

Report No.: SZARR190126017-01

Test Report

Client Name : xxxxxxxxxxxx.

Address : xx,
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx


Product Name : U Disk

Date : Jan. 30 , 2019

Shenzhen Anbotek Compliance Laboratory Limited

Shenzhen Anbotek Compliance Laboratory Limited

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Test Report

Report No.: SZARR190126017-01 Date: Jan. 30, 2019 Page 1 of 10

Applicant : xxxxxxxxxxxxxxxxxxxxxxxxx
Address : xxxxxx xxxxxx xxxxxxxxxxxxxxxxxxxxxxxxx

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

Sample Name : U Disk
Model No. : SI-D33(Main test), SI-D01, SI-D02, SI-D16, SI-D17, SI-D22, SI-D23, SI-D24, SI-D27, SI-D34, SI-D35, SI-D36, SI-D37, SI-D38, SI-D39, SI-D40, SI-D41, SI-D42, SI-D43, SI-D44
Manufacturer : Huiyu Technology Co.,Ltd.
Country of Destination : Europe
Sample Received Date : Jan. 26, 2019
Testing Period : Jan. 26, 2019 to Jan. 30, 2019

Test Requested : As specified by client, to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs) and Polybrominated Diphenyl Ethers (PBDEs) in the submitted sample in accordance with the RoHS Directive 2011/65/EU.

Test Method: Please refer to the following page(s).

Test Result(s): Please refer to the following page(s).

Tested by Liqing Yang
Liqing Yang
Test engineer

Reviewed by Niki You
Niki You
Test engineer

Approved by Leo Li
Leo Li
Authorized signatory
* Approved *



Test Report

Report No.: SZARR190126017-01

Date: Jan. 30, 2019

Page 2 of 10

Test Method:

A. XRF Screening Test

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

Element	Limit of IEC 62321-3-1:2013 Unit (mg/kg)		
	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	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	N.A.	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

Note:

- N.A. = Not Applicable
- 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

B. Chemical Test

Test Item(s)	Test Method	Measured Equipment(s)	MDL	Limit
Lead (Pb)	IEC 62321-5:2013	ICP-OES	2 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013		2 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017		2 mg/kg	1000 mg/kg
Hexavalent Chromium Cr(VI)	IEC 62321-7-1:2015	UV-VIS	0.10µg/cm ²	1000 mg/kg
	IEC 62321-7-2:2017		2 mg/kg	
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	5 mg/kg	1000 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015		5 mg/kg	1000 mg/kg

Test Report

Report No.: SZARR190126017-01

Date: Jan. 30, 2019

Page 3 of 10

Test Results:

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
1	Transparent plastic cover	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
2	Silvery metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
3	Transparent plastic frame	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
4	Silvery metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
5	Black inner plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
6	Pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	

Test Report

Report No.: SZARR190126017-01

Date: Jan. 30, 2019

Page 4 of 10

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
7	Silvery metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	X	Negative	
		Br(PBBs&PBDEs)	N.A.	/	
8	Gray-black inner plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
9	Silvery metal gasket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	X	Negative	
		Br(PBBs&PBDEs)	N.A.	/	
10	Soldering tin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
11	IC	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
12	PCB	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	X	N.D.	

Test Report

Report No.: SZARR190126017-01

Date: Jan. 30, 2019

Page 5 of 10

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
13	Chip capacitor	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
14	Chip resistor	Pb	OL*	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	

Note:

- 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.
- 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
- LOD= Detection limit
- MDL = Method Detection Limit
- N.A. = Not Applicable
- N.D. = Not Detected (<MDL)
- /=Not tested
- mg/kg = ppm = parts per million
- $\mu\text{g}/\text{cm}^2$ = microgramme per square centimetre
- Negative = Absence of Cr(VI) , the detected Cr(VI) concentration in the boiling water extraction solution is less than $0.10\mu\text{g}/\text{cm}^2$.
- Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than $0.13\mu\text{g}/\text{cm}^2$.
- *= According to the product specification provided from client, it is possible the source of lead in specimen No.14 is derived from the ceramic material of that electronic component which is exempted by RoHS regulatory (Directive 2011/65/EU of The European Parliament and of The Council of 8 June 2011). However, the numerical result of detected restricted substances in specimen No.14 cannot be related back to the concentration of the substances in the original homogeneous material.

Test Report

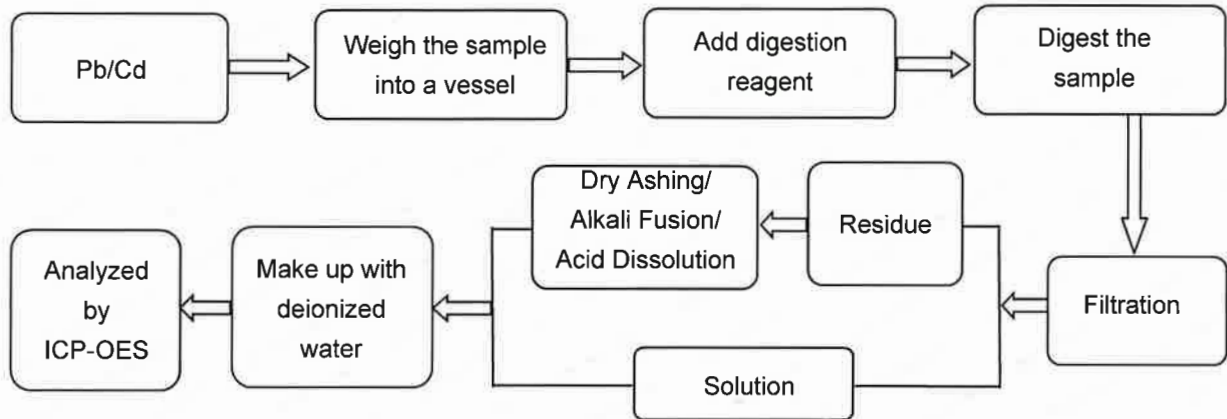
Report No.: SZARR190126017-01

Date: Jan. 30, 2019

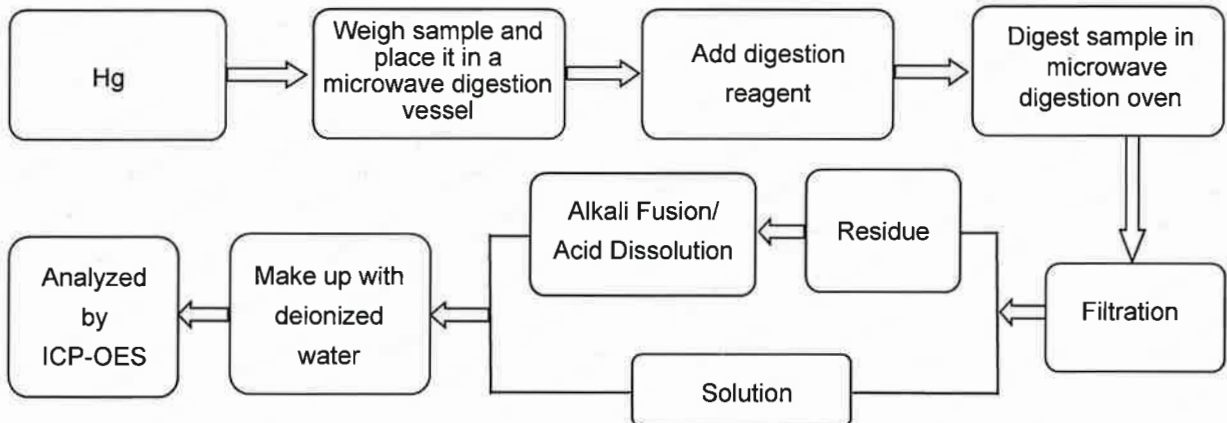
Page 6 of 10

Test Process:

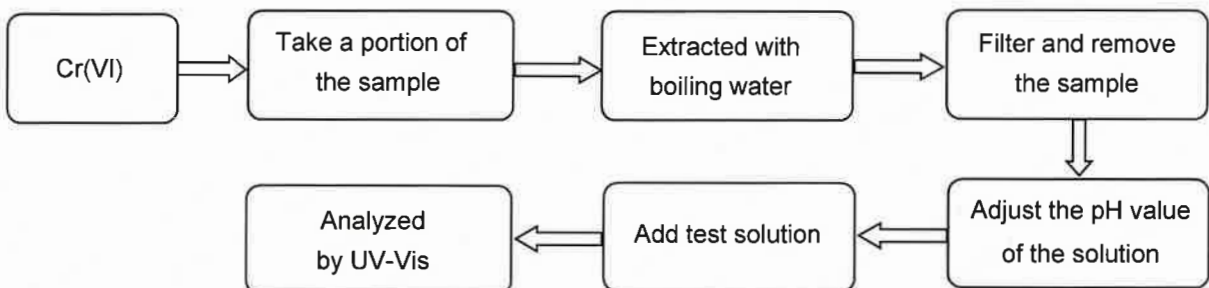
◆ IEC 62321-5:2013



◆ IEC 62321-4:2013+AMD1:2017



◆ IEC 62321-7-1:2015



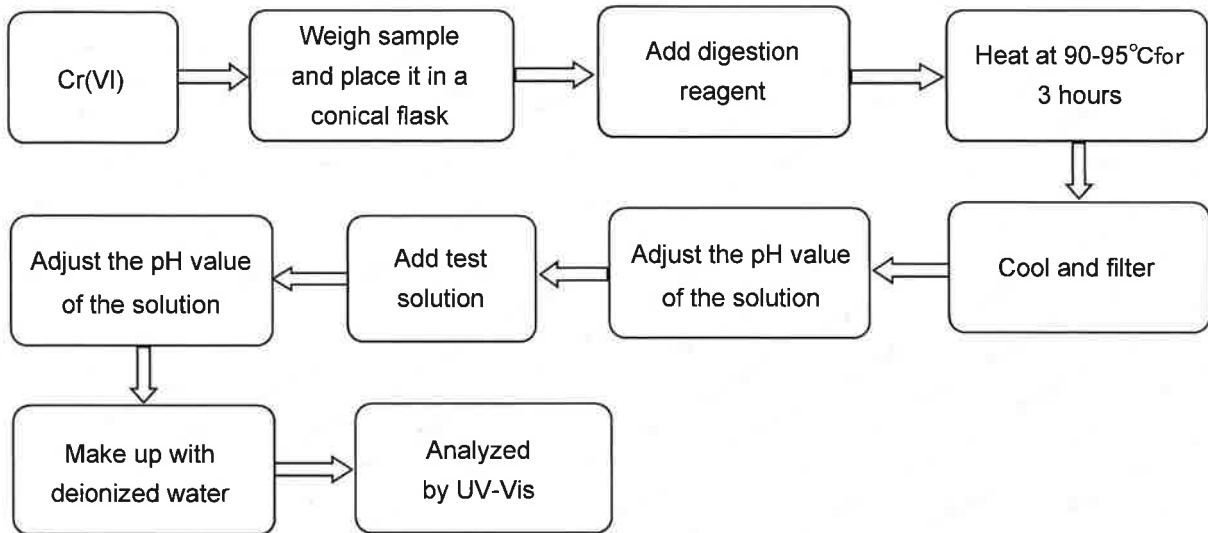
Test Report

Report No.: SZARR190126017-01

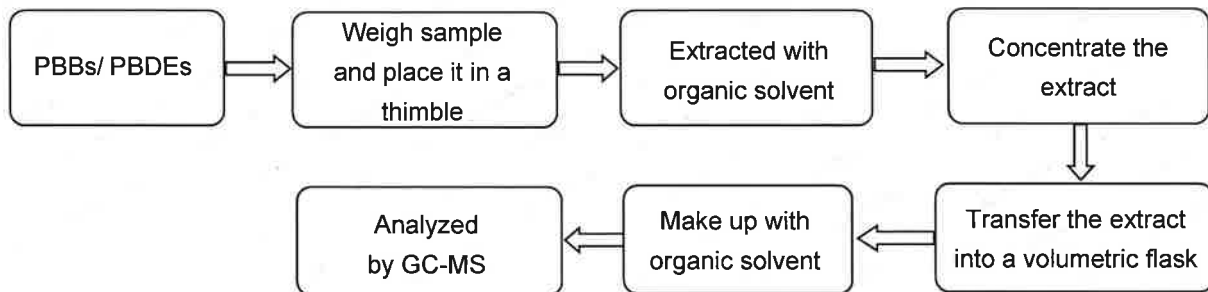
Date: Jan. 30, 2019

Page 7 of 10

◆ IEC 62321-7-2:2017



◆ IEC 62321-6:2015



Test Report

Report No.: SZARR190126017-01

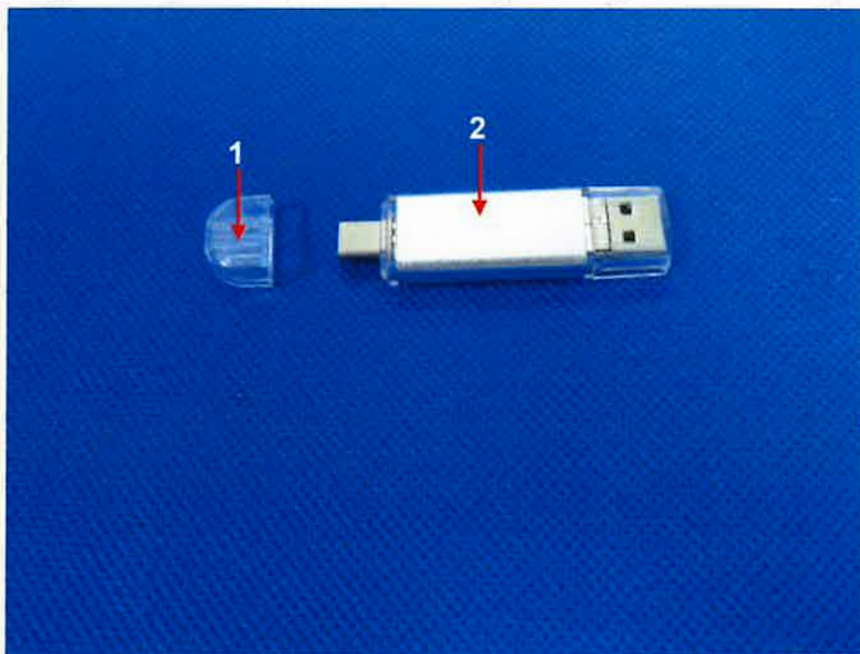
Date: Jan. 30, 2019

Page 8 of 10

Photograph of Sample



Photo(s) of the tested component(s)

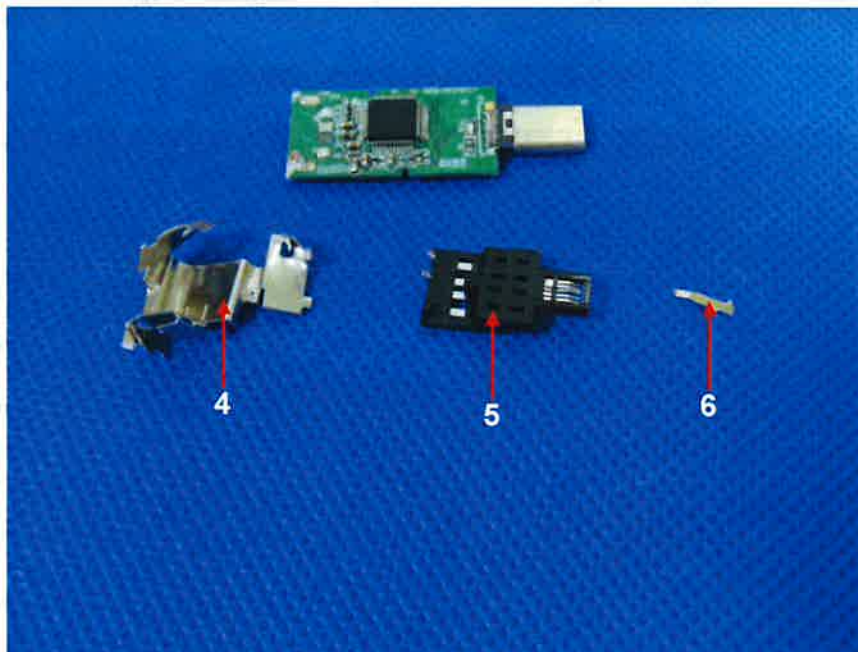
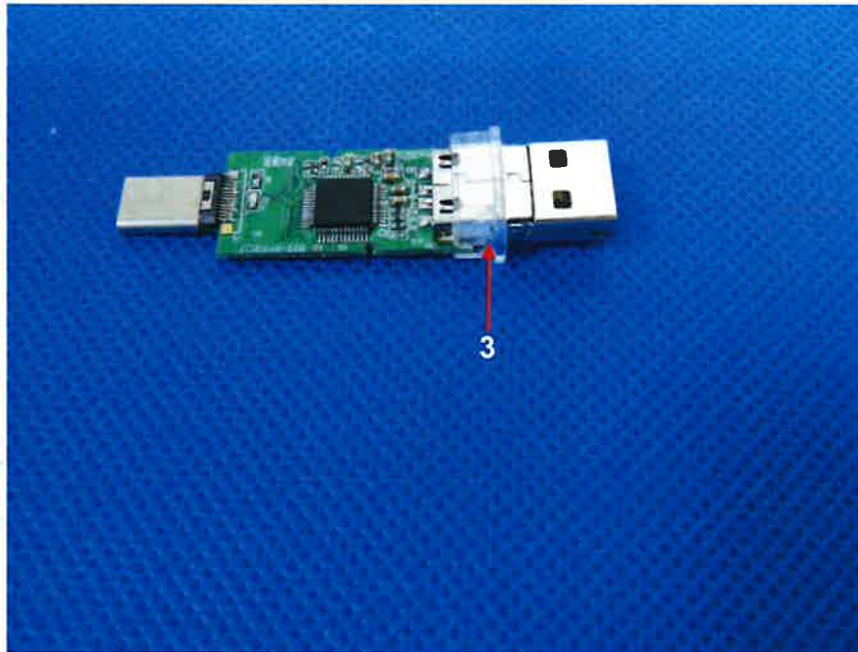


Test Report

Report No.: SZARR190126017-01

Date: Jan. 30, 2019

Page 9 of 10

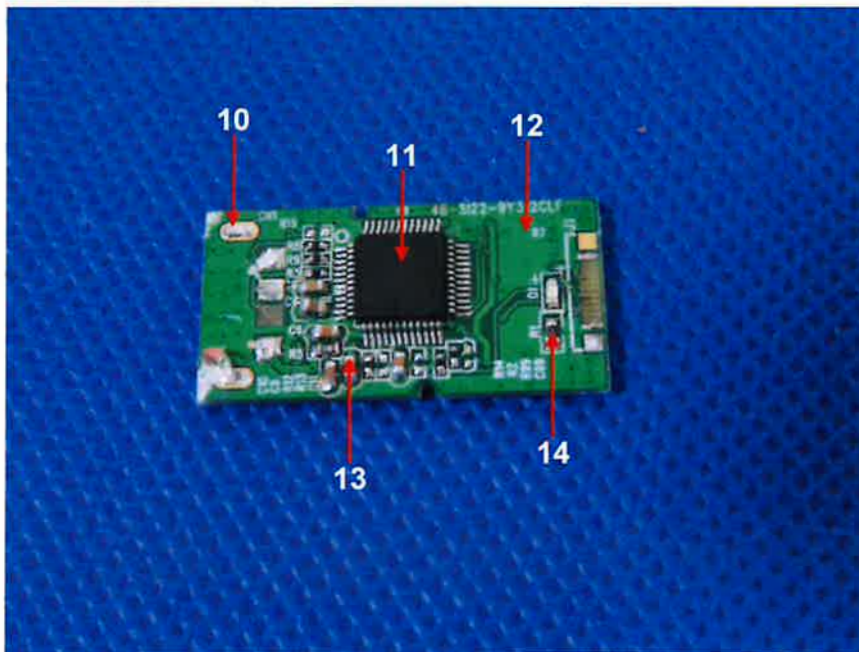
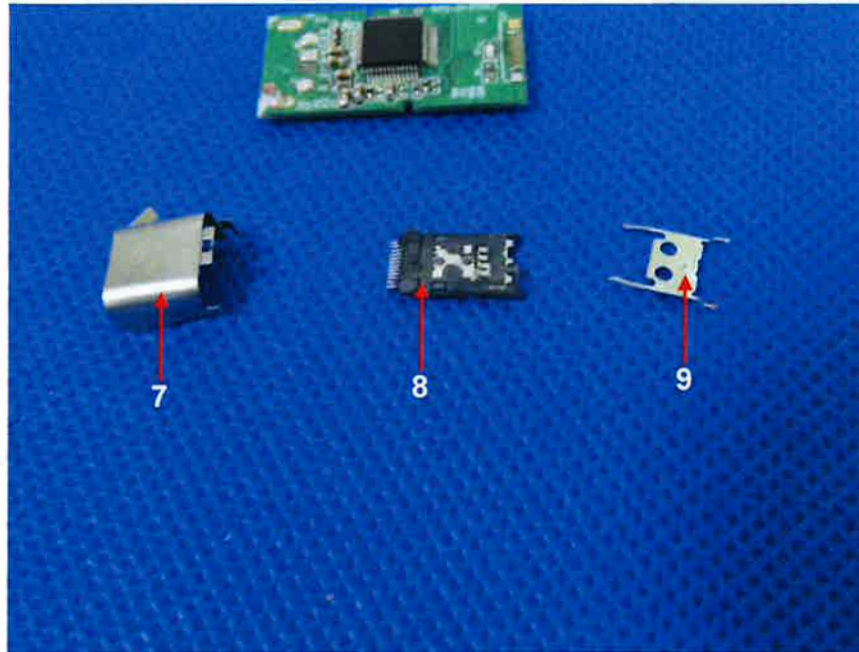


Test Report

Report No.: SZARR190126017-01

Date: Jan. 30, 2019

Page 10 of 10



***** End of Report *****

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AB-RHS-03-a

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