中国认可
国际互认
检测
TESTING
CNAS L6478

TEST REPORT

Report No.	:	WTF22F09189737C
Applicant	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	117237
Sample Name	:	Magnetic wireless charger with car mount
Sample Model	:	MO6571
Date of Receipt sample	:	2022-09-19
Testing period	:	2022-09-19 to 2022-10-09
Date of Issue	:	2022-10-10
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):

MO6571

MO6571

MO6571

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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	Yellow wood	BL	BL	BL	BL	BL	NA
2	Black sponge sheet with adhesive	BL	BL	BL	BL	BL	NA
3	Silvery magnetic strip	BL	BL	BL	IN	--	Cr^{6+} : ND
4	Black magnetic ring	BL	BL	BL	BL	--	NA
5	Black plastic cover	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
6	Silvery metal gasket	BL	BL	BL	BL	--	NA
7	Silvery metal screw	BL	BL	BL	IN	--	Cr^{6+} : Negative
8	Silvery metal screw	BL	BL	BL	BL	--	NA
9	Silvery metal nut	BL	BL	BL	BL	--	NA
10	White fibrous wire covering	BL	BL	BL	BL	BL	NA
11	Coppery metal wire	BL	BL	BL	BL	--	NA
12	Dark grey magnetic sheet	BL	BL	BL	BL	--	NA
13	White glue	BL	BL	BL	BL	BL	NA
14	Yellow plastic adhesive tape	BL	BL	BL	BL	BL	NA
15	Red capacitor	BL	BL	BL	BL	BL	NA
16	silvery metal pin (capacitor)	BL	BL	BL	BL	--	NA
17	Silvery metal shell (socket)	BL	BL	BL	IN	--	Cr^{6+} : Negative
18	Black plastic core (socket)	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
19	Golden metal pin (socket)	BL	BL	BL	BL	--	NA

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
20	Chip LED	BL	BL	BL	BL	BL	NA
21	Chip resistor	BL	BL	BL	BL	BL	NA
22	Chip capacitor	BL	BL	BL	BL	BL	NA
23	Chip resistor	BL	BL	BL	BL	BL	NA
24	Chip IC	BL	BL	BL	BL	BL	NA
25	Chip diode	BL	BL	BL	BL	BL	NA
26	Solder	BL	BL	BL	BL	--	NA
27	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
28	Transparent double faced adhesive tape	BL	BL	BL	BL	BL	NA
29	White paper sheet	BL	BL	BL	BL	BL	NA
30	Black plastic jacket (plug)	BL	BL	BL	BL	BL	NA
31	Silvery metal shell (plug)	BL	BL	BL	IN	--	Cr^{6+} : Negative
32	White plastic core (plug)	BL	BL	BL	BL	BL	NA
33	Solder	BL	BL	BL	BL	--	NA
34	Green PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
35	Chip resistor	BL	BL	BL	BL	BL	NA
36	Chip capacitor	BL	BL	BL	BL	BL	NA
37	Black plastic jacket (plug)	BL	BL	BL	BL	BL	NA
38	White plastic sheet (plug)	BL	BL	BL	BL	BL	NA
39	Silvery metal shell (plug)	BL	BL	BL	BL	--	NA

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
40	Golden metal pin (plug)	BL	BL	BL	BL	--	NA
41	White plastic core (plug)	BL	BL	BL	BL	BL	NA
42	White plastic wire covering	BL	BL	BL	BL	BL	NA
43	Red plastic wire covering	BL	BL	BL	BL	BL	NA
44	Black plastic wire covering	BL	BL	BL	BL	BL	NA
45	Green plastic wire covering	BL	BL	BL	BL	BL	NA
46	Coppery metal wire	BL	BL	BL	BL	--	NA
47	Black plastic wire jacket	BL	BL	BL	BL	BL	NA
48	Black plastic shell	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
49	Black soft plastic adhesive sheet	BL	BL	BL	BL	BL	NA
50	Transparent plastic film	BL	BL	BL	BL	BL	NA
51	Silvery metal screw	BL	BL	BL	IN	--	Cr^{6+} : Negative
52	Silvery metal spring	BL	BL	BL	IN	--	Cr^{6+} : Negative

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	--	--	--	--
T04	4	--	--	--	--
T05	5+18+32+41+48△	ND	ND	ND	ND
T06	6	--	--	--	--
T07	7	--	--	--	--
T08	8	--	--	--	--
T09	9	--	--	--	--
T10	10	ND	ND	ND	ND
T11	11	--	--	--	--
T12	12	--	--	--	--
T13	13	ND	ND	ND	ND
T14	14	87	ND	ND	ND
T15	15+20+21+22+23△	ND	ND	ND	ND
T16	16	--	--	--	--
T17	17	--	--	--	--
T18	19	--	--	--	--
T19	24+25+27+34+35△	ND	ND	ND	ND
T20	26	--	--	--	--
T21	28	746	ND	ND	ND
T22	29	ND	ND	ND	ND
T23	30	ND	ND	ND	ND
T24	31	--	--	--	--
T25	33	--	--	--	--
T26	36	ND	ND	ND	ND
T27	37	ND	ND	ND	ND

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T28	38	ND	ND	ND	ND
T29	39	--	--	--	--
T30	40	--	--	--	--
T31	42	ND	ND	ND	ND
T32	43	ND	ND	ND	ND
T33	44	ND	ND	ND	ND
T34	45	ND	ND	ND	ND
T35	46	--	--	--	--
T36	47	ND	ND	ND	ND
T37	49	ND	ND	ND	ND
T38	50	ND	ND	ND	ND
T39	51	--	--	--	--
T40	52	--	--	--	--

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

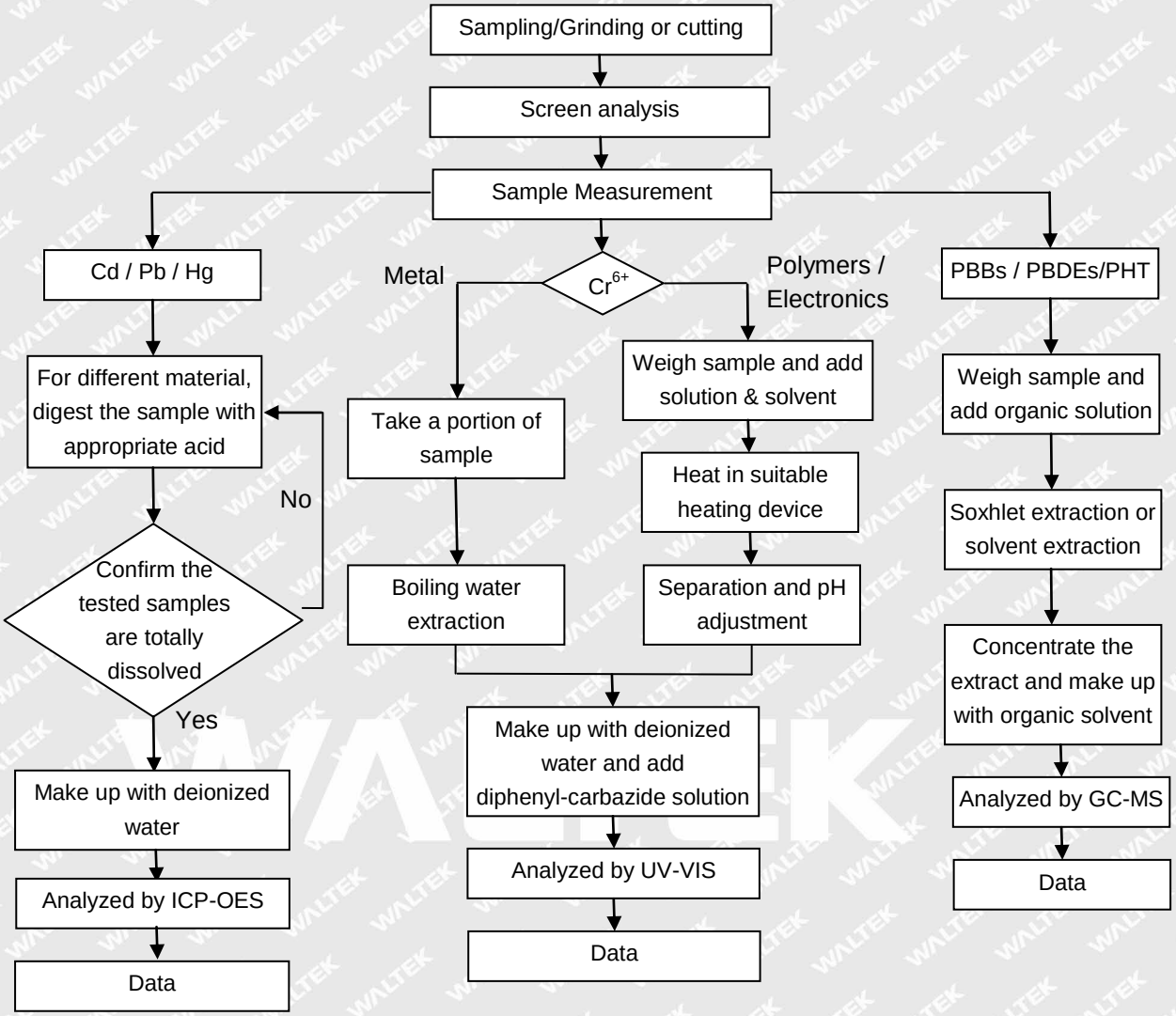
(5) Abbreviation:
"DBP" denotes Dibutyl phthalate, "BBP" denotes Benzyl butyl phthalate (BBP), "DEHP" denotes Bis(2-ethylhexyl)-phthalate, "DIBP" denotes Diisobutyl phthalate, "PHT" denotes Phthalates.

(6) RoHS requirement

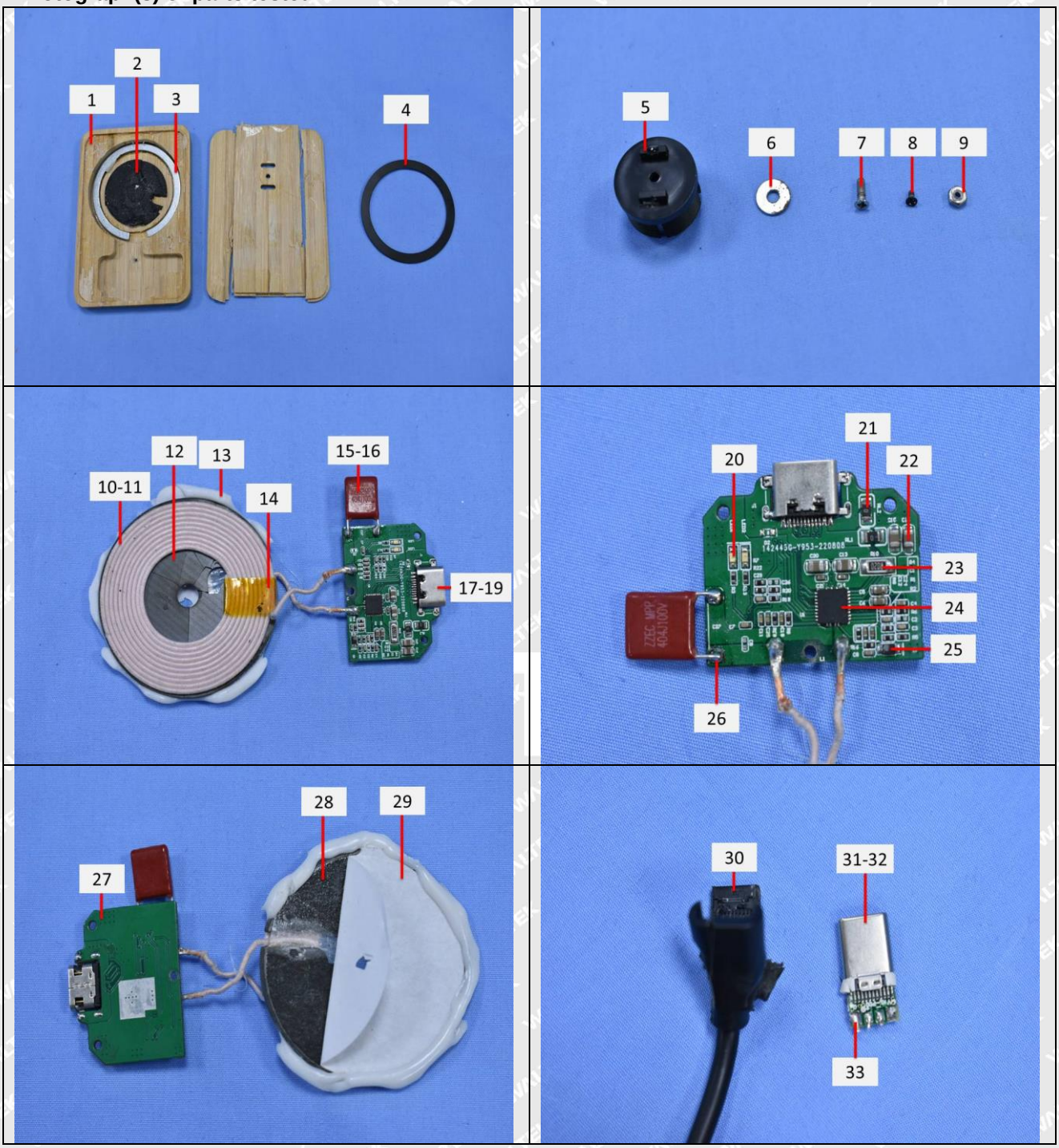
Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

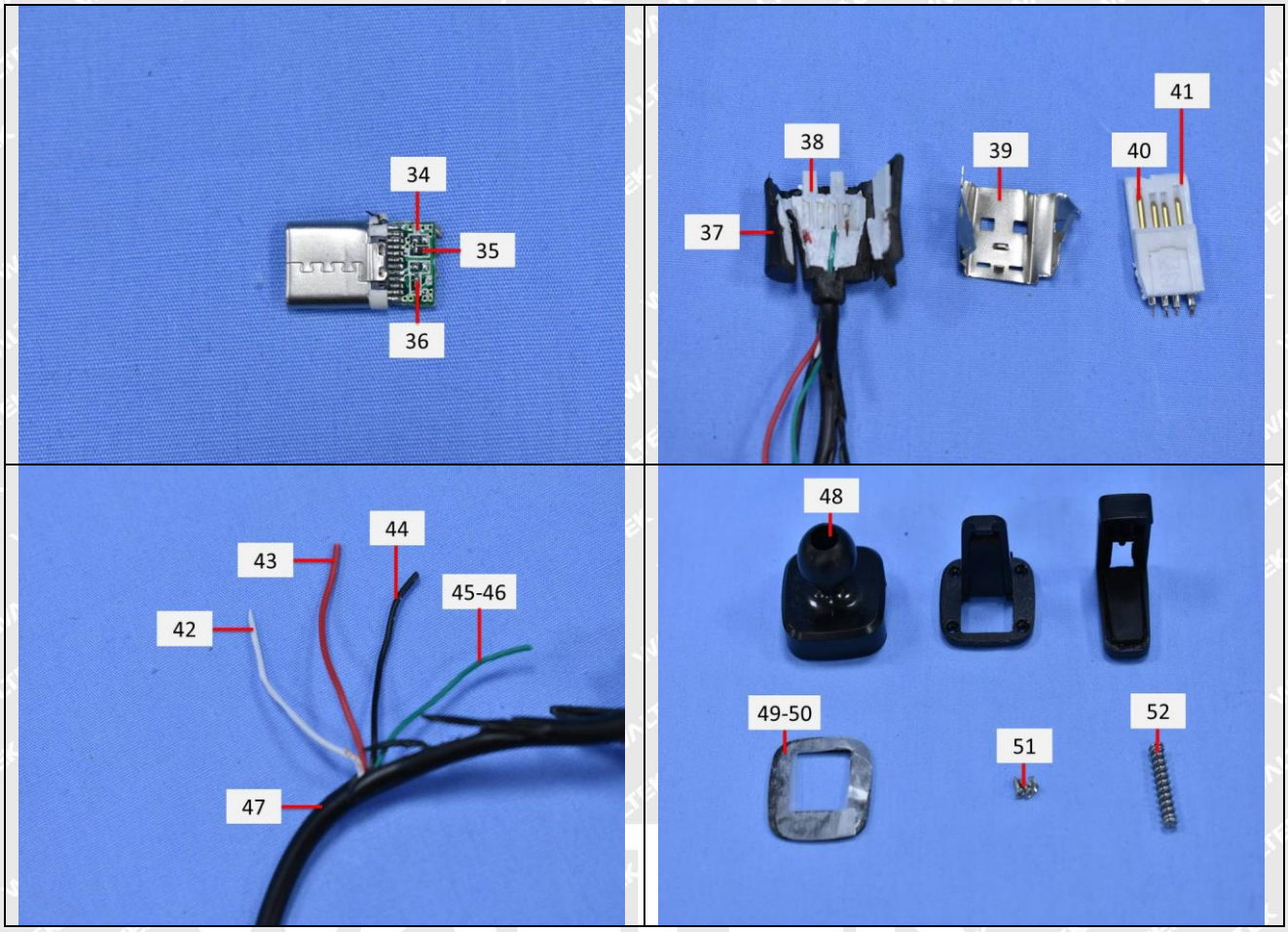
(7) "△"= As client's requirement, the testing was conducted based on mixed components. Results are calculated by the minimum weight of mixed components.

Measurement Flowchart:



Photograph(s) of parts tested:





Remarks:

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