

Report No.: DGC240723026NE

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Applicant : Fandeli Electronics Co., Ltd.**Address** : Room 2903, Unit 1, Building 8, Summer Scenery, No. 78, Science and Technology 2nd Road, Zhangba Street, High-tech Zone, Xi'an City, Shaanxi Province**The following sample(s) was/were submitted and identified on behalf of the client as:**

Product Name : Vibrating motor

Model : SL-2838BL

Manufacturer : Fandeli Electronics Co., Ltd.

Trade MARK : Room 2903, Unit 1, Building 8, Summer Scenery, No. 78, Science and Technology 2nd Road, Zhangba Street, High-tech Zone, Xi'an City, Shaanxi Province

Date of Sample Received : Jul. 23, 2024

Test period : Jul. 23, 2024 - Jul. 31, 2024

Test requested

In accordance with RoHS Directive 2011/65/EU and amendment 2015/863/EU, to determine Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr (VI)), PBBs, PBDEs, Di (2-ethyl hexyl)-phthalate (DEHP), Dibutyl phthalate (DBP), Butylbenzyl phthalate (BBP), Diisobutyl phthalate (DIBP) content on submitted samples.

Conclusion

Pass

Test method : Please refer to next page.**Test result** : Please refer to next page.**Approved by:**

Richard Ke
Richard Ke
(Signed for and on behalf)



Date:

Aug. 06, 2024



Test method:

1. For the Cadmium (Cd), Lead (Pb),Mercury (Hg), Chromium (Cr (VI)), PBBs, PBDEs:

With reference to IEC 62321 Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products, XRF scanning first test, then using chemical test method to confirm.

Testing Item		Test Method	Measuring Instrument	MDL
Screening test		IEC 62321-3-1: 2013 scanning	XRF	--
Wet Chemical test	Lead (Pb)	IEC 62321-5: 2013	ICP-OES	2mg/kg
	Cadmium (Cd)	IEC 62321-5: 2013	ICP-OES	2mg/kg
	Mercury (Hg)	IEC 62321-4: 2013+AMD1:2017	ICP-OES	2mg/kg
	Chromium (Cr (VI))▼	IEC 62321-7-2:2017	UV-Vis	8mg/kg
		IEC 62321-7-1: 2015		0.10µg/cm ²
	PBBs, PBDEs	IEC 62321-6: 2015	GC-MS	5 mg/kg

2. For the DEHP, DBP, BBP and DIBP:

Testing Item	Pretreatment Method	Measuring Instrument	MDL
Di (2-ethyl hexyl)-phthalate (DEHP)	IEC 62321-8: 2017	GC-MS	30mg/kg
Butylbenzyl phthalate (BBP)			30mg/kg
Dibutyl phthalate (DBP)			30mg/kg
Diisobuty phthalate (DIBP)			30mg/kg

1. Description of the test subject:

Sample No.	Location	Sample Description
1	Vibrating motor	Black plastic case
2	Vibrating motor	Natural color nylon cable tie
3	Vibrating motor	Silver screw
4	Vibrating motor	Silver gray metal block
5	Vibrating motor	Silver drum
6	Vibrating motor	Silver metal bottom cover
7	Vibrating motor	Bearing silver metal ring
8	Vibrating motor	Bearing silver metal cover
9	Vibrating motor	Bearing silver metal bead frame
10	Vibrating motor	Bearing silver metal bead
11	Vibrating motor	Silver metal silicon steel sheet
12	Vibrating motor	Black plastic winding rack
13	Vibrating motor	Red glue
14	Vibrating motor	Copper enamelled wire
15	Vibrating motor	Silver metal shaft
16	Vibrating motor	Silver metal bushing
17	Vibrating motor	Black sleeve
18	Vibrating motor	Black plastic gasket
19	Vibrating motor	Patch diode
20	Vibrating motor	Chip IC
21	Vibrating motor	Chip capacitance
22	Vibrating motor	Chip IC
23	Vibrating motor	Patch resistance
24	Vibrating motor	Chip IC
25	Vibrating motor	Patch resistance
26	Vibrating motor	Green PCB board
27	Vibrating motor	Silver solder
28	Vibrating motor	Black cable jacket
29	Vibrating motor	Red leather
30	Vibrating motor	Black leather
31	Vibrating motor	White leather
32	Vibrating motor	Copper color wire core

2. Test results (Unit: mg/kg):

No.	Test Method	Heavy Metals and Flame Retardants					Phthalates				Conclusion
		Cd	Pb	Hg	Cr (Cr(VI))	Br (PBBs, PBDEs)	DEHP	BBP	DBP	DIBP	
1	Screening	BL	BL	BL	BL	IN	BL	BL	BL	BL	Pass
	Wet Chem.	---	---	---	---	N.D.	---	---	---	---	
2	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
3	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
4	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
5	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
6	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
7	Screening	BL	BL	BL	IN	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
	Wet Chem.	---	---	---	N.D.	---	---	---	---	---	
8	Screening	BL	BL	BL	IN	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
	Wet Chem.	---	---	---	N.D.	---	---	---	---	---	
9	Screening	BL	BL	BL	IN	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
	Wet Chem.	---	---	---	N.D.	---	---	---	---	---	
10	Screening	BL	BL	BL	IN	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
	Wet Chem.	---	---	---	N.D.	---	---	---	---	---	
11	Screening	BL	BL	BL	IN	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
	Wet Chem.	---	---	---	N.D.	---	---	---	---	---	
12	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
13	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
14	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
15	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
16	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
17	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
18	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
19	Screening	BL	OL 232063 See Note (5)	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
20	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
21	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
22	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
23	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
24	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass
25	Screening	BL	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	Pass

No.	Test Method	Heavy Metals and Flame Retardants					Phthalates				Conclusion
		Cd	Pb	Hg	Cr (Cr VI)	Br (PBBs, PBDEs)	DEHP	BBP	DBP	DIBP	
26	Screening	BL	BL	BL	BL	IN	BL	BL	BL	BL	Pass
	Wet Chem.	---	---	---	---	N.D.	---	---	---	---	
27	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass
28	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
29	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
30	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
31	Screening	BL	BL	BL	BL	BL	BL	BL	BL	BL	Pass
32	Screening	BL	BL	BL	BL	N.A.	N.A.	N.A.	N.A.	N.A.	Pass

Note:

- (1) (a) It is the result on total Br while test PBBs, PBDEs by XRF, It is the result on total Cr while test Cr (VI) by XRF.
 (b) Results are obtained by XRF for primary screening and further chemical testing by ICP-OES (for Pb, Cd and Hg), UV-Vis (for Cr (VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013 (unit: mg/kg).

Element	Polymer	Metal	Composite Materials
Cadmium (Cd)	$BL \leq (70 - 3\sigma) < X < (130 + 3\sigma) \leq OL$	$BL \leq (70 - 3\sigma) < X < (70 + 3\sigma) \leq OL$	$LOD < X < (150 + 3\sigma) \leq OL$
Lead (Pb)	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (500 - 3\sigma) < X < (1500 + 3\sigma) \leq OL$
Mercury (Hg)	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (700 - 3\sigma) < X < (1300 + 3\sigma) \leq OL$	$BL \leq (500 - 3\sigma) < X < (1500 + 3\sigma) \leq OL$
铬 Chromium (Cr)	$BL \leq (700 - 3\sigma) < X$	$BL \leq (700 - 3\sigma) < X$	$BL \leq (500 - 3\sigma) < X$
Bromine (Br)	$BL \leq (300 - 3\sigma) < X$	--	$BL \leq (250 - 3\sigma) < X$

- (c) The XRF screening test for RoHS elements –The reading may be different to the actual content in the sample be of non-uniformity composition.
- (d) The Screening results of Phthalates are for primary screening, and further chemical testing by GC-MS are recommended to be performed if the concentration exceeds the warning value. Where n= number of mixed tests.

Compound	Polymer
DBP	$BL \leq 1000/n < X$
BBP	$BL \leq 1000/n < X$
DEHP	$BL \leq 1000/n < X$
DIBP	$BL \leq 1000/n < X$

- (e) OL=Over Limit, BL=Below Limit, IN=Inconclusive, LOD= Limit of Detection;

(2) mg/kg=ppm=0.0001%, N.D.=Not detected(<MDL), MDL=Method Detection Limit,
 “---”=Not conducted, “--”=Not regulated, “N.A.”=Not applicable.

(3)“▼” =Metal sample

- The sample is positive for Cr (VI) if the Cr (VI) concentration is greater than 0.13 $\mu\text{g}/\text{cm}^2$.
 The sample coating is considered to contain Cr (VI) ;
 - The sample is negative for Cr (VI) if Cr (VI) concentration is less than 0.10 $\mu\text{g}/\text{cm}^2$.
 The coating is considered a non-Cr (VI) based coating ;
 - The result between 0.10 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ 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.

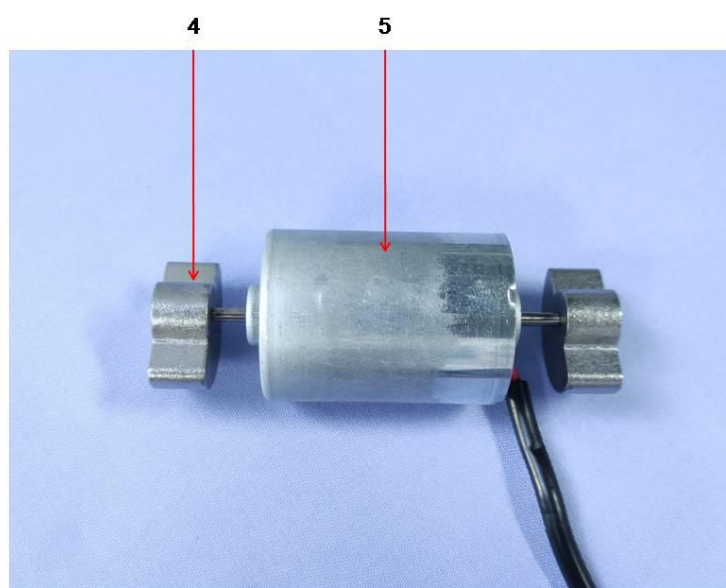
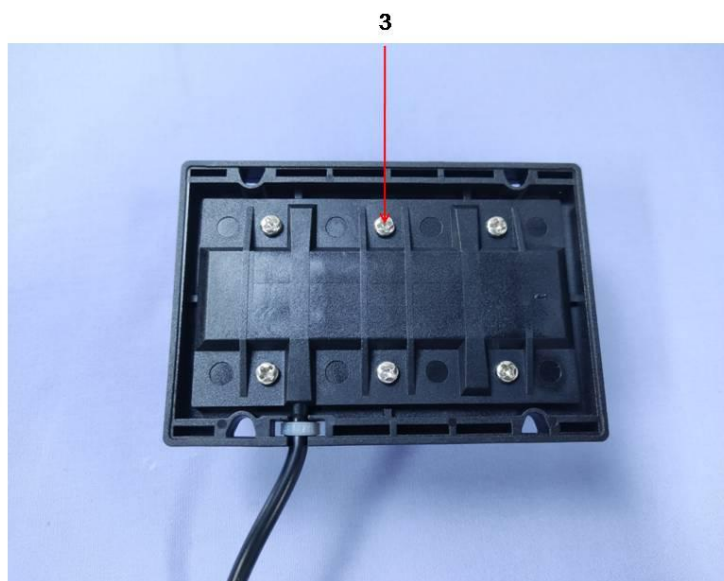
(4) RoHS Requirement

Restricted substances	Limits
Lead (Pb)	0.1% (1000 ppm)
Cadmium (Cd)	0.01% (100 ppm)
Chromium(VI) (Cr (VI))	0.1% (1000 ppm)
Mercury (Hg)	0.1% (1000 ppm)
Polybrominated biphenyls (PBBs)	0.1% (1000 ppm)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 ppm)
Di (2-ethyl hexyl)-phthalate (DEHP)	0.1% (1000 ppm)
Butylbenzyl phthalate (BBP)	0.1% (1000 ppm)
Dibutyl phthalate (DBP)	0.1% (1000 ppm)
Diisobutyl phthalate (DIBP)	0.1% (1000 ppm)

The above limits are reference with RoHS Directive 2011/65/EU and amendment 2015/863/EU.

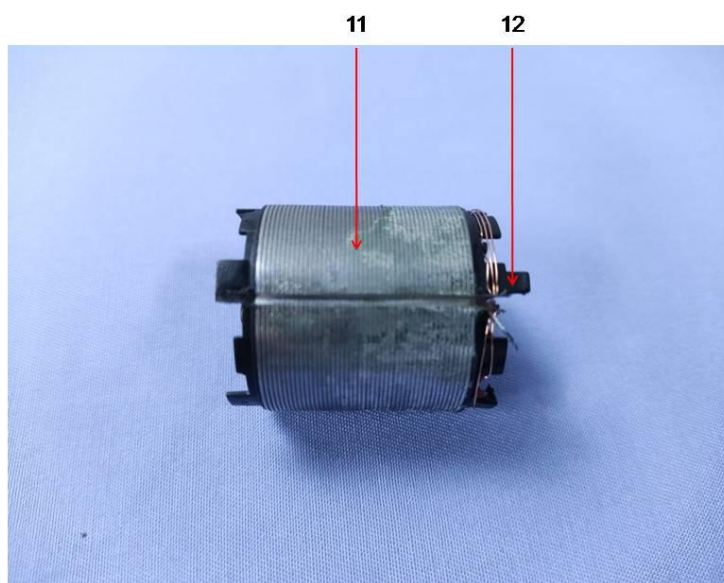
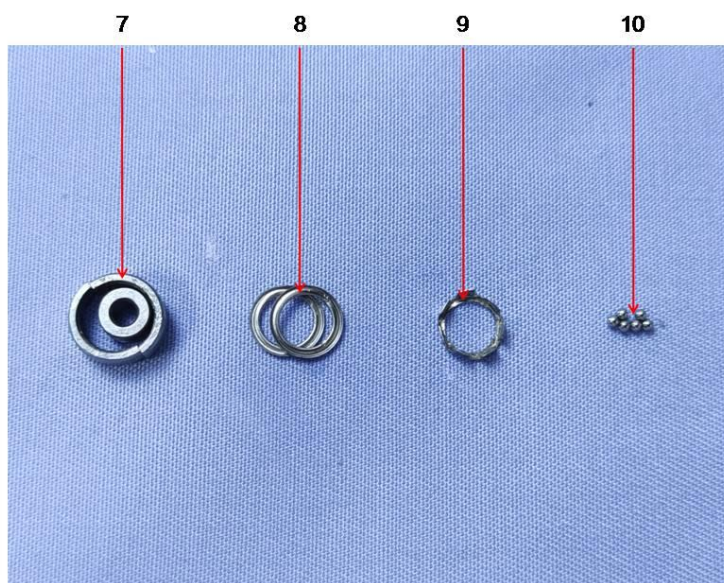
(5) According to the declaration provided by the client, the sample material is based on
 In accordance with RoHS Directive (2011/65/EU) Annex III Exemption list 7(a), Lead in
 high melting temperature type solders (i.e. lead-based alloys containing 85 %
 by weight or more lead) is exempted.

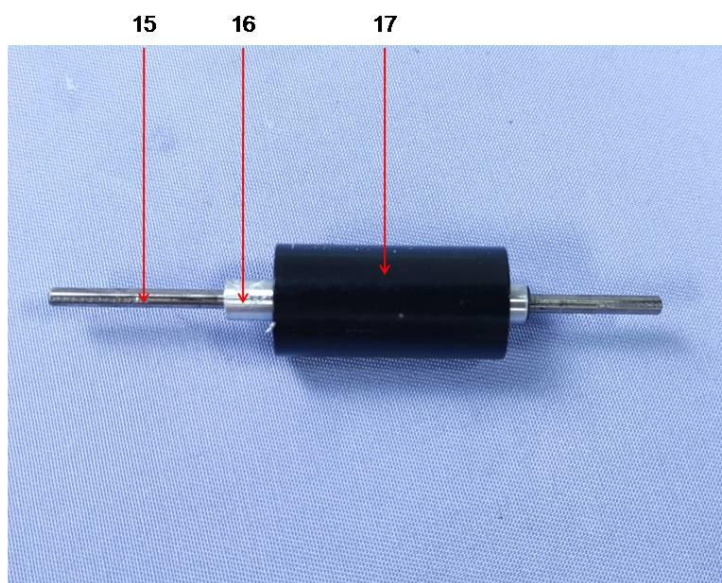
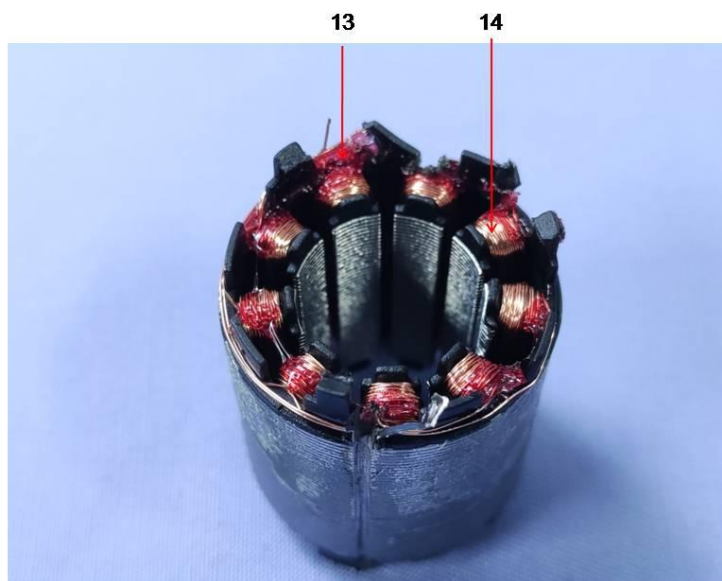
Photographs of Sample:



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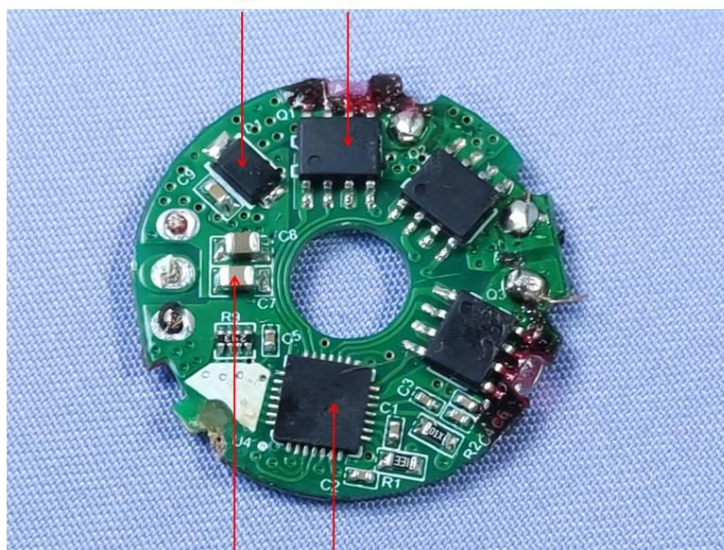


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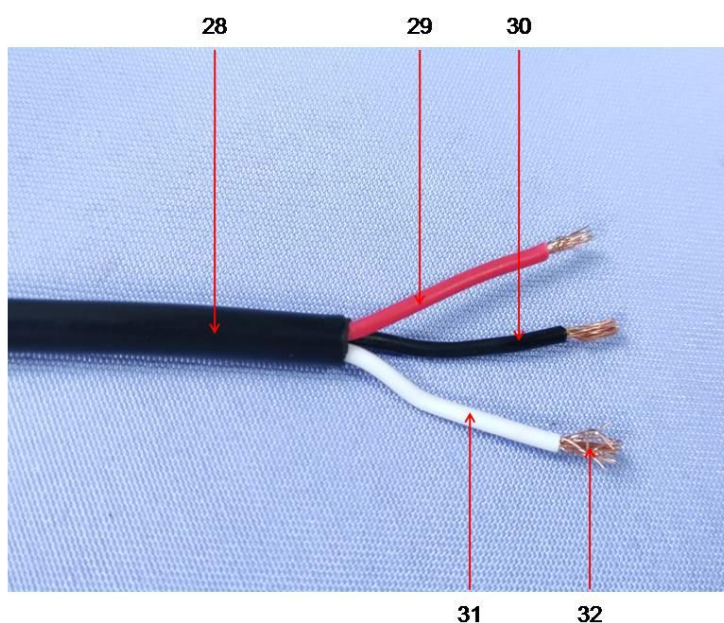
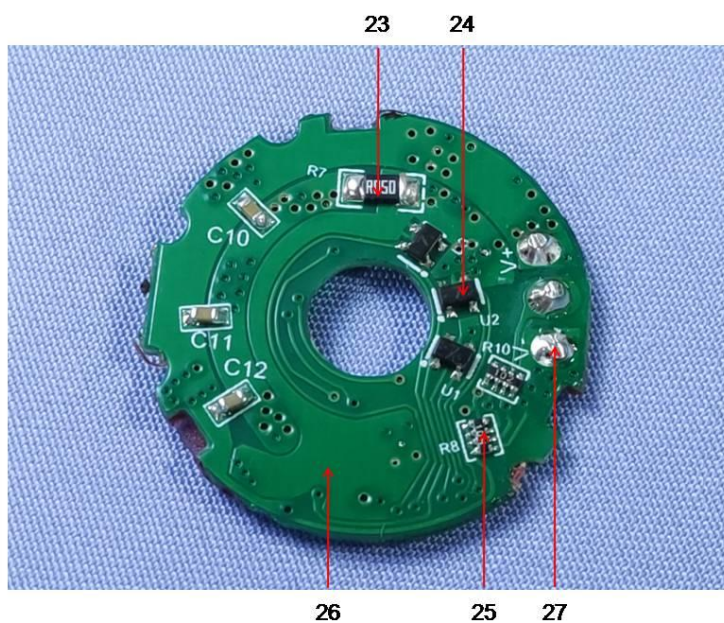
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*** End of Report***