

Report No.: 18300RC30378001

Test Report

Client Name : 2Service B.V.

Client Address : Santkamp 5, 6836 BE, Arnhem, The Netherlands

Product Name : Micro to USB-A 1M/2M/3M, USB-C to USB-A
1M/2M/3M, USB-C to USB-C 1M/2M/3M, Lightning
to USB-A 1M/2M/3M, Lightning to USB-C
1M/2M/3M

Report Date : 2023.09.07



Shenzhen Anbotek Compliance Laboratory Limited

Shenzhen Anbotek Compliance Laboratory Limited

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Applicant : 2Service B.V.

Address : Santkamp 5, 6836 BE, Arnhem, The Netherlands

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

Sample Name : Micro to USB-A 1M/2M/3M, USB-C to USB-A 1M/2M/3M, USB-C to USB-C 1M/2M/3M, Lightning to USB-A 1M/2M/3M, Lightning to USB-C 1M/2M/3M

Test Model No. : MS-30004, MS-30005, MS-30006, MS-30007, MS-30008

Material : PVC

Manufacturer : 2Service B.V.

Sample Received Date : 2023.08.21

Testing Period : 2023.08.22~2023.08.31

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 selected material of 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).

Edited by

Beryl Jian

Reviewed by

Jurkin

Authorized Signatory

Carl



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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.

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

-3 σ = 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	0.10 μ g/cm ²	---
	IEC 62321-7-2:2017		8 mg/kg	1000 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



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Test Results:

Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
1	Blue PCB board	Pb	BL	/	PASS
		Cd	BL	/	
		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.	
2	Silvery metal 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.	/	
3	Translucent glue	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.			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
4	White plastic scarfskin	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.	
5	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.	
6	Silvery metal socket	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	X	Negative	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
DIBP	N.A.	/			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
7	White plastic wire sleeve	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.	
8	White 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.	
9	Green 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.	



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
10	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.	
11	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.	
12	White plastic scarfskin	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.			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
13	Silvery metal 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.	/	
14	White 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.	
15	Silvery metal socket	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.	/			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
16	IC	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.	
17	Chip capacitor	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.	
18	IC	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.			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
19	Magnetic bead	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.	
20	Green PCB board	Pb	BL	/	PASS
		Cd	BL	/	
		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.	
21	Silvery metal 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.	/	



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
22	White plastic wire sleeve	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.	
23	White plastic scarfskin	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.	
24	White plastic wire sleeve	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.			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
25	White plastic scarfskin	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.	
26	White plastic scarfskin	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.	
27	White plastic wire sleeve	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.			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
28	White plastic wire sleeve	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.	
29	Silvery metal socket	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.	/	
30	Copper-colored metal 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.	/			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
31	White inner plastic	Pb	BL	/	PASS
		Cd	BL	/	
		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.	
32	White plastic scarfskin	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.	
33	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.	
DIBP	N.A.	N.D.			



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Sample No.	Sample Description	Tested Items	XRF Screening Test Unit (mg/kg)	Chemical Test Unit (mg/kg)	Conclusion
34	Silvery metal 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.	/	
35	Silvery metal shell	Pb	BL	/	PASS
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	X	Negative	
		Br(PBBs&PBDEs)	N.A.	/	
		DBP	N.A.	/	
		BBP	N.A.	/	
		DEHP	N.A.	/	
DIBP	N.A.	/			



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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
 - 1mg/kg = 1ppm = 0.0001%
 - $\mu\text{g}/\text{cm}^2$ = microgramme per square centimetre
 - "----"=
- a. -Negative = Absence of Cr(VI) , the detected Cr(VI) concentration in the boiling water extraction solution is less than $0.10\mu\text{g}/\text{cm}^2$.
 - b. -Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than $0.13\mu\text{g}/\text{cm}^2$.
 - c. The result is between $0.10\mu\text{g}/\text{cm}^2$ with $0.13\mu\text{g}/\text{cm}^2$ is considered to be inconclusive-unavoidable coating variations may influence the determination.



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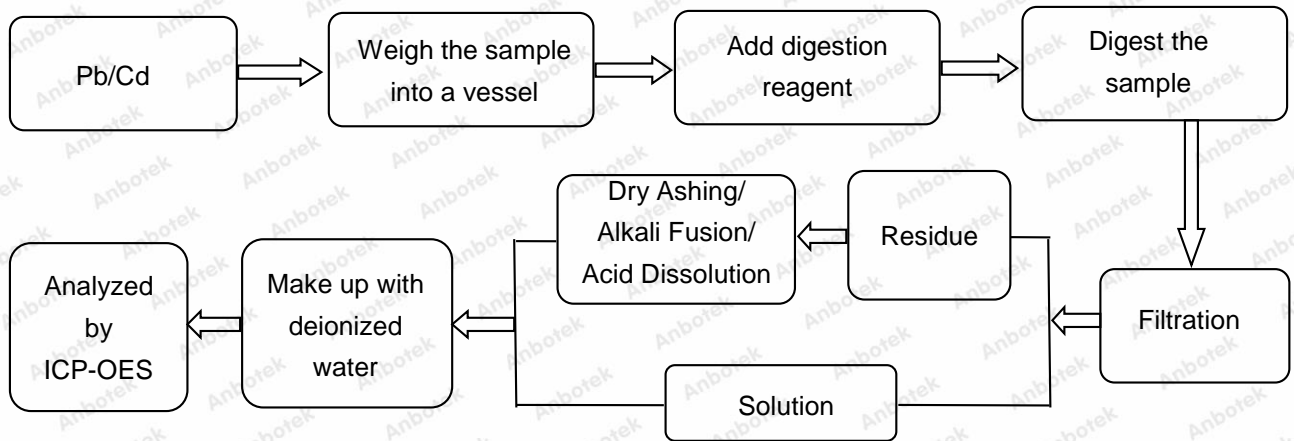
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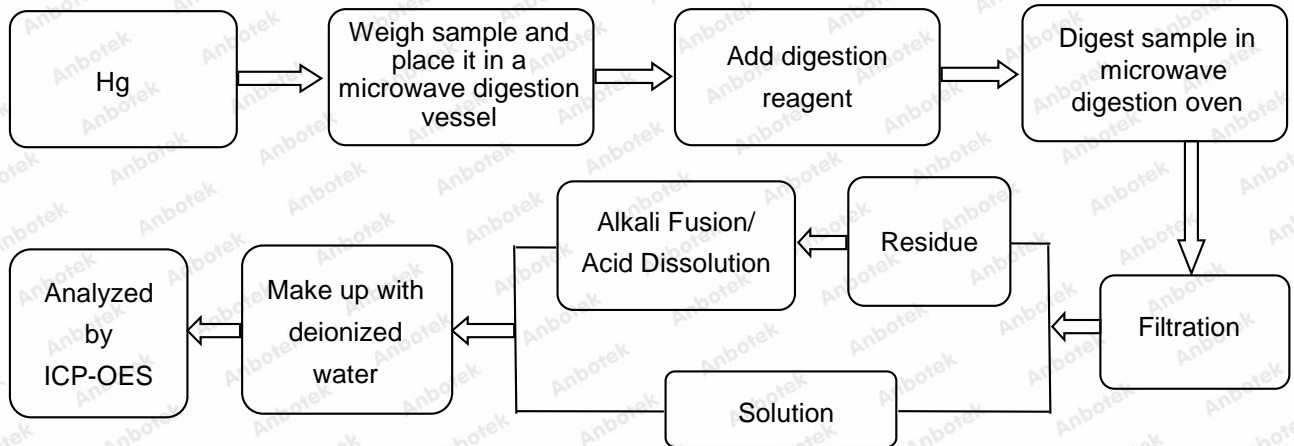
Test Process:

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

◆ IEC 62321-5:2013



◆ IEC 62321-4:2013+AMD1:2017

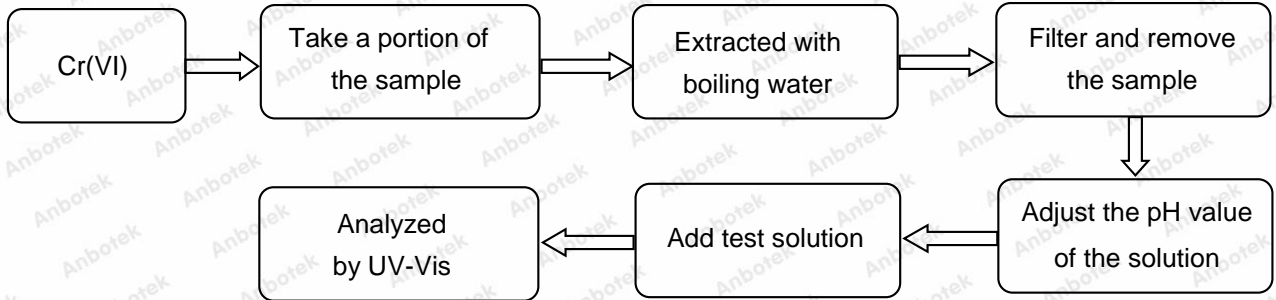


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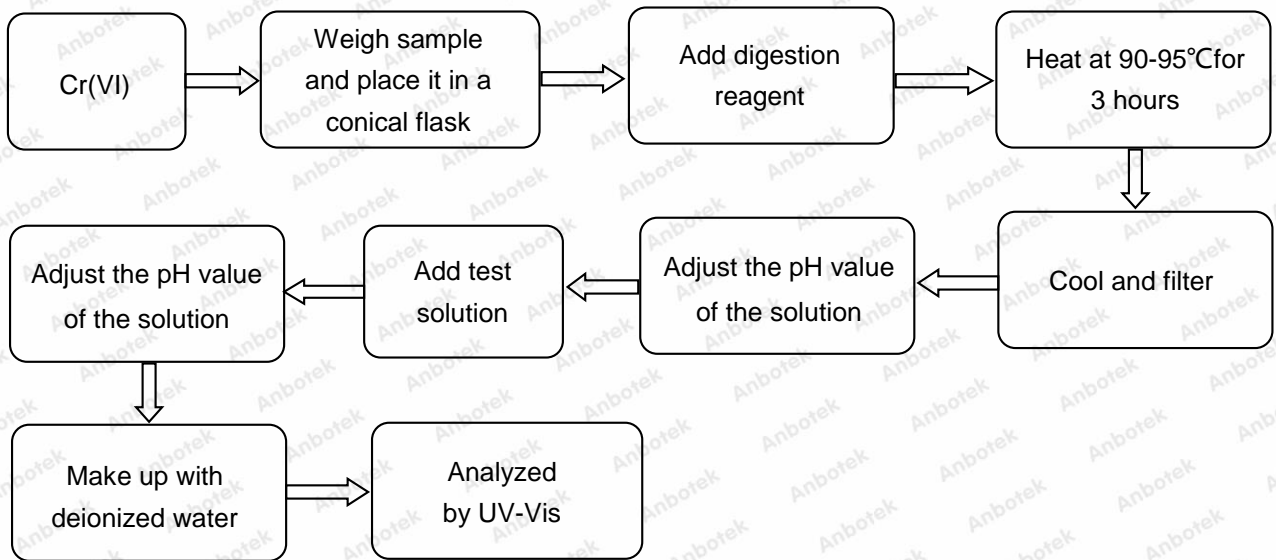
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◆ IEC 62321-7-1:2015



◆ IEC 62321-7-2:2017

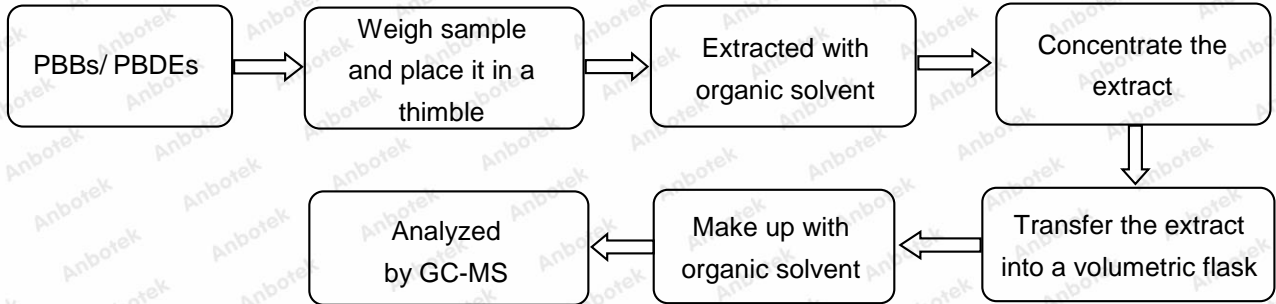


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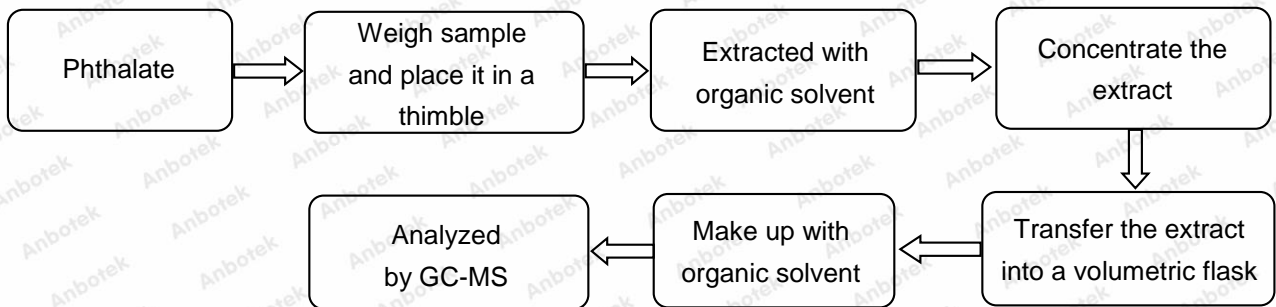
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◆ IEC 62321-6:2015



◆ IEC 62321-8:2017



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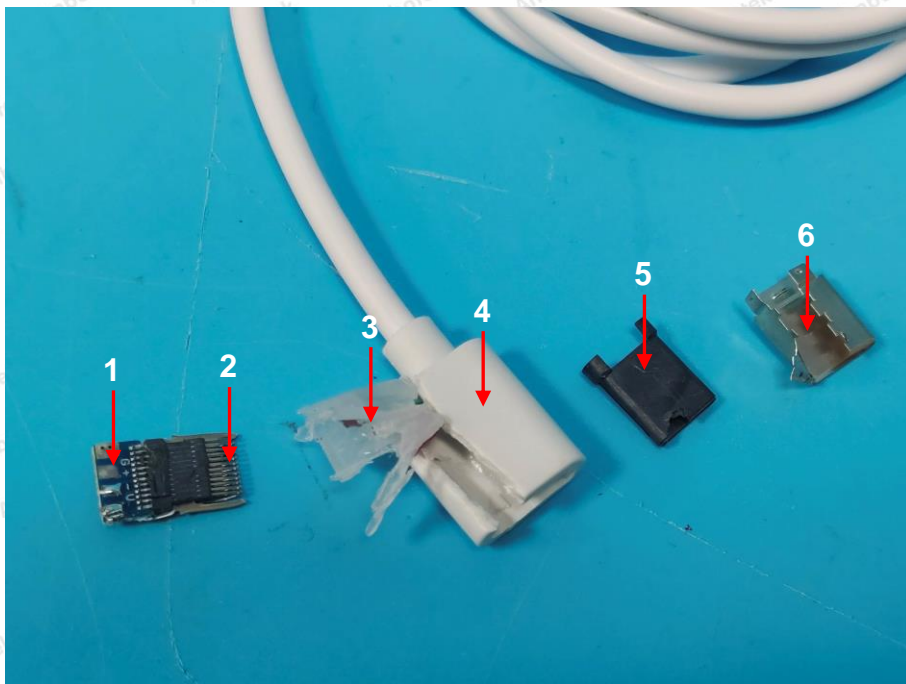
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Photograph of Sample



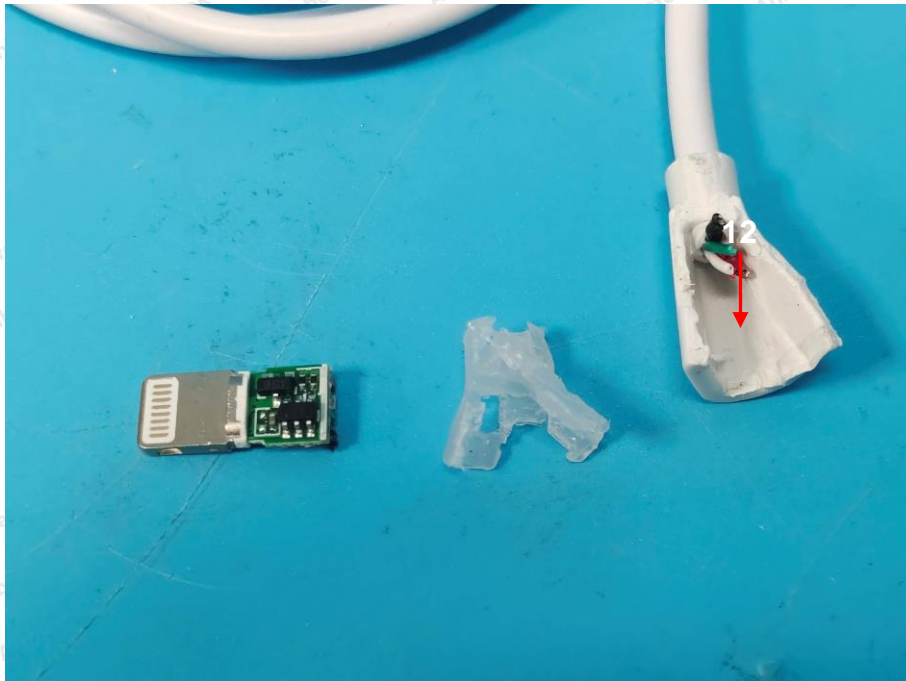
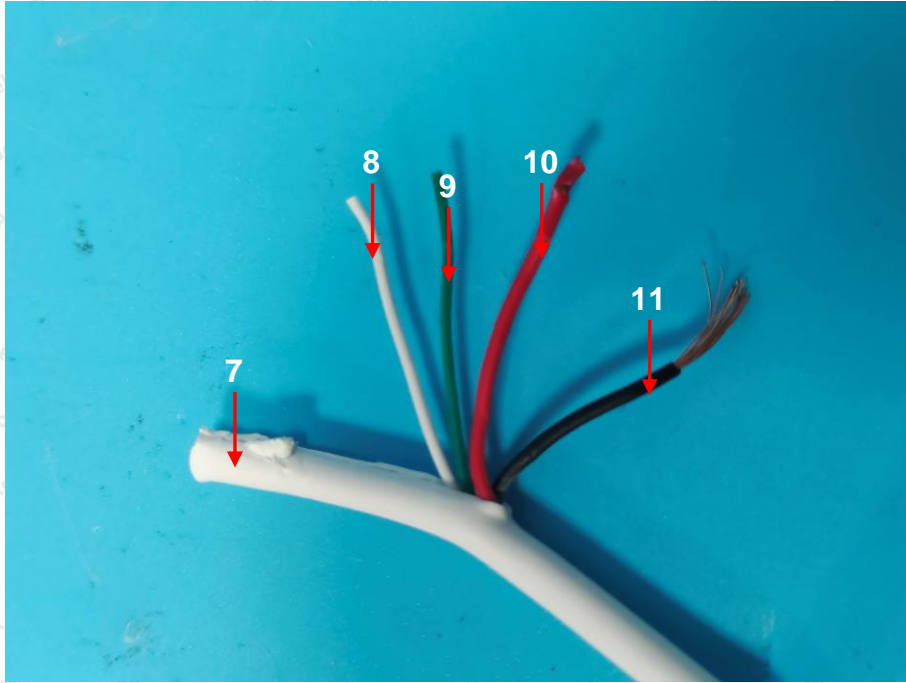
Photo(s) of the tested component(s)



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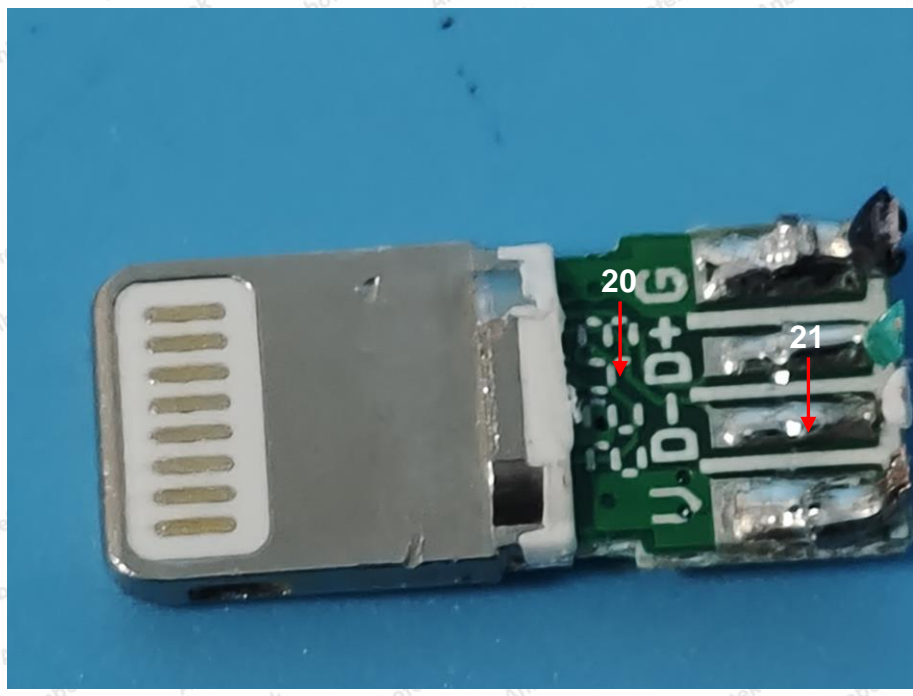
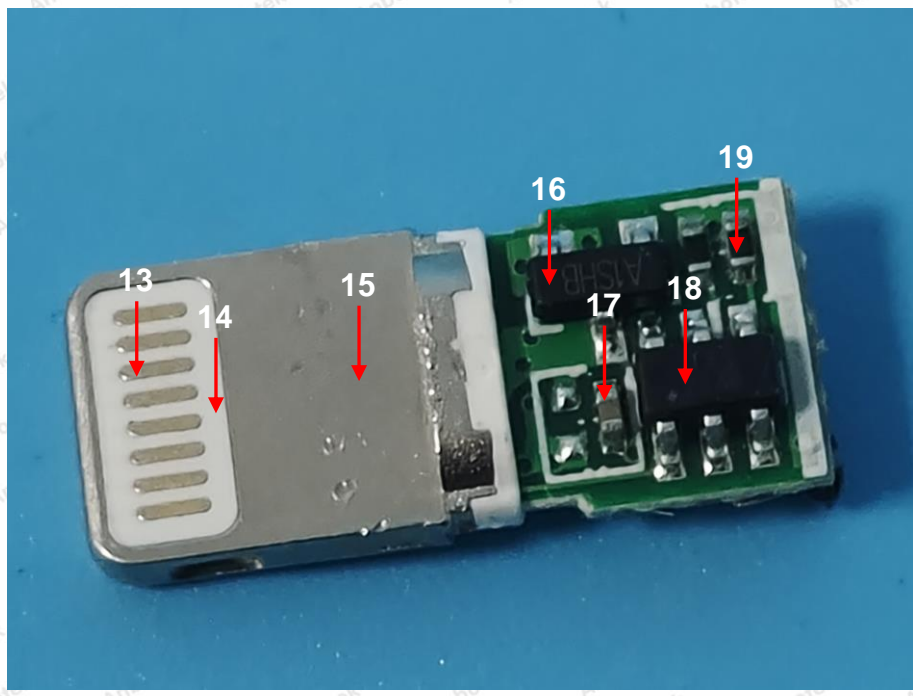
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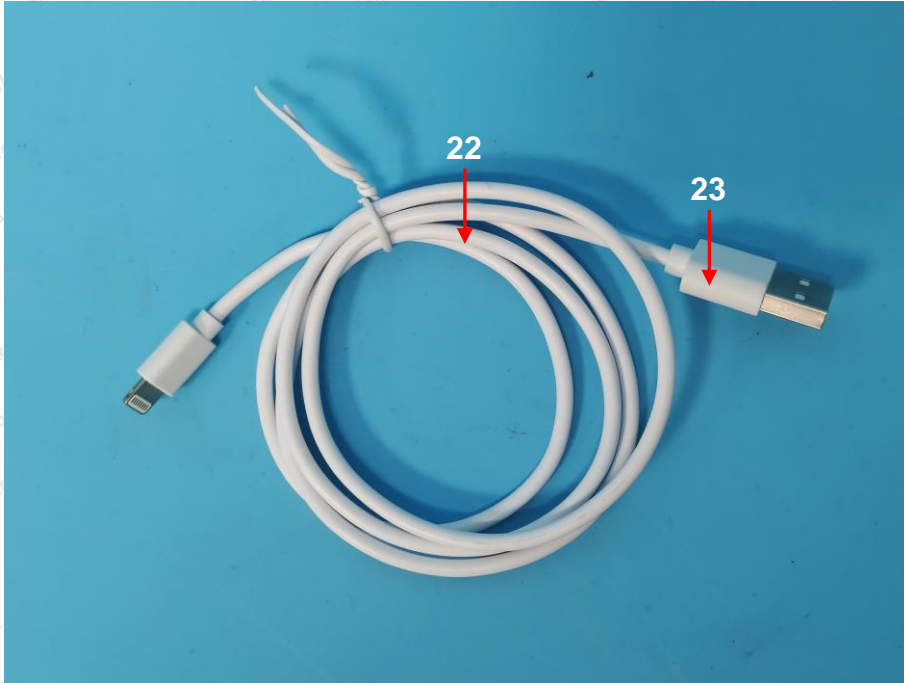
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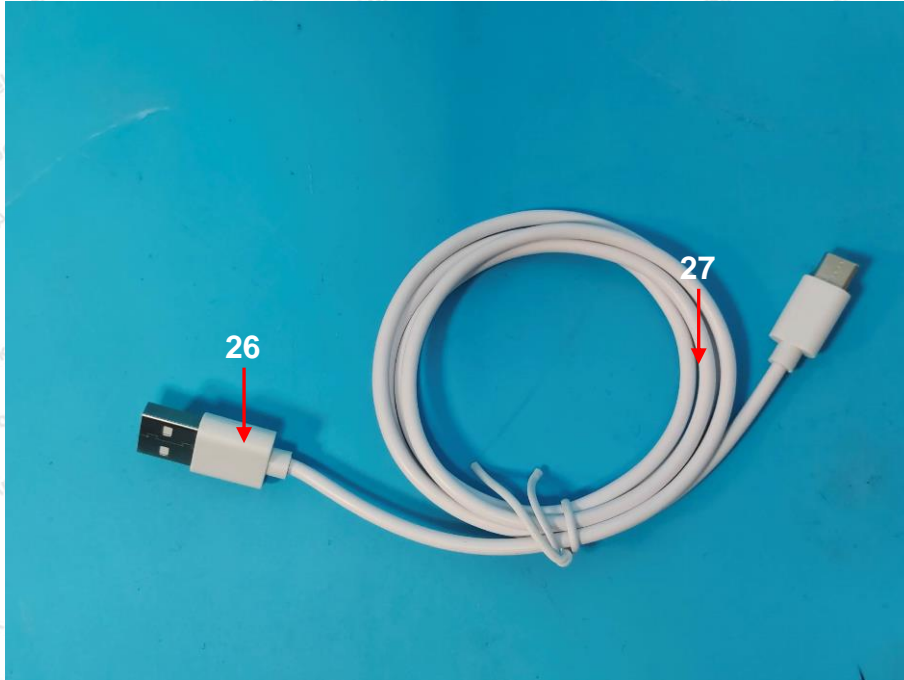
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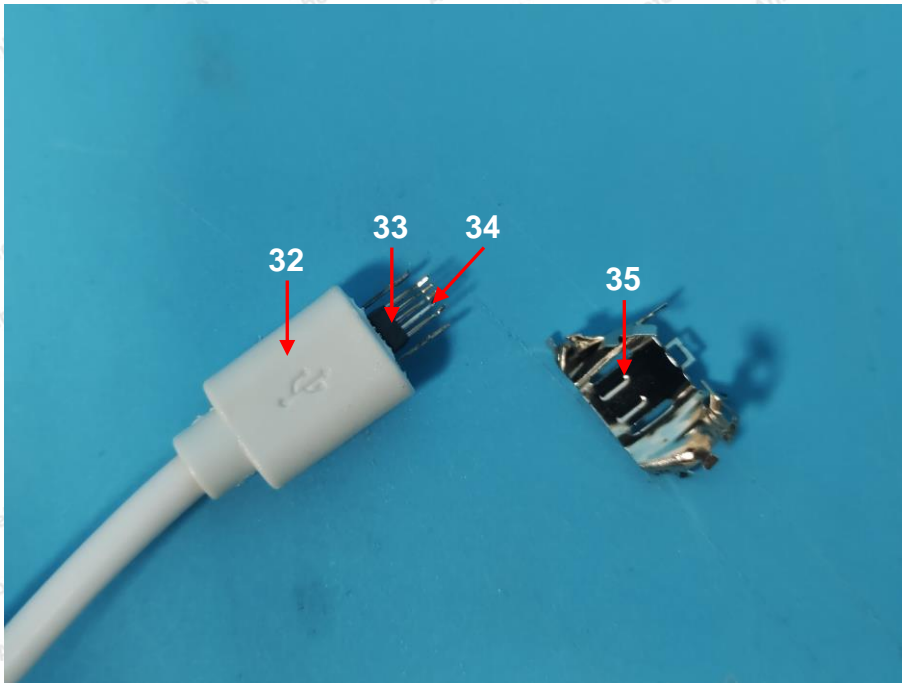
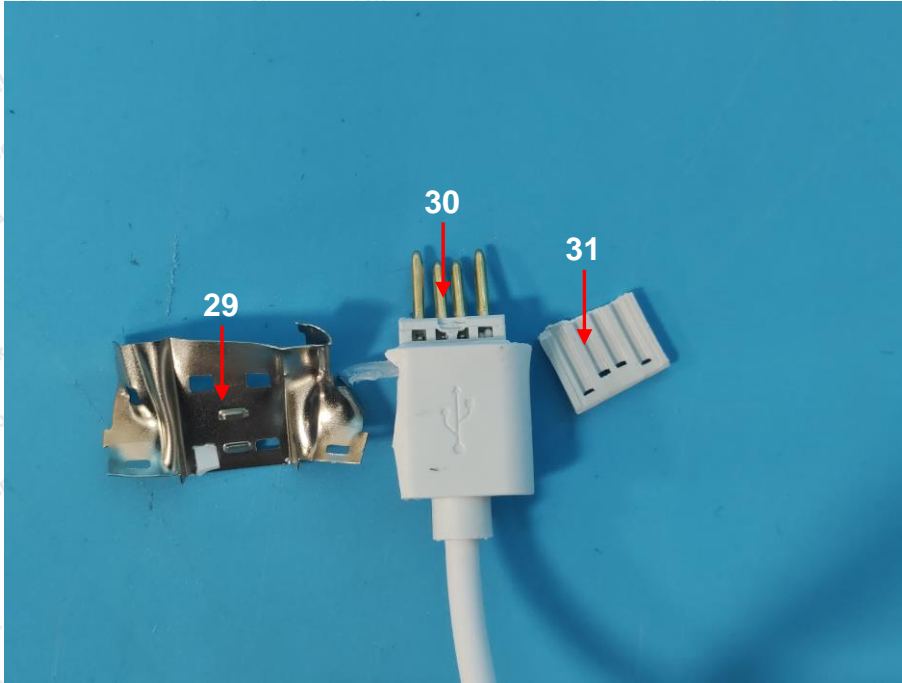
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**** End of Report ****

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