



# TEST REPORT

**Applicant** : Sharkoon Technologies GmbH  
**Address** : Grüninger Weg 48, 35415 Pohlheim, Germany

**Report on the submitted samples said to be:**

**Sample Name(s)** : Gaming Headset  
**Trade Mark** : Sharkoon  
**Tested Model No.** : SKILLER SGH20  
**Sample Received Date** : December 06, 2024  
**Testing Period** : December 06, 2024 ~ December 11, 2024  
**Date of Report** : December 11, 2024  
**Testing Location** : 901, No.40 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China  
**Results** : Please refer to next page(s).

TEST REQUEST	CONCLUSION
As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.	<b>PASS</b>

Signed for and on behalf of LCS

Terry Luo

TRF-4-R-027 A/0



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**A. EU RoHS Directive 2011/65/EU and its amendment directives**

Test method: Refer to IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF).

Test result(s):

Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr <sup>v</sup>	Br <sup>v</sup>		
						PBBs	PBDEs	
1	Black plastic casing	BL	BL	BL	BL	BL	BL	2024-12-06
2	Black PU	BL	BL	BL	BL	BL	BL	2024-12-06
3	Black cloth	BL	BL	BL	BL	BL	BL	2024-12-06
4	Yellow foam	BL	BL	BL	BL	BL	BL	2024-12-06
5	White non-woven fabric	BL	BL	BL	BL	BL	BL	2024-12-06
6	Black plastic casing	BL	BL	BL	BL	BL	BL	2024-12-06
7	Black non-woven fabric	BL	BL	BL	BL	BL	BL	2024-12-06
8	Black plated silver metal screw	BL	BL	BL	BL	/	/	2024-12-06
9	Silver metal shell	BL	BL	BL	BL	/	/	2024-12-06
10	Black dry glue	BL	BL	BL	BL	BL	BL	2024-12-06
11	Yellow dry glue	BL	BL	BL	BL	BL	BL	2024-12-06
12	Green PCB board	BL	BL	BL	BL	BL	BL	2024-12-06
13	tin solder	BL	BL	BL	BL	/	/	2024-12-06
14	Colorless transparent plastic film	BL	BL	BL	BL	BL	BL	2024-12-06
15	Silver metal magnet	BL	BL	BL	BL	/	/	2024-12-06
16	Copper colored metal wire	BL	BL	BL	BL	/	/	2024-12-06
17	Black foam with adhesive	BL	BL	BL	BL	BL	BL	2024-12-06
18	Black plastic roller	BL	BL	BL	BL	BL	BL	2024-12-06
19	Grey plastic board	BL	BL	BL	BL	BL	BL	2024-12-06
20	Silver metal pins	BL	BL	BL	BL	/	/	2024-12-06
21	Silver metal fasteners	BL	BL	BL	BL	/	/	2024-12-06
22	Black plastic wire cover (outer)	BL	BL	BL	BL	BL	BL	2024-12-06
23	Blue enameled wire	BL	BL	BL	BL	/	/	2024-12-06
24	Green enameled wire	BL	BL	BL	BL	/	/	2024-12-06
25	Golden metal wire	BL	BL	BL	BL	/	/	2024-12-06
26	Red enameled wire	BL	BL	BL	BL	/	/	2024-12-06
27	Black body (patch resistor)	BL	BL	BL	BL	BL	BL	2024-12-06

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Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr <sup>▼</sup>	Br <sup>▼</sup>		
						PBBs	PBDEs	
28	Black body (L1)	BL	BL	BL	BL	BL	BL	2024-12-06
29	White body (LED)	BL	BL	BL	BL	BL	BL	2024-12-06
30	Black body (IC)	BL	BL	BL	BL	BL	BL	2024-12-06
31	Brown body (patch capacitor)	BL	BL	BL	BL	BL	BL	2024-12-06
32	Black body (IC)	BL	BL	BL	BL	BL	BL	2024-12-06
33	White PCB board	BL	BL	BL	BL	BL	BL	2024-12-06
34	Black plastic plug	BL	BL	BL	BL	BL	BL	2024-12-06
35	Black plated silver metal shell	BL	BL	BL	BL	/	/	2024-12-06
36	Black plastic outer skin	BL	BL	BL	BL	BL	BL	2024-12-06
37	Black plastic cable fixing component	BL	BL	BL	BL	BL	BL	2024-12-06
38	Silver metal spring	BL	BL	BL	BL	/	/	2024-12-06
39	Black non-woven fabric	BL	BL	BL	BL	BL	BL	2024-12-06
40	Golden metal body	BL	BL	BL	BL	/	/	2024-12-06
41	Green PCB board	BL	BL	BL	BL	BL	BL	2024-12-06
42	White film	BL	BL	BL	BL	BL	BL	2024-12-06
43	Black PU	BL	BL	BL	BL	BL	BL	2024-12-06
44	Black plastic fasteners	BL	BL	BL	BL	BL	BL	2024-12-06
45	Black plated silver metal screw	BL	BL	BL	BL	/	/	2024-12-06
46	Black plastic sheet	BL	BL	BL	BL	BL	BL	2024-12-06
47	Black elastic band	BL	BL	BL	BL	BL	BL	2024-12-06
48	Black foam	BL	BL	BL	BL	BL	BL	2024-12-06
49	Colorless transparent film	BL	BL	BL	BL	BL	BL	2024-12-06
50	Black plastic outer skin	BL	BL	BL	BL	BL	BL	2024-12-06
51	Silver metal bracket	BL	BL	BL	BL	/	/	2024-12-06
52	Black plastic wire cover (outer)	BL	BL	BL	BL	BL	BL	2024-12-06
53	Black soft plastic plug housing	BL	BL	BL	BL	BL	BL	2024-12-06
54	Golden metal plug housing	BL	BL	BL	BL	/	/	2024-12-06
55	White translucent plastic fastener	BL	BL	BL	BL	BL	BL	2024-12-06
56	White plastic sheet	BL	BL	BL	BL	BL	BL	2024-12-06

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Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr <sup>▼</sup>	Br <sup>▼</sup>		
						PBBs	PBDEs	
57	Golden metal pin	BL	BL	BL	BL	/	/	2024-12-06

Note:

- Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
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	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	N/A	$BL \leq (250-3\sigma) < X$

Remark:

- BL= Below Limit
  - OL= Over Limit
  - X= The range of needing to do further testing
  - 3σ= The reproducibility of analytical instruments
  - N/A= Not applicable
  - LOD= Detection limit
- The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
  - The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
  - ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.

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RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

**Disclaimers:**

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.



**B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on DBP, BBP, DEHP & DIBP content**

Test method:

Phthalates(DBP, BBP, DEHP &amp;DIBP) Content:

Refer to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatography-mass spectrometer (GC-MS).

Test result(s):

**1) Phthalates(DBP, BBP, DEHP &DIBP)**

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		52	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		1+2+3+4+5+6	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		7+10+11+12+14+17	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

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Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		18+19+22+27+28+29	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		30+31+32+33+34+36	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		37+39+41+42+43+44	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		46+47+48+49+50+53	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000



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Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		55+56	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

## Note:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg= milligram per kilogram=ppm
- According to customer's requirement, only the appointed materials have been tested.

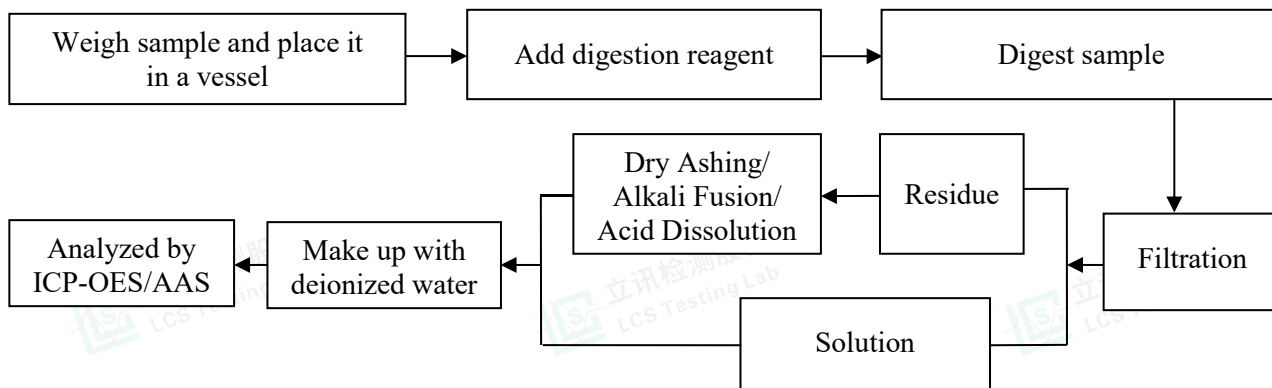




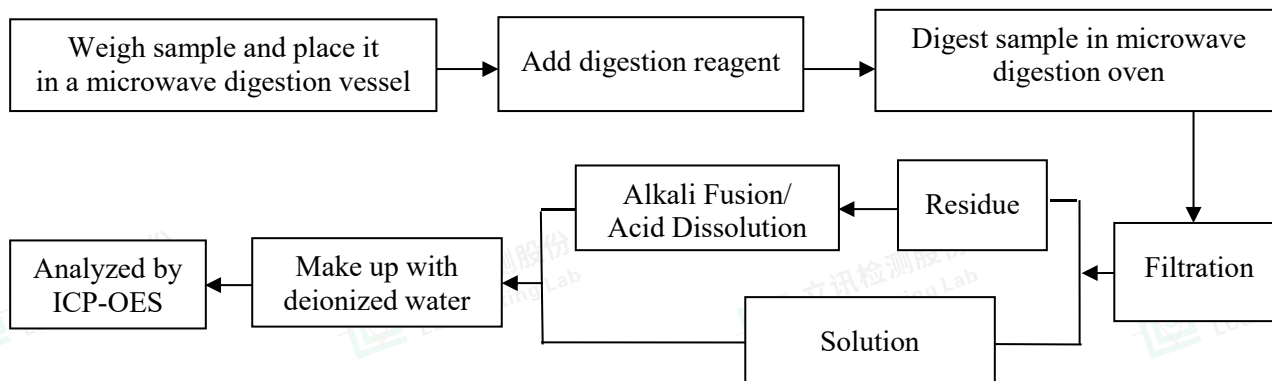


### Test Process

#### 1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013

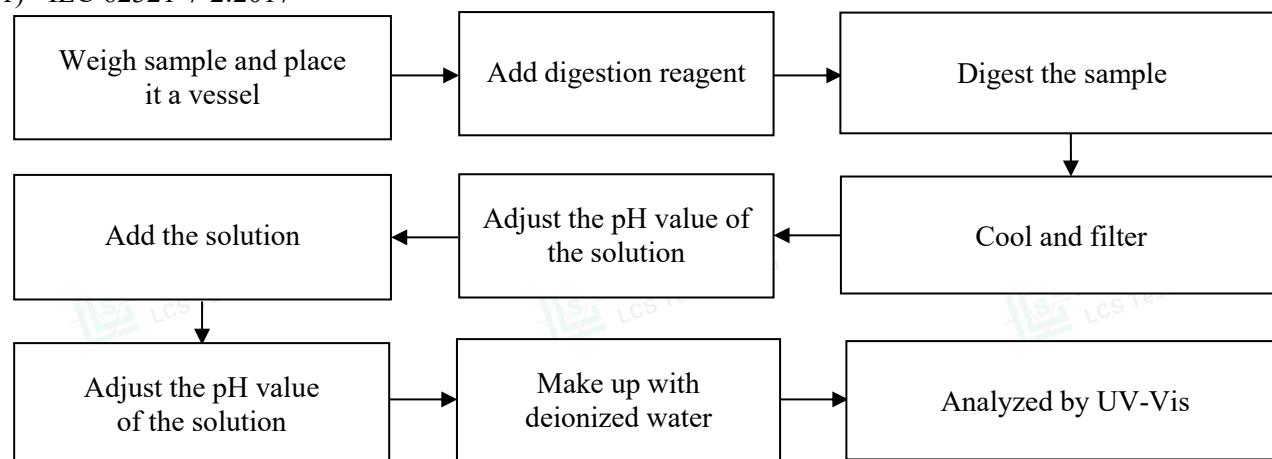


#### 2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV



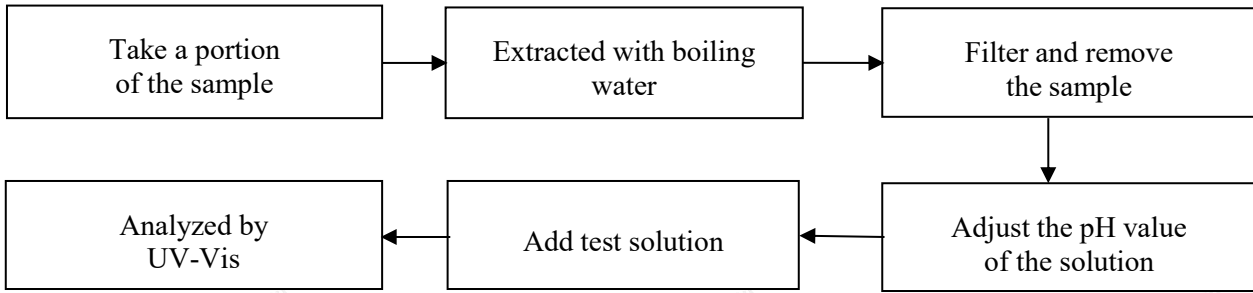
#### 3. Hexavalent Chromium(Cr(VI))

##### 1) IEC 62321-7-2:2017

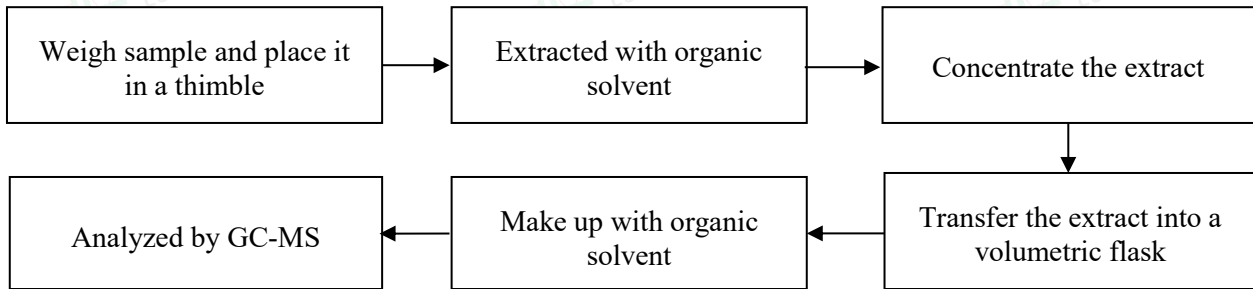




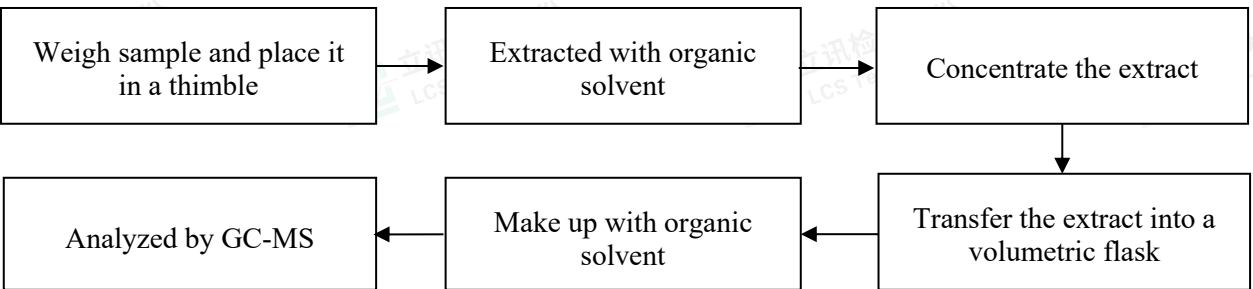
2) IEC 62321-7-1:2015



4. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) : IEC 62321-6:2015

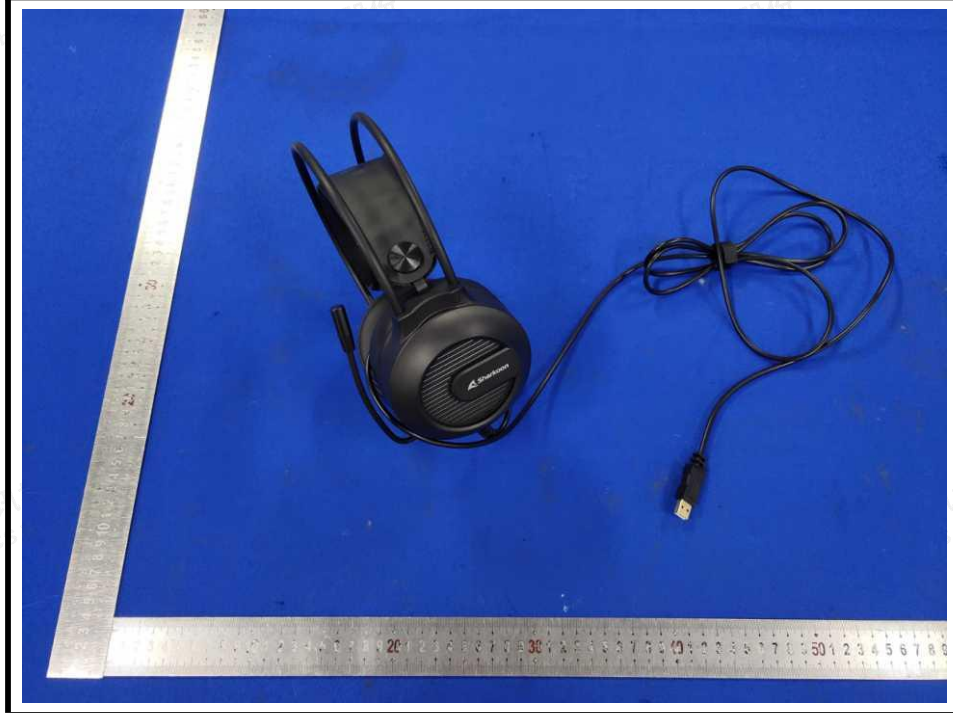


5. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017





### The photo(s) of the sample





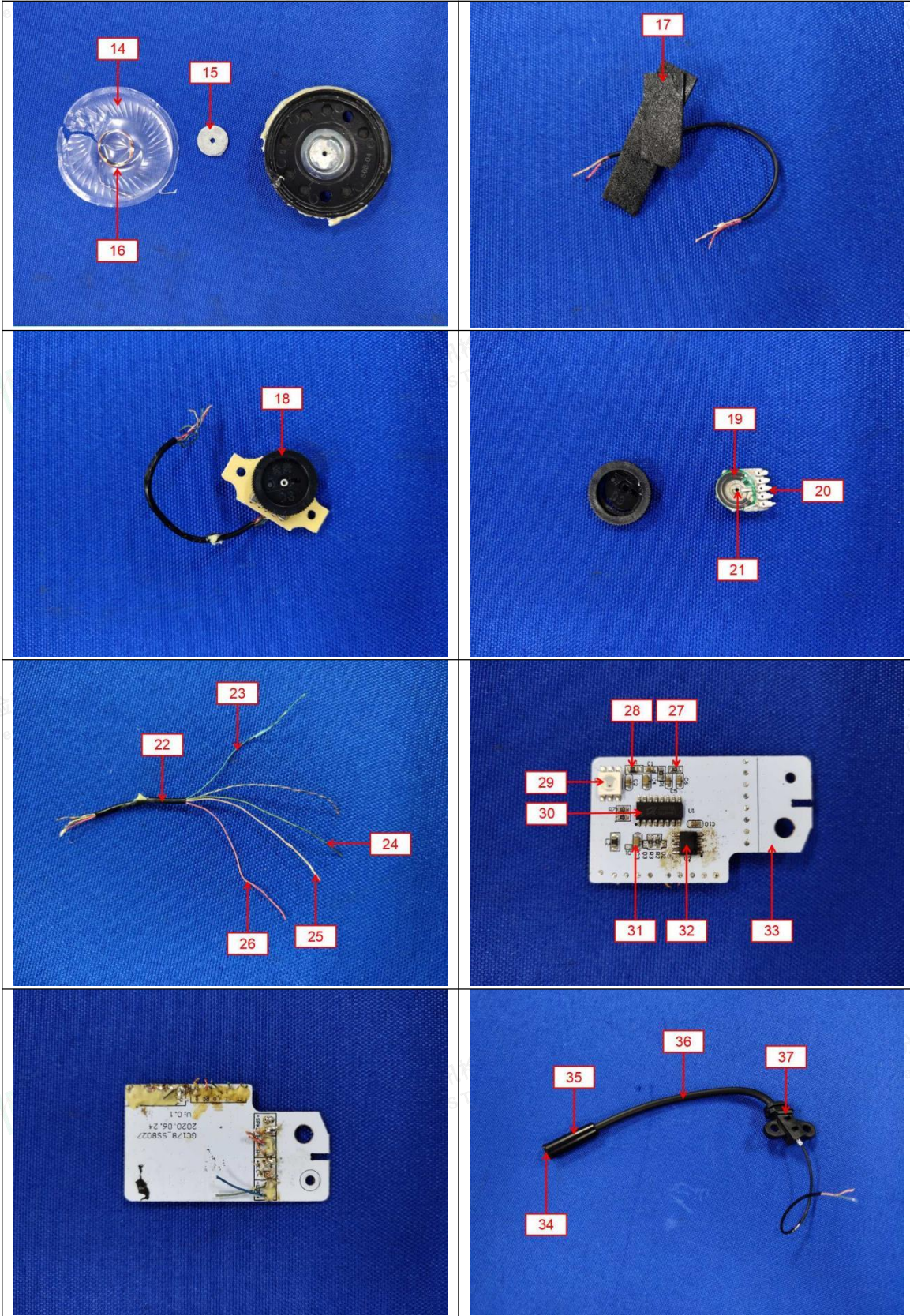


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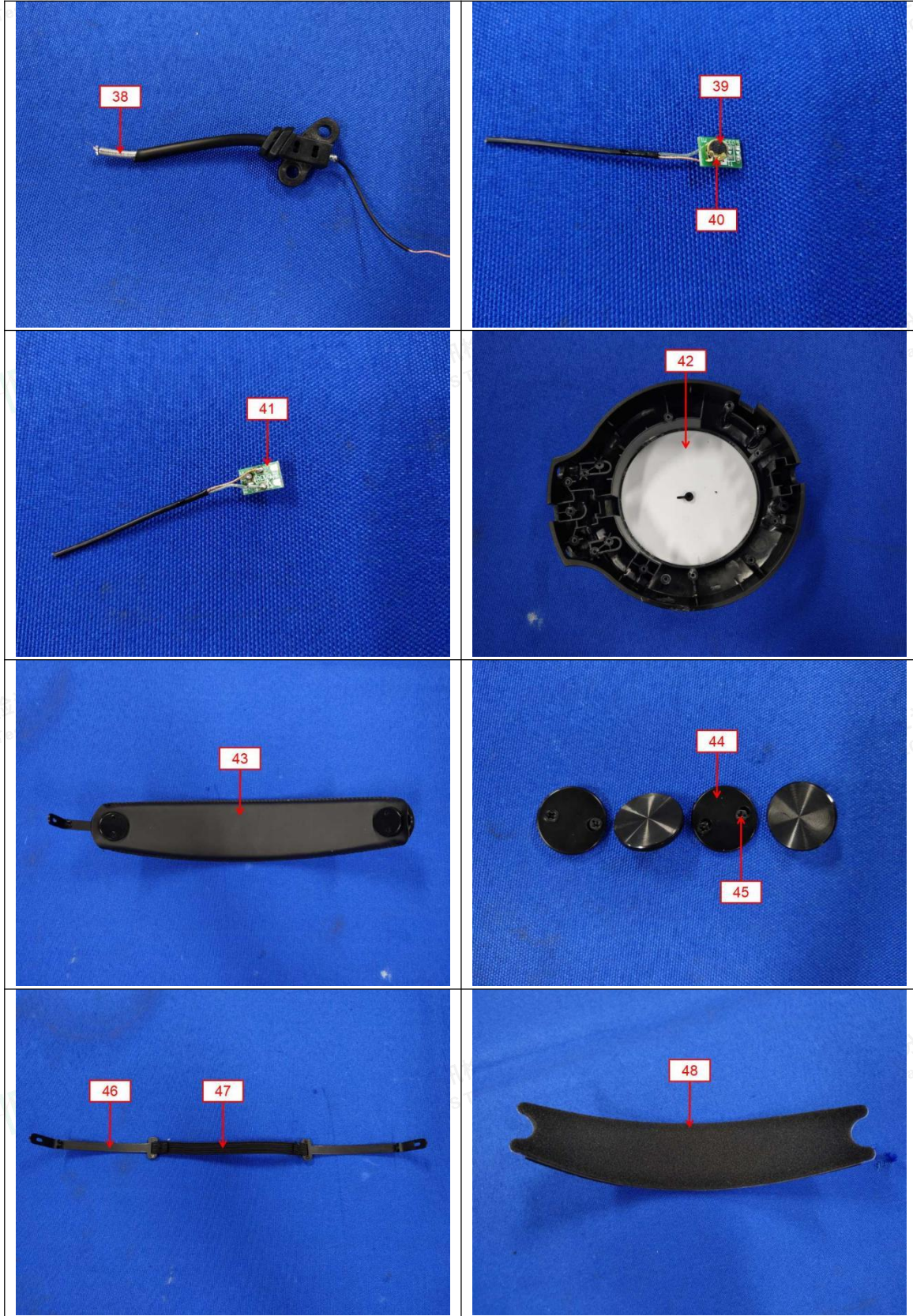


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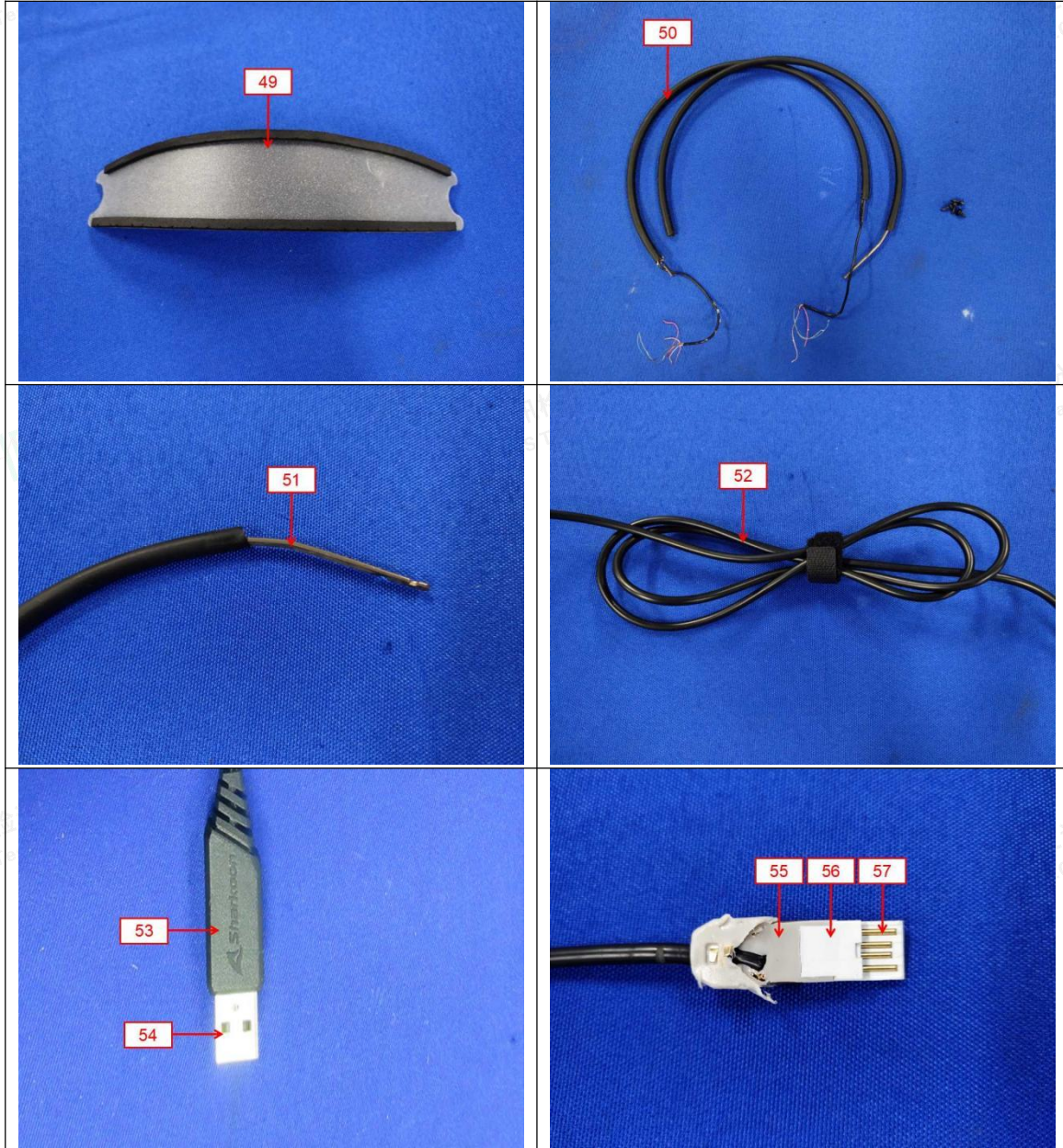


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3. The test results in this report are only responsible for the tested samples;
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