Test Report

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

Report on the submitted samples said to be:

Sample Name(s)	:	**Wireless gaming mouse**
Trade Mark	:	**Sharkoon**
Part No.	:	**SKILLER SGM50W**
Sample Received Date	:	**December 12, 2023**
Testing Period	:	**December 12, 2023 ~ December 18, 2023**
Date of Report	:	**December 19, 2023**
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.	**PASS**

Signed for and on behalf of LCS

Terry Luo

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

Test method: Refer to IEC 62321-1:2013&IEC 62321-2:2021&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▼	Br▼		
						PBBs	PBDEs	
1	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
2	Black plastic ring	BL	BL	BL	BL	BL	BL	2023-12-12
3	Black plastic case	BL	BL	BL	BL	BL	BL	2023-12-12
4	Black plastic sheet	BL	BL	BL	BL	BL	BL	2023-12-12
5	Gold-toned metal blocks	X	BL	BL	BL	/	/	2023-12-12
6	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
7	Black plastic keys	BL	BL	BL	BL	BL	BL	2023-12-12
8	Gold-toned metal flake	BL	BL	BL	BL	/	/	2023-12-12
9	Black plastic sheet	BL	BL	BL	BL	BL	BL	2023-12-12
10	Black plastic sheet	BL	BL	BL	BL	BL	BL	2023-12-12
11	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
12	Brown chip capacitors	BL	BL	BL	BL	BL	BL	2023-12-12
13	Black IC	BL	BL	BL	BL	BL	BL	2023-12-12
14	PCB board	BL	BL	BL	BL	X	X	2023-12-12
15	Silver metal screws	BL	BL	BL	BL	/	/	2023-12-12
16	White plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
17	Orange plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
18	Silver metal springs	OL	OL	BL	X	/	/	2023-12-12
19	Silver metal needles	OL	OL	BL	X	/	/	2023-12-12
20	White plastic sheet	BL	BL	BL	BL	BL	BL	2023-12-12
21	Black plastic foam	BL	BL	BL	BL	BL	BL	2023-12-12
22	Silver metal magnet	OL	OL	BL	X	/	/	2023-12-12
23	White plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
24	White plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
25	Silver metal needles	OL	BL	BL	BL	/	/	2023-12-12
26	Copper-colored metal shrapnel	BL	BL	BL	BL	/	/	2023-12-12
27	Silver metal flakes	BL	BL	BL	X	/	/	2023-12-12
28	Silver metal flakes	BL	BL	BL	BL	/	/	2023-12-12
29	Copper-colored metal block	BL	BL	BL	BL	/	/	2023-12-12

Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
30	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
31	Silver metal needles	OL	OL	BL	X	/	/	2023-12-12
32	White plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
33	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
34	Silver metal needles	BL	BL	BL	BL	/	/	2023-12-12
35	Copper-colored metal shrapnel	BL	BL	BL	BL	/	/	2023-12-12
36	Red plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
37	Gray plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
38	White plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
39	Silver metal block	OL	OL	BL	X	/	/	2023-12-12
40	White plastic lamp beads	BL	BL	BL	BL	X	X	2023-12-12
41	Silver metal pins	OL	BL	BL	BL	/	/	2023-12-12
42	Solder	BL	OL	BL	BL	/	/	2023-12-12
43	Black IC	BL	BL	BL	BL	BL	BL	2023-12-12
44	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
45	Black IC	BL	BL	BL	BL	BL	BL	2023-12-12
46	Silver metal flakes	BL	BL	BL	BL	/	/	2023-12-12
47	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
48	Silver metal needles	OL	BL	BL	BL	/	/	2023-12-12
49	PCB board	BL	BL	BL	BL	X	X	2023-12-12
50	Black plastic case	BL	BL	BL	BL	BL	BL	2023-12-12
51	Gold-toned metal blocks	BL	BL	BL	BL	/	/	2023-12-12
52	White plastic frame	BL	BL	BL	BL	BL	BL	2023-12-12
53	Grey plastic foam	BL	BL	BL	BL	BL	BL	2023-12-12
54	Silver battery body	BL	BL	BL	BL	BL	BL	2023-12-12
55	Yellow adhesive tape	BL	BL	BL	BL	BL	BL	2023-12-12
56	White plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
57	White plastic thread	BL	BL	BL	BL	BL	BL	2023-12-12
58	Black plastic thread	BL	BL	BL	BL	BL	BL	2023-12-12
59	Red plastic thread	BL	BL	BL	BL	BL	BL	2023-12-12
60	Silver tinsel	BL	BL	BL	BL	/	/	2023-12-12
61	Black fabric	BL	BL	BL	BL	BL	BL	2023-12-12
62	Black plastic blocks	BL	BL	BL	BL	BL	BL	2023-12-12
63	Gold-toned metal flake	BL	BL	BL	BL	/	/	2023-12-12

Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
64	White plastic sheet	BL	BL	BL	BL	BL	BL	2023-12-12
65	Gold-toned metal needles	OL	BL	BL	BL	/	/	2023-12-12

Note:

1. 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≤(70-3σ)<X<(130+3σ)≤OL	BL≤(70-3σ)<X<(130+3σ)≤OL	LOD<X<(150+3σ)≤OL
Pb	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(500-3σ)<X<(1500+3σ)≤OL
Hg	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(500-3σ)<X<(1500+3σ)≤OL
Cr	BL≤(700-3σ)<X	BL≤(700-3σ)<X	BL≤(500-3σ)<X
Br	BL≤(300-3σ)<X	N/A	BL≤(250-3σ)<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

2. The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
3. The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
4. ▼=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.

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 Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, DBP, BBP, DEHP & DIBP content

Test method:

Lead(Pb) & Cadmium(Cd) Content:

Refer to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma optical emission spectrometer (ICP-OES) or atomic absorption spectrometer (AAS).

Mercury(Hg) Content:

Refer to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and analysis was performed by inductively coupled plasma optical emission spectrometer (ICP-OES).

Hexavalent Chromium(Cr(VI)) Content:

Refer to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, analysis was performed by UV-visible spectrophotometer (UV-Vis).

PBBs & PBDEs Content:

Refer to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatography-mass spectrometer (GC-MS).

Phthalates(DBP, BBP, DEHP &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) Lead(Pb) & Cadmium(Cd)

Tested Item	MDL (mg/kg)	Test Result(s) (mg/kg)				Limit (mg/kg)
		(18)	(19)	(22)	(31)	
Lead(Pb) Content	5	19	20	537	13	1000

Tested Item	MDL (mg/kg)	Test Result(s) (mg/kg)		Limit (mg/kg)
		(39)	(48)	
Lead(Pb) Content	5	168	14	1000

Tested Item	MDL (mg/kg)	Test Result(s) (mg/kg)				Limit (mg/kg)
		(5)	(18)	(19)	(22)	
Cadmium(Cd) Content	5	N.D.	N.D.	N.D.	N.D.	100

Tested Item	MDL (mg/kg)	Test Result(s) (mg/kg)				Limit (mg/kg)
		(25)	(31)	(39)	(41)	
Cadmium(Cd) Content	5	N.D.	N.D.	N.D.	N.D.	100

Tested Item	MDL (mg/kg)	Test Result(s) (mg/kg)		Limit (mg/kg)
		(42)	(65)	
Cadmium(Cd) Content	5	N.D.	N.D.	100

2) Hexavalent Chromium(Cr(VI))(for coating on metal)

Tested Item	MDL ($\mu g/cm^2$)	Test Result(s) ($\mu g/cm^2$)				Limit ($\mu g/cm^2$)
		(18)	(19)	(22)	(27)	
Hexavalent Chromium(Cr(VI)) Content★	0.10 (LOQ)	N.D.	N.D.	N.D.	N.D.	1000

Tested Item	MDL ($\mu g/cm^2$)	Test Result(s) ($\mu g/cm^2$)		Limit ($\mu g/cm^2$)
		(31)	(39)	
Hexavalent Chromium(Cr(VI)) Content★	0.10 (LOQ)	N.D.	N.D.	1000

3) Phthalates(DBP, BBP, DEHP &DIBP)

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)			Limit (mg/kg)
		57	58	59	
Dibutyl Phthalate(DBP) Content	50	N.D.	N.D.	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	N.D.	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	N.D.	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		1+2+3+4+6+7	
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)
		9+10+11+12+13+14	
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)
		16+17+20+21+23+24	
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+32+33+36+37+38	
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)
		40+43+44+45+49	
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)
		50+52+53+54+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

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		61+62+64	
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

4) Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs)

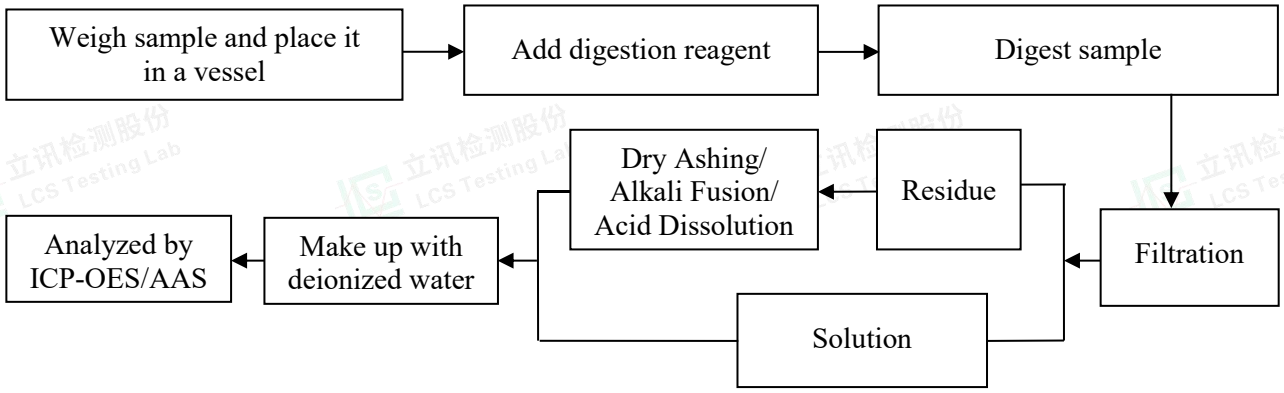
Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)			Limit (mg/kg)
		(14)	(40)	(49)	
Polybrominated Biphenyls(PBBs) Content					
Monobromobiphenyl	5	N.D.	N.D.	N.D.	/
Dibromobiphenyl	5	N.D.	N.D.	N.D.	/
Tribromobiphenyl	5	N.D.	N.D.	N.D.	/
Tetrabromobiphenyl	5	N.D.	N.D.	N.D.	/
Pentabromobiphenyl	5	N.D.	N.D.	N.D.	/
Hexabromobiphenyl	5	N.D.	N.D.	N.D.	/
Heptabromobiphenyl	5	N.D.	N.D.	N.D.	/
Octabromobiphenyl	5	N.D.	N.D.	N.D.	/
Nonabromodiphenyl	5	N.D.	N.D.	N.D.	/
Decabromodiphenyl	5	N.D.	N.D.	N.D.	/
Total content	/	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers(PBDEs) Content					
Monobromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Dibromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Tribromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Tetrabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Pentabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Hexabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Heptabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Octabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Nonabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Decabromodiphenyl ether	5	N.D.	N.D.	N.D.	/
Total content	/	N.D.	N.D.	N.D.	1000

Note:

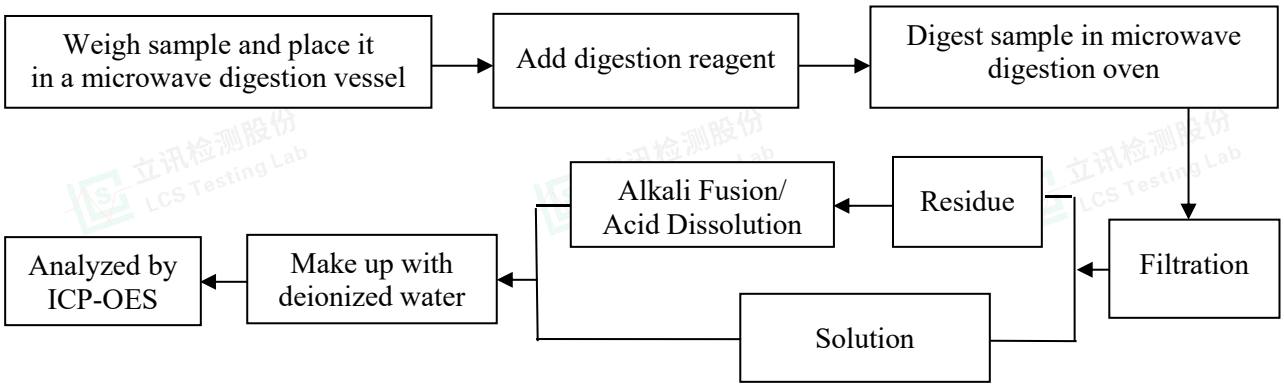
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL or LOQ)
- mg= milligram
- LOQ = Limit Of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2
- ★ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13μg/cm^2. The sample coating is considered to contain Cr(VI).
  b. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than 0.10μg/cm^2). The sample coating is considered a non- Cr(VI) based coating.
  c. The result between 0.10μg/cm^2 and 0.13μg/cm^2 is considered to be inconclusive, unavoidable coating variations may influence the determination.
- Information on storage conditions and production date of the tested samples is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
- According to customer's requirement, only the appointed materials have been tested.

Test Process

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

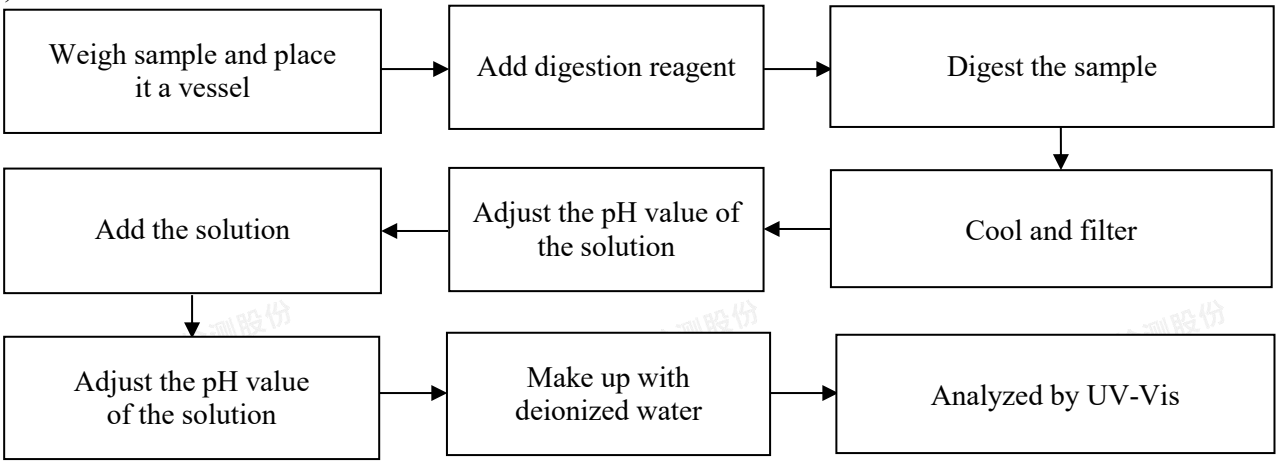


2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV

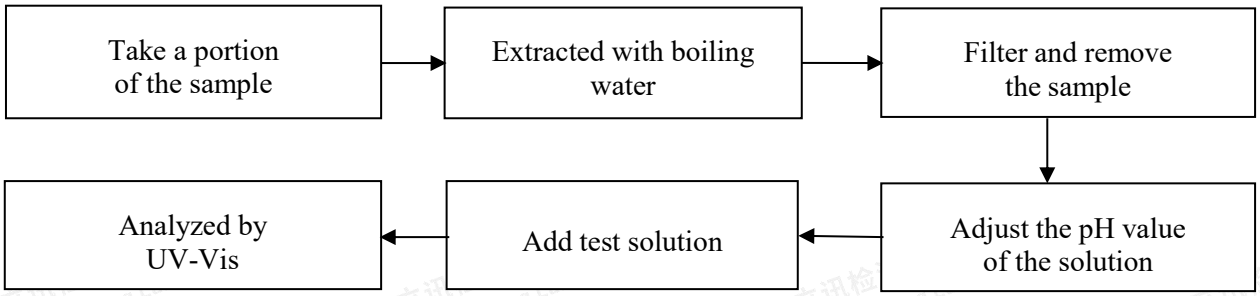


3. Hexavalent Chromium(Cr(VI))

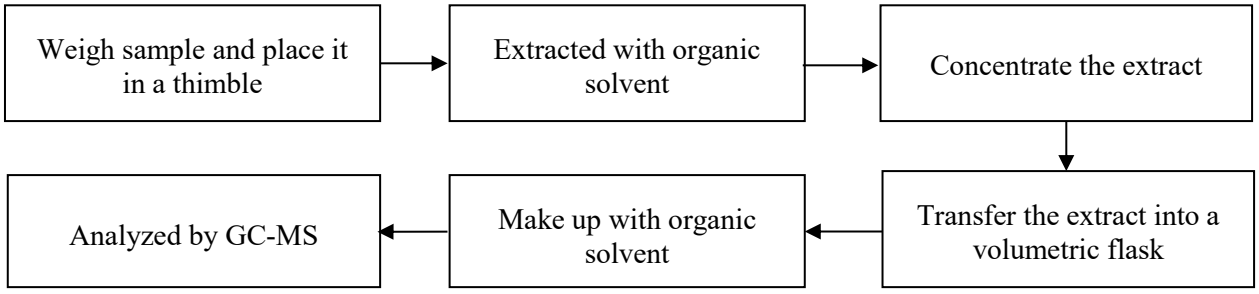
1) IEC 62321-7-2:2017



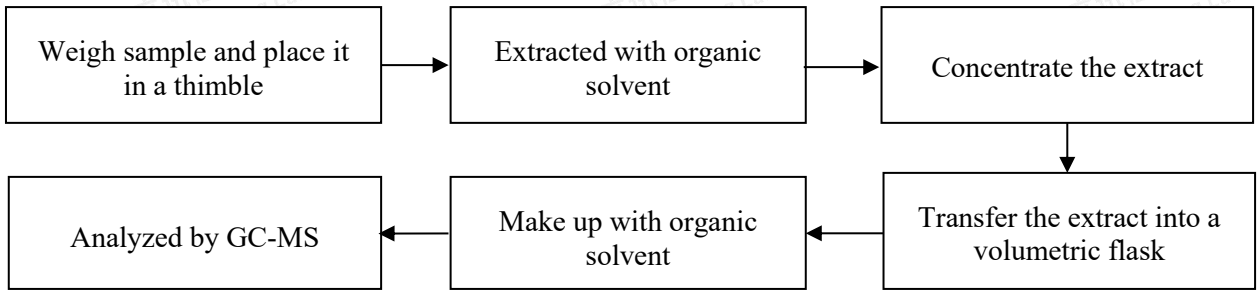
2) IEC 62321-7-1:2015



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



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

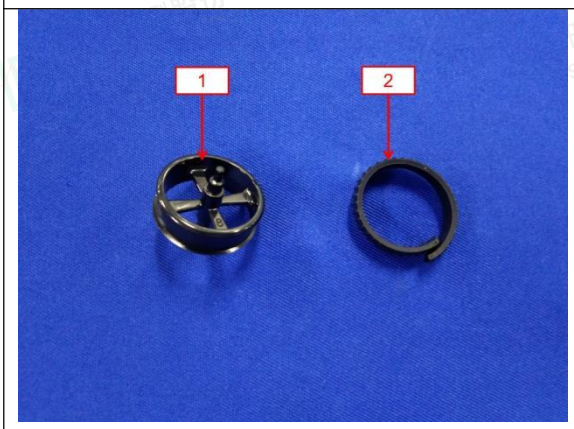


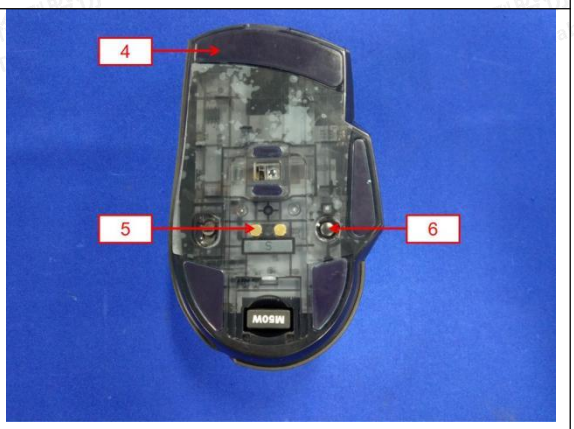
The photo(s) of the sample





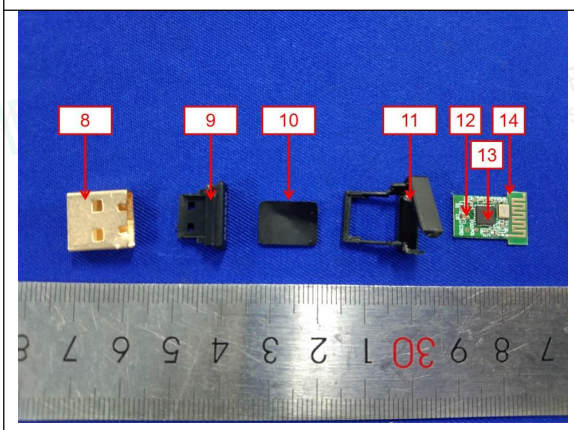

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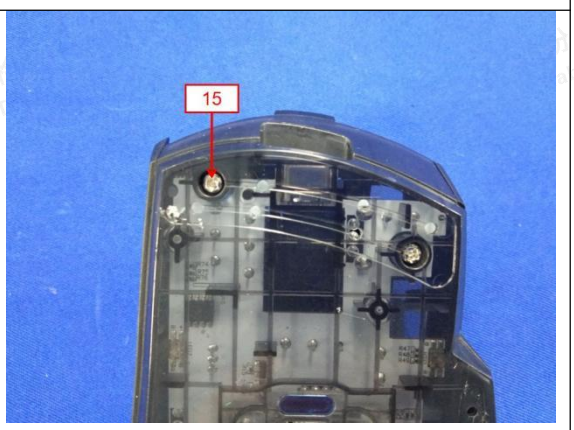

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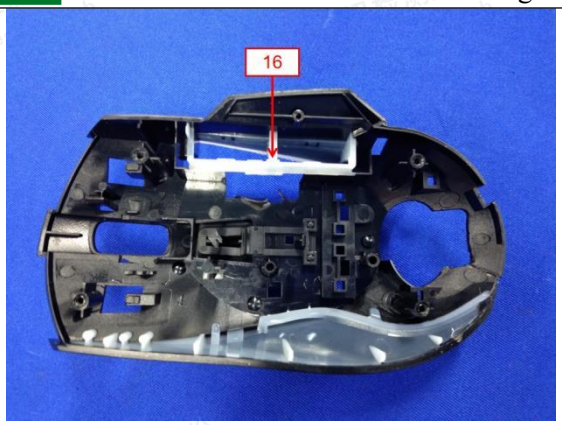

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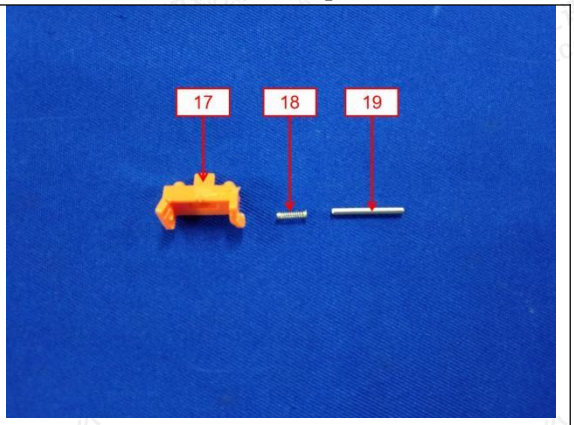

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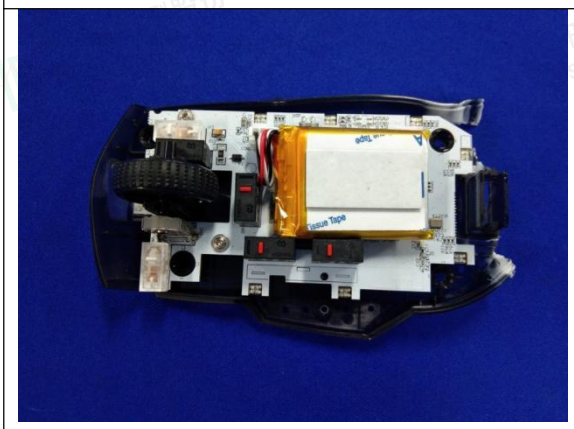


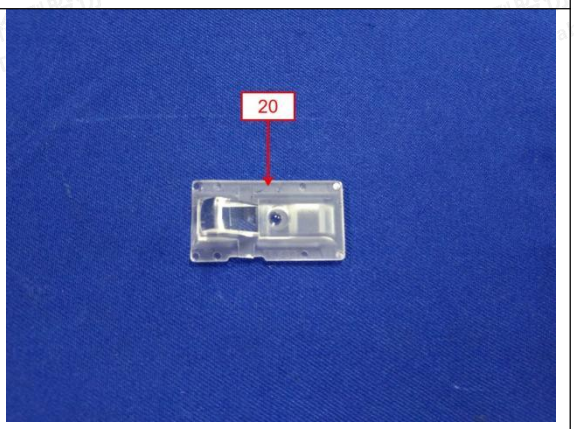

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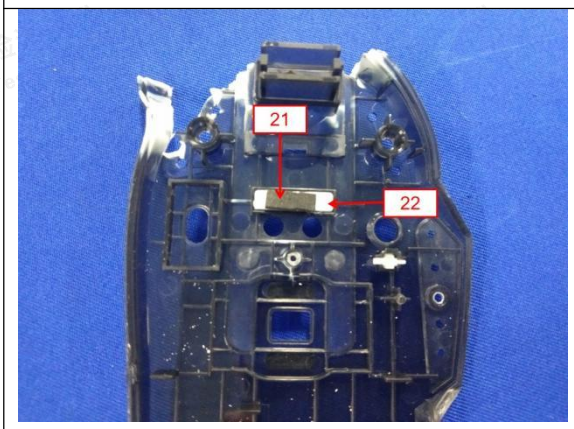

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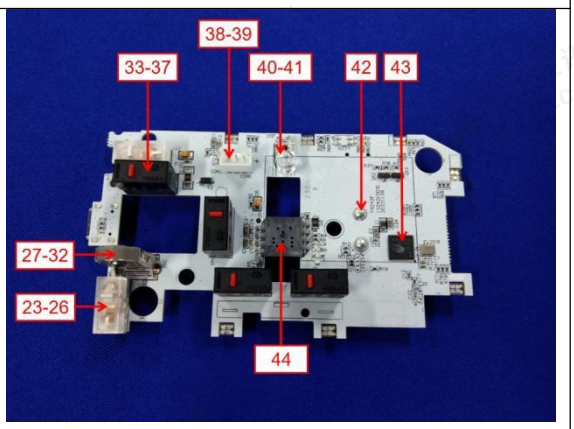

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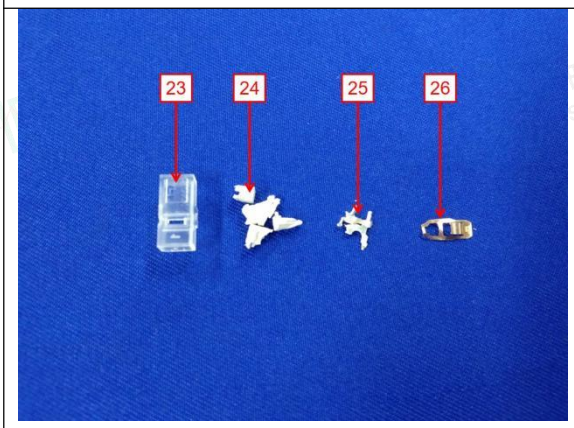

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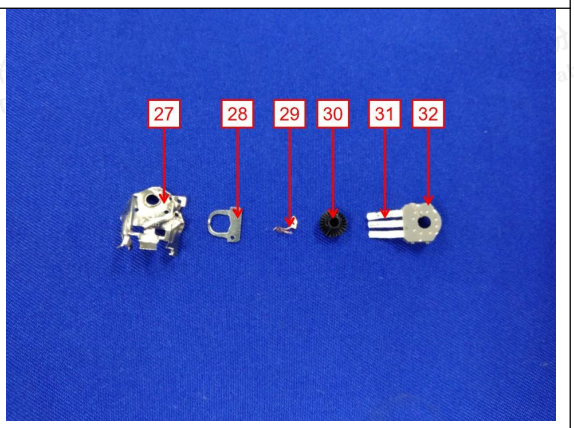


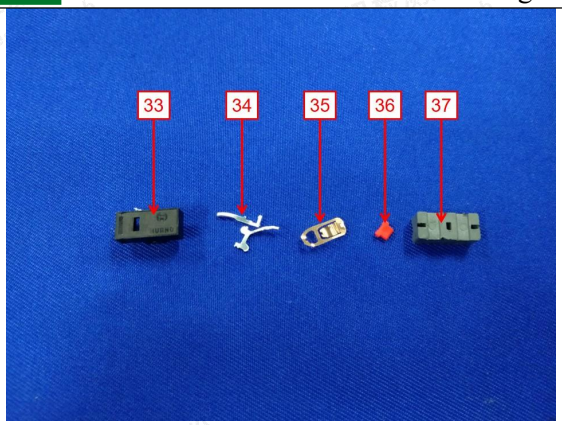

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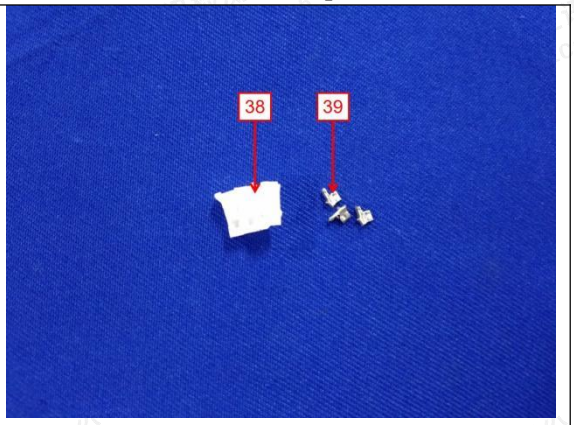

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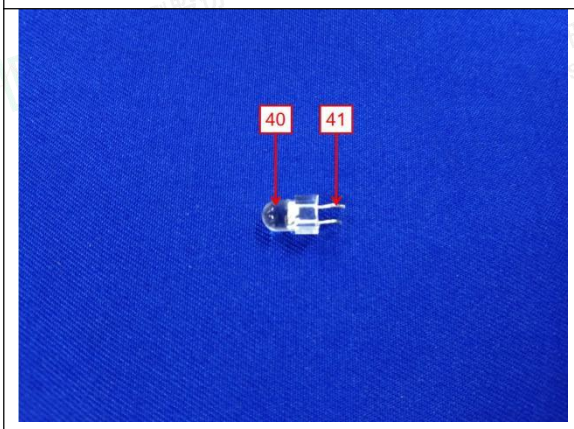

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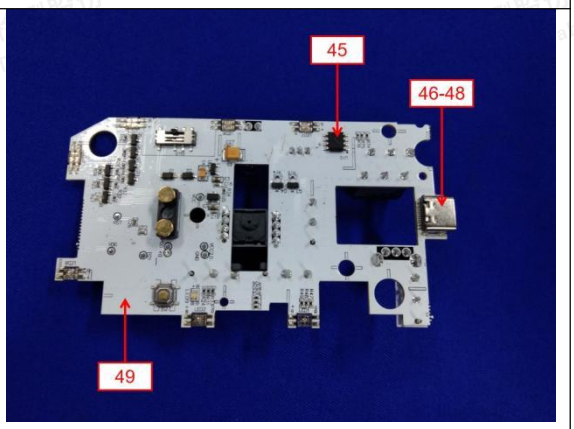

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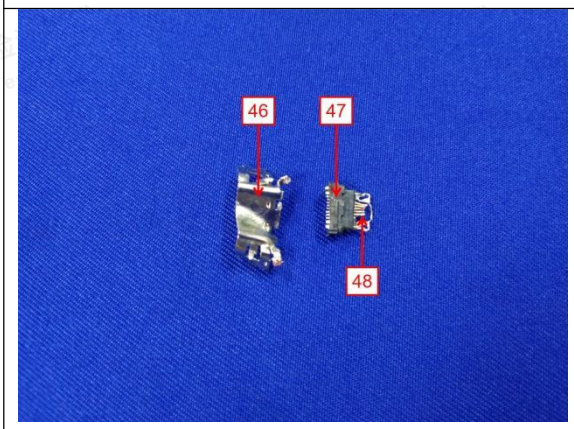

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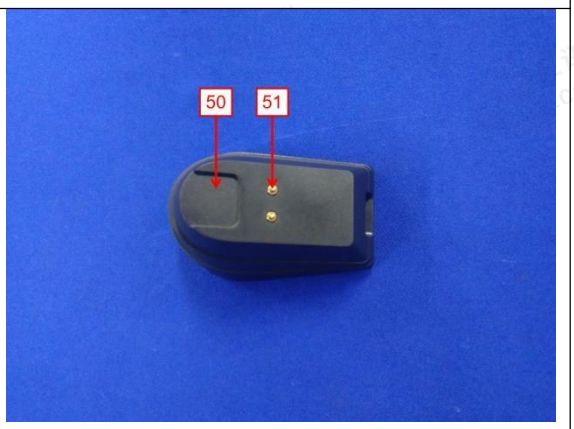

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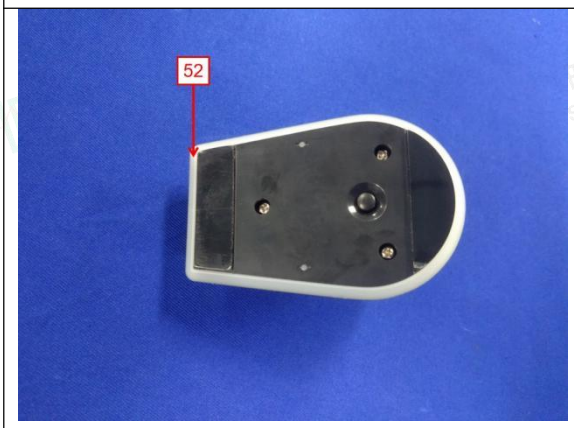

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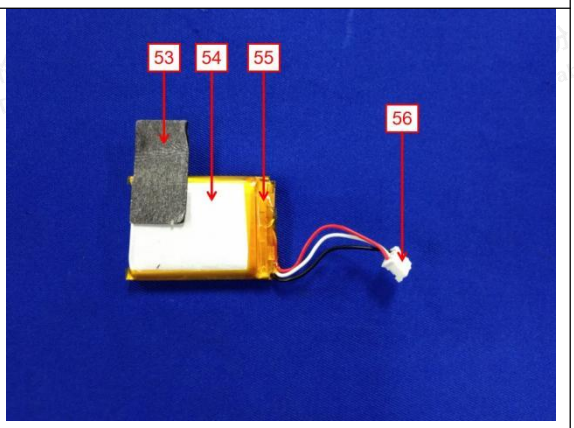

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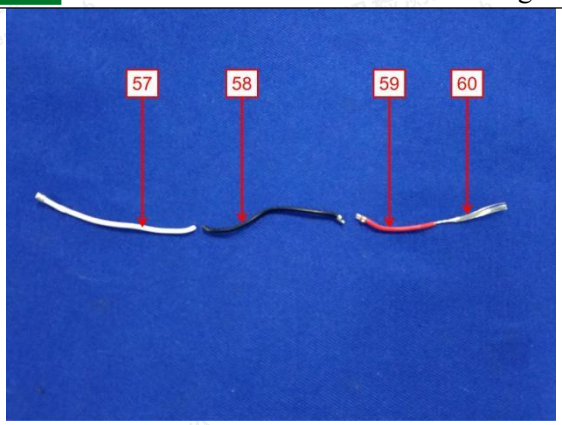

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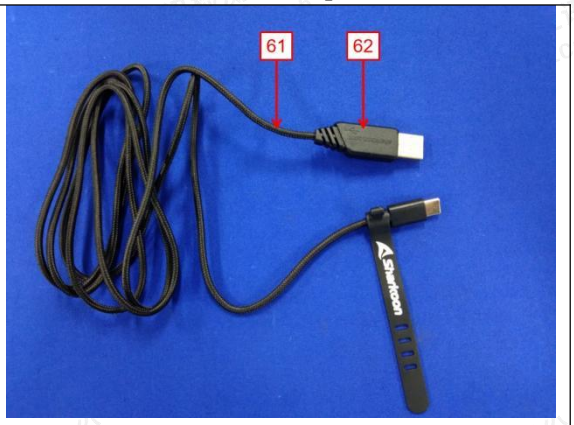

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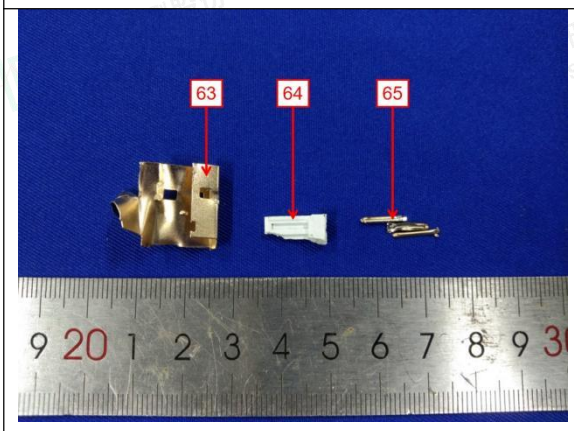

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2. The company name, address and sample information shown on the report were provided by the applicant who should be responsible for the authenticity which are not verified by LCS;
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*** End of Report ***