

Report No.: SZARR190617021-01

Test Report

Client Name :

Address :

Product Name : Power Bank

Date : Aug. 01, 2019

Shenzhen Anbotek Compliance Laboratory Limited

Shenzhen Anbotek Compliance Laboratory Limited

Address: East of 4/F, Building A, Hourui No.3 Industrial Zone, Xixiang Street, Bao'an District,
Shenzhen, Guangdong, China

Tel: (86)755-26066126 Fax: (86)755-26066021 Email: service@anbotek.com



Hotline
400-003-0500

www.anbotek.com

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 1 of 17

Applicant :

Address :

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

Sample Name : Power Bank

Model No. : PW827

Manufacturer :

Country of Origin : China

Sample Received Date : June. 17, 2019

Testing Period : June. 17, 2019 to June. 25, 2019

Test Requested : As specified by client, to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Diisobutyl phthalate (DIBP), Dibutyl phthalate(DBP), Benzyl butyl phthalate(BBP), Di-2-ethylhexyl phthalate(DEHP) in the submitted sample in accordance with the RoHS Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863 with effective from 22 July 2019.

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

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

Tested by

Weiping Han

Weiping Han

Test engineer

Reviewed by

Shi Kong Yao

Shirong Yao

Test engineer

Approved by

Leo Li

Leo Li

Authorized signatory



Shenzhen Anbotek Compliance Laboratory Limited

AB-RHS-03-a

Address: East of 4/F., Building A, Hourui No.3 Industrial Zone, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China

Tel: (86)755-26066126

Fax: (86)755-26066021

Email: service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 2 of 17

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
Phthalates (DIBP, DBP, BBP, DEHP)	IEC 62321-8:2017		50 mg/kg	1000 mg/kg



Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 3 of 17

Test Results:

Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
1	Black plastic shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	
2	Transparent gummed sticker	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	
3	Transparent glass board	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	



THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 4 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
4	Yellow tape	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	146	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
5	Black plastic jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
6	Red plastic jacket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	



THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 5 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
7	Silvery metal wire core	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
		DIBP	N.A.	/	
8	Black plastic frame	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	
9	Pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
		DIBP	N.A.	/	

THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 6 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
10	Silvery metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
11	Black inner plastic	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
12	Pin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
		DIBP	N.A.	/	

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 7 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
13	White soft plastic sheath	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
14	Silvery metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
15	Soldering tin	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
		DIBP	N.A.	/	



THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 8 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
16	Chip audion	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
17	Chip capacitor	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
18	IC	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	
		Pb	BL	/	
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	



Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 9 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
19	Chip inductor	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
20	Chip resistor	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
21	LED	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	
		Pb	BL	/	
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 10 of 17

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
22	PCB	Pb	BL	/	PASS
		Cd	LOD	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	X	N.D.	
		DBP	N.A.	N.D.	
		BBP	N.A.	N.D.	
		DEHP	N.A.	N.D.	
		DIBP	N.A.	N.D.	

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 $0.13\mu\text{g}/\text{cm}^2$.



Test Report

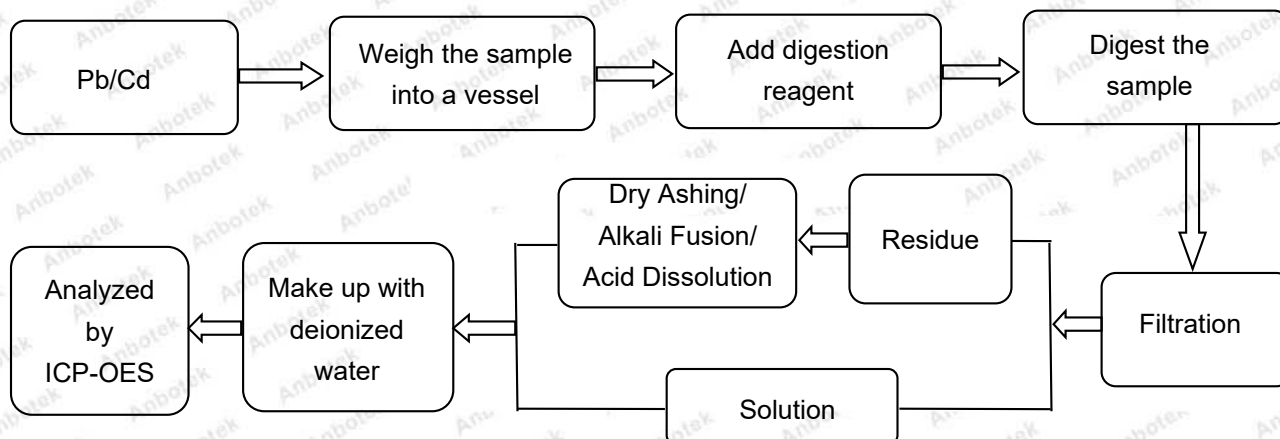
Report No.: SZARR190617021-01

Date: Aug. 01, 2019

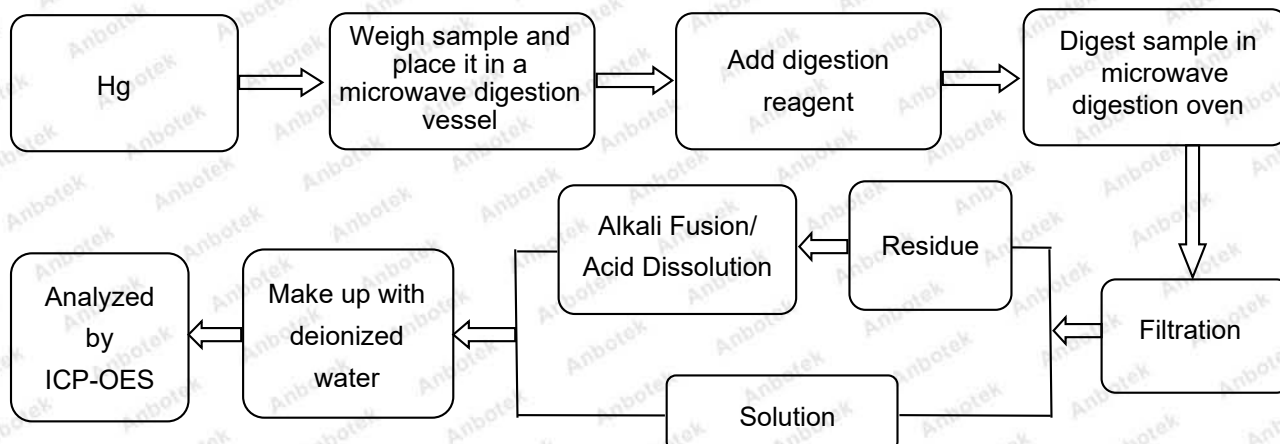
Page 11 of 17

Test Process:

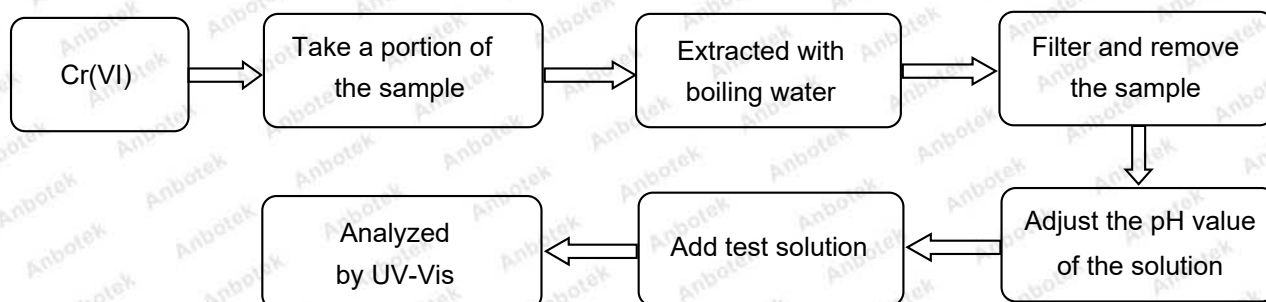
◆ IEC 62321-5:2013



◆ IEC 62321-4:2013+AMD1:2017



◆ IEC 62321-7-1:2015



THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE ONLY BE MADE AVAILABLE BY THE DOCUMENT OWNER.

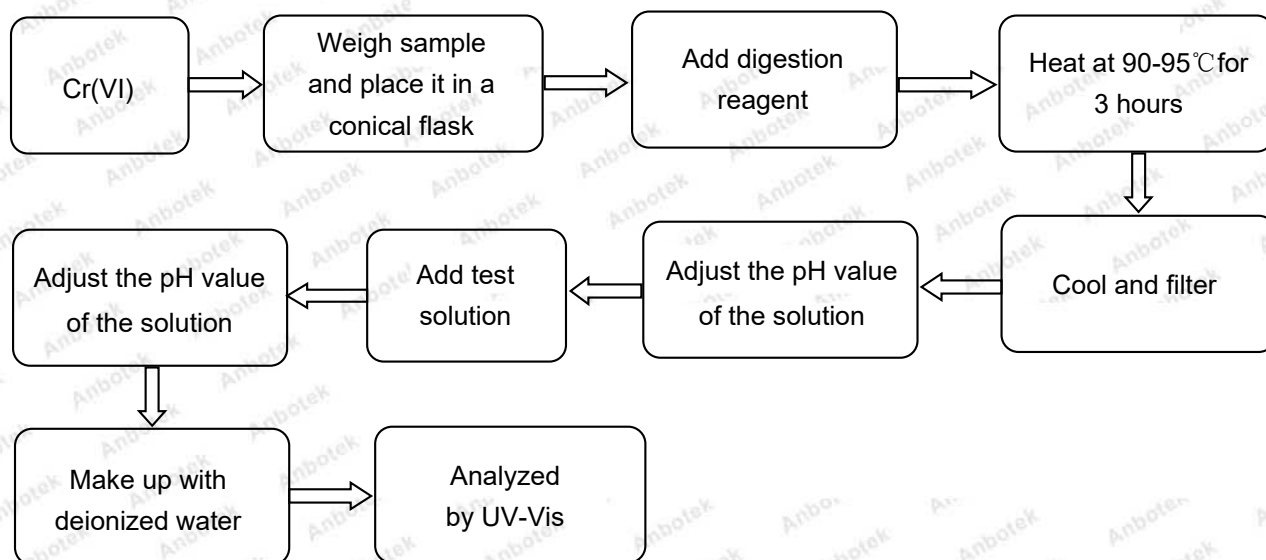
Test Report

Report No.: SZARR190617021-01

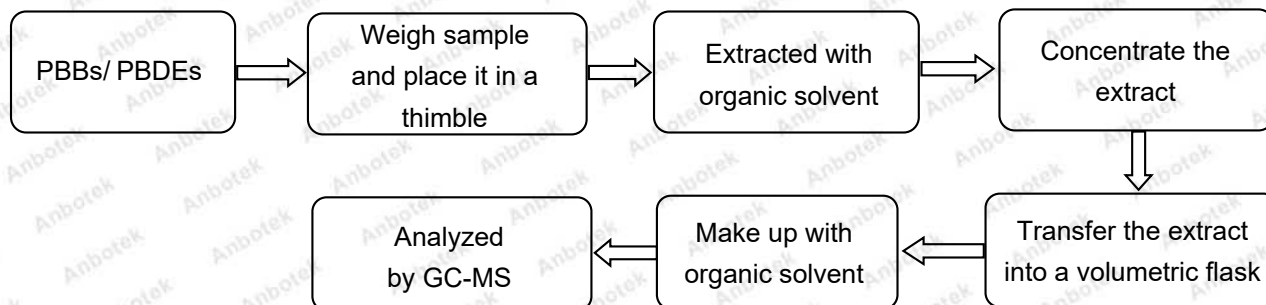
Date: Aug. 01, 2019

Page 12 of 17

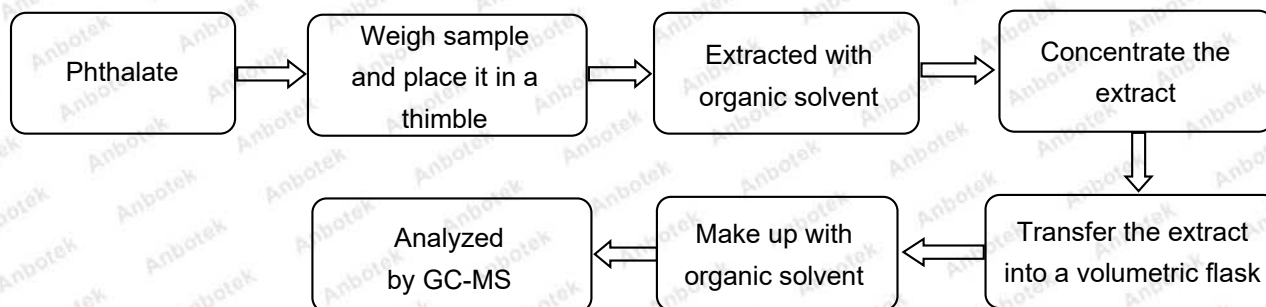
◆ IEC 62321-7-2:2017



◆ IEC 62321-6:2015



◆ IEC 62321-8:2017



Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 13 of 17

Photograph of Sample



Photo(s) of the tested component(s)



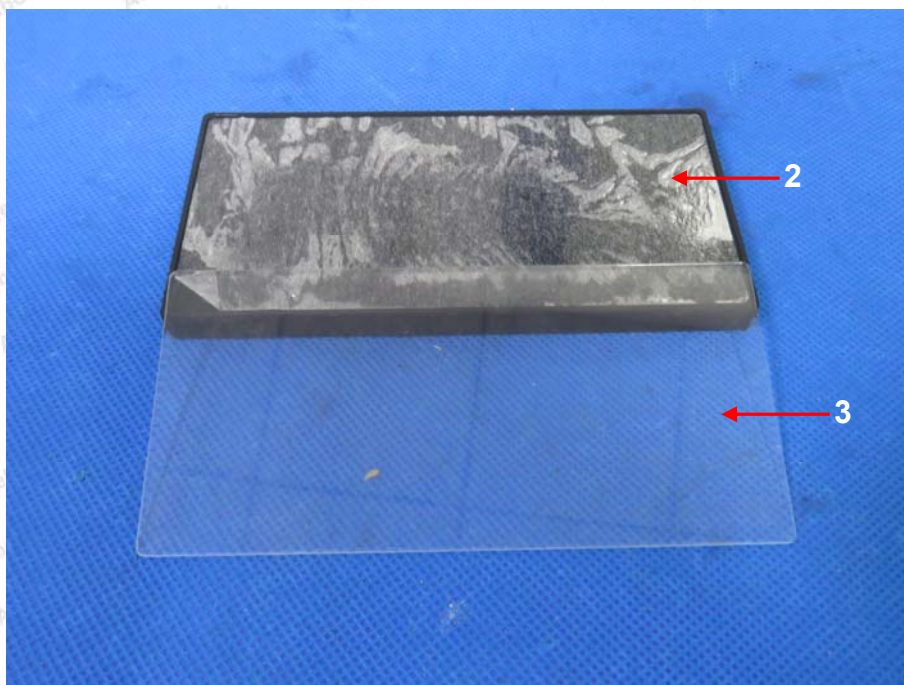
THIS DOCUMENT WAS REDACTED WITH THE PRODUCT TIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE ONLY BE MADE AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 14 of 17



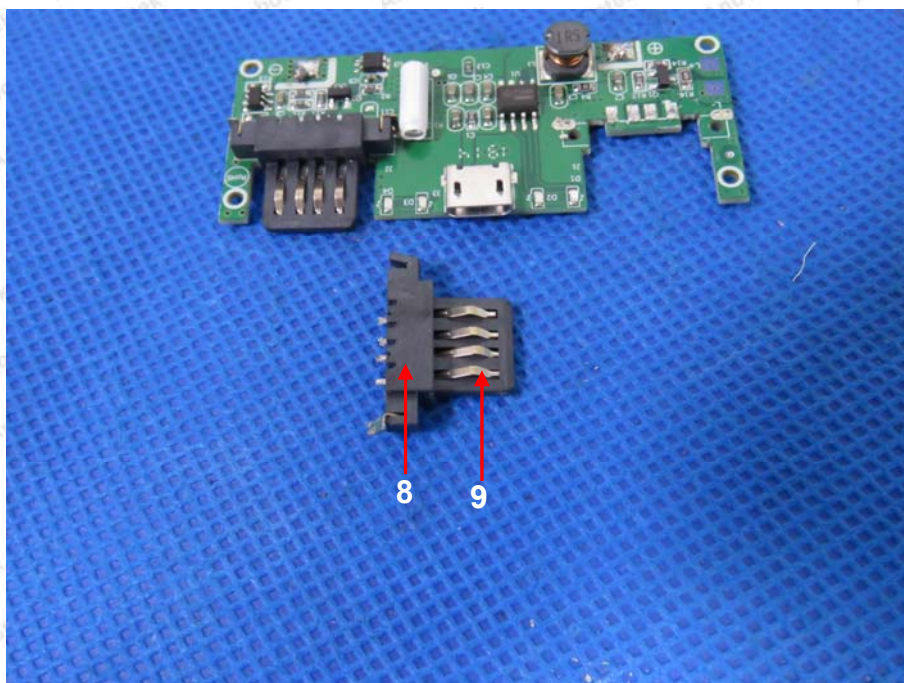
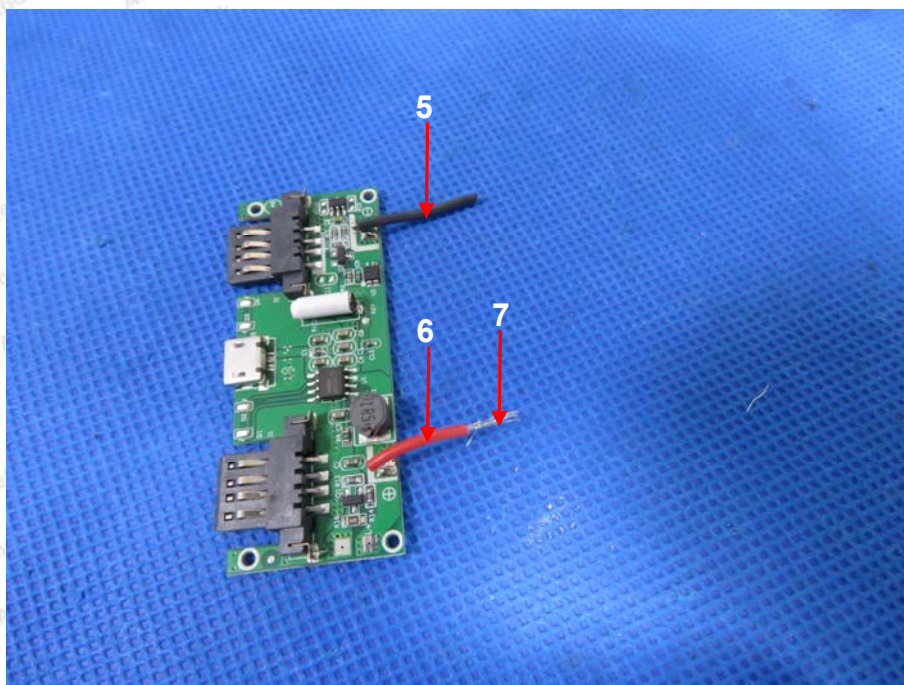
THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE ONLY BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 15 of 17



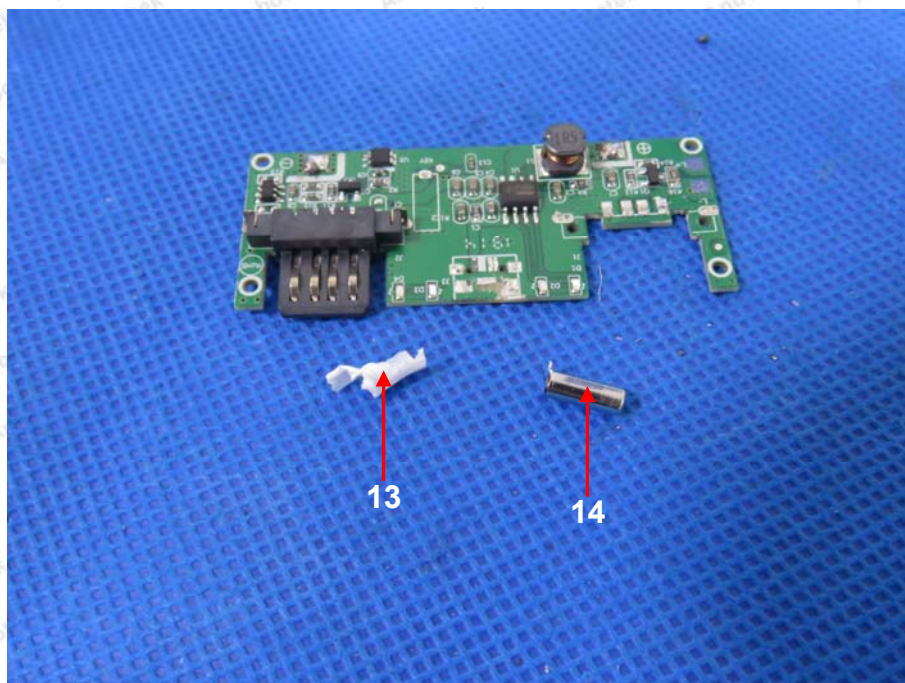
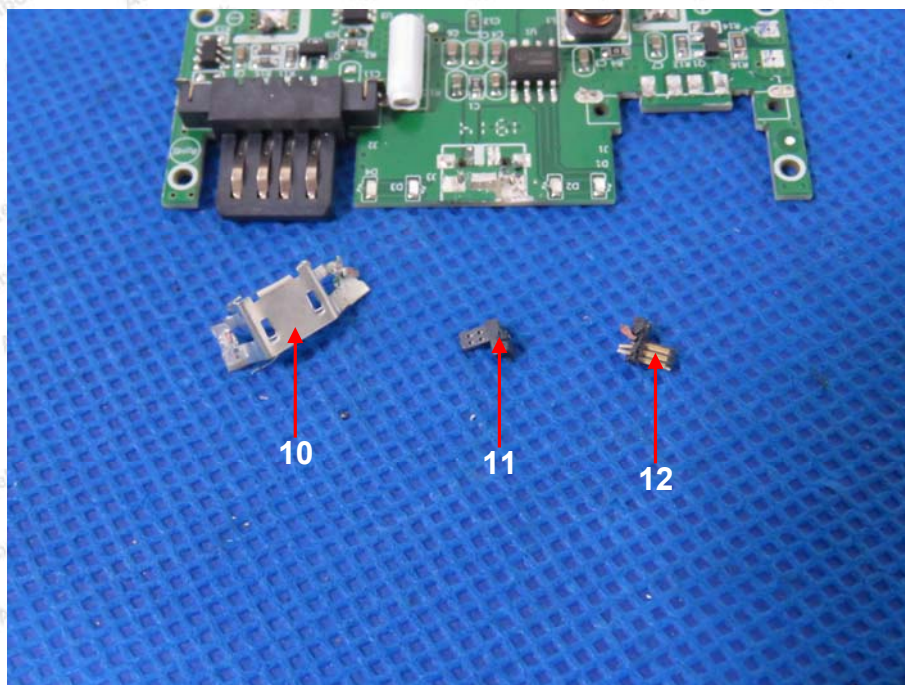
THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 16 of 17



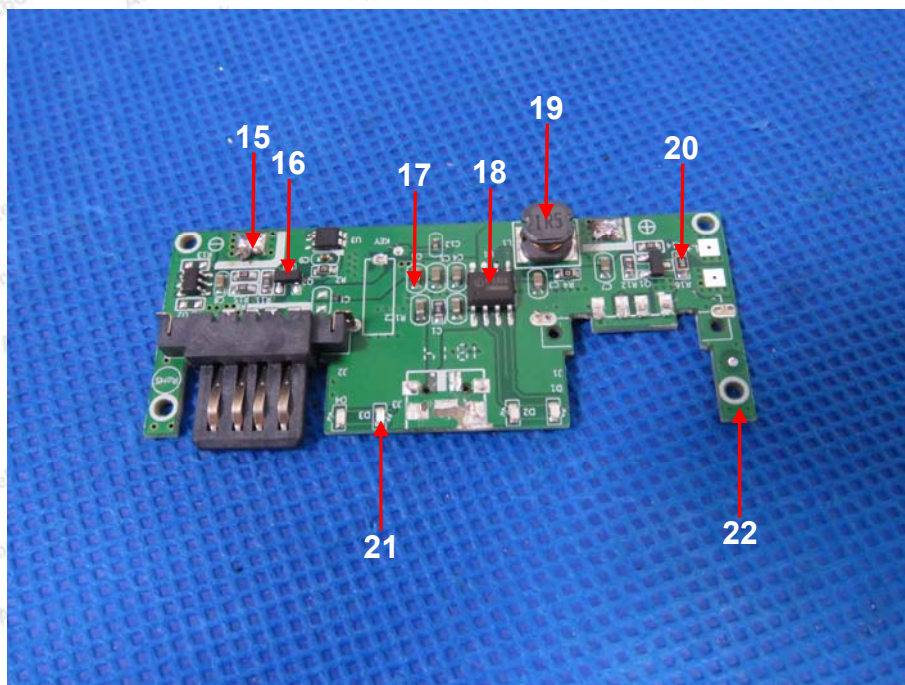
THIS DOCUMENT WAS REDACTED WITH THE PRODUCTIP REDACTION TOOL ON 2019-11-05. AT THE TIME OF GENERATING THE DOCUMENT THE ORIGINAL DOCUMENT WAS AVAILABLE BY THE DOCUMENT OWNER.

Test Report

Report No.: SZARR190617021-01

Date: Aug. 01, 2019

Page 17 of 17



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

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of Anbotek, this report can't be reproduced except in full.