中国认可
国际互认
检测
TESTING
CNAS L6478

TEST REPORT

Report No.	:	WTF24F11257328C
Job No.	:	FSW2411070252CJ
Applicant	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	114538
Sample Name	:	Bamboo power bank
Sample Model	:	MO6815
Test Requested	:	Refer to next page (s)
Test Method	:	Refer to next page (s)
Test Conclusion	:	Refer to next page (s)
Date of Receipt sample	:	2024-11-05
Testing period	:	2024-11-05 to 2024-11-14
Date of Issue	:	2024-11-18
Test Result	:	Refer to next page (s)

Prepared By:
Waltek Testing Group (Foshan) Co., Ltd.
Address: No.13-19, 2/F., 2nd Building, Sunlink Machinery City, Xingye 4 Road, Guanglong Industrial Park, Chihua Neighborhood Committee, Chencun Town, Shunde District, Foshan, Guangdong, China
Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

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

Swing.Liang

WTF24F11257328C

Summary:

Test Requested	Test Conclusion
In accordance with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863, to determine the 10 restricted substances content in the submitted sample.	**Pass** (Please refer to next pages for details)

Sample Photo(s):

Test Results:

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

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, cadmium, mercury, 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

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
1	Silvery metal shell(USB plug)	BL	BL	BL	BL	--	NA
2	White plastic jacket(Type-C plug)	BL	BL	BL	BL	BL	NA
3	White plastic wire jacket	BL	BL	BL	BL	BL	NA
4	White plastic jacket(Type-C plug)	BL	BL	BL	BL	BL	NA
5	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	--	Cr^{6+} : Negative
6	Silvery metal shell(Type-C plug)	BL	BL	BL	IN	--	Cr^{6+} : Negative
7	White plastic shell(Type-C plug)	BL	BL	BL	BL	BL	NA
8	Off-white plastic core(USB plug)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
9	Chip resistor(Type-C plug)	BL	**OL**	BL	BL	BL	***Pb : 1568**
10	Green PCB(Type-C plug)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
11	Silvery metal pin(USB plug)	BL	BL	BL	BL	--	NA
12	Silvery metal pin(Type-C plug)	BL	BL	BL	BL	--	NA
13	Solder(Type-C plug)	BL	BL	BL	BL	--	NA
14	Black plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA
15	White dry glue(Type-C plug)	BL	BL	BL	BL	BL	NA

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
16	White plastic core(Type-C plug)	BL	BL	BL	BL	BL	NA
17	Silvery metal pin(Type-C plug)	BL	BL	BL	BL	--	NA
18	Green PCB(Type-C plug)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
19	Green plastic wire covering	BL	BL	BL	BL	BL	NA
20	Blue plastic wire covering	BL	BL	BL	BL	BL	NA
21	Black plastic wire covering	BL	BL	BL	BL	BL	NA
22	Red plastic wire covering	BL	BL	BL	BL	BL	NA
23	White plastic wire covering	BL	BL	BL	BL	BL	NA
24	Silvery metal wire	BL	BL	BL	BL	--	NA
25	Brown wooden shell	BL	BL	BL	BL	BL	NA
26	Black sponge adhesive tape	BL	BL	BL	BL	BL	NA
27	Dark green paper sheet	BL	BL	BL	BL	BL	NA
28	Black plastic core(socket)	BL	BL	BL	BL	BL	NA
29	Silvery metal shell(socket)	BL	BL	BL	BL	--	NA
30	Silvery metal pin(socket)	BL	BL	BL	BL	--	NA
31	Brown transparent plastic adhesive tape	BL	BL	BL	BL	BL	NA
32	Coppery varnished wire(inductor)	BL	BL	BL	BL	BL	NA
33	Dark grey magnetic core(inductor)	BL	BL	BL	IN	--	Cr^{6+} : ND
34	Red plastic wire covering	BL	BL	BL	BL	BL	NA
35	Silvery metal wire	BL	BL	BL	BL	--	NA

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
36	White fabric wire covering	BL	BL	BL	BL	BL	NA
37	Black plastic wire covering	BL	BL	BL	BL	BL	NA
38	Coppery metal wire	BL	BL	BL	BL	--	NA
39	Chip capacitor	BL	BL	BL	BL	BL	NA
40	Transparent dry glue	BL	BL	BL	BL	BL	NA
41	Chip IC	BL	BL	BL	BL	BL	NA
42	Chip IC	BL	BL	BL	BL	BL	NA
43	Black plastic cap(button)	BL	BL	BL	BL	BL	NA
44	Black plastic base(button)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
45	Silvery metal sheet(button)	BL	BL	BL	IN	--	Cr^{6+} : Negative
46	Silvery metal sheet(button)	BL	BL	BL	IN	--	Cr^{6+} : Negative
47	Chip LED	BL	BL	BL	BL	BL	NA
48	Chip LED	BL	BL	BL	BL	BL	NA
49	Black plastic core(Type-C socket)	BL	BL	BL	BL	BL	NA
50	Silvery metal shell(Type-C socket)	BL	BL	BL	IN	--	Cr^{6+} : Negative
51	Silvery metal pin(Type-C socket)	BL	BL	BL	BL	--	NA
52	Solder	BL	BL	BL	BL	--	NA
53	Chip diode	BL	BL	BL	BL	BL	NA
54	Chip resistor	BL	BL	BL	BL	BL	NA
55	Silvery metal screw with black plating	BL	BL	BL	BL	--	NA

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
56	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
57	Chip IC	BL	BL	BL	BL	BL	NA
58	Black magnetic sheet	BL	BL	BL	BL	--	NA
59	Red metal wire	BL	BL	BL	BL	--	NA
60	Black body	BL	BL	BL	BL	BL	NA
61	Transparent double faced adhesive tape	BL	BL	BL	BL	BL	NA

Remark:

(1) Results are obtained by XRF 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, μg/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 5 mg/kg, LOQ of Cr^{6+} for polymer and composite sample is 8 mg/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 0.10 $\mu g/cm^2$.
Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than 0.13 $\mu g/cm^2$.
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.

(11) * = According to the declaration from client, the source of lead in test sample is from the glass or ceramic material of that electronic component which is exempted by Directive 2011/65/EU ANNEX III-7(c)-I.

2. Phthalates:

Test method:

With reference to IEC 62321-8:2017, determination of Phthalates content by GC-MS.

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T01	1	--	--	--	--
T02	2+3+4△	455	ND	ND	ND
T03	5	--	--	--	--
T04	6	--	--	--	--
T05	7+8+14+16+28△	ND	ND	ND	ND
T06	9+39+41+42+47△	ND	ND	ND	ND
T07	10+18+56△	ND	ND	ND	ND
T08	11	--	--	--	--
T09	12	--	--	--	--
T10	13	--	--	--	--
T11	15+40△	ND	ND	ND	ND
T12	17	--	--	--	--
T13	19+20+21△	138	ND	ND	ND
T14	22+23+34△	130	ND	ND	ND
T15	24	--	--	--	--
T16	25	ND	ND	ND	ND
T17	26	ND	ND	ND	ND
T18	27	ND	ND	ND	ND
T19	29	--	--	--	--
T20	30	--	--	--	--
T21	31	ND	ND	ND	ND
T22	32	ND	ND	ND	ND
T23	33	--	--	--	--
T24	35	--	--	--	--
T25	36	ND	ND	ND	ND
T26	37	ND	ND	ND	ND
T27	38	--	--	--	--
T28	43+44+49△	ND	ND	ND	ND
T29	45	--	--	--	--
T30	46	--	--	--	--
T31	48+53+54+57+60△	ND	ND	ND	ND
T32	50	--	--	--	--
T33	51	--	--	--	--
T34	52	--	--	--	--
T35	55	--	--	--	--
T36	58	--	--	--	--
T37	59	--	--	--	--
T38	61	ND	ND	ND	ND

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

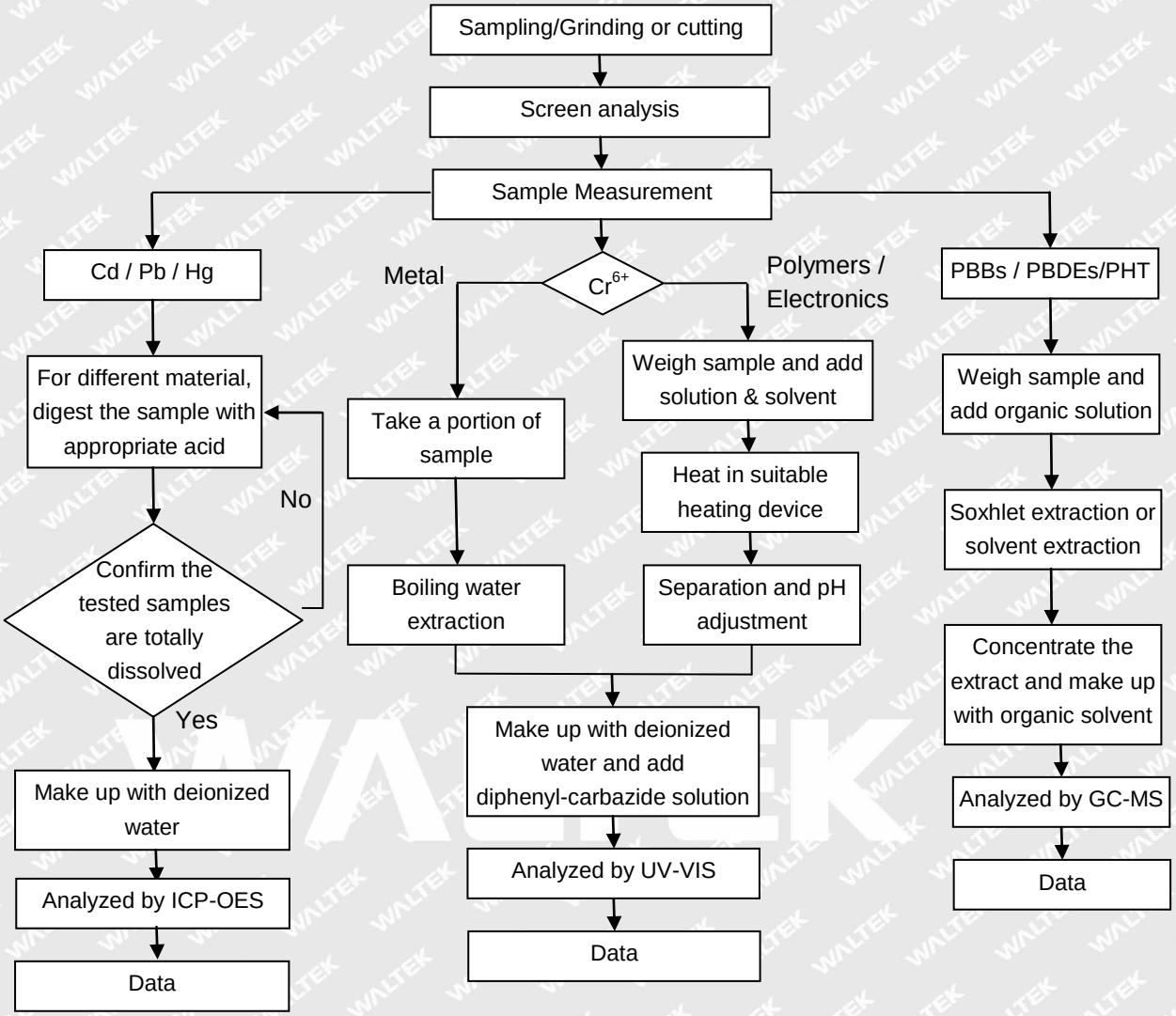
(5) Abbreviation:
"DBP" denotes Dibutyl phthalate, "BBP" denotes Benzyl butyl phthalate (BBP), "DEHP" denotes Bis(2-ethylhexyl)-phthalate, "DIBP" denotes Diisobutyl phthalate, "PHT" denotes Phthalates.

(6) RoHS requirement

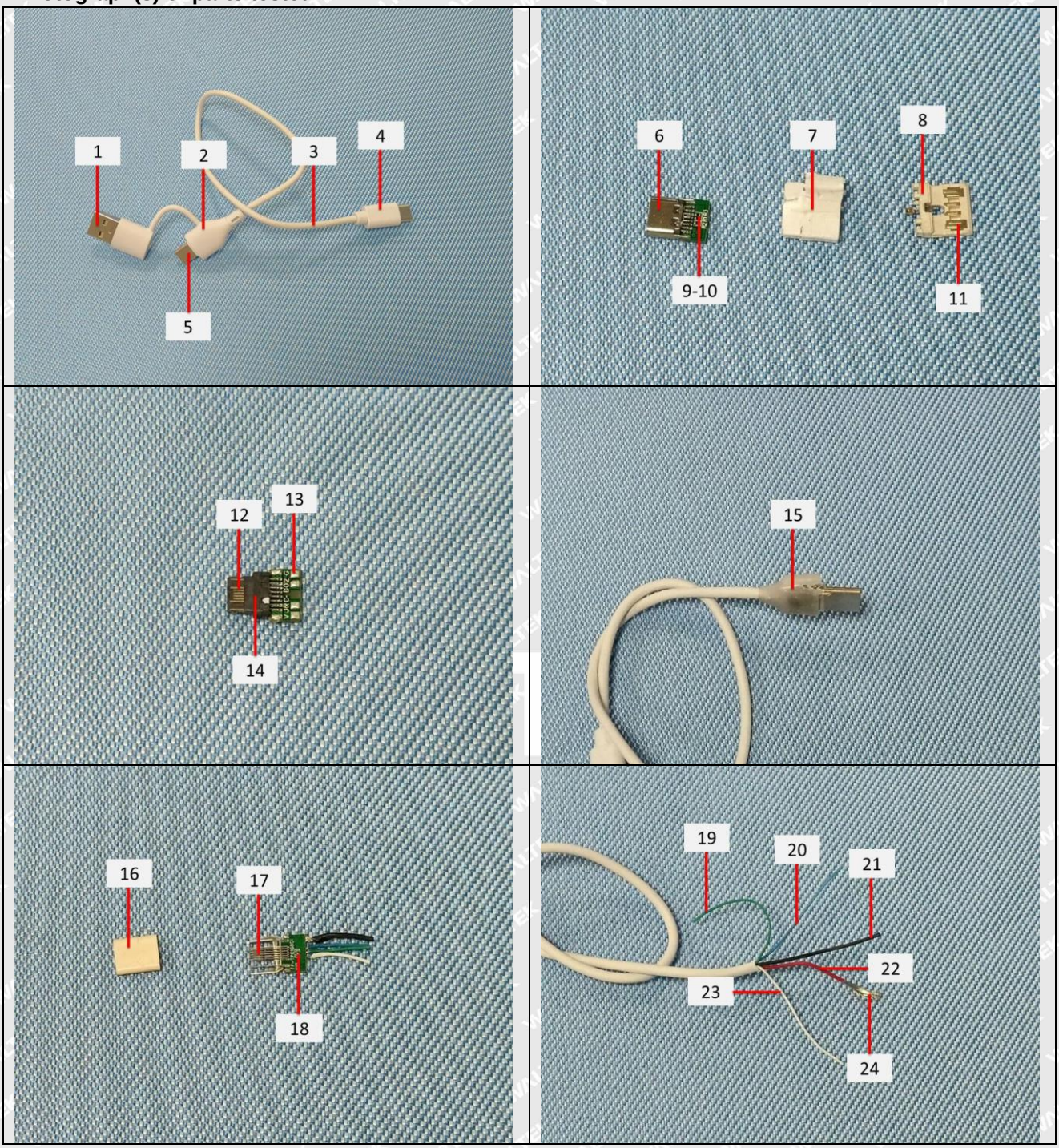
Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

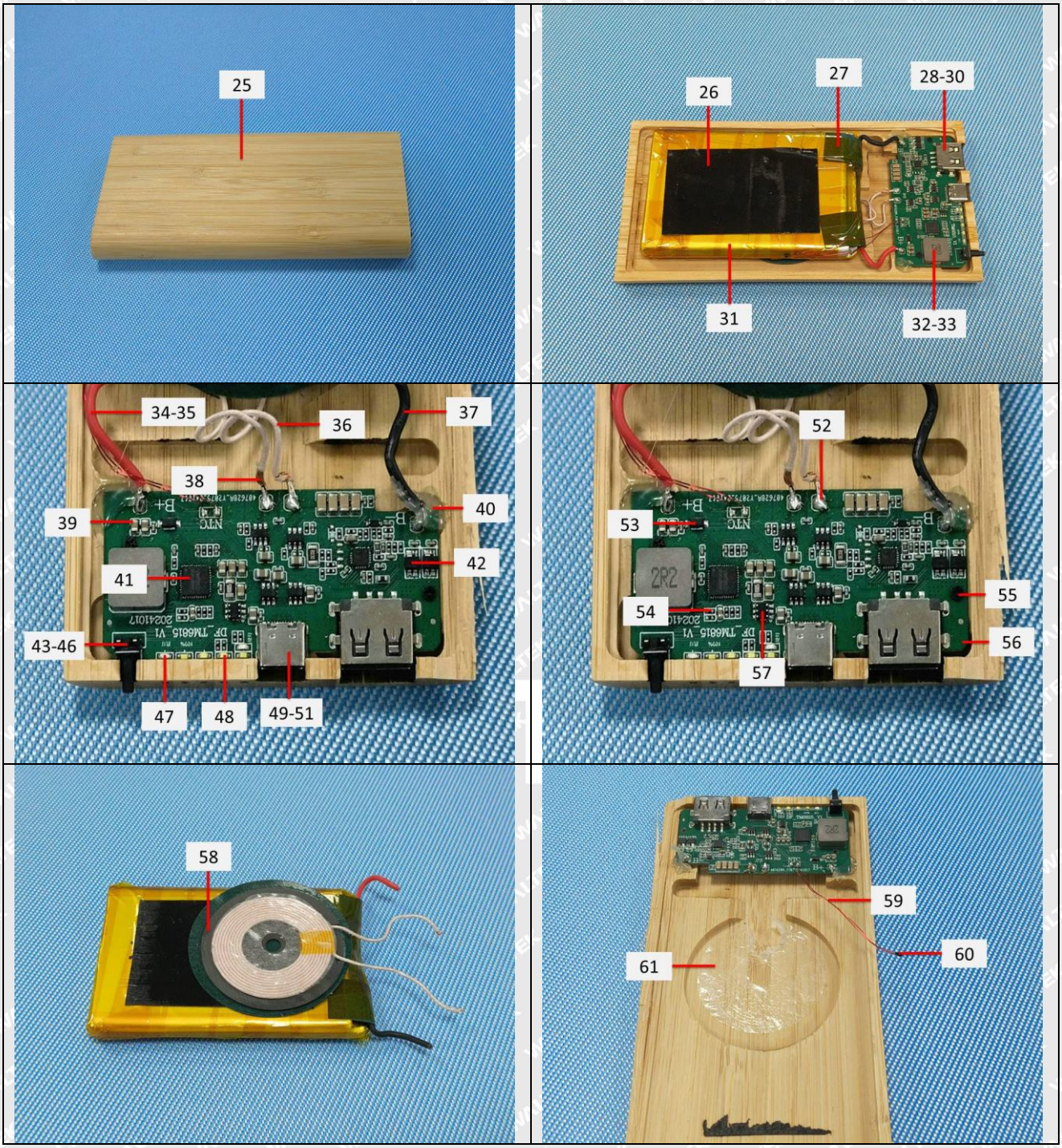
(7) "△"= As client's requirement, the testing was conducted based on mixed components.Results are calculated by the minimum weight of mixed components.

Measurement Flowchart:



Photograph(s) of parts tested:




25
26
27
28-30
31
32-33
34-35
36
37
38
39
40
41
42
43-46
47
48
49-51
52
53
54
55
56
57
58
59
60
61

Remarks:

1. The results shown in this test report refer only to the sample(s) tested;
2. This test report cannot be reproduced, except in full, without prior written permission of the company;
3. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver;
4. The Applicant name and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which Waltek hasn't verified;
5. If the report is not stamped with the accreditation recognized seal, it will only be used for scientific research, education, and internal quality control activities, and is not used for the purpose of issuing supporting data to the society.
6. The sample material information (Model No. information) is provided by client, not verified by test laboratory. The samples of reference Model No. are not tested. Test laboratory not responsible for the accuracy, appropriateness, completeness and authenticity of the information provided by client.

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