

# Test Report

Report No. BCTC2008002885R

Date: Aug. 25, 2020

**Applicant** : Synergy Technologies Limited


**Address** : Units 18D-18E, Hanking Centre, 23 Deng Liang Road, Nanshan District, Shenzhen, Guangdong 518054, China

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

**Sample name** : SMART WATCH

**Testing type / model** : SB1340H

**Additional type / model** : SB1340, SB1340HT, SB1340HN, SB1340HA, MY9523GR, MY9523PK, SB1332H, SB1327HZ, SB1326HZ, SB1357HT, SW63

**Trademark** : 

**Manufacturer** : Synergy Technologies Limited

**Address** : Units 18D-18E, Hanking Centre, 23 Deng Liang Road, Nanshan District, Shenzhen, Guangdong 518054, China

**Sample received date** : Aug. 18, 2020


**Testing period** : Aug. 18, 2020 - Aug. 25, 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



Approved by

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	Cyan rubber	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
2	Blue rubber	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
3	Rose red rubber	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
4	Cyan plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
5	Blue plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
6	Rose red plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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7	Black glass	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
8	Black plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
9	Black plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
10	Black plastic (USB)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
11	Black wire jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
12	Silver plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
13	White plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	



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14	Translucent plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
15	White plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
16	Yellow FPC	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	11631	N.D.	
		Br(PBBs&PBDEs)	BL	/	
17	Black FPC	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
18	Blue PCB	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	30825	N.D.	
19	Black plastic (terminal)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	BL	/	
20	Tin solder	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	



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21	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	166433	Negative	
		Br(PBBs&PBDEs)	/	/	
22	Silver metal	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	164102	Negative	
		Br(PBBs&PBDEs)	/	/	
23	Silver metal (display screen)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	126329	Negative	
		Br(PBBs&PBDEs)	/	/	
24	Gold metal	Pb	10172	22967#	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	
25	Silver metal (USB)	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI) )	BL	/	
		Br(PBBs&PBDEs)	/	/	



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Tested Item(s)	Results					
	Unit (mg/kg)					
	1+2+3	4+5+6	7+8	9+10+11	12+13+14+15	16+17+18
Diisobutyl phthalate (DIBP) CAS #:84-69-5	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.
Butyl benzyl phthalate (BBP) CAS #:85-68-7	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.

## 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  $0.1\mu\text{g}/\text{cm}^2$  with  $50\text{cm}^2$  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  $0.13\mu\text{g}/\text{cm}^2$  with  $50\text{cm}^2$  sample surface area used.

-# = According to the exemption clause 6(c) in annex III of directive (2011/65/EU), Lead is exempted as copper alloy containing up to 4% lead by weight.

## 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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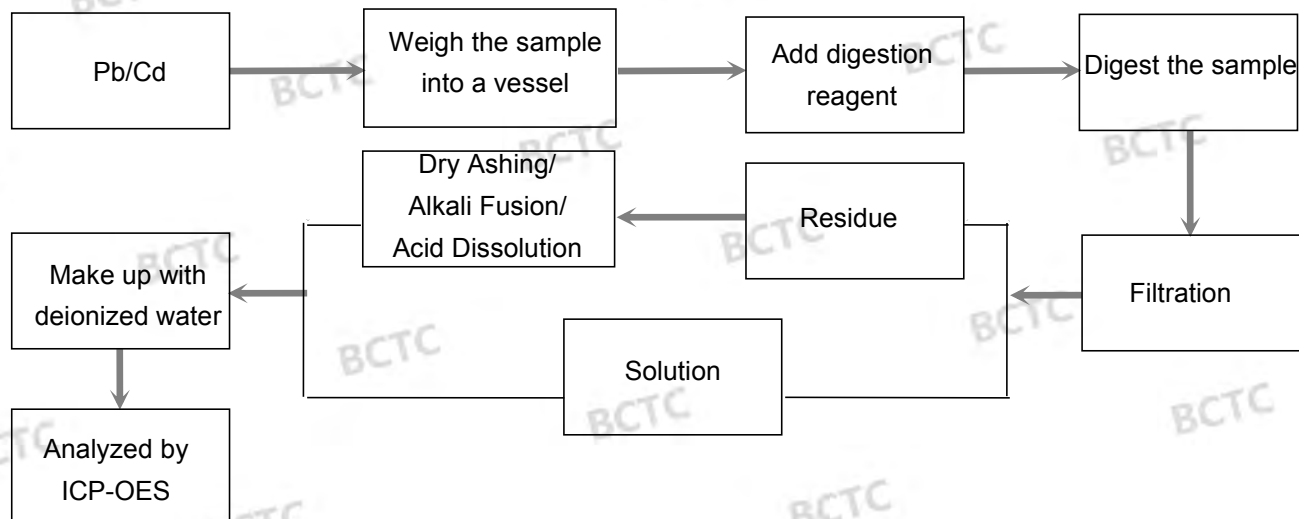
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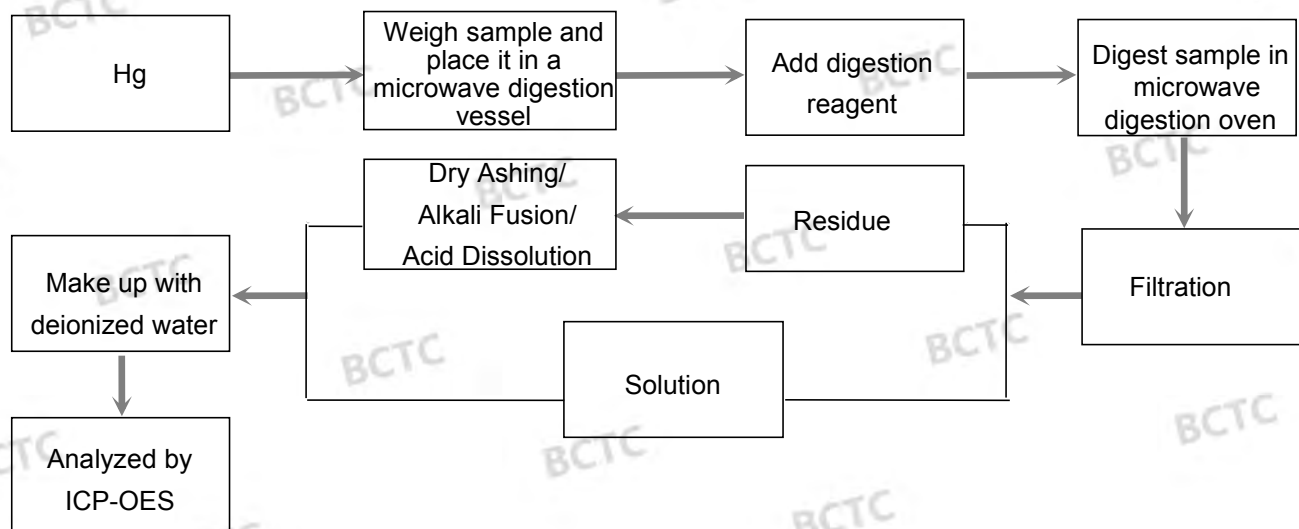
## Test Process:

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



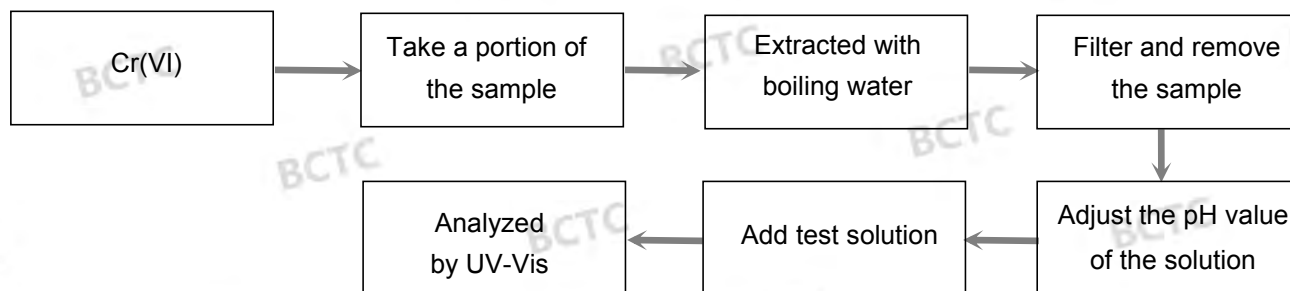


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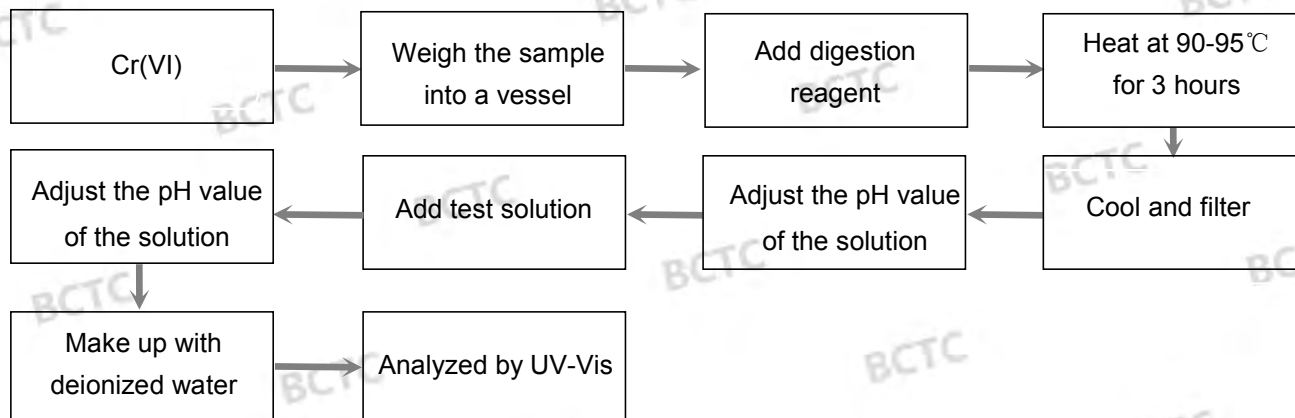
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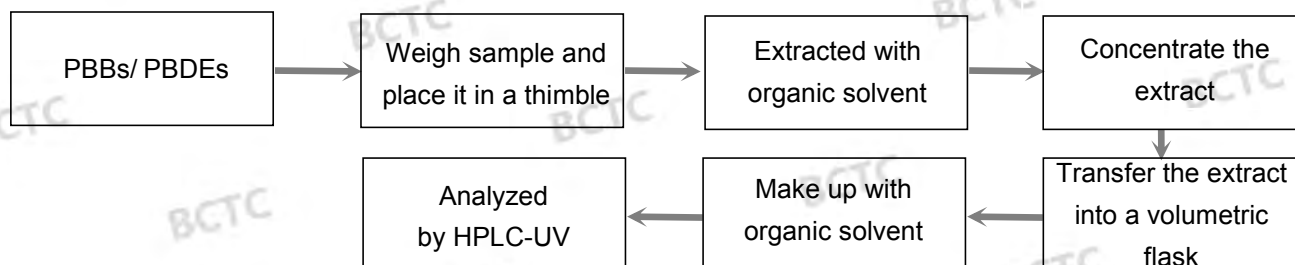
◆ IEC 62321-7-1:2015 Ed.1.0



◆ IEC 62321-7-2:2017 Ed.1.0



◆ IEC 62321-6:2015 Ed.1.0

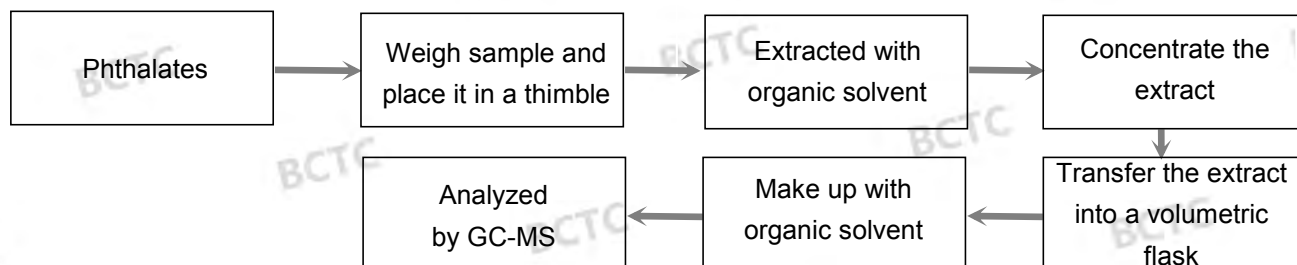


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◆IEC 62321-8:2017 Ed.1.0



Photograph of Sample



Fig.1



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Fig.2

Photo(s) of the tested component(s)

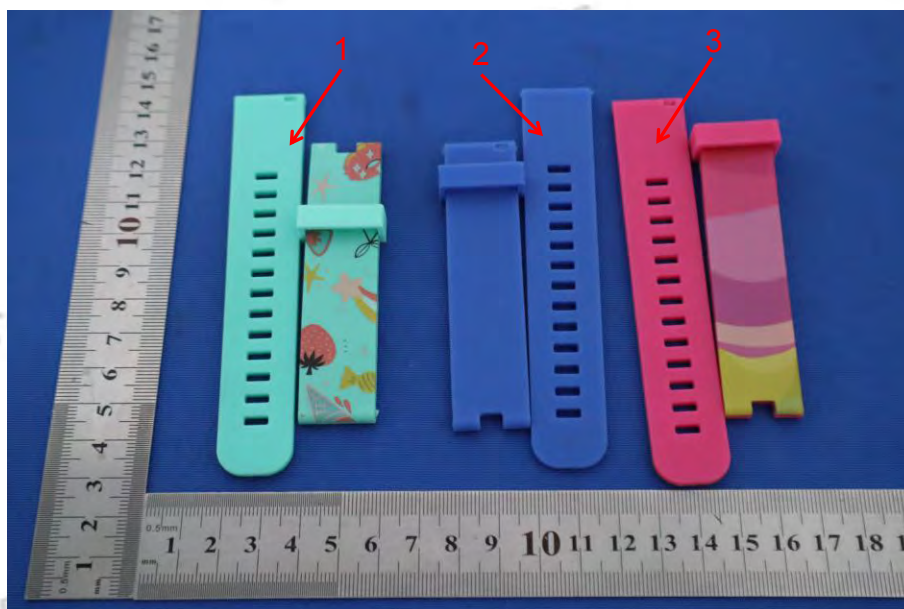


Fig.3



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Fig.4

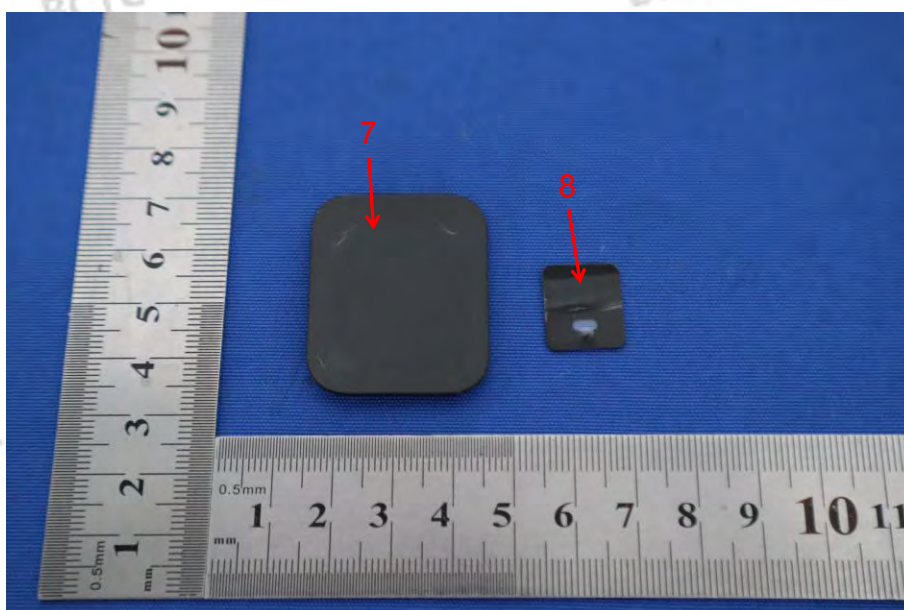


Fig.5





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Fig.6

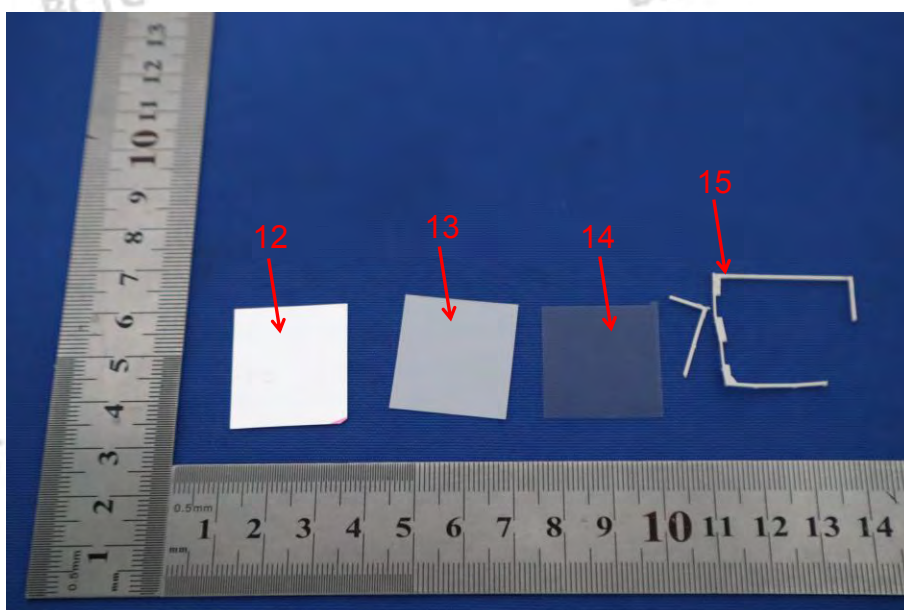


Fig.7



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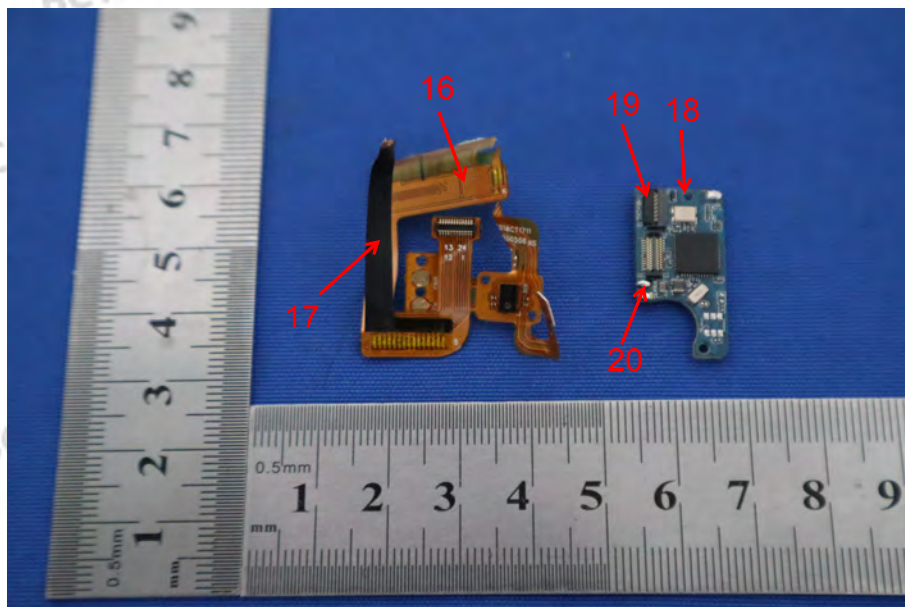


Fig.8

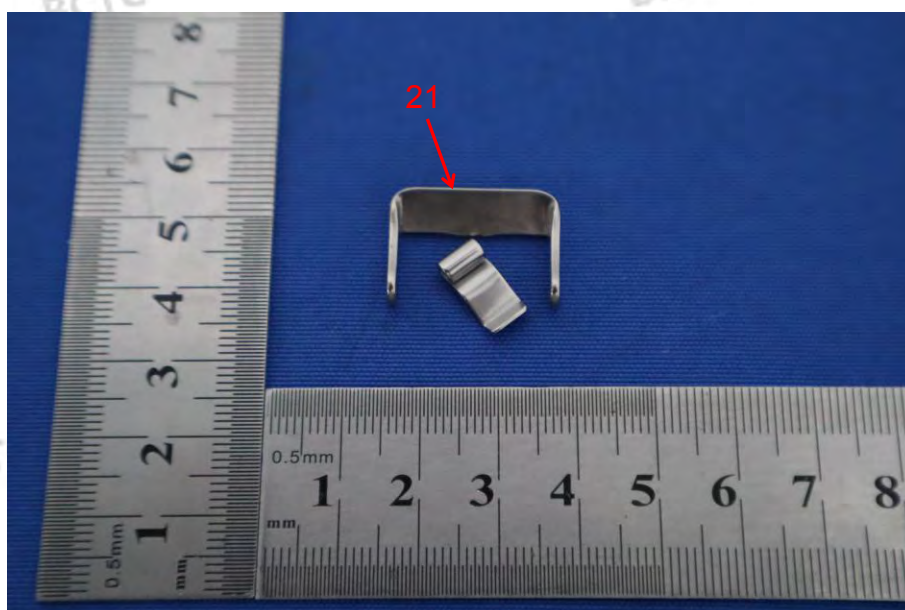


Fig.9





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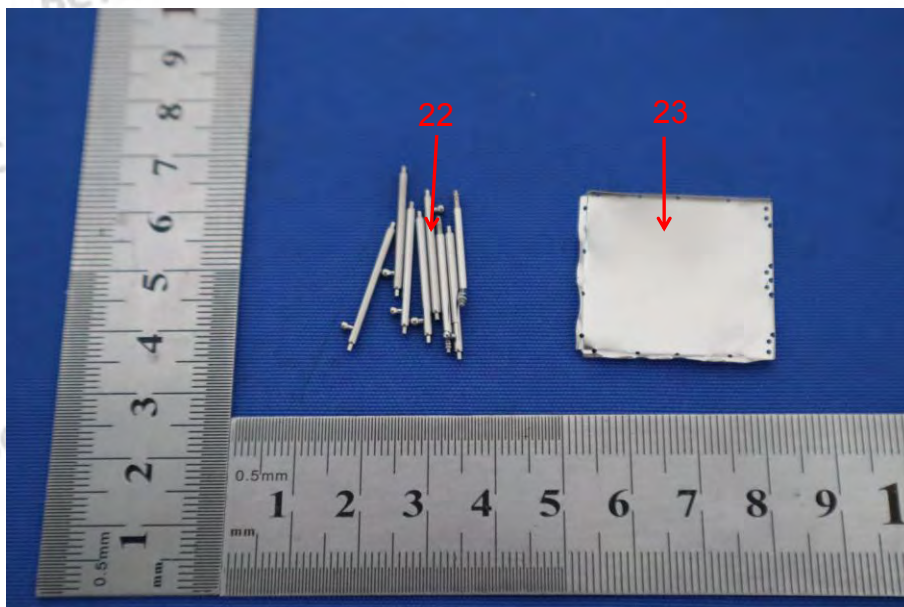


Fig.10

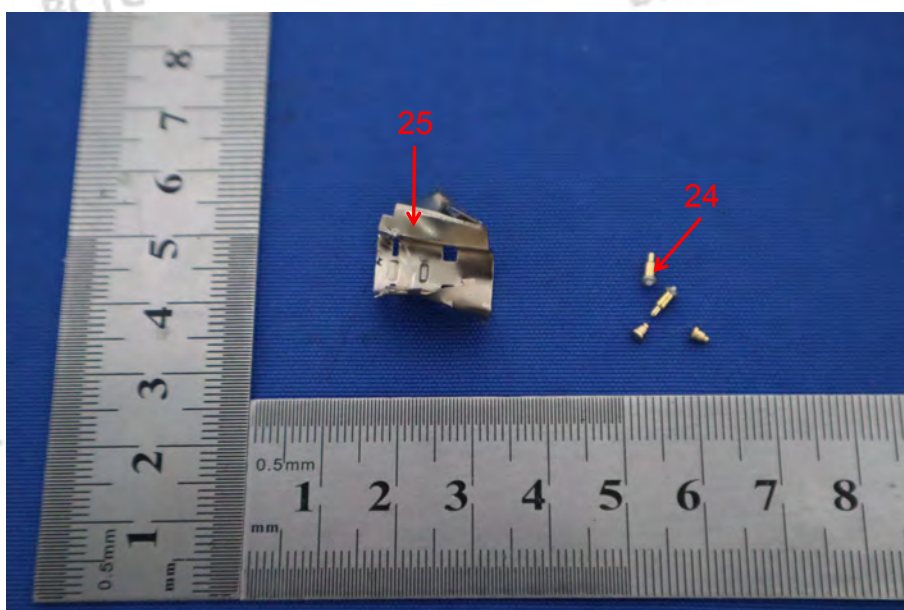


Fig.11

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## 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.

Address: BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road,  
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\*\*\*\*\* END OF REPORT \*\*\*\*\*