

Report No.: SZARR190114022-01

Test Report

Client Name :

Address :

Product Name : Power Bank

Date : Jan. 21, 2019





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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. :

Manufacturer

Trade Mark

Sample Received Date : Jan. 14, 2019

Testing Period : Jan. 14, 2019 to Jan. 21, 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 Lighty Yang

Test engineer

Reviewed by / WK

Niki You Test engineer



Shenzhen Anbotek Compliance Laboratory Limited

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Test Method:

A. XRF Screening Test

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

Aug to	Limit of IEC 62321-3-1:2013 Unit (mg/kg)					
Element	Polymers	Metals	Composite material			
Cd	BL≤(70-3σ) <x <(130+3σ)≤ol<="" td=""><td>BL≤(70-3σ) <x <(130+3σ)≤ol<="" td=""><td>LOD<x <(150+3σ)≤ol<="" td=""></x></td></x></td></x>	BL≤(70-3σ) <x <(130+3σ)≤ol<="" td=""><td>LOD<x <(150+3σ)≤ol<="" td=""></x></td></x>	LOD <x <(150+3σ)≤ol<="" td=""></x>			
Pb	BL≤(700-3σ) <x <(1300+3σ)≤OL</x 	BL≤(700-3σ) <x <(1300+3σ)≤OL</x 	BL≤(500-3σ) <x <(1500+3σ)≤OL</x 			
Hg	BL≤(700-3σ) <x <(1300+3σ)≤OL</x 	BL≤(700-3σ) <x <(1300+3σ)≤OL</x 	BL≤(500-3σ) <x <(1500+3σ)≤OL</x 			
Br	BL≤(300-3σ)< X	N.A.	BL≤(250-3σ)< X			
Cr And	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< 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 tek	Limit
Lead (Pb)	IEC 62321-5:2013	Dores Aug	2 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES	2 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	Anbore Ar	2 mg/kg	1000 mg/kg
Harris Charles Con (11)	IEC 62321-7-1:2015	Aupo.	0.10µg/cm ²	1000 mg/kg
Hexavalent Chromium Cr(VI)	IEC 62321-7-2:2017	UV-VIS	2 mg/kg	
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	nbotek Anbot	5 mg/kg	1000 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS	5 mg/kg	1000 mg/kg
Phthalates (DIBP, DBP, BBP, DEHP)	IEC 62321-8:2017	k Anbotek	50 mg/kg	1000 mg/kg



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Test Results:

Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test Unit (mg/kg)	Conclusion
Value	hotek Anbotek	An Pb	Vey WBE. by	tek / nbote	Aupole
	hotek Anbot	Cd	BL poter	Anbo lok	itek Anbot
	Anbotek Anbot	ote ^k Hg ^{ote}	ntek BL nbotek	Pupor / Pu	abotek Ani
Anbotek	Anbore An	Cr(Cr(VI))	And tek BL shotek	Anbolt	ne stek
1 Anbotek	Grey soft plastic scarfskin	Br(PBBs&PBDEs)	BL	N Noote	PASS
	lek supo.	DBP	N.A.	N.D.	Anbore
	botek Anbotek	BBP	N.A.	N.D.	Anbore
	ntek sabote	DEHP	N.A.	N.D.	cek Ambot
	Aupo Lek - up	DIBP	N.A.	N.D.	botek An
Anbotek	Vupa. 16k	potek Pbubote	American BL Ambotek	Anbor	holek
	Anbore	Cd Maria	And BL nbote	K PLYOU	Ann
	ek Anbotek	Hg Anbotes	Anb BL _K	otek Anbore	And
	potek Anbote	Cr(Cr(VI))	ATBL A	hotek / Anbote	Anbo
otel ²	Grey plastic key	Br(PBBs&PBDEs)	potek Brace	kn wotek Anbo	PASS
	Anbotek Anb	DBP	abotek N.A. abote	N.D.	botek An
	Ans	BBP	notek N.A. Anbote	N.D.	abotek
	Anbootek	DEHP	N.A.	N.D.	A. abotek
Anbot	an Anbo	DIBP	N.A.	N.D.	All hotek
An	potek Anbor	Pb Anbol	An BL tek	abotek / Anbote	ek Anbote
	abotek Anbote	Cd	poter BL BL	Apolek Anbol	Anb
	Anbotek Anbo	Hg	Anbotek Blanboth	And Andrew	potek Ant
	Air botek	Cr(Cr(VI))	nbotek BL Anbote	Amadek	Anbotek
A3 ^{botek}	Grey plastic	Br(PBBs&PBDEs)	aboteBL Anbote	V VIII	PASS
	shell	Ambote DBP Ambot	N.A.	N.D.	Anbotek
	101	BBP	N.A.	nboten N.D.Anbot	K Abote
	Anbotek Anbos	DEHP	N.A.	Mbote N.D. Anber	otek Ant
	abotek Anbo	DIBP	N.A.	N.D.	lotek Aup



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
br.	lek Anbote	Pb	BL	1	Yo.
K Anb	botek Anbotek	Cd	Ver PBC by	ntek / anbote	Ambore
rek b	abotek Anbot	Hg	botek BL bote	And Tok	rek Anbol
botek	Vu.	Cr(Cr(VI))	ntek BL nbotek	Anbo. Lak	botek An
Ani4tek	Silvery metal	Br(PBBs&PBDEs)	N.A.	Anbol P	PASS
Anbotek	shell	DBP	N.A.	ox Moore	Anbotek
Anbo	tek Anbotek	BBP	N.A.	otek Amboten	Andu
SK W.	botek Anboten	DEHP	N.A.	hotek / Anbore	Anbo
b,	notek Anbol	DIBP	N.A.	And Anbr	rek Yupo,
DOI:	Am botek An	Pb	notek BLAnbore	America	botek An
Anbotek	Anbotek	Cd	notek BL Anbotek	Anus	abolek
Anbotek	Anbo	nbotek Hg Anbote	BL Anbote	M. M	Anbotek
Anbo	ek Anboursek	Cr(Cr(VI))	Amb BL _a k	otek Anbote	Ann
5	Grey-black inner	Br(PBBs&PBDEs)	ATBL	abotek / Anbotes	PASS
otek A.	plastic	DBP	N.A.	N.D. Antio	er Anbo
or ok	An botek Ant	BBP	nbotek N.A.nbo	N.D.	potek Ani
nbotek	An	DEHP	N.A. Anbote	N.D.	nbotek
Anbote.	K Ann -otek	DIBP	N.A. Anbore	N.D.	nbotek
Anboy	otek Anbotek	nbotel Pb Anbote	BLek Anb	ofer Vupo	abotek
K An	LO	Cd	BL tek	nbotek / Anbo	ok Pi,
otek	Anbotek Anbote	Hg	BL tek	anbotek Anbo	Arra S
nbotek 6k	Anbotek Anb	Cr(Cr(VI))	Anboten BLAnbe	abotek Ar	pore. K
mb 6 tek	Pin	Br(PBBs&PBDEs)	Anbotek N.A. Anbo	Hotek	PASS
Anbotek	k Anbotek	DBP Dev	N.A. Anbox	Notek Dotek	Anbotek
Anbote	otek Anbotek	BBP	N.A.	K Am otek	nbotek
Ant	Jose And	DEHP	N.A.	abote / And	k Anbotel
otek	Anboten Anbo	DIBP M	N.A.	Ambotek / Ambo	rok be.



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Ur.	solok or	Do. br.	bote And	nek.	about An
Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
be.	lek Anbotek Ibotek Anbotek	Pb	BL	/	, ak
Anbo		Cd	Nex MBC by	atek / anbote	Anbore
lek b		M Hg	hotek BL hoter	Aup.	itek Anbol
botek	Villa.	Cr(Cr(VI))	otek BL anbotek	Anbo	spotek An
Ant7tek	Grey-black inner plastic	Br(PBBs&PBDEs)	And otek BL anbotek	Anbo, A	PASS
Anbotek		DBP	N.A.	N.D.	Anu
Anbo	lek Anbotek	BBP Mode	N.A.	N.D.	Andragek
ak As	botek Anboten	DEHP	N.A.	Mole N.D. Anbotes	Anbo
b,	hotek Anbot	DIBP	N.A.	N.D.	rok Yupo,
No.	Pur Potek Vul	Pb	botek BLAnbote	Pup lek	potek An
Anbotek .K	And	nbotek Cd book	notek BL Anboten	Amb	nbolek
Anbotek	Anbe	anbotek Hg Anbote	BL Anbote	Any Lok	Anbotek
Anbo	ek Anbo	Cr(Cr(VI))	BL ₂ K NA	otek Anbou	All
8	Bright silvery metal shell	Br(PBBs&PBDEs)	N.A.	abotek / Anboten	PASS
otek	aboten Anbo	DBP	N.A.	abotek/ Anbo	Anb.
· ak	Anbotek Anb	BBP	N.A. nbota	MIN NOVER AT	potek An
nbotek	All	DEHP	N.A. Anbore	Arr Josek	Anbotek
Anbore	Y Ans Stek	DIBP	N.A.	And	nbotek
Anbor	otek Anbotek	nbote ^R Pb Anbot	BLek And	Vupp.	abotek
k An'	potek Anbote	Cd Anibo	BL	upotek / Aupo	ek hote
tek	Anbotek Anbo	Hgek Ar	BL tek	Anbotek Anbo	V. V.
rek	anbotek Anb	Cr(Cr(VI))	Anboten BLAnburtek	nbotak An	pore. K
9	Grey-black inner	Br(PBBs&PBDEs)	Anbotek BL Anbo	Jotek	PASS
Anbotek	plastic	Anbole DBPAND	Anbow.A. Anbow	N.D.	Anbotek
Anbot	otek Anbotek	BBP	N.A. Mar	N.D.	Anbotek
Ant	Jose Ans wotel	DEHP Anbo	N.A.	N.D.	k anbote
tek	Anboten Anbo	DIBP	N.A.	N.D.	rek w



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
br.	tek Aupote.	Pb	BL	1	40.
K Anbo	abotek Anbotek	Cd	LOD	ntek / anbote	Anbore
rek b		Hg	botek BLooter	And Told	rek Anbor
botek	Anbotek Anbo	Cr(Cr(VI))	otek BL notek	Aupo I	bolek An
10°H	And LED.	Br(PBBs&PBDEs)	And atekBL anbotek	Anboy P	PASS
Anbotek	Anbote.	DBP	N.A.	N.D.	Anbotek
Anbo	tek Anborb	BBP	N.A.	N.D.	Augratek
ek W.	botek Anboten	DEHP	N.A.	N.D. Anbore	Anbo
P.	hotek Anbol	DIBP	N.A.	N.D.	rek Vupor
001	An Hotek An	Pb	botek BLAnbote	And	potek Ani
Anbotek K	Anbactek	Cd	LOD	AMD LOK	nbolek
Anbotek	Anbo	nbotek Hg Anbote	BL anbote	AMO	Anbotek
Anbo	ek Anbotek	Cr(Cr(VI))	BL _a k and	otek Anbote	Arrange
× 11	Chip resistor	Br(PBBs&PBDEs)	PUBL YOK	abotek / Anbote	PASS
lotek k	abotek Anbot	DBP	N.A.	N.D. Anbo	er Anbo
Jor Cak	An botek An	BBP	nbotek N.A. nbote	N.D.	potek Ant
AnbotekK	All	DEHP	nbotek N.A. Anbote	N.D.	Anbotek
Anbore	K Ann Hotek	DIBP	N.A.	N.D.	nbotek
Anbor	otek Ambotek	nbote ^R Pb Anbot	K BLK AND	Pupo Fek	abotek
K An	otek Anboten	Cd	LOD	nbotek / Anbo	ok Air
otek	Anbotek Anbote	Hg	BL tek	anbotek Anbo	V Ann
nbotek 12 x	Anbotek Ant	Cr(Cr(VI))	Anbotek BLAnbe	abotek An	pole, Yun
12	Chip capacitor	Br(PBBs&PBDEs)	Anbotek BL Anbot	Hotek	PASS
12 Anbotek	k Anbotek	DBP DIE	N.A.	N.D.	Anbotek
Anbote	otek Anbotek	BBP	N.A.	N.D.	abotek
K An'	oto Anu	DEHP	N.A.	N.D.	k Anbotel
otek	Anbote. Anbo	DIBP M	N.A.	Anbote N.D. Anbo	rek wo



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
k -200	rek Anbore	Pb	BL	/	No.
K Anbe		Cd	Nex MBC by	otek / Anbote	Anbore
otek P		Hg Hg	motek BL bote	Anb -toly	rek Anbore
abotek		Cr(Cr(VI))	Lotek BL Anborek	And	botek Ant
13	Soldering tin	Br(PBBs&PBDEs)	N.A.	Anbo, A	PASS
Anbosek		DBP	N.A.	N PADOLE	Ann
Anbo		BBP Model	N.A.	otek Amboles	Andratek
rek W.		DEHP	N.A.	hotek / Anbote	Anbo
P.		DIBP	N.A.	Am atek/ Anbr	lok Aupor
Por	An abotek An	Pb	Hotek BLAnbote	And	potek Anb
Anbotek		Cd Cd	LOD	And	abotek P
Anbotek		nbotek Hg Anbote	BL Anbote	ANDO	Anbotek
Anbo		Cr(Cr(VI))	BL _k	otek Anbote	Annatek
× 14	PCB	Br(PBBs&PBDEs)	May X tok	abotek N.D. Anbote	PASS
potek		DBP	N.A.	N.D. Anbo	Anbo
DO. FOR		BBP	N.A.	N.D.	potek Anb
Anbotek		DEHP	nbotek N.A. Anbote	N.D.	Anbotek A
Anbore		DIBP	N.A. Anbore	N.D.	nbotek
Anbol	ootek Anbotek	Pb	BL ^N And	Vupp rek	abotek
K AN	potek Anbote	Cd	LOD	nbotek / Anbo	ex botel
otek		Hgek An	BL BL	Anbotek Anbo	V. V.
		Cr(Cr(VI))	Anbotek BLAnburger	abotak An	pote K
15	IC.	Br(PBBs&PBDEs)	Ambotek BL Ambot	Potek	PASS
15		Anbore DBP	N.A.	N.D.	Anbotek
Anbote		Anbote BBP Anbote	N.A. Make	N.D.	Anbotek
K Anh		DEHP	N.A.	N.D.	k Anbotek
otek		DIBP	N.A.	M.D.	rek Pr.



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
Pr. 100	tek Anbote.	Pb	BL	/	.oK
-K Ann		Cd	LOD	otek / anbote	Anbore
re. b		Hg	notek BL boter	Anb -tol/	lek Anbol
poter		Cr(Cr(VI))	totek X anbotek	N.D.	bolek An
16	Chip inductor	Br(PBBs&PBDEs)	And otek BL Anbotek	Anbol A	PASS
Anbotek		DBP	N.A.	N.D.	Annotek
n nbo		BBP Model	N.A.	N.D.	Andrasek
ek by.		DEHP	N.A.	note ^k N.D. Anbotes	Anbo
P.		DIBP	N.A.	N.D.	fek Vupor

Note:

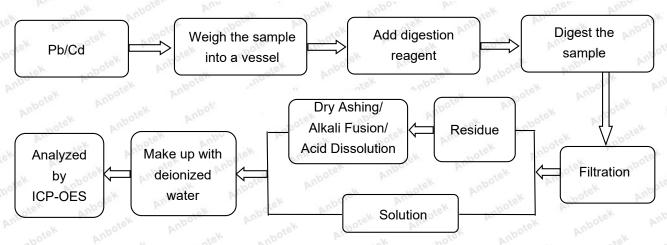
- The screening results are only used for reference.
- When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.
- -BL = Under the XRF screening limit
- -OL = Further chemical 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
- μg/cm² = microgramme per square centimetre
- -Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than $0.10ug/cm^2$.
- -Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than 0.13ug/cm².



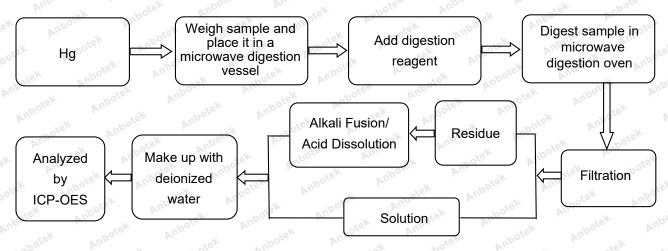
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Test Process:

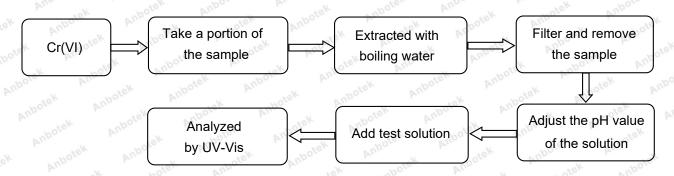
♦ IEC 62321-5:2013



♦ IEC 62321-4:2013+AMD1:2017



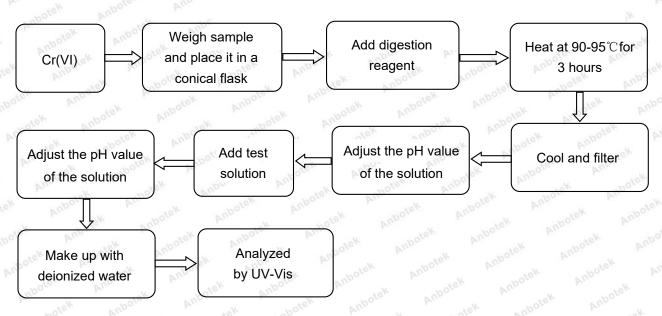
♦ IEC 62321-7-1:2015



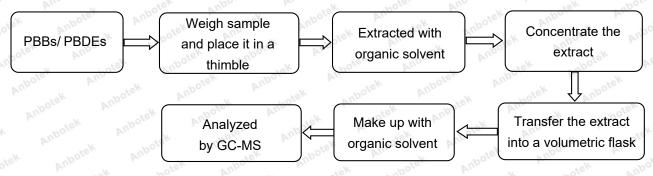


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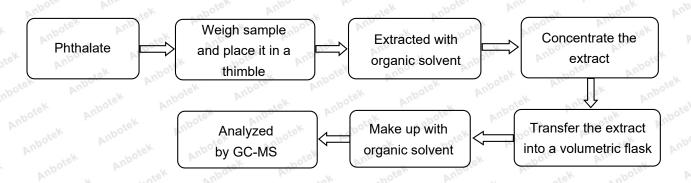
♦ IEC 62321-7-2:2017



♦ IEC 62321-6:2015



♦ IEC 62321-8:2017



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Photograph of Sample



Photo(s) of the tested component(s)



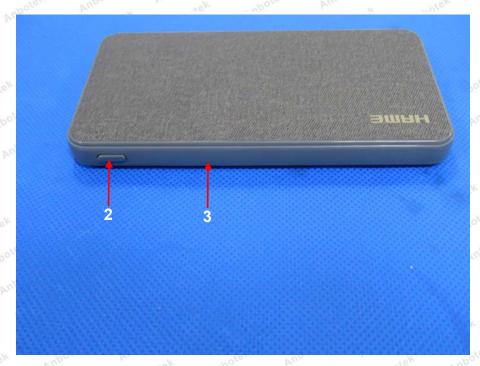
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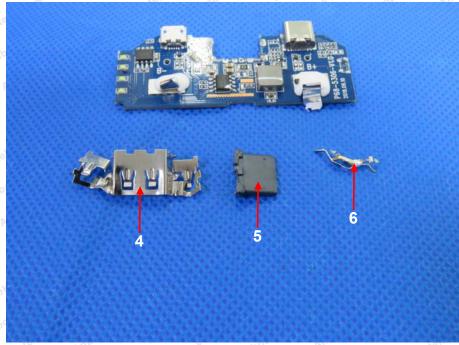
Hotline 400-003-050

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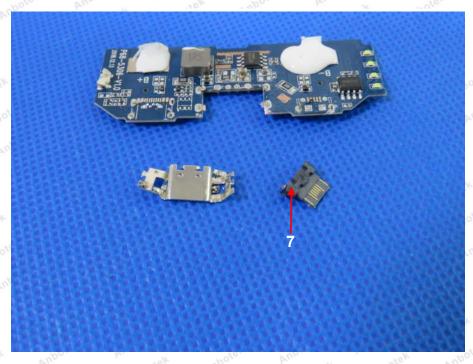


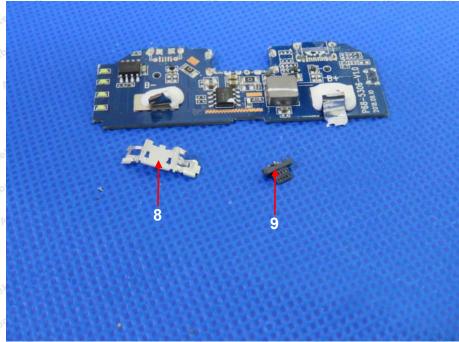


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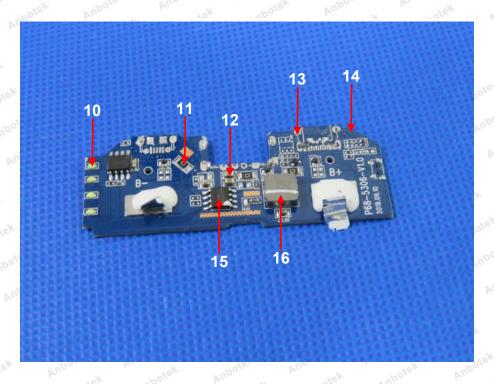
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End of Report *****

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