



中国认可
国际互认
检测
TESTING
CNAS L4595

Verification Report

Report No.: LCS210816069AR

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Applicant : FOSHAN G-POWER TECHNOLOGY CO., LTD
Address : No. 2 Shangyong Industry Avenue, Leliu Town, Shunde District, FOSHAN CITY Guangdong Province 528300 CHINA

Report on the submitted samples said to be:

Sample Name(s) : 33W USB-C GaN Charger
Trade Mark : N/A
Part No. : YM33EU, YM33UK, P1133, YM33, MP1133, HJ-GAN33U, HJ-GAN33E
Sample Received Date : August 17, 2021
Testing Period : August 17, 2021- September 02, 2021
Results : Please refer to next page(s).

TEST REQUEST	CONCLUSION
<p>As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP), Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.</p>	<p style="text-align: center;">Pass</p>

Signed for and on behalf of LCS





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Results:

A. EU RoHS Directive 2011/65/EU and its amendment directives

Test method: With reference to IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Sample No.	Sample Description	Results						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr ^v	Br ^v		
						PBBs	PBDEs	
1	White plastic shell	BL	BL	BL	BL	BL	BL	2021-08-17
2	White plastic shell	BL	BL	BL	BL	BL	BL	2021-08-17
3	Silver metal pin	BL	OL	BL	BL	/	/	2021-08-17
4	White plastic fixture	BL	BL	BL	BL	X	X	2021-08-17
5	Silver metal wire	BL	BL	BL	BL	/	/	2021-08-17
6	Red plastic thread	BL	BL	BL	BL	BL	BL	2021-08-17
7	Black plastic thread	BL	BL	BL	BL	BL	BL	2021-08-17
8	Solder	BL	BL	BL	BL	/	/	2021-08-17
9	White dry glue	BL	BL	BL	BL	BL	BL	2021-08-17
10	Black body	BL	BL	BL	BL	BL	BL	2021-08-17
11	Black and white ceramic	BL	BL	BL	BL	BL	BL	2021-08-17
12	Golden metal shell	BL	BL	BL	BL	/	/	2021-08-17
13	Black body	BL	BL	BL	BL	BL	BL	2021-08-17
14	Solder	BL	BL	BL	BL	/	/	2021-08-17
15	Black body	BL	BL	BL	BL	BL	BL	2021-08-17
16	Black body	BL	BL	BL	BL	BL	BL	2021-08-17
17	Yellow plastic tape	BL	BL	BL	BL	BL	BL	2021-08-17
18	Silver metal port shell	BL	BL	BL	X	/	/	2021-08-17
19	Gold/silver metal pin	BL	BL	BL	BL	/	/	2021-08-17
20	Black plastic sheet	BL	BL	BL	BL	BL	BL	2021-08-17
21	Green magnetic ring	OL	BL	BL	BL	/	/	2021-08-17
22	Yellow enameled wire	OL	BL	BL	BL	/	/	2021-08-17
23	Golden metal wire	BL	OL	BL	BL	/	/	2021-08-17
24	Transparent plastic casing	BL	BL	BL	BL	BL	BL	2021-08-17
25	Black PCB board	BL	BL	BL	BL	BL	BL	2021-08-17
26	Brown body (C13)	BL	BL	BL	BL	BL	BL	2021-08-17
27	Black body (RS61)	BL	BL	BL	BL	BL	BL	2021-08-17
28	Black plastic case (capacitor)	BL	BL	BL	BL	BL	BL	2021-08-17
29	Black soft plastic plug (capacitor)	BL	BL	BL	BL	BL	BL	2021-08-17



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Sample No.	Sample Description	Results						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr [▼]	Br [▼]		
						PBBs	PBDEs	
30	Silver metal shell (capacitor)	BL	BL	BL	BL	/	/	2021-08-17
31	Silver metal pins (capacitors)	BL	BL	BL	BL	/	/	2021-08-17
32	Transparent plastic tape (capacitor)	BL	BL	BL	BL	BL	BL	2021-08-17
33	Silver gray metal film (capacitor)	BL	BL	BL	BL	/	/	2021-08-17
34	Bright silver metal film (capacitor)	BL	BL	BL	BL	/	/	2021-08-17
35	Yellow wet paper (capacitor)	BL	BL	BL	BL	BL	BL	2021-08-17
36	Black plastic shell	BL	BL	BL	BL	BL	BL	2021-08-17
37	Black plastic film	BL	BL	BL	BL	X	X	2021-08-17
38	Transparent body	BL	BL	BL	BL	BL	BL	2021-08-17
39	Silver metal pins	BL	BL	BL	BL	/	/	2021-08-17
40	Black plastic sleeve	BL	BL	BL	BL	BL	BL	2021-08-17
41	White translucent plastic sleeve	BL	BL	BL	BL	BL	BL	2021-08-17
42	Yellow enameled wire	BL	BL	BL	BL	/	/	2021-08-17
43	Copper-colored metal wire	BL	OL	BL	BL	/	/	2021-08-17
44	Yellow plastic tape	BL	BL	BL	BL	BL	BL	2021-08-17
45	Black core	BL	BL	BL	BL	/	/	2021-08-17
46	Black plastic bracket	BL	BL	BL	BL	BL	BL	2021-08-17
47	Silver metal pins	OL	BL	BL	X	/	/	2021-08-17
48	Black plastic sleeve	BL	BL	BL	BL	BL	BL	2021-08-17
49	Copper-colored metal wire	BL	BL	BL	BL	/	/	2021-08-17
50	Black core	BL	BL	BL	BL	/	/	2021-08-17
51	Red printed silver metal body	BL	BL	BL	BL	/	/	2021-08-17
52	Brown body (C3)	BL	BL	BL	BL	BL	BL	2021-08-17
53	Black body (D2)	BL	BL	BL	BL	BL	BL	2021-08-17
54	Gray body (CM1)	BL	BL	BL	BL	BL	BL	2021-08-17
55	Black PCB board	BL	BL	BL	BL	BL	BL	2021-08-17
56	Black body	BL	BL	BL	BL	BL	BL	2021-08-17
57	Black body	BL	BL	BL	BL	BL	BL	2021-08-17
58	Black body (R1)	BL	BL	BL	BL	BL	BL	2021-08-17
59	Silver metal pins	BL	BL	BL	BL	/	/	2021-08-17/ 2021-08-30



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Note:

1. Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Ploymers	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	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	N/A	$BL \leq (250-3\sigma) < X$

Remark:

- BL= Below Limit
 - OL= Over Limit
 - X= The range of needing to do further testing
 - 3σ = The reproducibility of analytical instruments
 - N/A= Not applicable
 - LOD= Detection limit
2. The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
 3. The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
 4. ▼=For restricted substances PBBs and PBDEs, the results show the total Br content; The restricted substance was Cr(VI), and the results showed the total Cr content.



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RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.



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B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content

Test method:

Lead(Pb) & Cadmium(Cd) Content:

With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES) or Atomic absorption spectrometer (AAS).

Hexavalent Chromium(Cr(VI)) Content:

With reference to IEC 62321-7-1:2015, analysis was performed by UV-visible spectrophotometer (UV-Vis).

PBBs & PBDEs Content:

With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

DBP, BBP, DEHP & DIBP Content:

With reference to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

1) The test results of Lead(Pb) & Cadmium(Cd)

Tested Items	Unit	MDL	Results			Limit
			(3)	(23)	(43)	
Lead Content(Pb)	mg/kg	5	15976 ^{#1}	N.D.	N.D.	1000

Tested Items	Unit	MDL	Results			Limit
			(21)	(22)	(47)	
Cadmium Content(Cd)	mg/kg	5	N.D.	38	N.D.	100

2) The test results of Hexavalent Chromium(Cr(VI))(for coating on metal)

Tested Items	Unit	MDL	Results		Limit
			(18)	(47)	
Hexavalent Chromium(Cr(VI))★	µg/cm ² (LOQ)	0.10	N.D.	N.D.	1000



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3) The test results of DBP, BBP, DEHP & DIBP

Tested Items	Unit	MDL	Results	Limit
			1+2+4+6+7+10	
Dibutyl Phthalate(DBP)	mg/kg	600	N.D.	1000
Butylbenzyl Phthalate(BBP)	mg/kg	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	600	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	600	N.D.	1000

Tested Items	Unit	MDL	Results	Limit
			11+13+15+16+20+24	
Dibutyl Phthalate(DBP)	mg/kg	600	N.D.	1000
Butylbenzyl Phthalate(BBP)	mg/kg	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	600	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	600	N.D.	1000

Tested Items	Unit	MDL	Results	Limit
			25+26+27+28+35+36	
Dibutyl Phthalate(DBP)	mg/kg	600	N.D.	1000
Butylbenzyl Phthalate(BBP)	mg/kg	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	600	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	600	N.D.	1000

Tested Items	Unit	MDL	Results	Limit
			37+38+40+41+46+48	
Dibutyl Phthalate(DBP)	mg/kg	600	N.D.	1000
Butylbenzyl Phthalate(BBP)	mg/kg	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	600	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	600	N.D.	1000



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Tested Items	Unit	MDL	Results					Limit
			52+53+54+55+56+57					
Dibutyl Phthalate(DBP)	mg/kg	600	N.D.					1000
Butylbenzyl Phthalate(BBP)	mg/kg	600	N.D.					1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	600	N.D.					1000
Diisobutyl phthalate(DIBP)	mg/kg	600	N.D.					1000

Tested Items	Unit	MDL	Results					Limit
			58					
Dibutyl Phthalate(DBP)	mg/kg	100	N.D.					1000
Butylbenzyl Phthalate(BBP)	mg/kg	100	N.D.					1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	100	N.D.					1000
Diisobutyl phthalate(DIBP)	mg/kg	100	N.D.					1000

Tested Items	Unit	MDL	Results					Limit
			9	17	29	32	44	
Dibutyl Phthalate(DBP)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Butylbenzyl Phthalate(BBP)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	100	N.D.	N.D.	N.D.	N.D.	N.D.	1000



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4) The test results of PBBs & PBDEs

Tested Items	Unit	MDL	Results		Limit
			(4)	(37)	
Polybrominated Biphenyls(PBBs)					
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	/
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	/
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	/
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	/
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	/
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	/
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	/
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	/
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	/
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	/
Total content	mg/kg	/	N.D.	N.D.	1000
Polybrominated Diphenylethers(PBDEs)					
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	/
Total content	mg/kg	/	N.D.	N.D.	1000



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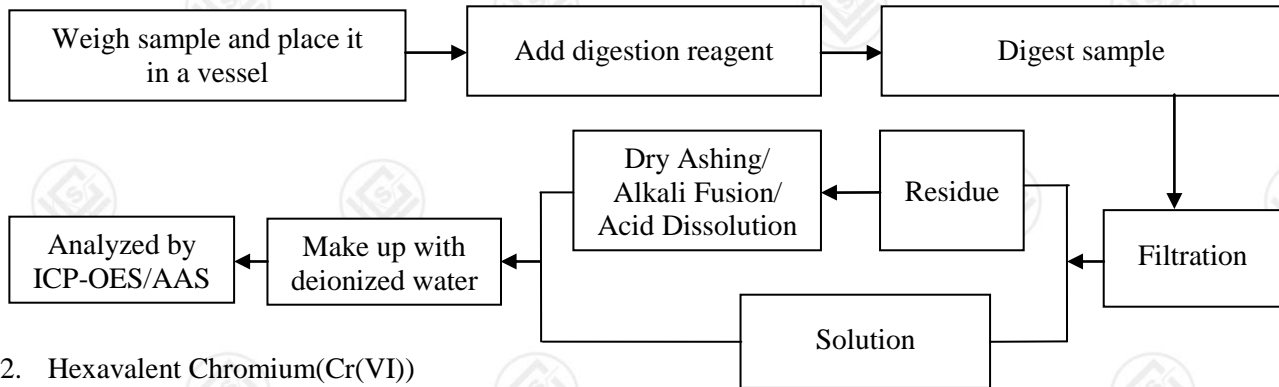
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Note:

- N.D.=Not Detected(<MDL or LOQ)
 - MDL = Method Detection Limit
 - mg/kg = ppm=parts per million
 - LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is $0.10 \mu\text{g}/\text{cm}^2$
 - ★ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than $0.13 \mu\text{g}/\text{cm}^2$. The sample coating is considered to contain Cr(VI).
b. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than $0.10 \mu\text{g}/\text{cm}^2$). The sample coating is considered a non- Cr(VI) based coating.
c. The result between $0.10 \mu\text{g}/\text{cm}^2$ and $0.13 \mu\text{g}/\text{cm}^2$ is considered to be inconclusive, unavoidable coating variations may influence the determination.
 - Information on storage conditions and production date of the tested samples is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
- #1 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.
- Flow chart appendix is included.

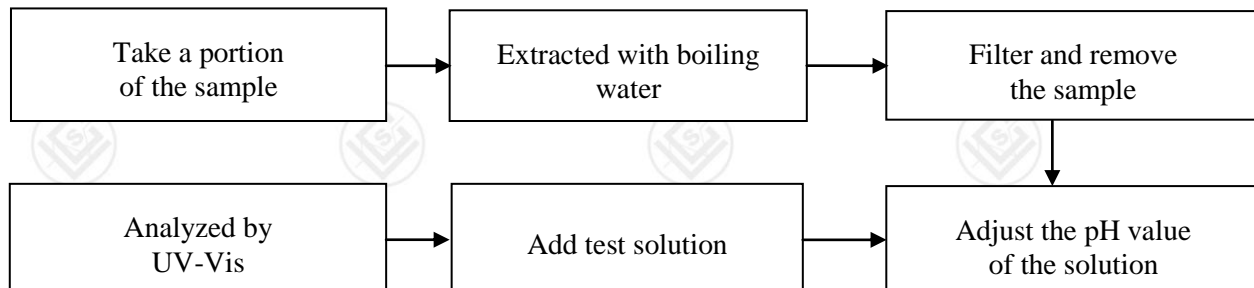
Test Process

1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013



2. Hexavalent Chromium(Cr(VI))

1) IEC 62321-7-1:2015



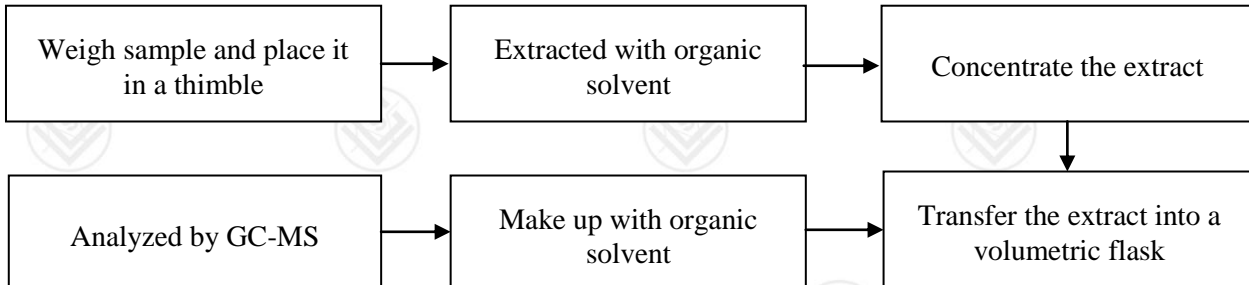


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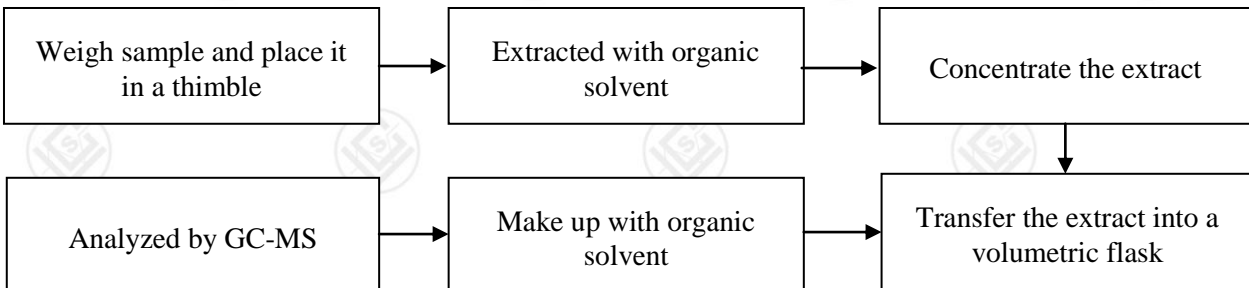
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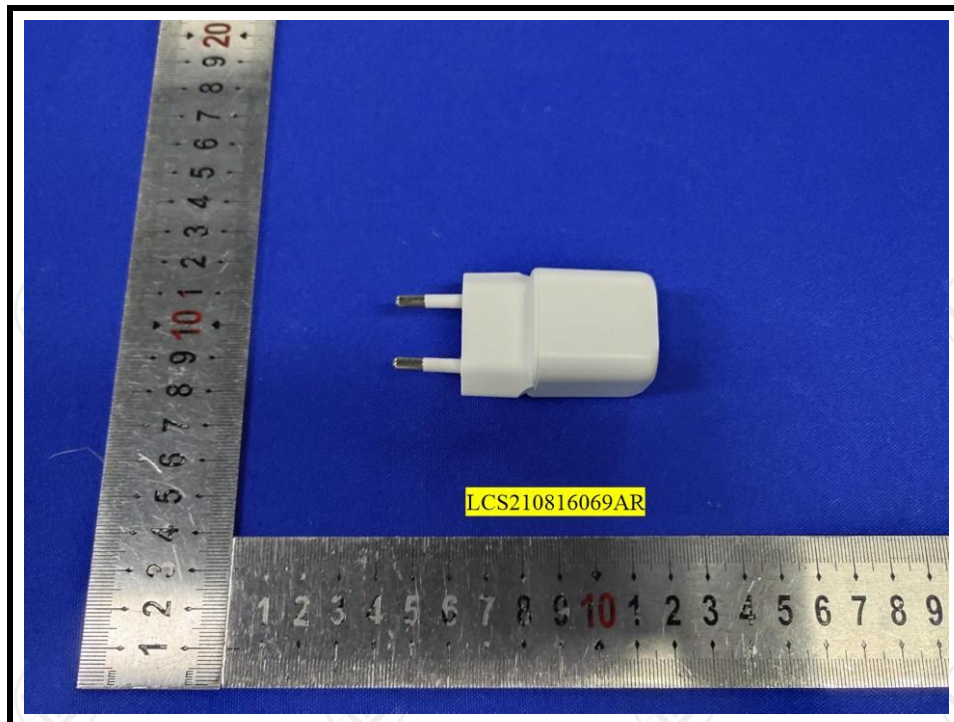
3. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs)



4. Phthalates(DBP, BBP, DEHP & DIBP)



The photo(s) of the sample

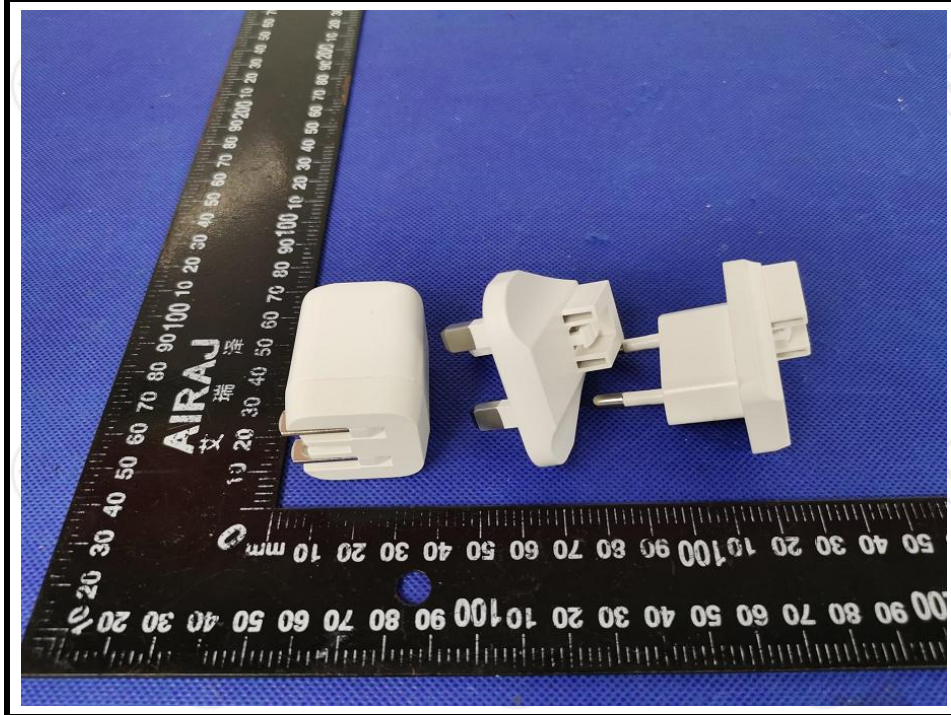
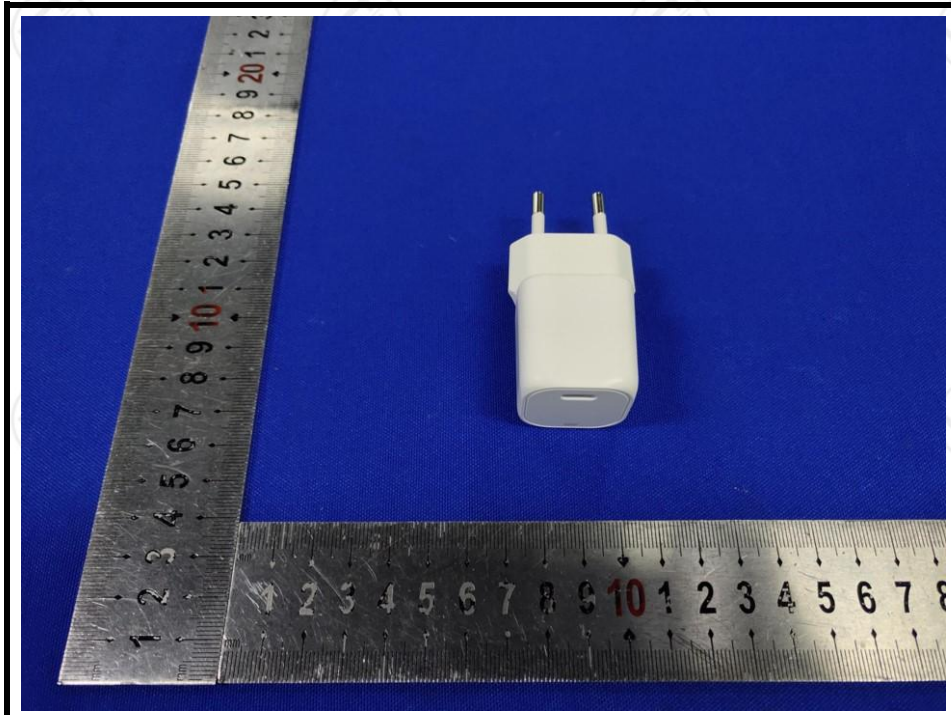




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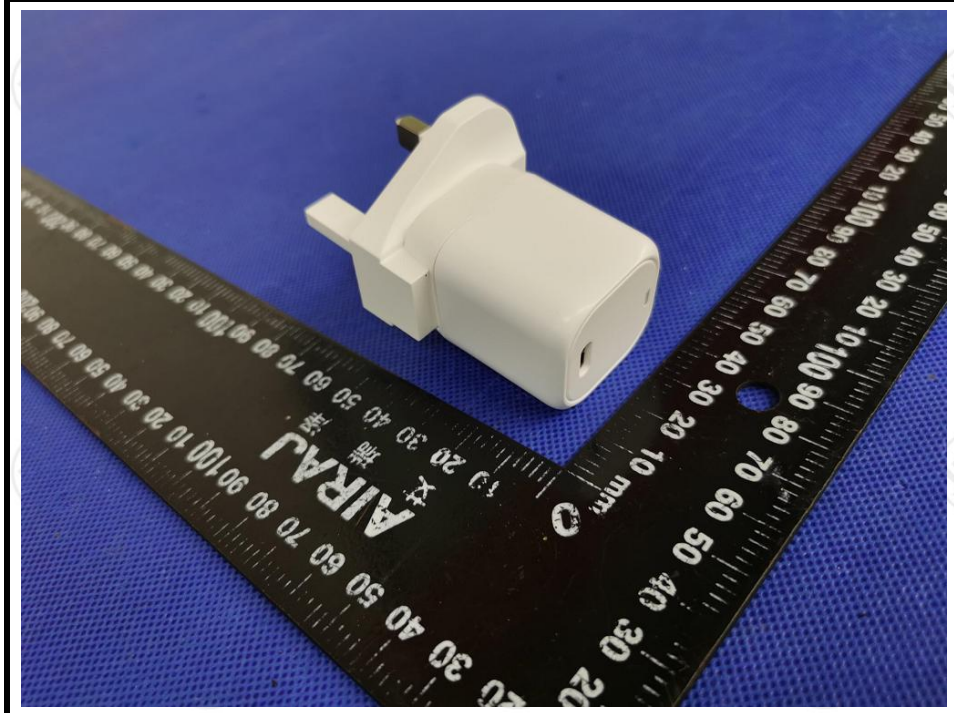
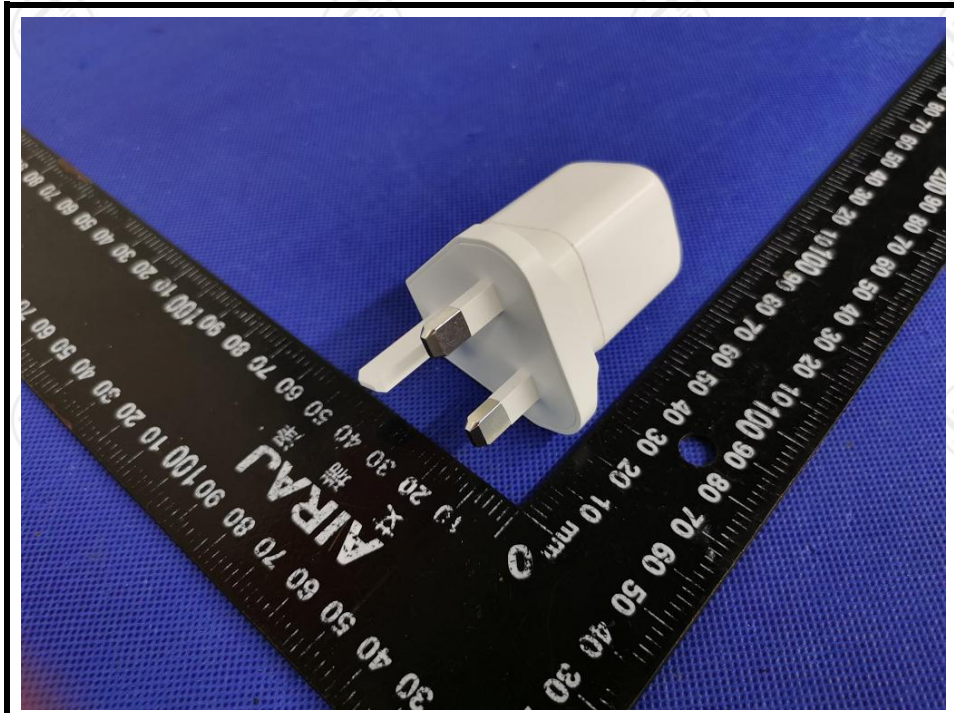




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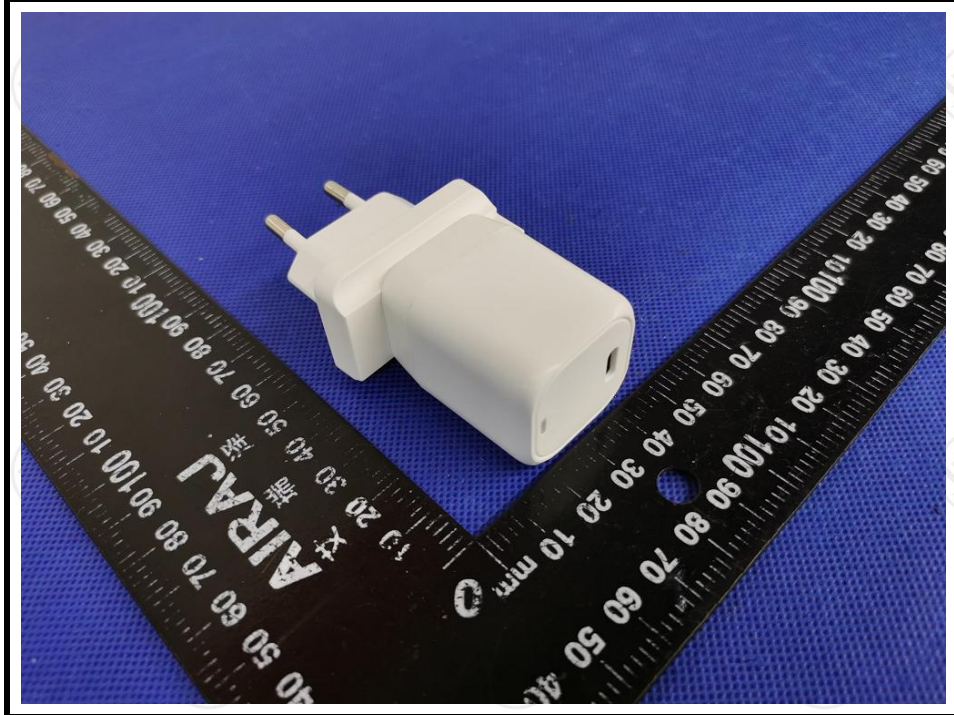
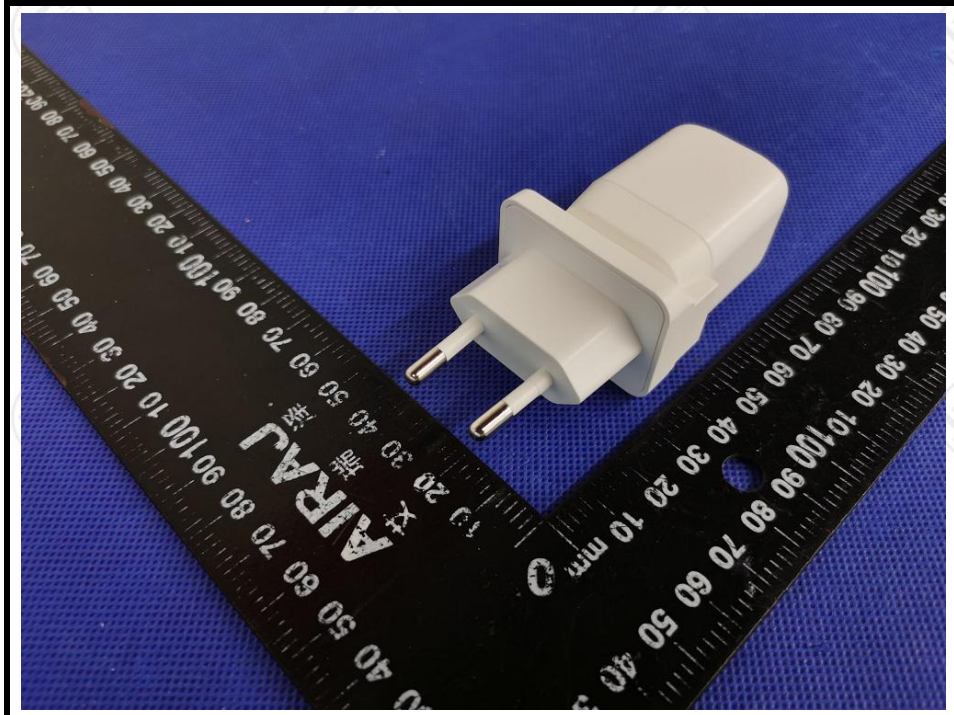




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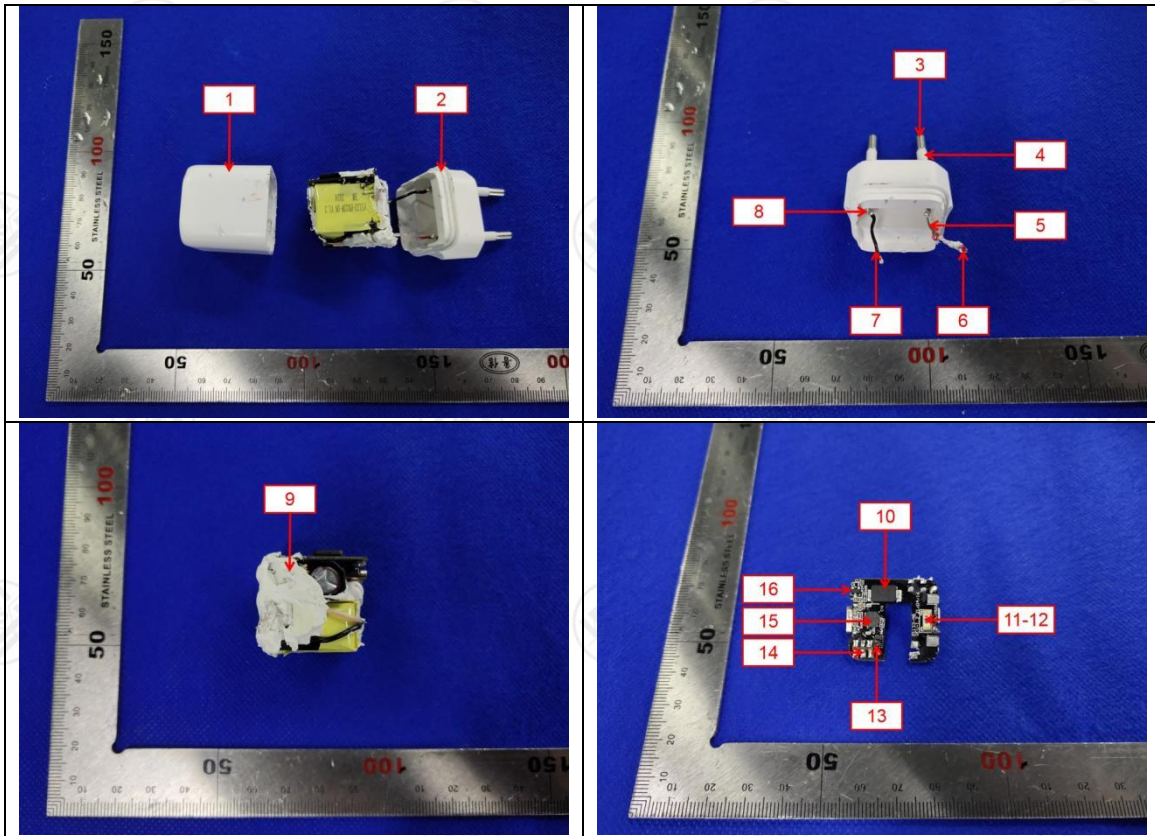




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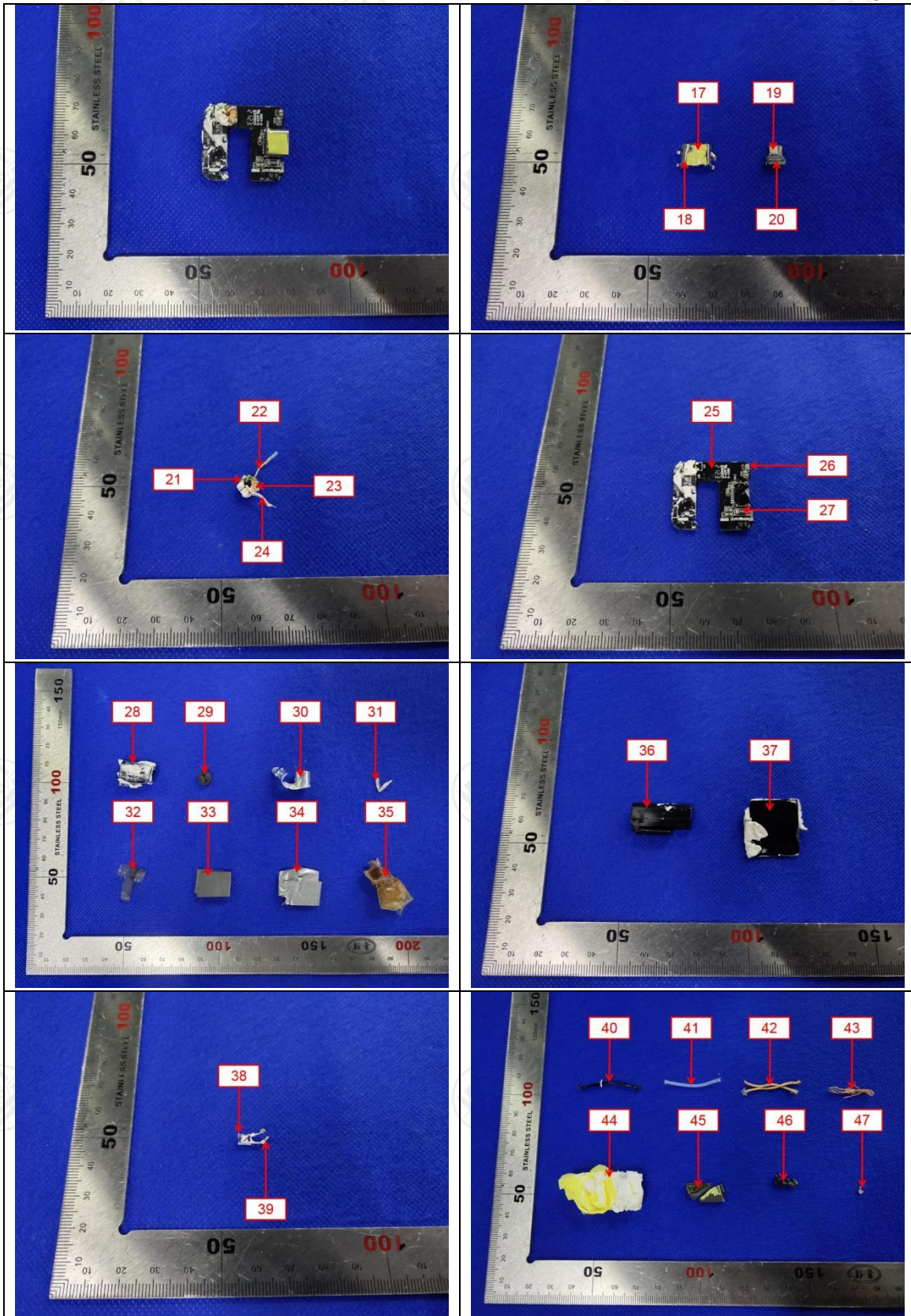




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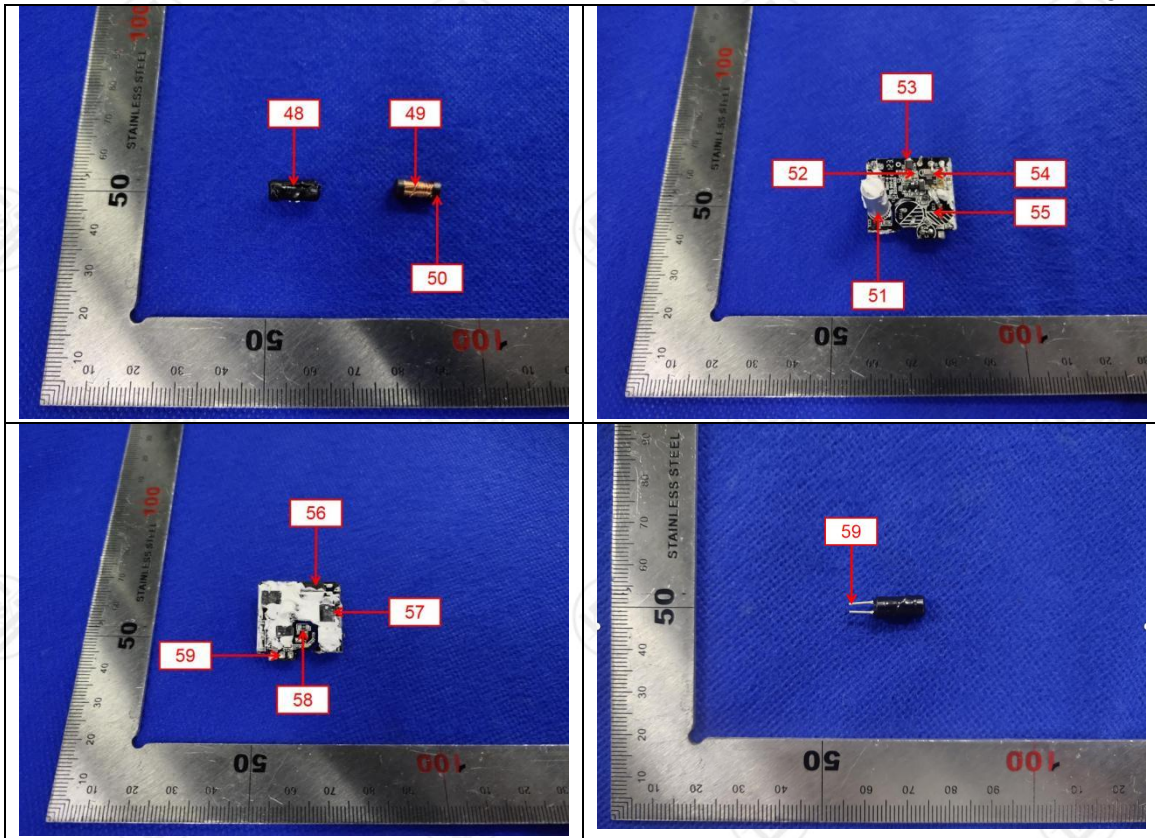




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Statement:

1. The report is considered invalid without approved signature, special seal;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which LCS hasn't verified;
3. The result(s) shown in this report refer only to the sample(s) tested.;
4. Without written approval of LCS, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***