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检测
TESTING
CNAS L6478

TEST REPORT

Report No.	:	WTF22F11232114C
Applicant	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	111033
Sample Name	:	Cork mousepad wireless charger, RPET foldable wireless charger, Fast wireless charger mousepad
Sample Model	:	MO6476, MO6484, MO6416
Date of Receipt sample	:	2022-11-18
Testing period	:	2022-11-18 to 2023-02-27
Date of Issue	:	2023-02-28
Test Result	:	Refer to next page (s)

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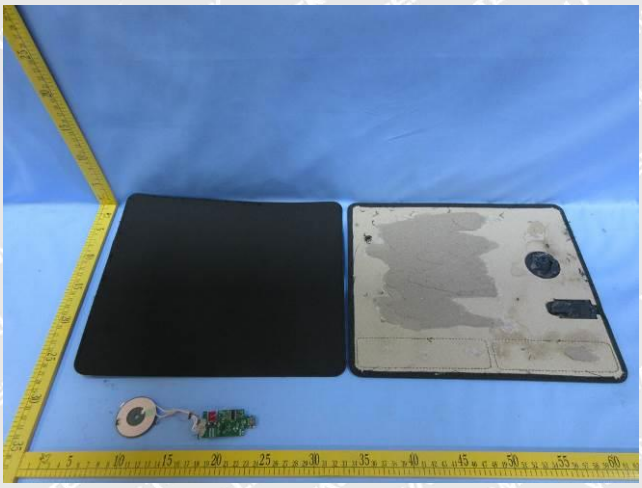
Signed for and on behalf of
Waltek Testing Group (Foshan) Co., Ltd.

Swing.Liang

Test Requested	:	In accordance with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863.
Test Method	:	1) With reference to IEC 62321-2:2021, 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 62321-6:2015, determination of PBBs and PBDEs by GC-MS 7) With reference to IEC 62321-8:2017, determination of Phthalates content by GC-MS.
Test Conclusion	:	**Pass** (Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863)

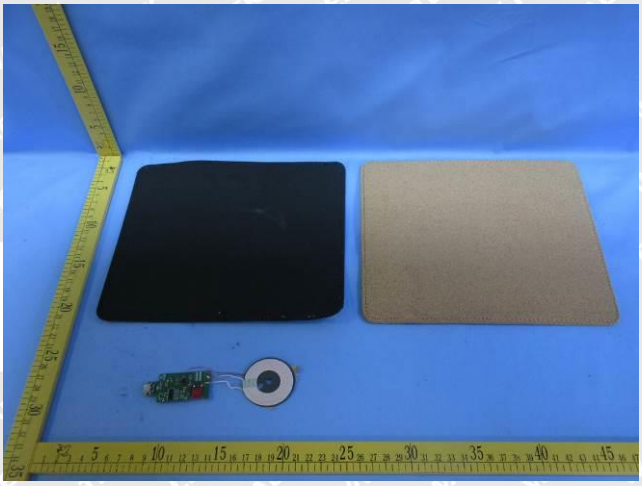
Sample Photo(s):

1.MO6416



1.MO6416

2.MO6476



2.MO6476

3.MO6484

3.MO6484

	
Data wire	**Data wire**

Test Results:

1. Lead, Mercury, Cadmium, Hexavalent Chromium, PBBs and PBDEs

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
1	Black fabric	BL	BL	BL	BL	BL	NA
2	Black elastic band	BL	BL	BL	BL	BL	NA
3	Black plastic loop(VELCRO)	BL	BL	BL	BL	BL	NA
4	Black plastic hook(VELCRO)	BL	BL	BL	BL	BL	NA
5	Brown paper sheet	BL	BL	BL	BL	BL	NA
6	Semi-transparent glue	BL	BL	BL	BL	BL	NA
7	Black sewing thread	BL	BL	BL	BL	BL	NA
8	Red capacitor	BL	BL	BL	BL	BL	NA
9	Chip capacitor	BL	BL	BL	BL	BL	NA
10	Chip IC	BL	BL	BL	BL	BL	NA
11	Chip diode	BL	BL	BL	BL	BL	NA
12	Silvery metal shell(socket)	BL	BL	BL	IN	--	Cr^{6+} : Negative
13	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
14	Dark grey plastic core(socket)	BL	BL	BL	BL	BL	NA
15	Chip IC	BL	BL	BL	BL	BL	NA
16	Chip capacitor	BL	BL	BL	BL	BL	NA
17	Chip resistor	BL	BL	BL	BL	BL	NA
18	Chip LED	BL	BL	BL	BL	BL	NA
19	Chip resistor	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
20	Solder	BL	BL	BL	BL	--	NA
21	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
22	White fibrous wire covering	BL	BL	BL	BL	BL	NA
23	Coppery varnished wire	BL	BL	BL	BL	BL	NA
24	Dark grey magnetic sheet	BL	BL	BL	BL	--	NA
25	Light green plastic adhesive tape	BL	BL	BL	BL	BL	NA
26	Transparent double faced adhesive tape	BL	BL	BL	BL	BL	NA
27	Red varnished wire	BL	BL	BL	BL	BL	NA
28	Black resistor	BL	BL	BL	BL	BL	NA
29	Yellow fabric	BL	BL	BL	BL	BL	NA
30	Yellow sewing thread	BL	BL	BL	BL	BL	NA
31	Black fabric	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
32	Dark grey paper sheet	BL	BL	BL	BL	BL	NA
33	Silvery magnetic sheet	BL	BL	BL	IN	--	Cr^{6+} : ND
34	Brown paper sheet	BL	BL	BL	BL	BL	NA
35	Transparent plastic sheet	BL	BL	BL	BL	BL	NA
36	Green PCB	BL	BL	BL	BL	BL	NA
37	Solder	BL	BL	BL	BL	--	NA
38	Chip resistor	BL	BL	BL	BL	BL	NA
39	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	--	Cr^{6+} : Negative

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
40	Silvery metal pin(Type-C plug)	BL	BL	BL	BL	--	NA
41	Dark grey plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA
42	Semi-transparent glue(USB plug)	BL	BL	BL	BL	BL	NA
43	Silvery metal shell(USB plug)	BL	BL	BL	BL	--	NA
44	Silvery metal pin(USB plug)	BL	BL	BL	BL	--	NA
45	White plastic core(USB plug)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
46	Black plastic jacket(USB plug)	BL	BL	BL	BL	BL	NA
47	Solder(USB plug)	BL	BL	BL	BL	--	NA
48	Black plastic wire jacket	BL	BL	BL	BL	BL	NA
49	Green plastic wire covering	BL	BL	BL	BL	BL	NA
50	Black plastic wire covering	BL	BL	BL	BL	BL	NA
51	Red plastic wire covering	BL	BL	BL	BL	BL	NA
52	White plastic wire covering	BL	BL	BL	BL	BL	NA
53	Coppery metal wire	BL	BL	BL	BL	--	NA

Remark:

(1) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr^{6+}) 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 -- = Not Regulated

(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, $\mu g/cm^2$= 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) LOQ = Limit of quantitation.

Test Items	Pb	Cd	Hg	Cr^{6+}		PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	$\mu g/cm^2$	mg/kg	mg/kg
LOQ	2	2	2	8	0.1	5	5

The LOQ for single compound of PBBs and PBDEs is 5mg/kg, LOQ of Cr^{6+} for polymer and composite sample is 8mg/kg and LOQ of Cr^{6+} for metal sample is 0.1$\mu g/cm^2$.

(8) 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^{6+})	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

(9) According to IEC 62321-7-1:2015, determined of Cr^{6+} on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.
Boiling water extraction:
Negative = Absence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is less than 0.10ug/cm^2.
Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than 0.13ug/cm^2.
Information on storage conditions and production date of the tested sample is unavailable and thus Cr^{6+} results represent status of the sample at the time of testing.

(10) Abbreviation:
"Pb" denotes Lead, "Cd" denotes Cadmium, "Hg" denotes Mercury, "Cr" denotes Chromium, "Cr (VI)" denotes Hexavalent Chromium, "Br" denotes Bromine, "PBBs" denotes Total Polybrominated Biphenyls, "PBDEs" denotes Total Polybrominated Diphenyl Ethers.

2. Phthalates:

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T01	1	ND	ND	ND	ND
T02	2	ND	ND	ND	ND
T03	3	ND	ND	ND	ND
T04	4	ND	ND	ND	ND
T05	5	ND	ND	ND	ND
T06	6	ND	ND	ND	ND
T07	7+30△	ND	ND	ND	ND
T08	8+9+10+11+15△	ND	ND	ND	ND
T09	12	--	--	--	--
T10	13	--	--	--	--
T11	14+35+41+45△	ND	ND	ND	ND
T12	16+17+18+19+28△	ND	ND	ND	ND
T13	20	--	--	--	--
T14	21+23+27+36+38△	ND	ND	ND	ND
T15	22	ND	ND	ND	ND
T16	24	--	--	--	--
T17	25	ND	ND	ND	ND
T18	26	ND	ND	ND	ND
T19	29	ND	ND	ND	ND
T20	31	ND	ND	ND	ND
T21	32	ND	ND	ND	ND
T22	33	--	--	--	--
T23	34	ND	ND	ND	ND
T24	37	--	--	--	--
T25	39	--	--	--	--
T26	40	--	--	--	--
T27	42	ND	ND	150	ND

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T28	43	--	--	--	--
T29	44	--	--	--	--
T30	46	ND	ND	498	ND
T31	47	--	--	--	--
T32	48	ND	ND	ND	ND
T33	49	ND	ND	ND	ND
T34	50	ND	ND	ND	ND
T35	51	ND	ND	ND	ND
T36	52	ND	ND	ND	ND
T37	53	--	--	--	--

Note:

(1) mg/kg = milligram per kilogram= ppm

(2) ND = Not Detected or lower than limit of quantitation.

(3) -- = Not Regulated.

(4) LOQ = Limit of quantitation.

Test Items	DBP	BBP	DEHP	DIBP
Units	mg/kg	mg/kg	mg/kg	mg/kg
LOQ	50	50	50	50

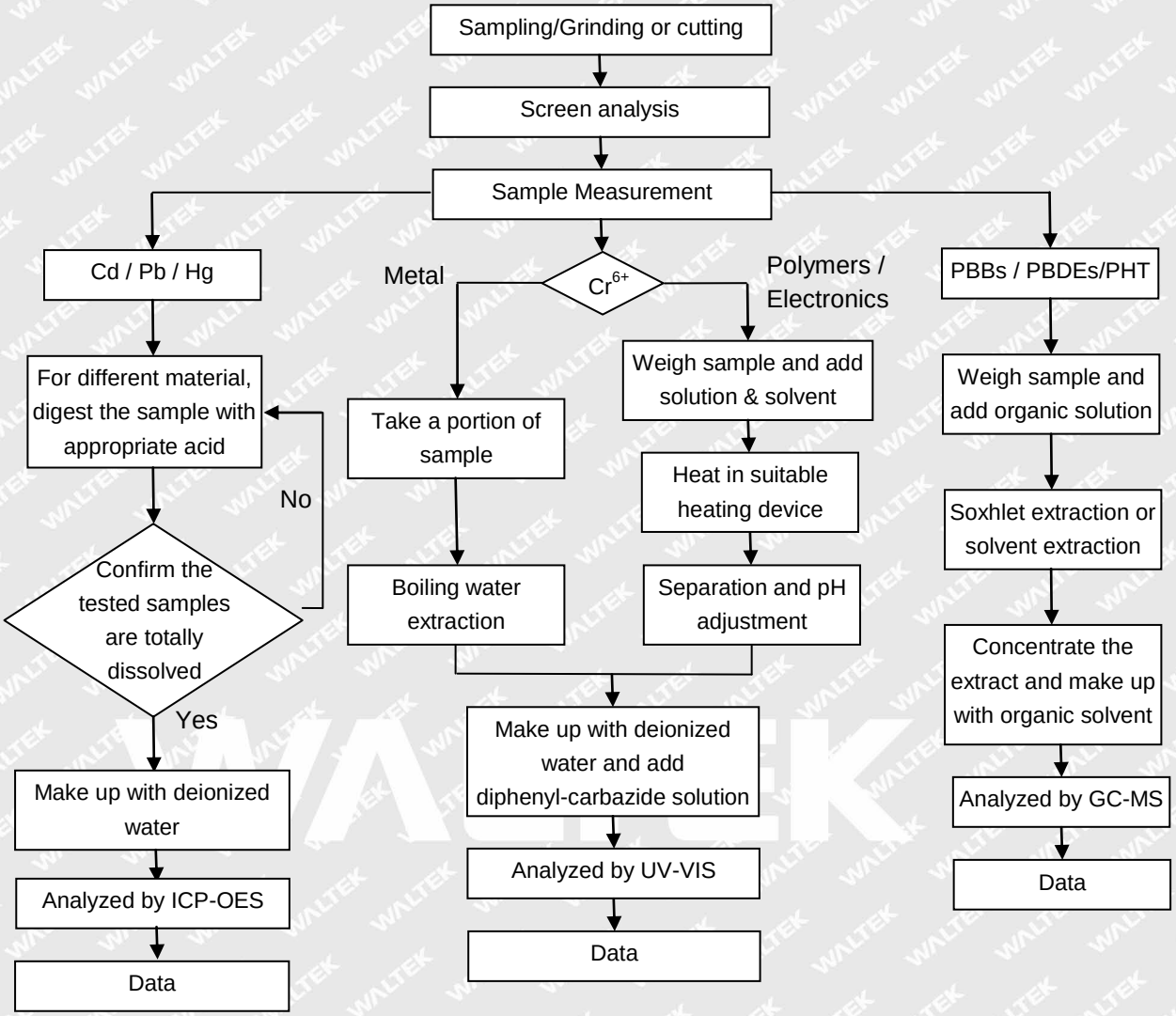
(5) Abbreviation:
"DBP" denotes Dibutyl phthalate, "BBP" denotes Benzyl butyl phthalate (BBP), "DEHP" denotes Bis(2-ethylhexyl)-phthalate, "DIBP" denotes Diisobutyl phthalate, "PHT" denotes Phthalates.

(6) RoHS requirement

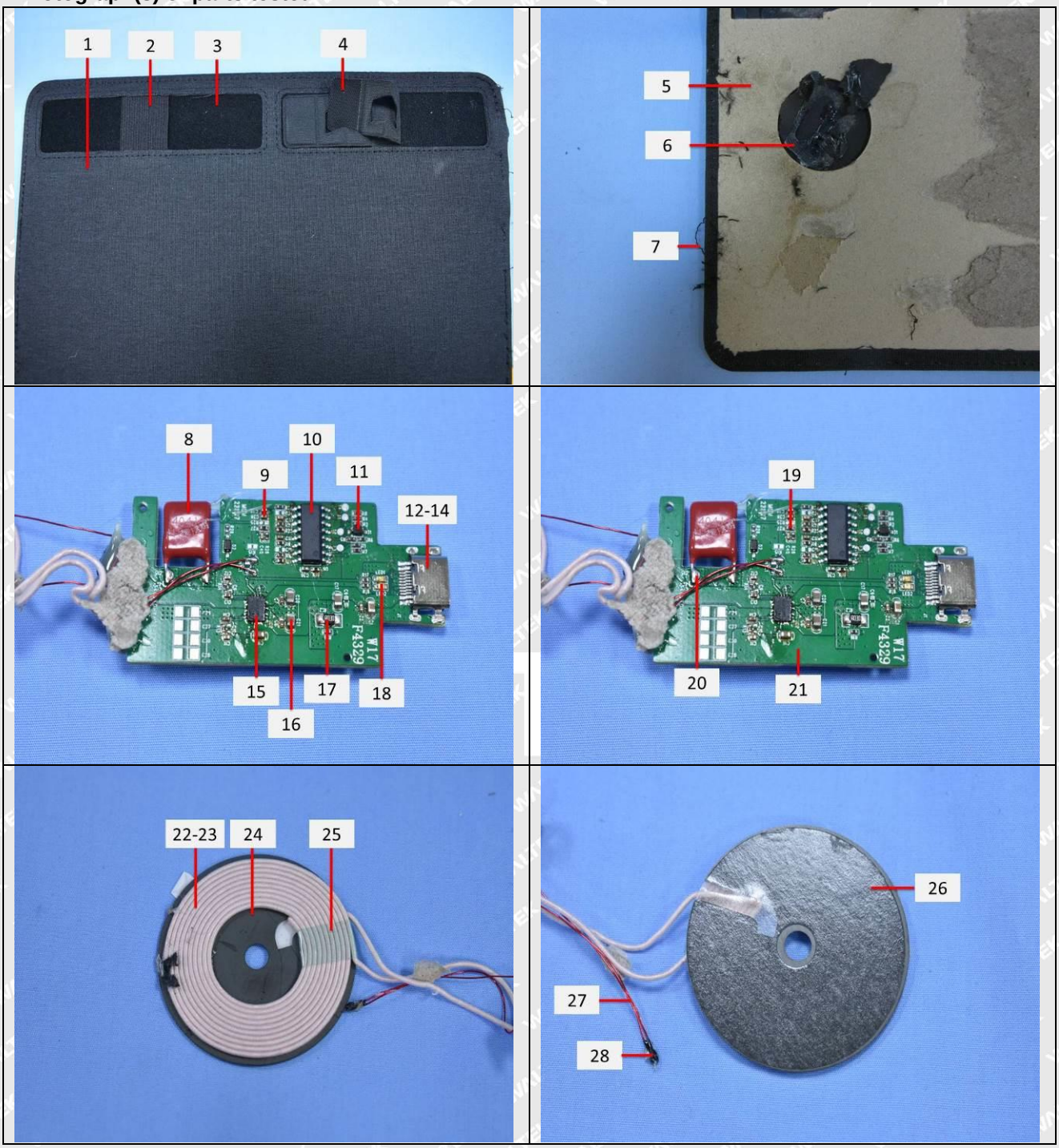
Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

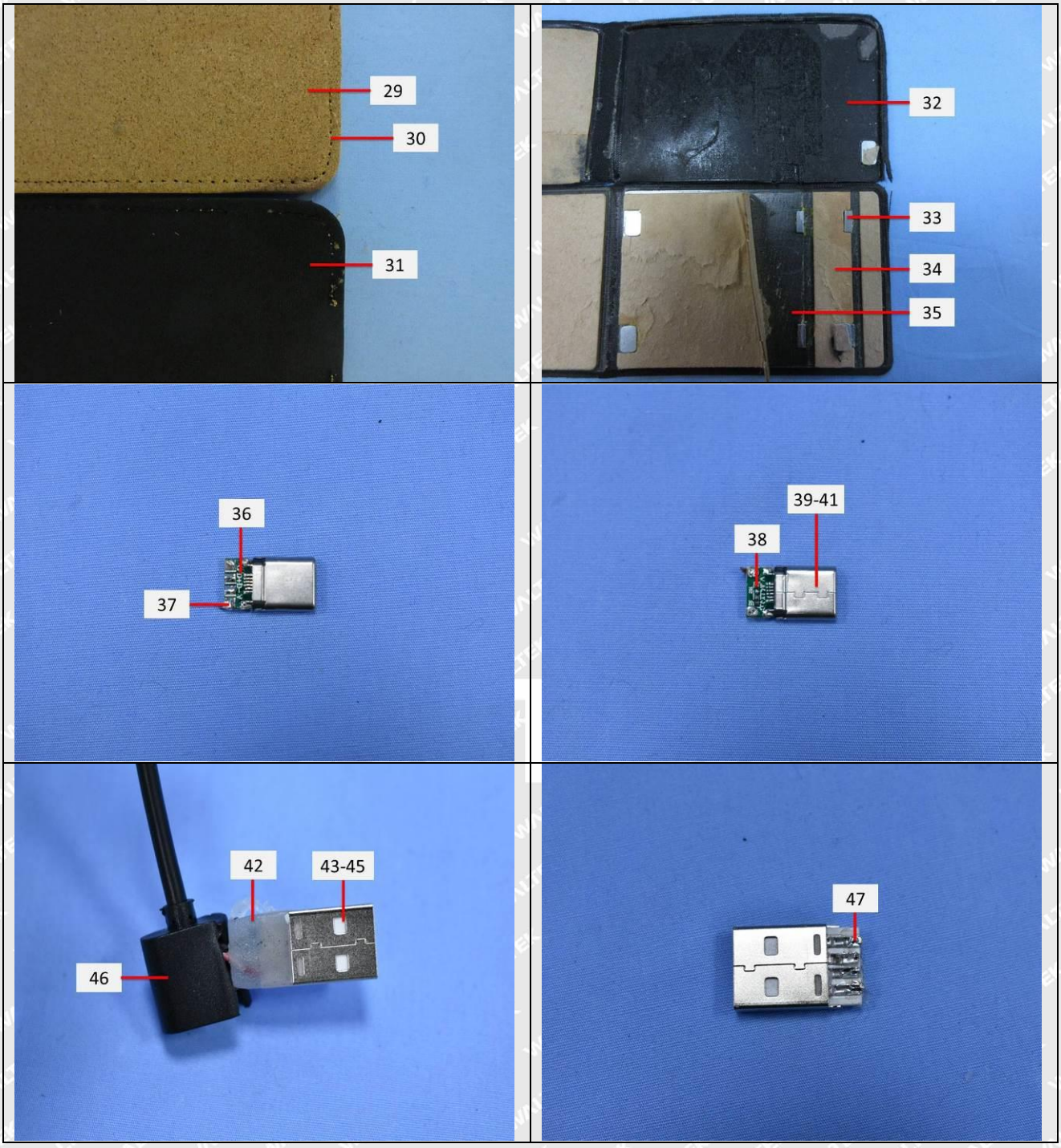
(7) "△"= As client's requirement, the testing was conducted based on mixed components. Results are calculated by the minimum weight of mixed components.

Measurement Flowchart:



Photograph(s) of parts tested:

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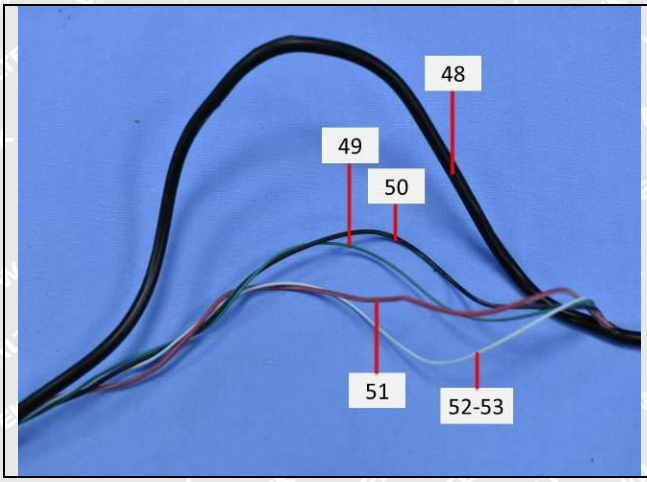	/

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