



中国认可  
国际互认  
检测  
TESTING  
CNAS L6478



# TEST REPORT

**Report No.** ..... : WTF26F01025373A1C  
**Job No.** ..... : FSW2601281200CJ  
**Applicant** ..... : Mid Ocean Brands B.V.  
**Address** ..... : Unit 711-716, 7/F., Tower A, 83 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.  
**Manufacturer** ..... : 114538  
**Sample Name** ..... : EU 2-pole wall adapter/charger  
**Sample Model** ..... : MO2979  
**Test Requested** ..... : With reference to EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863, to determine the Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the submitted sample.  
**Test Method** ..... : Refer to next page (s)  
**Test Conclusion** ..... : **Pass**  
**Date of Receipt Sample** ..... : 2026-01-28 & 2026-03-06  
**Testing Period** ..... : 2026-01-28 to 2026-02-06 & 2026-03-06 to 2026-03-10  
**Date of Issue** ..... : 2026-03-12  
**Test Result** ..... : Refer to next page (s)

**Prepared By:**

**Waltek Testing Group (Foshan) Co., Ltd.**

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Signed for and on behalf of  
 Waltek Testing Group (Foshan) Co., Ltd.

*Swing Liang*



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Swing Liang  
 Waltek Testing Group (Foshan) Co., Ltd.  
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**Sample photo:**



**MO2979**



**MO2979**

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**Test Results:****1. Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs**

Test Method/Equipment:

- 1) Disassembly, disjunction and mechanical sample preparation
- 2) With reference to IEC 62321-3-1:2013, screening –Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry
- 3) With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES
- 4) With reference to IEC 62321-5:2013, determination of Lead and Cadmium by ICP-OES
- 5) With reference to IEC 62321-7-2: 2017 and IEC 62321-7-1: 2015, determination of Hexavalent Chromium by UV-Vis
- 6) With reference to IEC 62321-12:2023, determination of PBBs and PBDEs by GC-MS

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
1	Black plastic shell	BL	BL	BL	BL	BL	NA
2	Red plastic wire covering	BL	BL	BL	BL	BL	NA
3	Silvery metal wire	BL	BL	BL	BL	--	NA
4	Silvery metal pin	BL	BL	BL	BL	--	NA
5	Black plastic bobbin	BL	BL	BL	BL	BL	NA
6	Grey soft plastic part	BL	BL	BL	BL	BL	NA
7	Coppery varnished wire(inductor)	BL	BL	BL	IN	BL	Cr <sup>6+</sup> : ND
8	Dark grey magnetic core(inductor)	BL	BL	BL	IN	--	Cr <sup>6+</sup> : ND
9	Black plastic film with grey printing(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
10	Brown paper(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
11	Black rubber stopper(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
12	Silvery metal shell(electrolytic capacitor)	BL	BL	BL	BL	--	NA
13	Silvery metal foil(electrolytic capacitor)	BL	BL	BL	BL	--	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
14	Silvery-grey metal foil(electrolytic capacitor)	BL	BL	BL	BL	--	NA
15	Silvery metal pin(electrolytic capacitor)	BL	BL	BL	BL	--	NA
16	Silvery metal shell with red printing(electrolytic capacitor)	BL	BL	BL	BL	--	NA
17	Green PCB	BL	BL	BL	BL	IN	PBDEs: ND PBBs: ND
18	Chip rectifier	BL	BL	BL	BL	BL	NA
19	Chip IC	BL	BL	BL	BL	BL	NA
20	Chip IC	BL	BL	BL	BL	BL	NA
21	Orange-red plastic core(socket)	BL	BL	BL	BL	BL	NA
22	Silvery metal shell(socket)	BL	BL	BL	BL	--	NA
23	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
24	Black plastic base(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
25	Black heat-shrinkable tube(inductor)	BL	BL	BL	BL	BL	NA
26	Silvery magnetic core(inductor)	BL	BL	BL	IN	--	Cr <sup>6+</sup> : ND
27	Coppery varnished wire(inductor)	BL	BL	BL	BL	BL	NA
28	Green plastic film with golden printing(electrolytic capacitor)	BL	BL	BL	BL	BL	NA
29	Chip capacitor	BL	BL	BL	BL	BL	NA
30	Orange plastic core(socket)	BL	BL	BL	BL	BL	NA
31	Silvery metal shell(socket)	BL	BL	BL	IN	--	Cr <sup>6+</sup> : Negative



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
32	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
33	Chip IC	BL	BL	BL	BL	BL	NA
34	Chip resistor	BL	BL	BL	BL	BL	NA
35	Chip diode	BL	OL	BL	BL	BL	<b>*Pb: 7691</b>
36	Chip audion	BL	BL	BL	BL	BL	NA
37	Black IC	BL	BL	BL	BL	BL	NA
38(R1)	Solder	BL	IN	BL	BL	--	Pb: 162
39	Yellow plastic shell(capacitor)	BL	BL	BL	BL	IN	PBDEs: ND PBBs: ND
40	Silvery plastic film(capacitor)	BL	BL	BL	BL	BL	NA
41	Yellow epoxy resin(capacitor)	BL	BL	BL	BL	IN	PBDEs: ND PBBs: ND
42	Black magnetic ring with green surfaced(inductor)	BL	BL	BL	BL	--	NA
43	Coppery varnished wire(inductor)	BL	BL	BL	BL	BL	NA
44	Yellow triple insulation winding(inductor)	BL	BL	BL	BL	BL	NA
45	Transparent plastic label with black printing	BL	BL	BL	BL	BL	NA
46	Coppery varnished wire(transformer)	BL	BL	BL	BL	BL	NA
47	Coppery foil adhesive tape(transformer)	BL	BL	BL	BL	BL	NA
48	Yellow plastic adhesive tape(transformer)	BL	BL	BL	BL	BL	NA
49	Black magnetic core(transformer)	BL	BL	BL	BL	--	NA



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Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
50	Black plastic bobbin(transformer)	BL	BL	BL	BL	BL	NA
51	Transparent plastic tube(transformer)	BL	BL	BL	BL	BL	NA
52	Yellow triple insulation winding(transformer)	BL	BL	BL	BL	BL	NA
53	Black plastic tube(transformer)	BL	BL	BL	IN	BL	Cr <sup>6+</sup> : ND
54	Black plastic shell(fuse)	BL	BL	BL	BL	BL	NA
55	White sand(fuse)	BL	BL	BL	BL	BL	NA
56	White fibrous wire(fuse)	BL	BL	BL	BL	BL	NA
57	Silvery metal wire(fuse)	BL	BL	BL	BL	--	Cr <sup>6+</sup> : Negative
58	Black plastic sheet	BL	BL	BL	BL	BL	NA
59	Brown plastic adhesive tape	BL	BL	BL	BL	BL	NA
60	Yellow paper sheet	BL	BL	BL	BL	BL	NA



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## 2. Phthalates

Test Method/Equipment:

1) With reference to IEC 62321-12:2023, determination of DBP, BBP, DEHP, DIBP by GC-MS

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T01	1+5+9+21+24 <sup>△</sup>	ND	ND	ND	ND
T02	2+6+11 <sup>△</sup>	ND	ND	ND	ND
T03	7+27+43+44+46 <sup>△</sup>	ND	ND	ND	ND
T04	10+58+60 <sup>△</sup>	ND	ND	ND	ND
T05	17	ND	ND	ND	ND
T06	18+19+20+29+33 <sup>△</sup>	ND	ND	ND	ND
T07	25+41 <sup>△</sup>	ND	ND	ND	ND
T08	28+30+39+40+50 <sup>△</sup>	ND	ND	ND	ND
T09	34+35+36+37+52 <sup>△</sup>	ND	ND	ND	ND
T10	45+48+59 <sup>△</sup>	ND	ND	ND	ND
T11	47	ND	ND	ND	ND
T12	51+53+54+55+56 <sup>△</sup>	ND	ND	ND	ND
T13	3	--	--	--	--
T14	4	--	--	--	--
T15	8	--	--	--	--
T16	12	--	--	--	--
T17	13	--	--	--	--
T18	14	--	--	--	--
T19	15	--	--	--	--
T20	16	--	--	--	--
T21	22	--	--	--	--
T22	23	--	--	--	--
T23	26	--	--	--	--
T24	31	--	--	--	--
T25	32	--	--	--	--
T26	38(R1)	--	--	--	--
T27	42	--	--	--	--
T28	49	--	--	--	--
T29	57	--	--	--	--



**Remark:**

- (1) Results are obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr<sup>6+</sup>) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1: 2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL ≤ (70-3σ) < IN < (130+3σ) ≤ OL	BL ≤ (70-3σ) < IN < (130+3σ) ≤ OL	LOD < IN < (150+3σ) ≤ OL
Pb	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Hg	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Cr	BL ≤ (700-3σ) < IN	BL ≤ (700-3σ) < IN	BL ≤ (500-3σ) < IN
Br	BL ≤ (300-3σ) < IN	--	BL ≤ (250-3σ) < IN

BL= Below Limit                      OL= Over Limit                      LOD = Limit of Detection

- (2) "IN" expresses the inconclusive region, and further chemical testing to confirm whether it complies with the requirement of RoHS Directive.
- (3) The XRF screening test for RoHS elements – the reading may be different to the actual content in the sample be of non-uniformity composition.
- (4) mg/kg =milligram per kilogram=ppm, μg/cm<sup>2</sup>= micrograms per square centimetre.
- (5) ND = Not Detected or lower than limit of quantitation.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit or as the XRF screening directly determine that test result was over the limit, it was not need to conduct the wet chemical testing.
- (7) -- = Not Regulated
- (8) LOQ = Limit of quantitation.

Test Items	Pb	Cd	Hg	Cr <sup>6+</sup>		PBB	PBDE	DBP	BBP	DEHP	DIBP
Units	mg/kg	mg/kg	mg/kg	mg/kg	μg/cm <sup>2</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOQ	2	2	2	8	0.1	5	5	50	50	50	50

The LOQ for single compound of PBBs and PBDEs is 5mg/kg, LOQ of Cr<sup>6+</sup> for polymer and composite sample is 8mg/kg and LOQ of Cr<sup>6+</sup> for metal sample is 0.1μg/cm<sup>2</sup>.

- (9) According to IEC 62321-7-1:2015, determined of Cr<sup>6+</sup> on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr<sup>6+</sup> coating, the detected concentration in boiling water extraction solution is less than 0.10μg/cm<sup>2</sup>.

Positive = Presence of Cr<sup>6+</sup> coating, the detected concentration in boiling water extraction solution is greater than 0.13μg/cm<sup>2</sup>.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr<sup>6+</sup> results represent status of the sample at the time of testing.



## (10)RoHS Requirement

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

## (11) Abbreviation:

“Pb” denotes Lead, “Cd” denotes Cadmium, “Hg” denotes Mercury, “Cr” denotes Chromium, “Cr<sup>6+</sup>” denotes Hexavalent Chromium, “Br” denotes Bromine, “PBBs” denotes Total Polybrominated Biphenyls, “PBDEs” denotes Total Polybrominated Diphenyl Ethers.

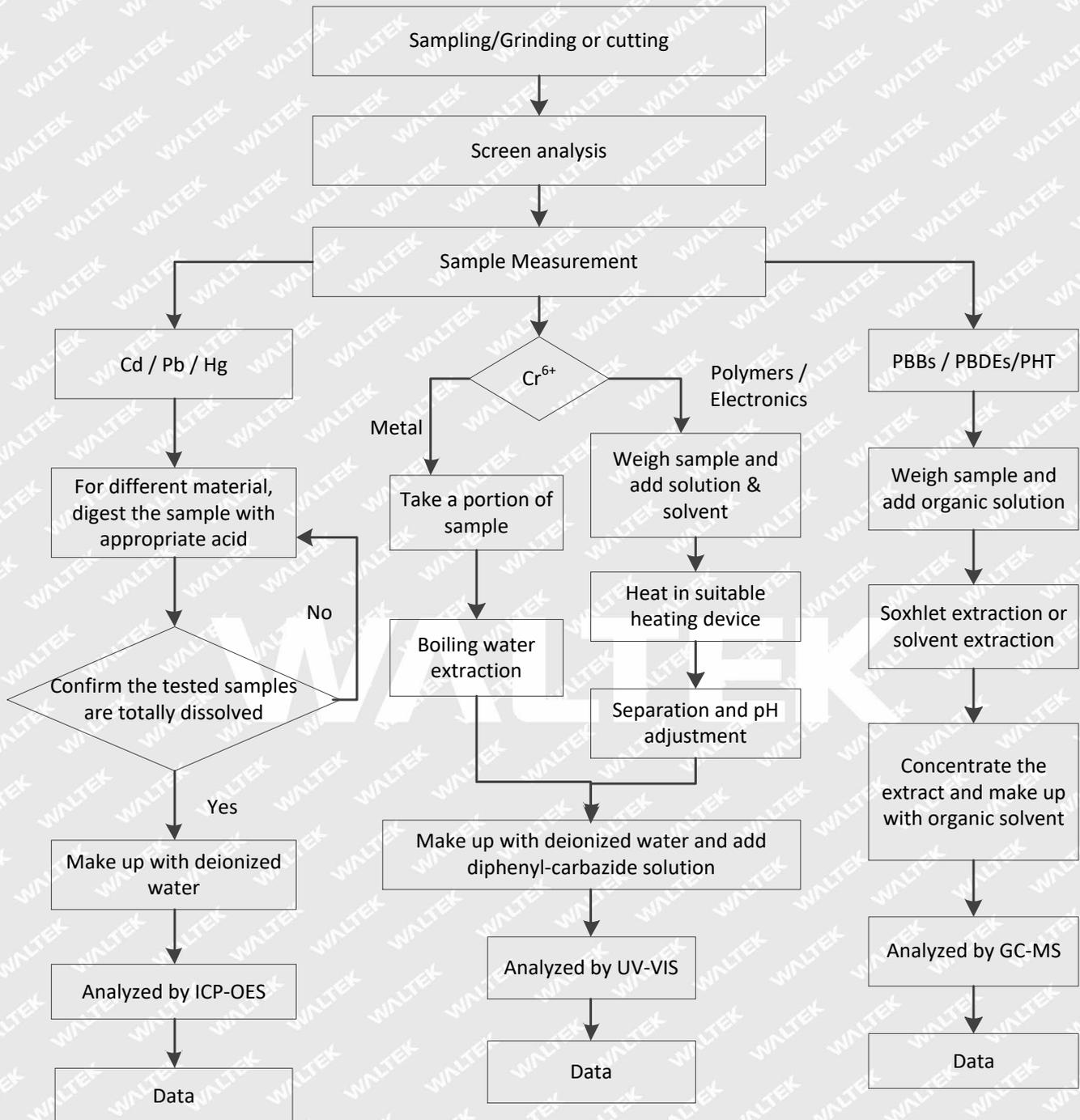
“DBP” denotes Dibutyl phthalate, “BBP” denotes Benzyl butyl phthalate (BBP), “DEHP” denotes Bis(2-ethylhexyl)-phthalate, “DIBP” denotes Diisobutyl phthalate, “PHT” denotes Phthalates.

(12) “Δ”=As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.

(13)\* = According to the declaration from client, the source of lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages is exempted by Directive 2011/65/EU ANNEX III-15.

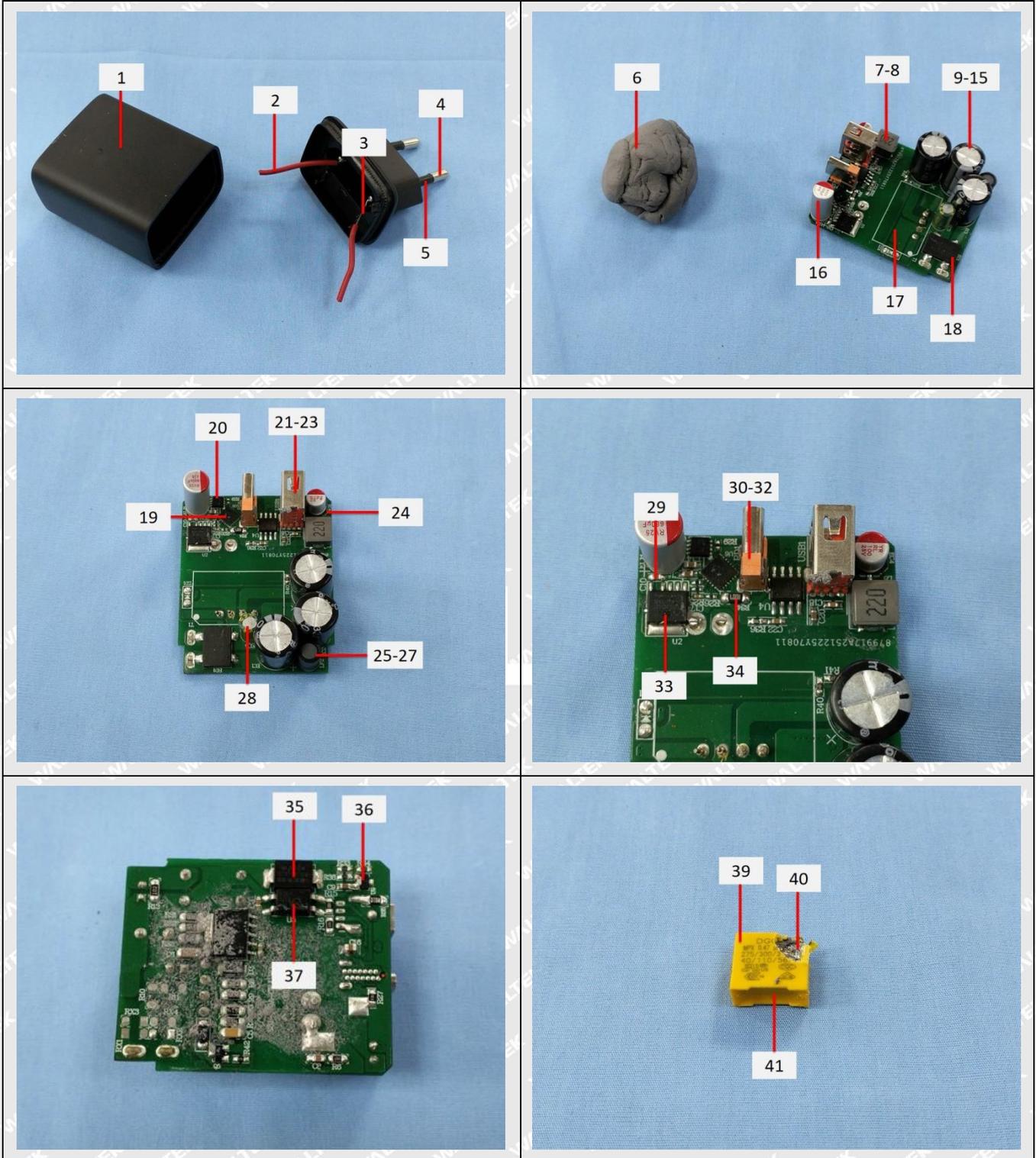


Testing Flow chart:





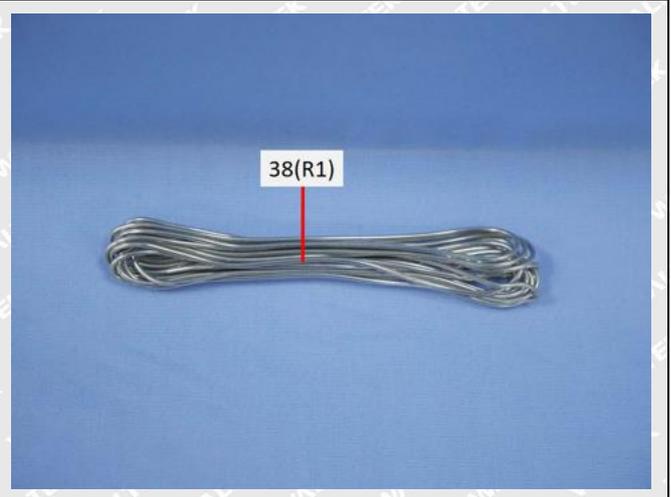
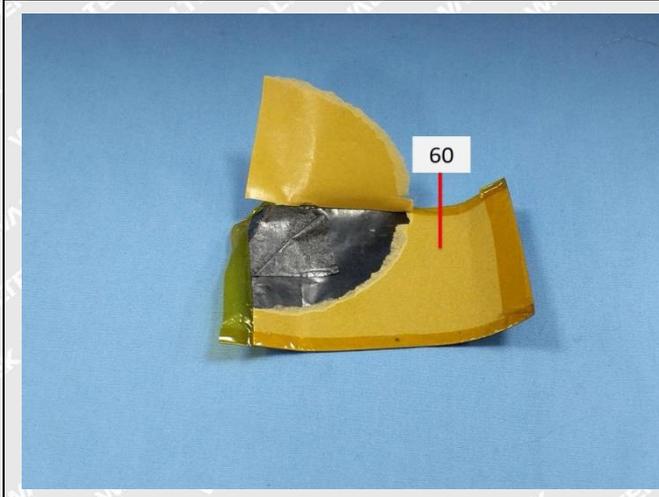
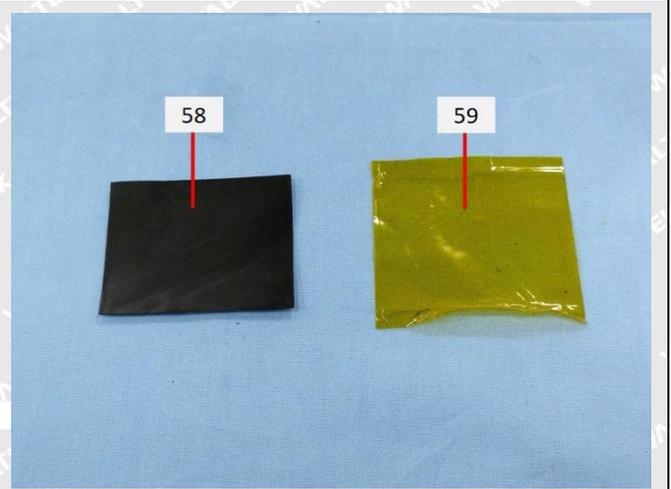
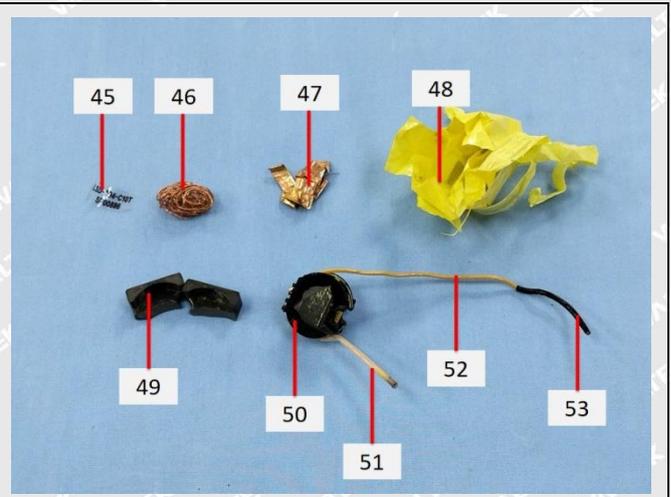
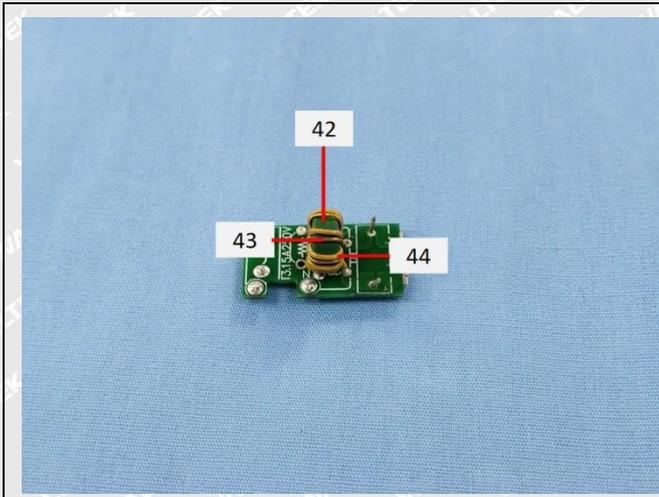
Photograph of parts tested:





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Remarks:

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===== End of Report =====

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