
DIBP	BL	BL	---	---	---	---	---	ND
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Test Item(s)	A9	A10	A11	A12	A13	B1	B2	B3
Pb	BL	32477▲	22064▲	BL	BL	BL	BL	BL
Hg	BL	BL	BL	BL	BL	BL	BL	BL
Cd	BL	BL	BL	BL	BL	BL	BL	BL
Cr(VI)▼	BL	ND	ND	BL	BL	BL	BL	BL
PBBs	BL	---	---	BL	---	BL	BL	BL
PBDEs	BL	---	---	BL	---	BL	BL	BL
DEHP	BL	---	---	BL	---	BL	BL	BL
BBP	BL	---	---	BL	---	BL	BL	BL
DBP	BL	---	---	BL	---	BL	BL	BL
DIBP	BL	---	---	BL	---	BL	BL	BL
Conclusion	PASS	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 62321-3-1:2013 Annex A as below table.

Element	Polymers	Metals	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 elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

- (2) Screening results of Phthalates (PHTH) below the limits are shown as "BL". Further chemical testing by GC-MS is to be performed if the results exceed limits.

Test Items	CAS No.
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7
Butyl benzyl phthalate (BBP)	85-68-7
Dibutyl phthalate (DBP)	84-74-2
Diisobutyl phthalate (DIBP)	84-69-5

- (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	Hg	Cd	DEHP	BBP	DBP	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



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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/BBP/DBP/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.A10,A11 is exempted by EU RoHS directive 2011/65/EU based on [ANNEX III 6(c)]: Copper alloy containing up to 4 % lead by weight. More information about exemption can be found via the following link:

[https://rohs.sgsonline.com.cn/PDFLinks/en/RSTS-TP-037%20RoHS%20Exemption%20\(EN\).pdf](https://rohs.sgsonline.com.cn/PDFLinks/en/RSTS-TP-037%20RoHS%20Exemption%20(EN).pdf)

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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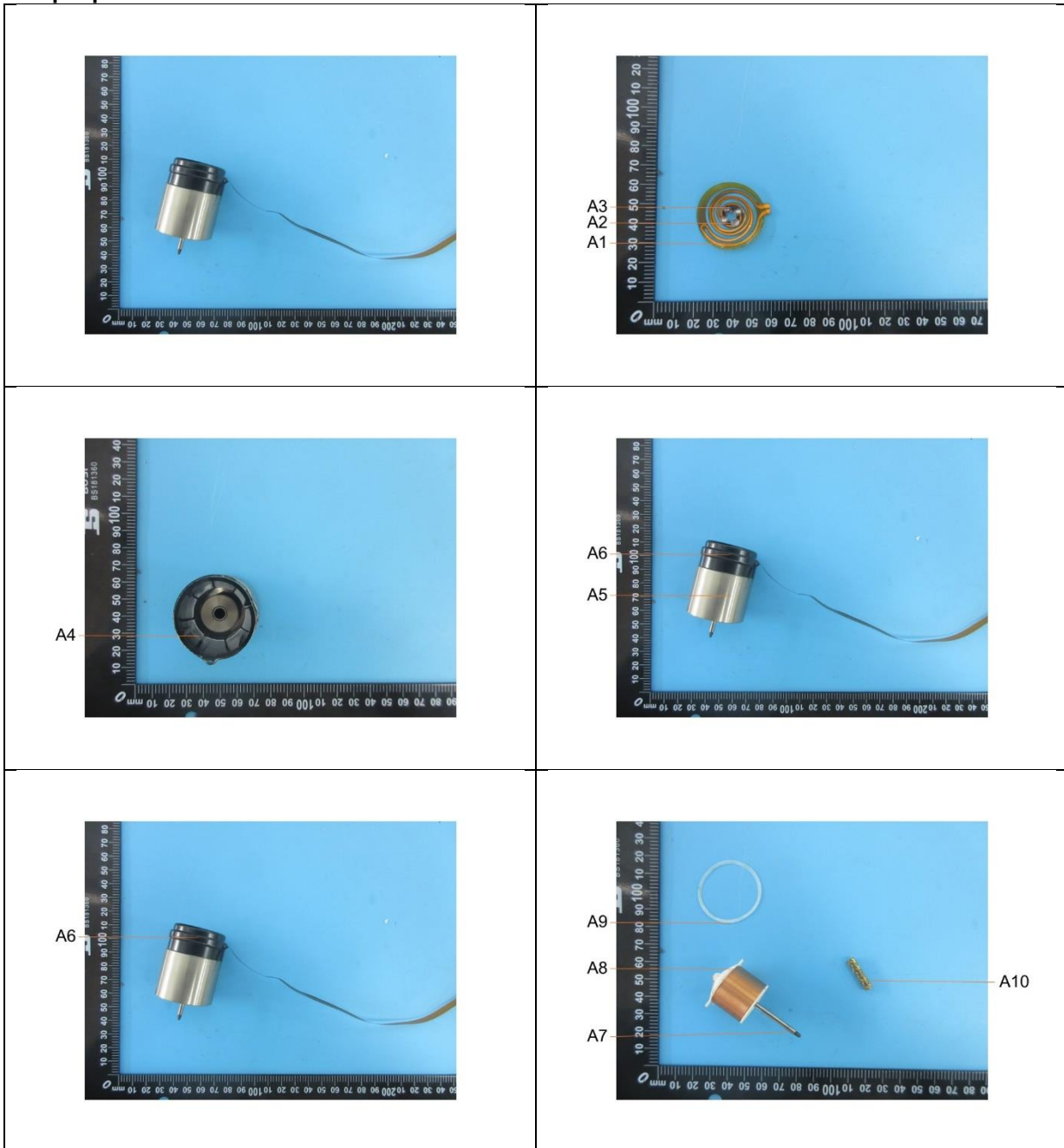
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Sample photos:



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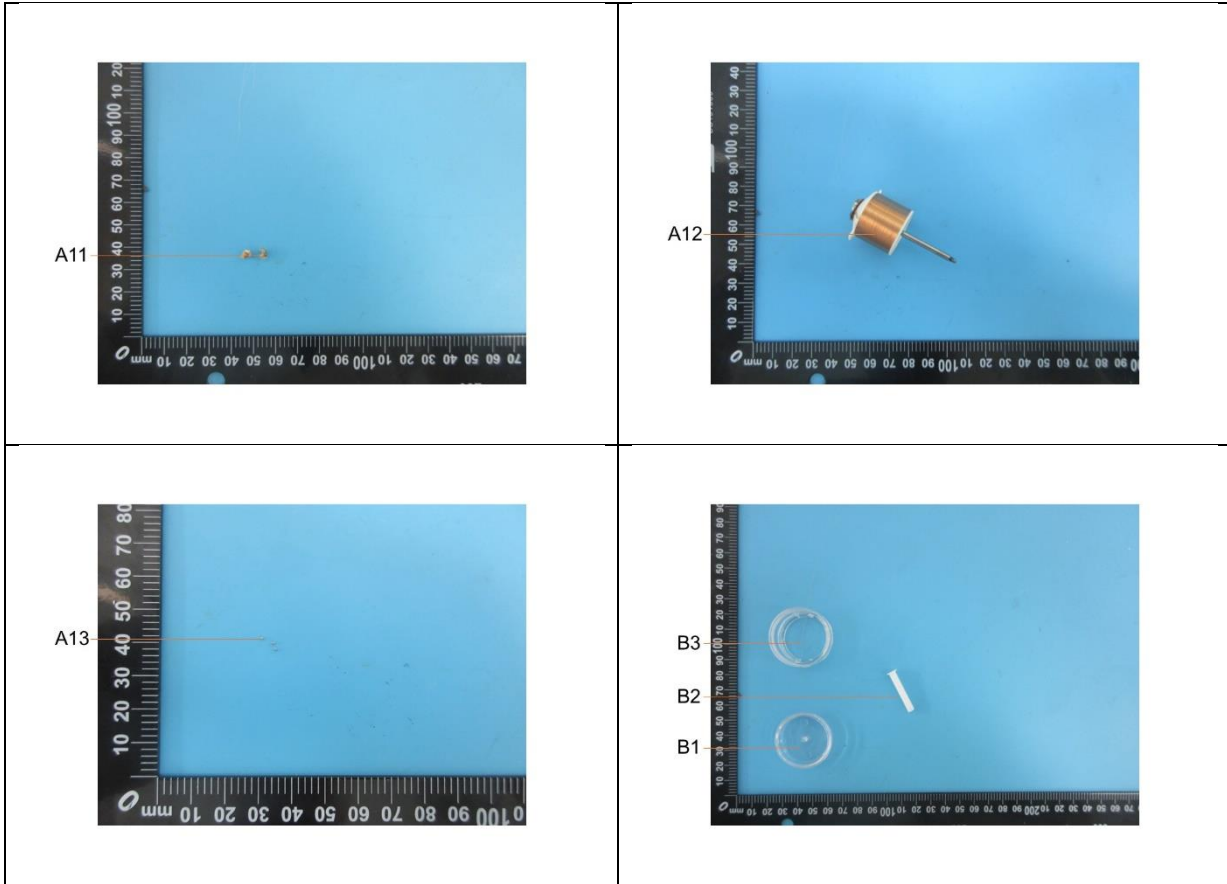
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2025年2月25日



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