

# Test Report

Report No. BCTC2004002101R

Date: May 14, 2020

**Applicant** : JAVA Innovation Co., Limited

**Address** : A515 Founder Technology Industrial park, North of Songbai Road,  
Shiyan Town, Bao'an District, Shenzhen

**The submitted sample and sample information was/were submitted and identified by/on the behalf of the client**

**Sample name** : UVC sterilization bag

**Testing type / model** : JUVC-HC-01

**Additional type / model** : XXXX-XX-XX (The 1<sup>st</sup> to 6<sup>th</sup> "X" can be replaced by "A" to "Z", or by blank, to represent the product feature description. The 7<sup>th</sup> to 8<sup>th</sup> "X" can be replaced by "0" to "9", or by blank, to represent the product feature.)

**Manufacturer** : JAVA Innovation Co., Limited

**Address** : A515 Founder Technology Industrial park, North of Songbai Road,  
Shiyan Town, Bao'an District, Shenzhen

**Sample received date** : Apr. 21, 2020

**Testing period** : Apr. 21, 2020 - May 14, 2020

**Test requested** : 1. As specified by client, to screen Lead(Pb), Cadmium(Cd), Mercury(Hg), Chromium(Cr) and Bromine(Br) in the submitted sample(s) by XRF.  
2. As specified by client, when screening results exceed the XRF screening limit in IEC 62321-3-1:2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs) in the submitted samples.  
3. As specified by client, to test the Diisobutyl phthalate(DIBP), Dibutyl phthalate(DBP), Butyl benzyl phthalate(BBP), Bis(2-ethylhexyl) phthalate(DEHP) in the submitted sample(s).

**According to the RoHS Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863**

\*\*\*\*\*For more detailed information, please refer to the next page\*\*\*\*\*

Tested by

*Ace*

Ace



Approved by

*Saher Chen*

Saher Chen  
Manager

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**Test Method:**
**A. Screening test by XRF spectroscopy**

XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013.

Element	Screening limits of IEC 62321-3-1:2013		Unit (mg/kg)		MDL	
	Polymers and metals	Composite material	Polymers	Other material		
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma)$ $\leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg		
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$LOD < X < (150+3\sigma) \leq OL$	10 mg/kg	50 mg/kg		
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma)$ $\leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma)$ $\leq OL$	10 mg/kg	50 mg/kg		
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$	10 mg/kg	50 mg/kg		
Br	$BL \leq (300-3\sigma) < X$	$BL \leq (250-3\sigma) < X$	10 mg/kg	50 mg/kg		

**Note:**

-BL = Under the XRF screening limit

-OL = Further chemical test will be conducted while result is above the screening limit

-X= The symbol "X" marks the region where further investigation is necessary

-3σ= The reproducibility of analytical instruments

-LOD= Detection limit

-"--" = Not regulated.

**B. Chemical Test**

Test Item(s)	Test Method	Measured Equipment(s)	MDL	Limit
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	2 mg/kg	1000 mg/kg
Hexavalent Chromium Cr(VI)	IEC 62321-7-1:2015 Ed.1.0	UV-VIS	--	1000 mg/kg
	IEC 62321-7-2:2017 Ed.1.0		8 mg/kg	1000 mg/kg
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015 Ed.1.0	HPLC-UV	5 mg/kg	1000 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015 Ed.1.0	HPLC-UV	5 mg/kg	1000 mg/kg
Phthalates	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg



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Test Result(s):

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
1	Black cloth	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	906	N.D.	
		Br(PBBs&PBDEs)	BL	/	
2	Silver plastic film	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
3	White plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
4	White velcro	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
5	White magic cloth	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
6	White wire jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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7	White plastic shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
8	White plastic button	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
9	Red wire jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
10	Black wire jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
11	Black hot shrink tube	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	104191	N.D.	
12	White foam	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
13	Black plastic (zipper)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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14	Transparent plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
15	White cloth	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
16	Transparent glass	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
17	Black silicone	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
18	White wire jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
19	White plastic terminal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
20	Green PCB	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	28198	N.D.	



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21	Black hot shrink tube (inductance)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	16658	N.D.	
22	Dark gray magnet	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
23	Copper wire coil	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
24	Audion	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
25	Metal pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
26	Red-brown capacitor	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
27	Color ring resistor	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	

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28	Yellow tape (transformer)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	708	N.D.	
29	Black plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
30	Gray-black magnet	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
31	Copper wire coil	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
32	White plastic (terminal)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
33	Silver metal pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
34	Blue capacitor	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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35	Metal pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
36	Silver wire core	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
37	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
38	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
39	Silver metal sheet (button)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
40	Black metal spring	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
41	White plastic (USB)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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42	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
43	White plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
44	Gold metal contact pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
45	Copper wire core	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
46	Tin solder	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
47	White cloth	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
48	Black plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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49	White label cloth	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
50	White foam	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
51	Tin solder	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	

Tested Item(s)	Results									
	Unit (mg/kg)									
	1	2	3	4	5	6	7	8	9	10
Diisobutyl phthalate (DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis(2-ethylhexyl) phthalate (DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

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Tested Item(s)	Results									
	Unit (mg/kg)									
	11	12	13	14	15	16	17	18	19	20
Diisobutyl phthalate (DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	56	N.D.	N.D.
Butyl benzyl phthalate (BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Bis(2-ethylhexyl) phthalate (DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Tested Item(s)	Results				
	Unit (mg/kg)				
	28	41	48	49	50
Diisobutyl phthalate (DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate (DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.
Butyl benzyl phthalate (BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.
Bis(2-ethylhexyl) phthalate (DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.

**Note:**

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- “ / ”= Not conducted.

-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.1 $\mu$ g/cm<sup>2</sup> with 50cm<sup>2</sup> sample surface area used.

-Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than 0.13 $\mu$ g/cm<sup>2</sup> with 50cm<sup>2</sup> sample surface area used.

**Remark:**

- The screening results are only used for reference.
- When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.



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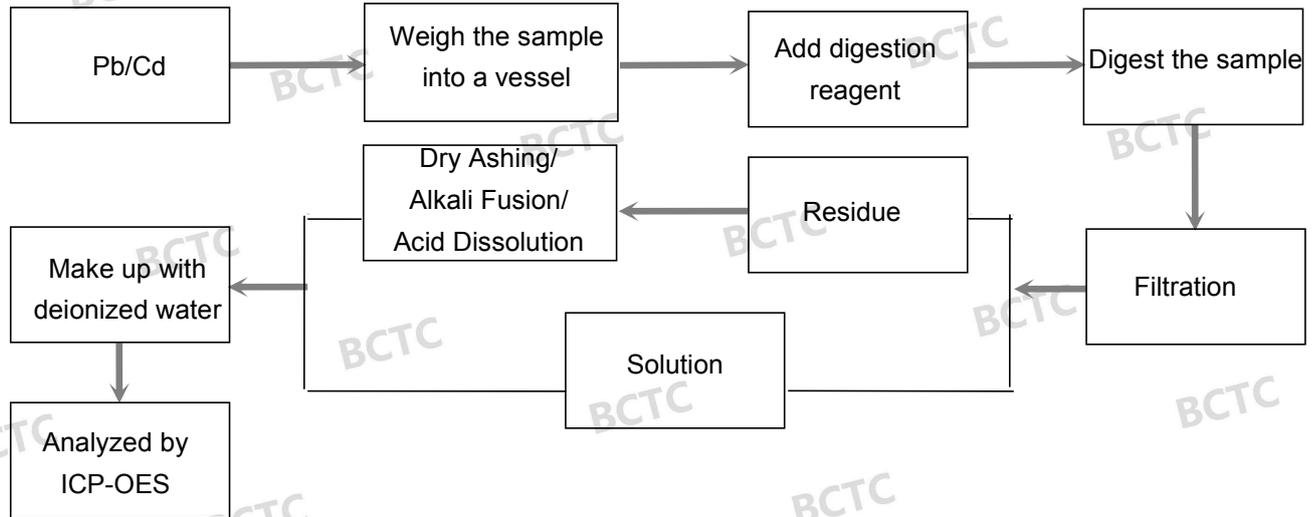
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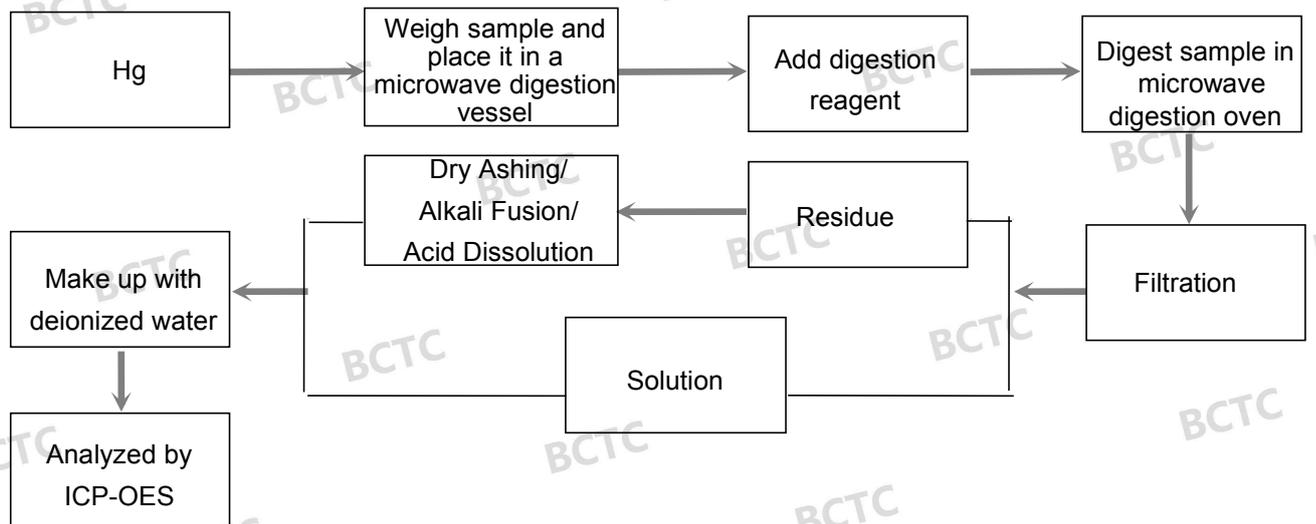
## Test Process:

The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

◆ IEC 62321-5:2013 Ed.1.0



◆ IEC 62321-4:2013+AMD1:2017



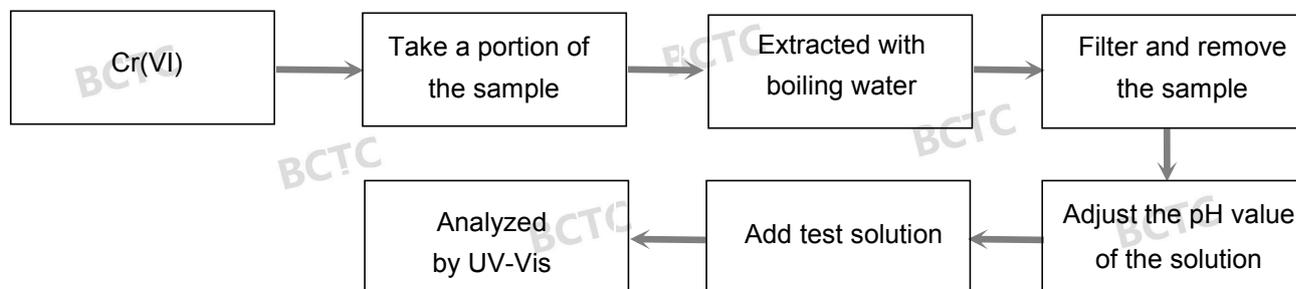


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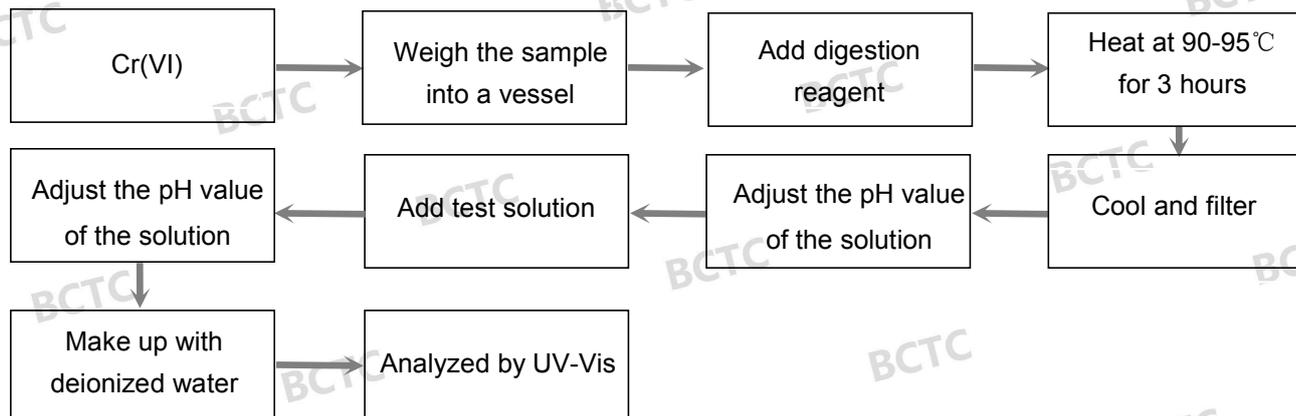
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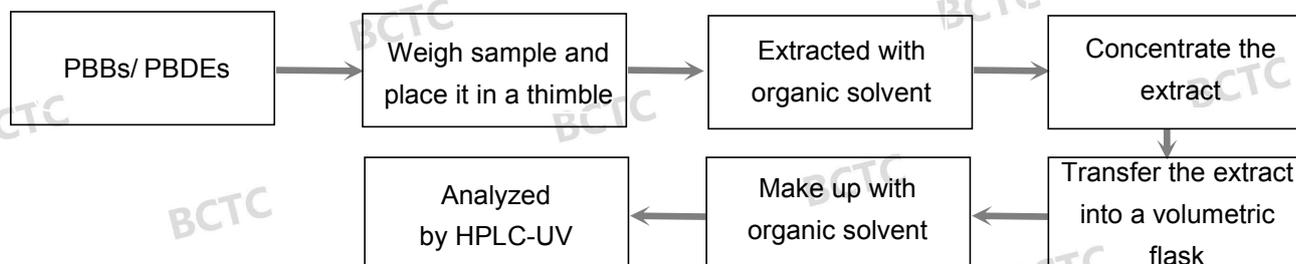
◆IEC 62321-7-1:2015 Ed.1.0



◆IEC 62321-7-2:2017 Ed.1.0



◆IEC 62321-6:2015 Ed.1.0

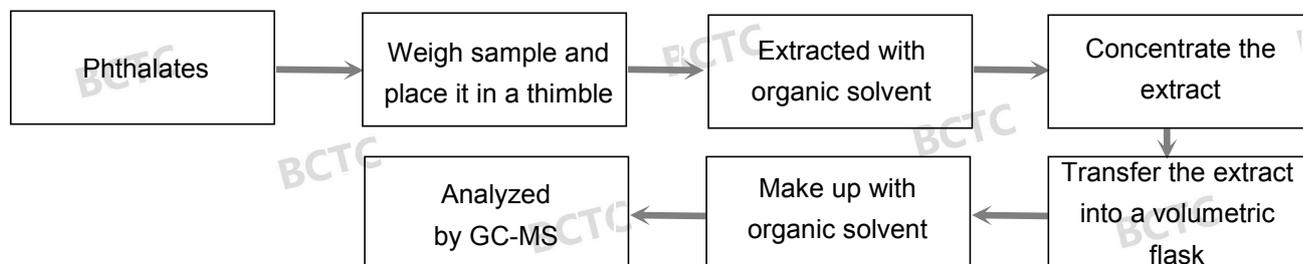


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◆ IEC 62321-8:2017 Ed.1.0



Photograph of Sample



Fig.1



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Fig.2



Fig.3



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Photo(s) of the tested component(s)



Fig.4

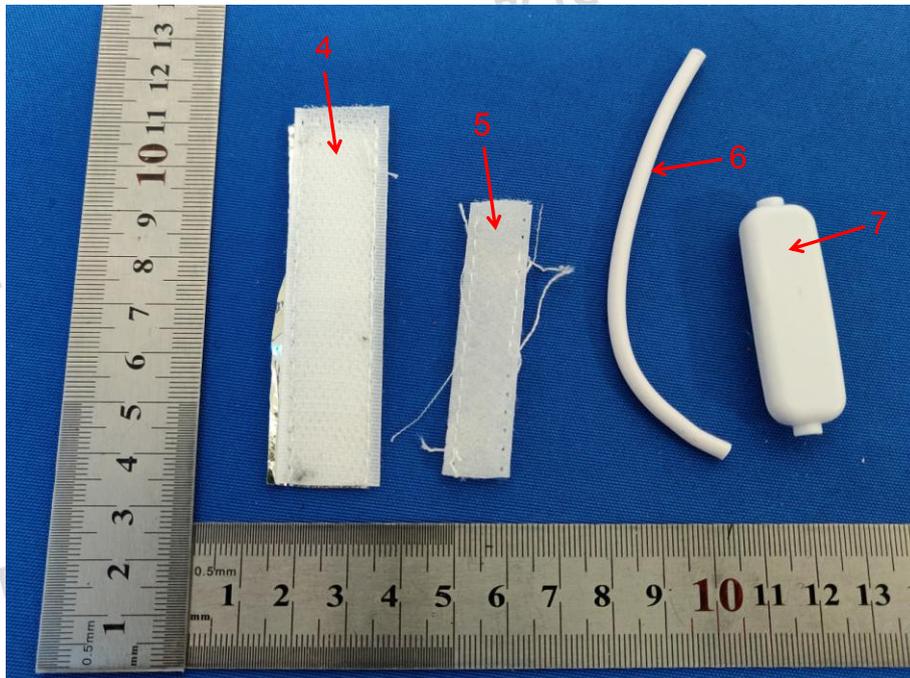


Fig.5



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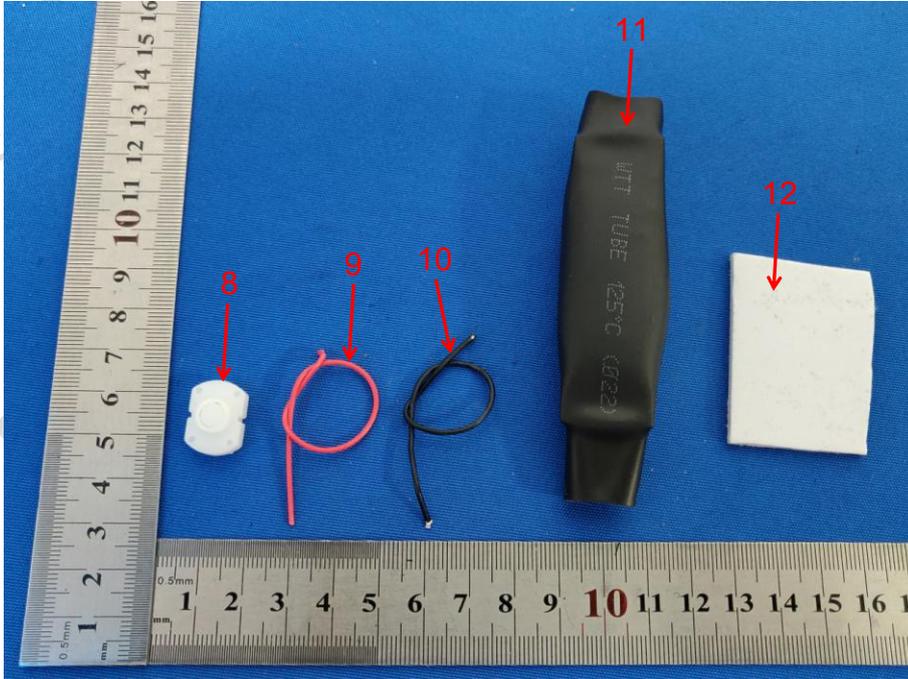


Fig.6

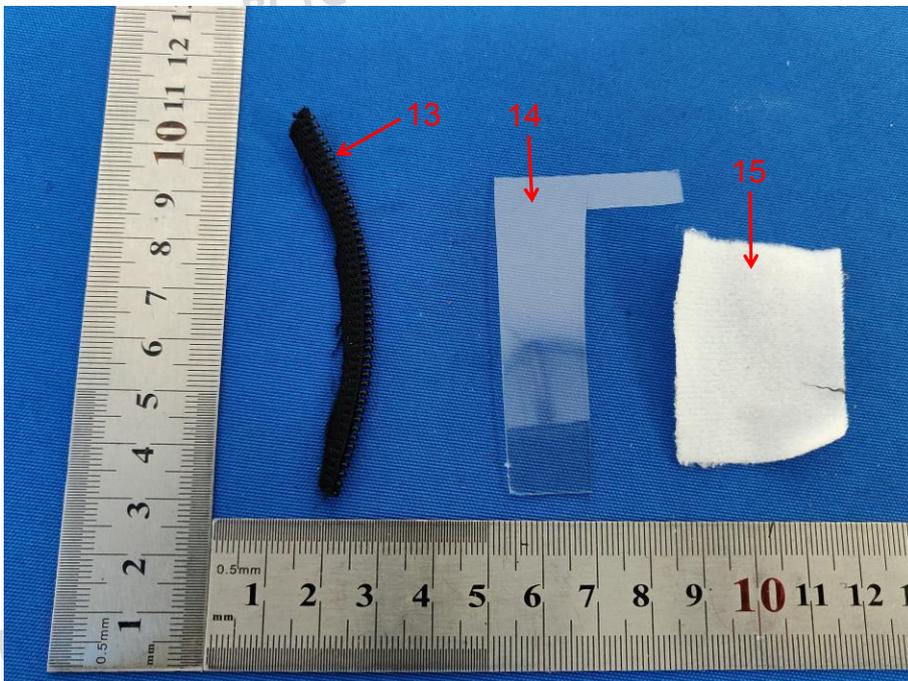


Fig.7



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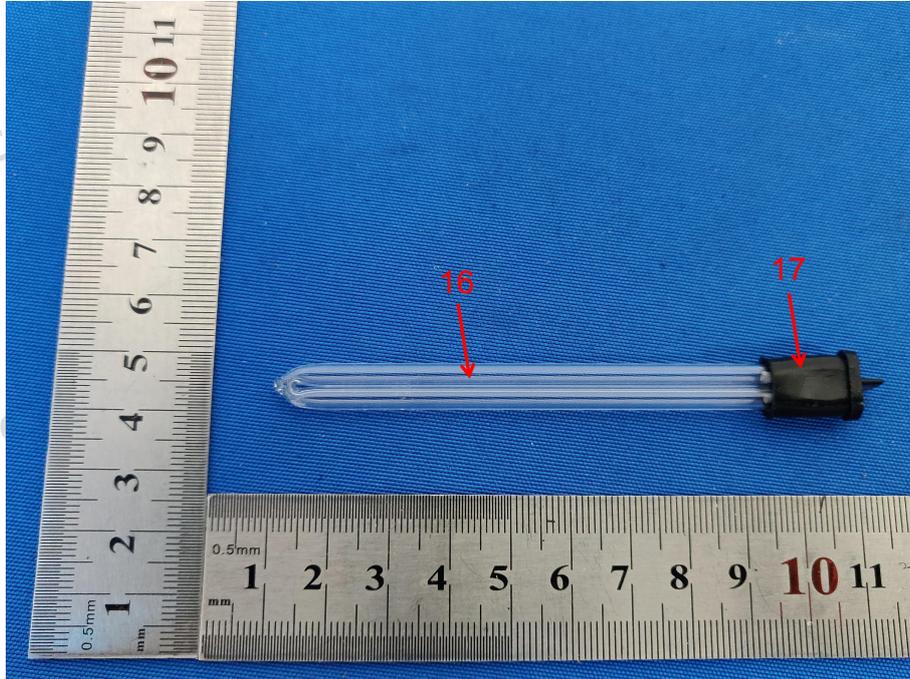


Fig.8

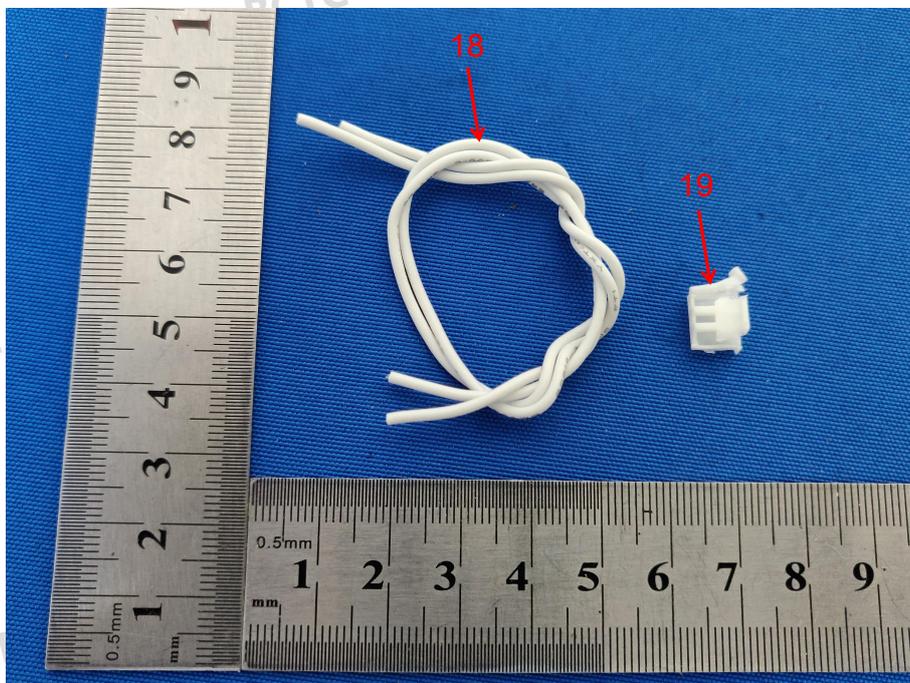


Fig.9



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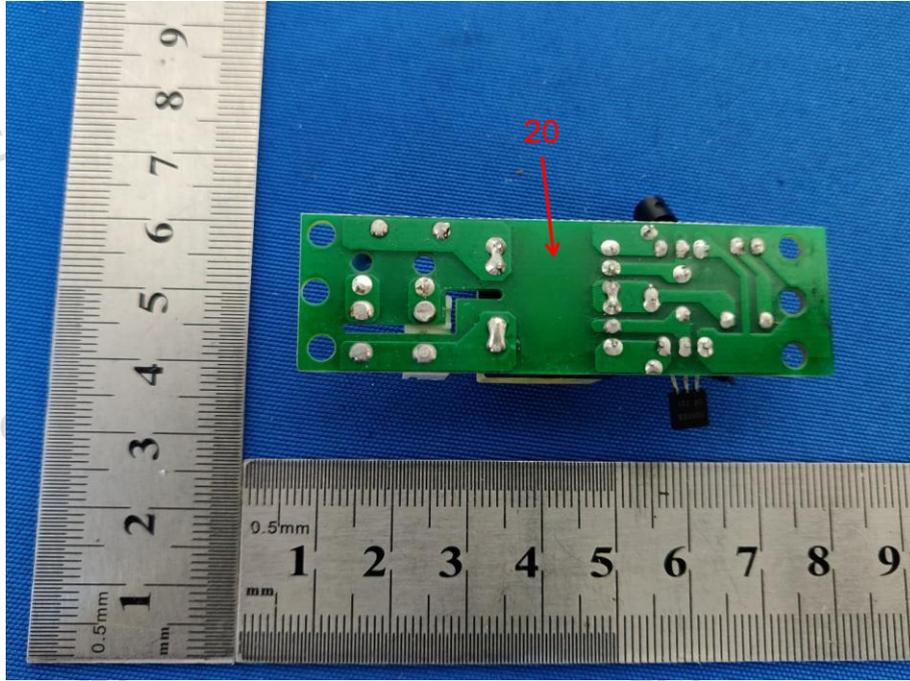


Fig.10

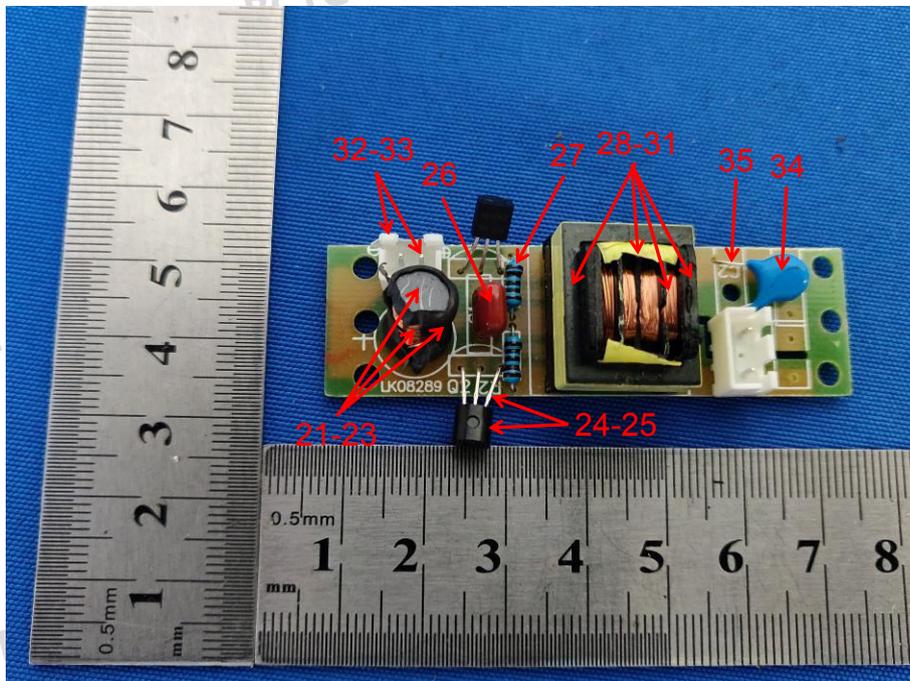


Fig.11



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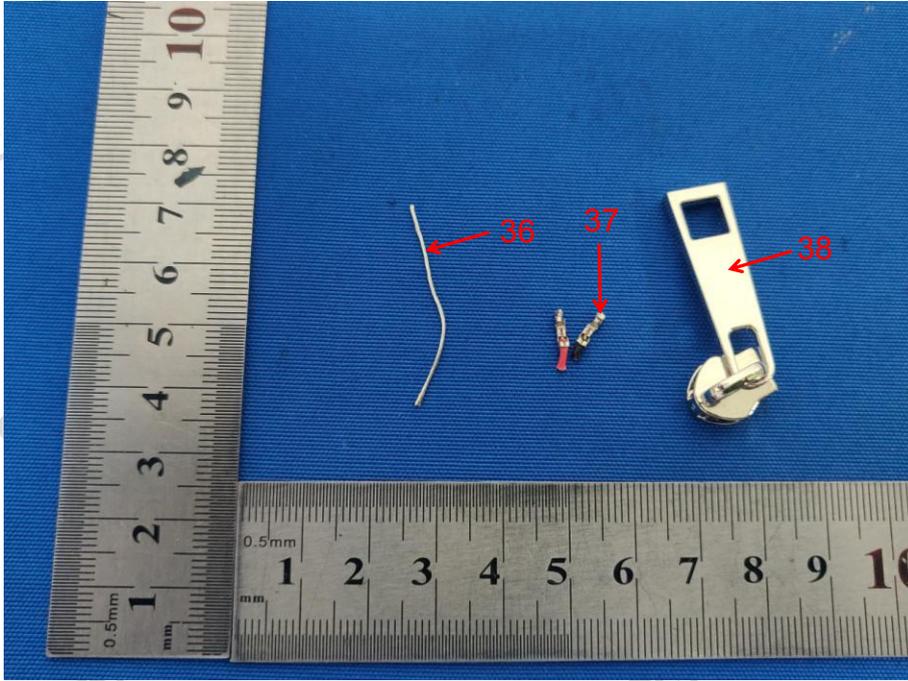


Fig.12

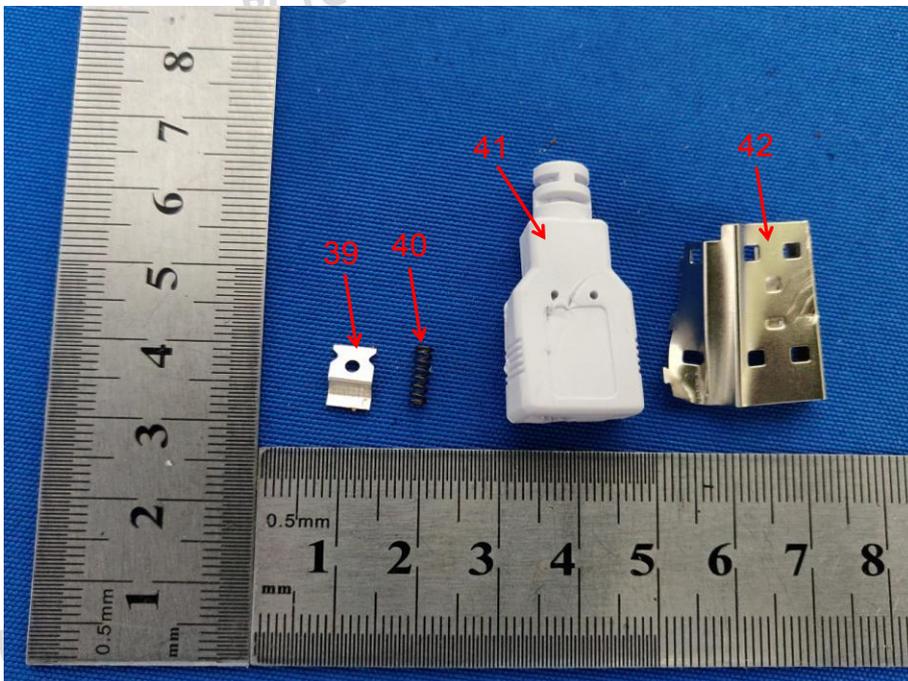


Fig.13



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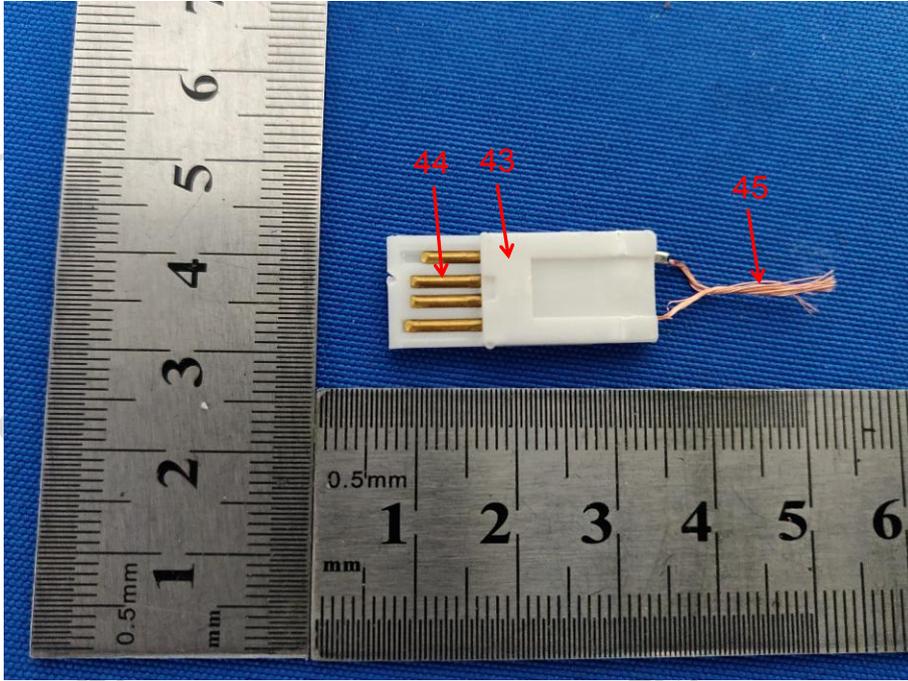


Fig.14

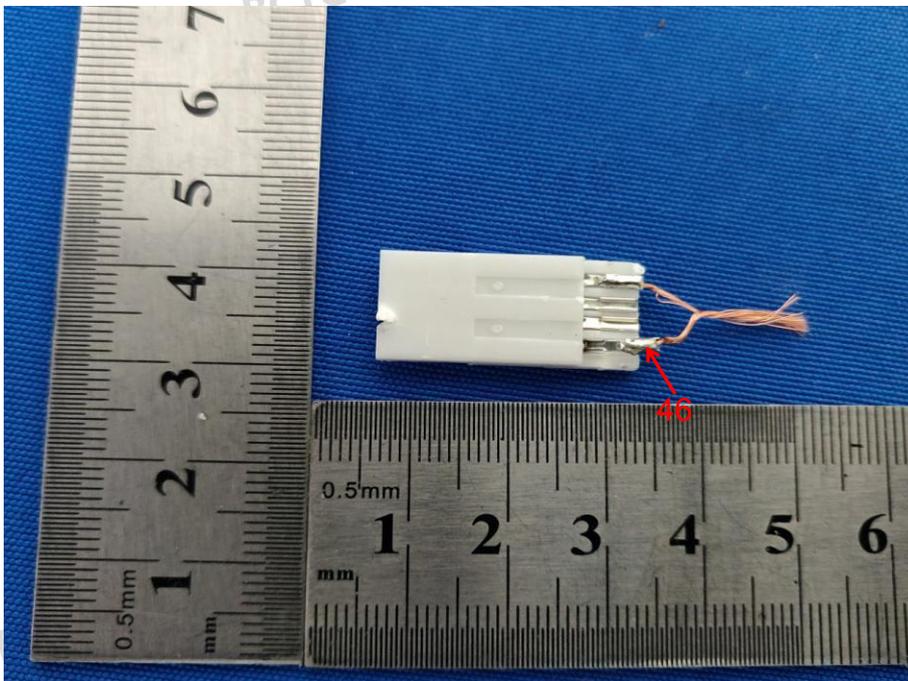


Fig.15



# Test Report

Report No. BCTC2004002101R

Date: May 14, 2020

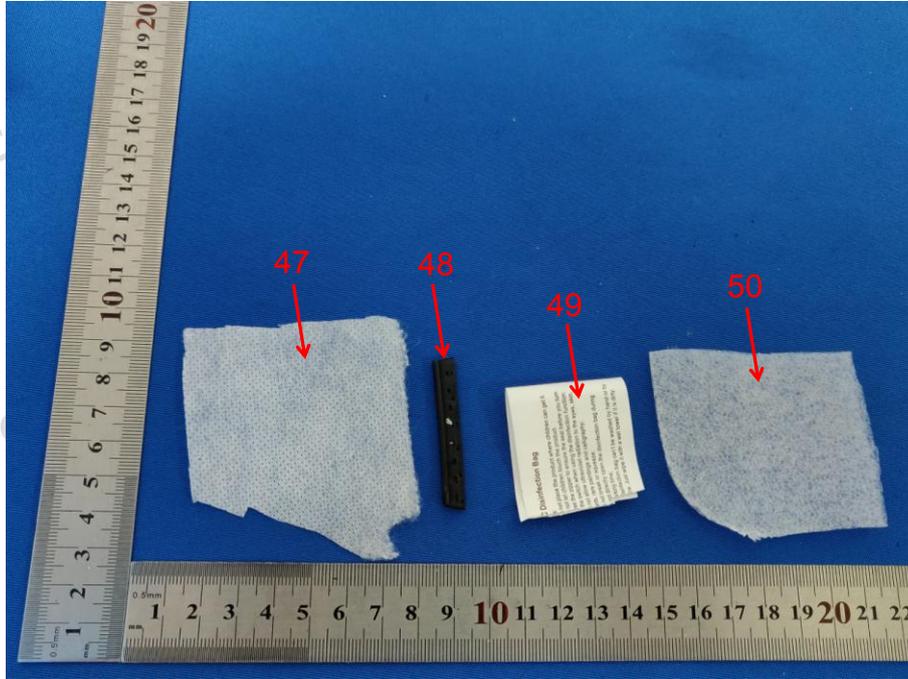


Fig.16

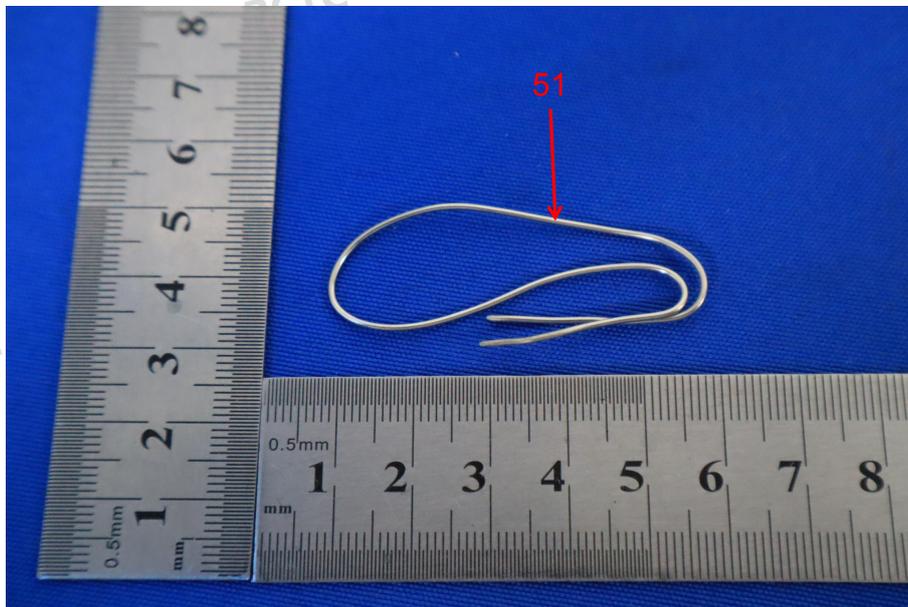


Fig.17

# Test Report

Report No. BCTC2004002101R

Date: May 14, 2020

## STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without stamp of laboratory.
4. The test report is invalid without signature of person(s) testing and authorizing.
5. The test process and test result is only related to the Unit Under Test.
6. The quality system of our laboratory is in accordance with ISO/IEC17025.
7. If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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\*\*\*\*\* END OF REPORT \*\*\*\*\*