



TEST REPORT

Applicant: Shenzhen Nito Power Source Technology Co., Ltd.
Address: 201, No. 8 Building, No. 49 WuheNan Rd., Jinfanghua Electricity Industrial Park, Bantian St., Longgang District, Shenzhen, China
Manufacturer: Shenzhen Nito Power Source Technology Co., Ltd.
Address: 201, No. 8 Building, No. 49 WuheNan Rd., Jinfanghua Electricity Industrial Park, Bantian St., Longgang District, Shenzhen, China
Product Name: True Wireless Earbuds
Trade Mark: JOYROOM
Model Number: JR-FN1
Series Model No.: N/A
Date of Receipt: Jan. 09, 2024
Date of Test: Jan. 09, 2024 - Jan. 15, 2024
Date of Report: Apr. 16, 2024
Test Requested: With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.
Test Standard: Please refer to next page(s).
Test Results: Please refer to next page(s).

Conclusion:

As requested by applicant, the submitted sample was tested which is listed as specimen description in the following page. the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Prepared (Engineer):

Hey Zhang

Approved (Manager):

Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

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**Version**

Version No.	Date	Description
00	Apr. 16, 2024	Original

Remark:

- (1) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There are the results on total Cr while test items on restricted substances Cr(VI)
- (2) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, 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 Materials	Metal Materials	Composite Materials
Cd	$BL \leq 70-3\sigma < X < 130+3\sigma \leq OL$	$BL \leq 70-3\sigma < X < 130+3\sigma \leq OL$	$BL \leq 50-3\sigma < X < 150+3\sigma \leq OL$
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	$BL \leq 300-3\sigma < X$	----	$BL \leq 250-3\sigma < X$
Cr	$BL \leq 700-3\sigma < X$	$BL \leq 700-3\sigma < X$	$BL \leq 500-3\sigma < X$

(a) BL=Below Limit,OL=Over Limit, X=Inconclusive, LOD=Limit of Detection,----=Not regulated.

(b)The XRF screening test for RoHS elements- the reading may be different to actual content in the sample be of non-uniformity composition

(3) Chemical Method

- ① With reference to IEC 62321-5:2013,determination of Cadmium,Lead by ICP-OES.
- ② With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES.
- ③ With reference to IEC 62321-7-1:2015▼& IEC 62321-7-2:2017, determination of Hexavalent Chromium by Colorimetric method using UV-Vis.
- ④ With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
- ⑤ With reference to IEC 62321-8:2017, determination of Phthalates by GC-MS.

(4) (a) mg/kg=0.0001%,MDL=MDL=Method Detection Limit,(c)ND=Not Detected(<MDL),
----=Not Regulated

(b) Unit and MDL in wet chemical test

Test Item	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 and composite sample is 10 mg/kg

MDL of Cr(VI) for metal sample is 0.10ug/cm²

(c) ▼=Metal sample

- a. The sample is negative for Cr⁶⁺ if Cr⁶⁺ is N.D. (below the limit 0.10ug/cm²). The coating is considered a non Cr⁶⁺ based coating.
- b. The sample positive for Cr⁶⁺ if the Cr⁶⁺ concentration is greater than 0.13ug/cm². The sample coating is considered to contain Cr⁶⁺.
- c.The result between 0.10ug/cm² and 0.13ug/cm² is considered to be inconclusive unavoidable coating variations may influence the determination.

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Tested Sample/Part Description:

Specimen No.	Component Description(s)	Style
A01	Black plastic	-
A02	Black plastic	-
A03	Black plastic	-
A04	Black metal screw	-
A05	Silver metal	-
A06	Silver metal	-
A07	Silver metal	-
A08	White plastic	-
A09	Yellow metal	-
A10	Black IC	-
A11	Black inductance	-
A12	Silver metal	-
A13	Black resistance	-
A14	Silver solder	-
A15	Blue PCB	-
A16	Yellow tape	-
B01	Silver metal	-
B02	Blue plastic	-
B03	Dark blue plastic	-
B04	Blue silicone	-
B05	Dark blue plastic	-
B06	Silver metal	-
B07	Silver solder	-
B08	Yellow wiring	-
B09	Yellow metal	-
B10	Black sponge	-
B11	Silver metal element	-
B12	Yellow patch capacitor	-
B13	Black IC	-
B14	Blue PCB	-

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**Test Results:**

The results of XRF screening and chemical test (Unit: mg/kg)

Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
A01	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
A02	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
A03	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
A04	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	OL	N.D.		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

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Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
A05	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	OL	N.D.		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A06	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A07	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A08	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		

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Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
A09	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	OL	N.D.		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A10	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
A11	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A12	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	OL	N.D.		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

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Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
A13	Pb	OL	N.D.	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A14	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
A15	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
A16	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		

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Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
B01	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
B02	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
B03	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
B04	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		

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Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
B05	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
B06	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	OL	N.D.		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
B07	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
B08	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		



Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
B09	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
B10	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
B11	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		
B12	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	---	---		
	PBDEs	---	---		
	DIBP	---	---		
	DBP	---	---		
	BBP	---	---		
	DEHP	---	---		

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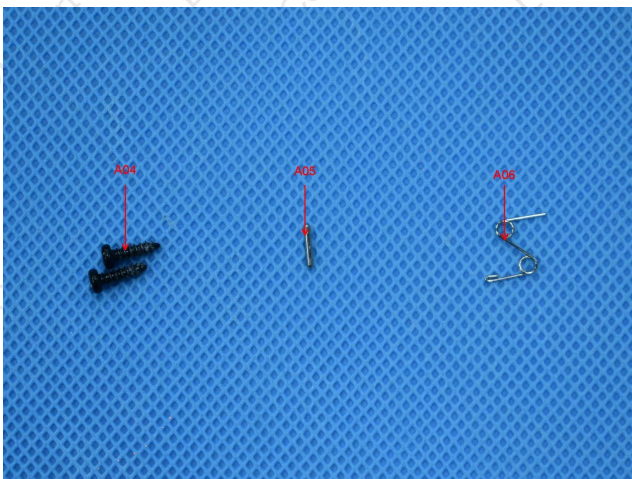
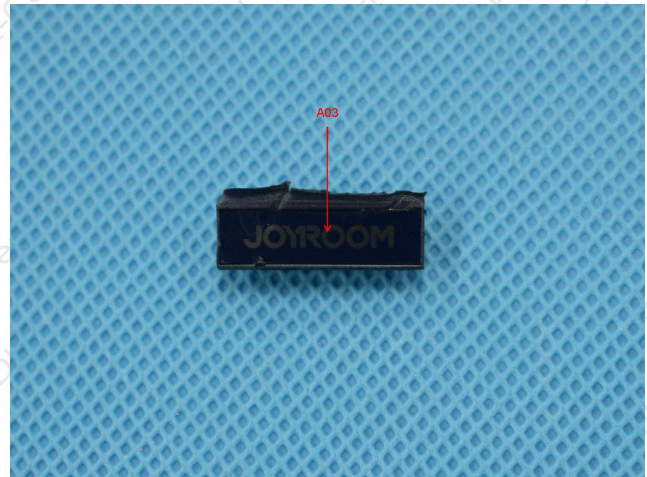
Part No.	Element	X-ray Screening	Results of chemical test	Conclusion on RoHS EU	Sample Resubmitted
B13	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	BL	---		
	PBDEs	BL	---		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		
B14	Pb	BL	---	Pass	/
	Cd	BL	---		
	Hg	BL	---		
	Cr(Cr ⁶⁺)	BL	---		
	PBBs	OL	N.D.		
	PBDEs	OL	N.D.		
	DIBP	---	N.D.		
	DBP	---	N.D.		
	BBP	---	N.D.		
	DEHP	---	N.D.		

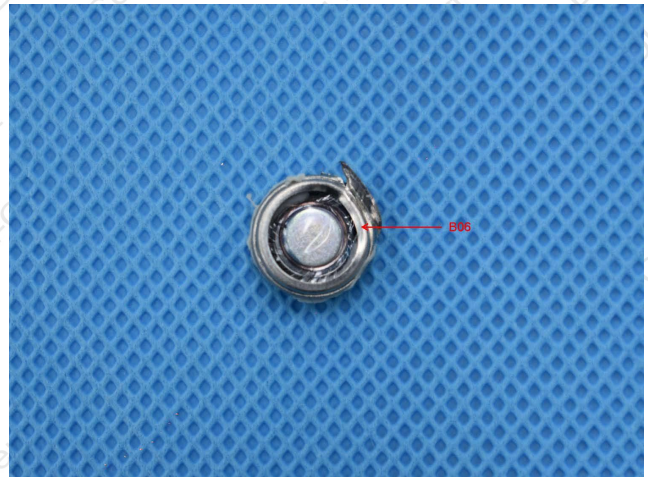
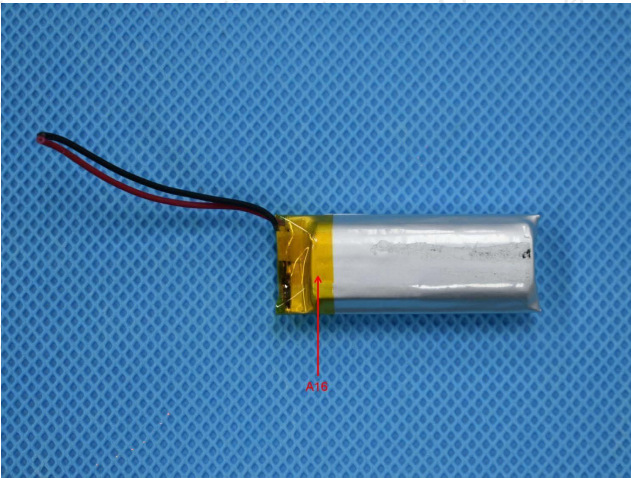
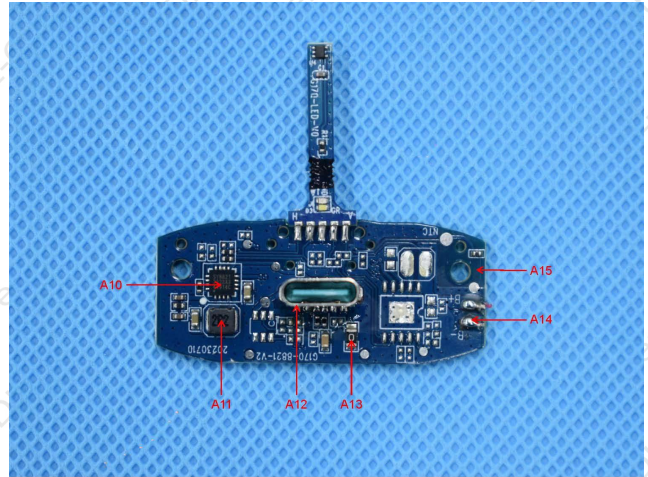
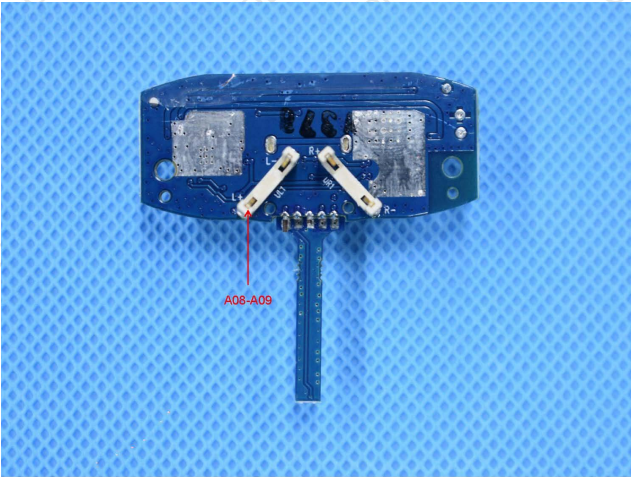
address:

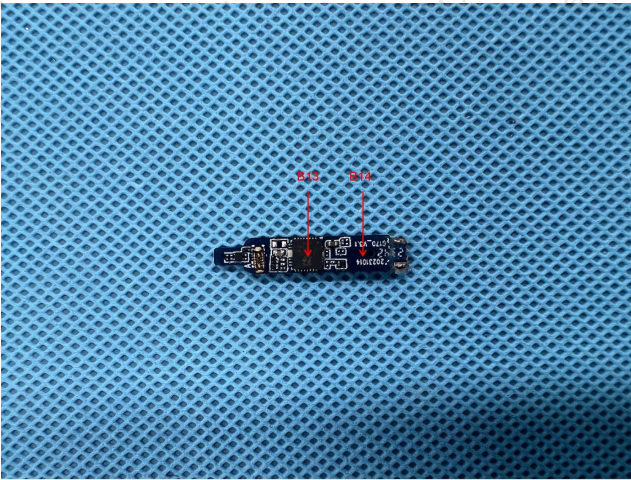
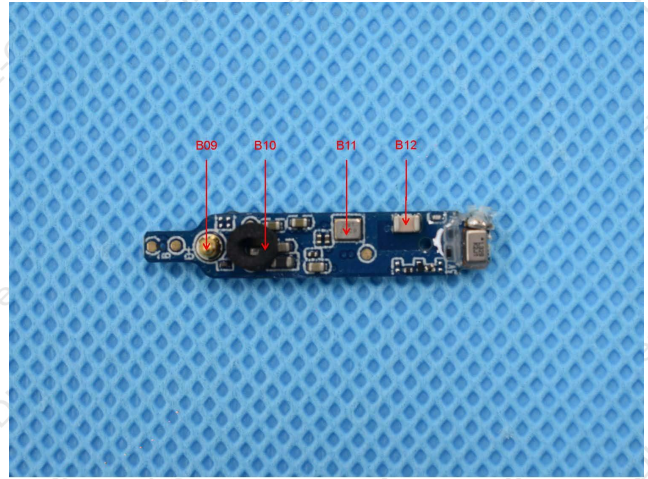
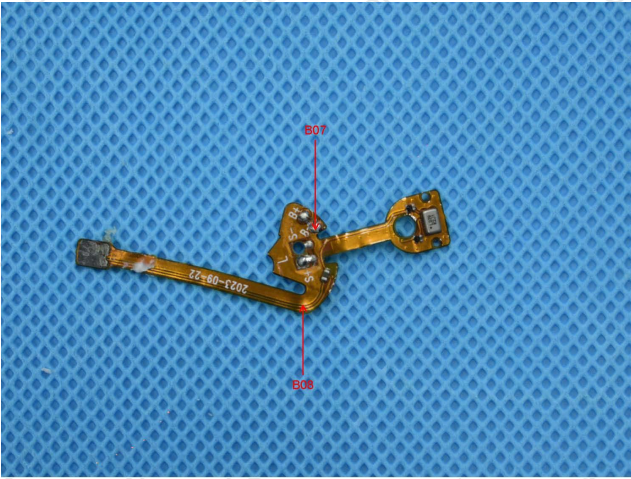
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Sample photo:







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