



中国认可
国际互认
检测
TESTING
CNAS L6478



TEST REPORT

Report No...... : WTF23F01006836C
Applicant..... : Mid Ocean Brands B.V.
Address..... : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer..... : 109328
Sample Name..... : Sports and health smart watch
Sample Model..... : MO6166
Date of Receipt sample..... : 2023-01-12 & 2023-02-13 & 2023-02-27 & 2023-03-08
Testing period..... : 2023-01-12 to 2023-02-02 & 2023-02-13 to 2023-03-08
Date of Issue..... : 2023-03-09
Test Result..... : Refer to next page (s)

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, 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

Swing.Liang



Report No.: WTF23F01006836C

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)

WALTEK



Sample Photo(s):



WALTEK

**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	Silvery metal sheet	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
2	Black soft plastic sheet	BL	BL	BL	BL	BL	NA
3	Black soft plastic tube	BL	BL	BL	BL	BL	NA
4	Silvery metal buckle	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
5	Silvery metal axle	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
6	Black plastic shell	BL	BL	BL	BL	BL	NA
7	Black plastic adhesive label	BL	BL	BL	BL	BL	NA
8	Transparent plastic adhesive label with black coating	BL	BL	BL	BL	BL	NA
9	Black-transparent plastic sheet	BL	BL	BL	BL	BL	NA
10	Grey sponge	BL	BL	BL	BL	BL	NA
11	Golden metal pin	BL	BL	BL	BL	--	NA
12	Chip resistor	BL	BL	BL	IN	BL	Cr ⁶⁺ : ND
13	Chip EC	BL	BL	BL	BL	BL	NA
14	Solder	BL	BL	BL	BL	--	NA
15	Chip capacitor	BL	BL	BL	BL	BL	NA
16	Black FPC	BL	BL	BL	BL	BL	NA
17	Black plastic sheet	BL	BL	BL	BL	BL	NA
18	Silvery metal sheet	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
19	Transparent double faced adhesive tape	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	
20	Yellow plastic adhesive tape	BL	BL	BL	BL	BL	NA
21	White-black plastic adhesive tape	BL	BL	BL	BL	BL	NA
22	Black plastic frame	BL	BL	BL	BL	BL	NA
23	White plastic film	BL	BL	BL	BL	BL	NA
24	Chip LED	BL	BL	BL	BL	BL	NA
25	Transparent plastic sheet	BL	BL	BL	BL	BL	NA
26	White-black plastic film	BL	BL	BL	BL	BL	NA
27	Black plastic adhesive tape	BL	BL	BL	BL	BL	NA
28	Semi-transparent plastic film	BL	BL	BL	BL	BL	NA
29	Transparent glass with black coating	BL	BL	BL	BL	--	NA
30	Blue glue	BL	BL	BL	BL	BL	NA
31	Brown FPC	BL	BL	BL	BL	BL	NA
32	Black sponge with adhesive	BL	BL	BL	BL	BL	NA
33	Black plastic sheet adhesive	BL	BL	BL	BL	BL	NA
34	Silvery metal magnetic ring	BL	BL	BL	BL	--	NA
35	Silvery metal shell	BL	BL	BL	BL	--	NA
36	Transparent glue	BL	BL	BL	BL	BL	NA
37	Red plastic wire covering	BL	BL	BL	BL	BL	NA
38	Silvery metal axle	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
39	Silvery metal cover	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 sheet	BL	BL	BL	BL	--	NA
41	Golden metal ring	BL	BL	BL	BL	--	NA
42	White plastic sheet	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
43	Green PCB	BL	BL	BL	BL	BL	NA
44	Copperty varnished wire	BL	BL	BL	BL	BL	NA
45	Transparent plastic sheet	BL	BL	BL	BL	BL	NA
46	Blue plastic wire covering	BL	BL	BL	BL	BL	NA
47	Silvery metal wire	BL	BL	BL	BL	--	NA
48	Chip capacitor	BL	BL	BL	BL	BL	NA
49	Chip EC	BL	BL	BL	BL	BL	NA
50	Chip IC	BL	BL	BL	BL	BL	NA
51	Chip audion	BL	BL	BL	BL	BL	NA
52	Chip diode	BL	BL	BL	BL	BL	NA
53	Dark grey plastic shell(connector)	BL	BL	BL	BL	BL	NA
54	Black plastic sheet(connector)	BL	BL	BL	BL	BL	NA
55	Silvery metal pin(connector)	BL	BL	BL	BL	--	NA
56	Silvery-golden metal pin	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
57	Chip crystal oscillator	BL	BL	BL	BL	BL	NA
58	Chip IC	BL	BL	BL	BL	BL	NA
59	Chip capacitor	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	
60	Chip IC	BL	BL	BL	BL	BL	NA
61	Solder	BL	BL	BL	BL	--	NA
62	Golden metal pin	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
63	Dark grey sponge with adhesive	BL	BL	BL	BL	BL	NA
64	Blue PCB	BL	BL	BL	BL	IN	PBBs : ND PBDEs : ND
65	Solder	BL	BL	BL	BL	--	NA
66	Chip IC	BL	BL	BL	BL	BL	NA
67	Chip capacitor	BL	BL	BL	BL	BL	NA
68	Chip capacitor	BL	BL	BL	BL	BL	NA
69	Silvery metal sheet	BL	BL	BL	BL	--	NA
70	Solder	BL	BL	BL	BL	--	NA
71	Red plastic wire covering	BL	BL	BL	BL	BL	NA
72	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA
73	Black plastic wire covering	BL	BL	BL	BL	BL	NA
74	Coppery metal wire	BL	BL	BL	BL	--	NA
75	Green PCB	BL	BL	BL	BL		PBBs : ND PBDEs : ND
76	Grey-transparent plastic sheet	BL	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 Cr⁶⁺) 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	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$LOD < IN < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < IN$	$BL \leq (700-3\sigma) < IN$	$BL \leq (500-3\sigma) < IN$
Br	$BL \leq (300-3\sigma) < IN$	--	$BL \leq (250-3\sigma) < IN$

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, $\mu\text{g}/\text{cm}^2$ = 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	$\mu\text{g}/\text{cm}^2$	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 Cr⁶⁺ for polymer and composite sample is 8mg/kg and LOQ of Cr⁶⁺ for metal sample is 0.1 $\mu\text{g}/\text{cm}^2$.

- (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)



Report No.: WTF23F01006836C

- (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 $0.10\text{ug}/\text{cm}^2$.

Positive = Presence of Cr^{6+} coating, the detected concentration in boiling water extraction solution is greater than $0.13\text{ug}/\text{cm}^2$.

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	--	--	--	--
T02	2	ND	ND	ND	ND
T03	3	ND	ND	ND	ND
T04	4	--	--	--	--
T05	5	--	--	--	--
T06	6+9 [△]	ND	ND	ND	ND
T07	7	ND	ND	ND	ND
T08	8	ND	ND	ND	ND
T09	10	ND	ND	ND	ND
T10	11	--	--	--	--
T11	12+13+15+24 [△]	ND	ND	ND	ND
T12	14	--	--	--	--
T13	16+31+44 [△]	ND	ND	ND	ND
T14	17	ND	ND	ND	ND
T15	18	--	--	--	--
T16	19	ND	ND	ND	ND
T17	20	612	ND	ND	ND
T18	21	ND	ND	ND	ND
T19	22+23 [△]	ND	ND	ND	ND
T20	25	ND	ND	ND	ND
T21	26	ND	ND	ND	ND
T22	27	ND	ND	ND	ND
T23	28	ND	ND	ND	ND
T24	29	--	--	--	--
T25	30	ND	ND	ND	ND
T26	32	ND	ND	ND	ND
T27	33	ND	ND	ND	ND
T28	34	--	--	--	--



Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T29	35	--	--	--	--
T30	36	ND	ND	ND	ND
T31	37	ND	ND	ND	ND
T32	38	--	--	--	--
T33	39	--	--	--	--
T34	40	--	--	--	--
T35	41	--	--	--	--
T36	42	ND	ND	ND	ND
T37	43+64+75 [△]	ND	ND	ND	ND
T38	45	ND	ND	ND	ND
T39	46	ND	ND	ND	ND
T40	47	--	--	--	--
T41	48+49+50+51+52 [△]	ND	ND	ND	ND
T42	53	ND	ND	ND	ND
T43	54	ND	ND	ND	ND
T44	55	--	--	--	--
T45	56	--	--	--	--
T46	57+58+59+60+66 [△]	ND	ND	ND	ND
T47	61	--	--	--	--
T48	62	--	--	--	--
T49	63	ND	ND	ND	ND
T50	65	--	--	--	--
T51	67+68 [△]	ND	ND	ND	ND
T52	69	--	--	--	--
T53	70	--	--	--	--
T54	71	ND	ND	ND	ND
T55	72	ND	ND	ND	ND
T56	73	105	ND	ND	ND
T57	74	--	--	--	--
T58	76	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

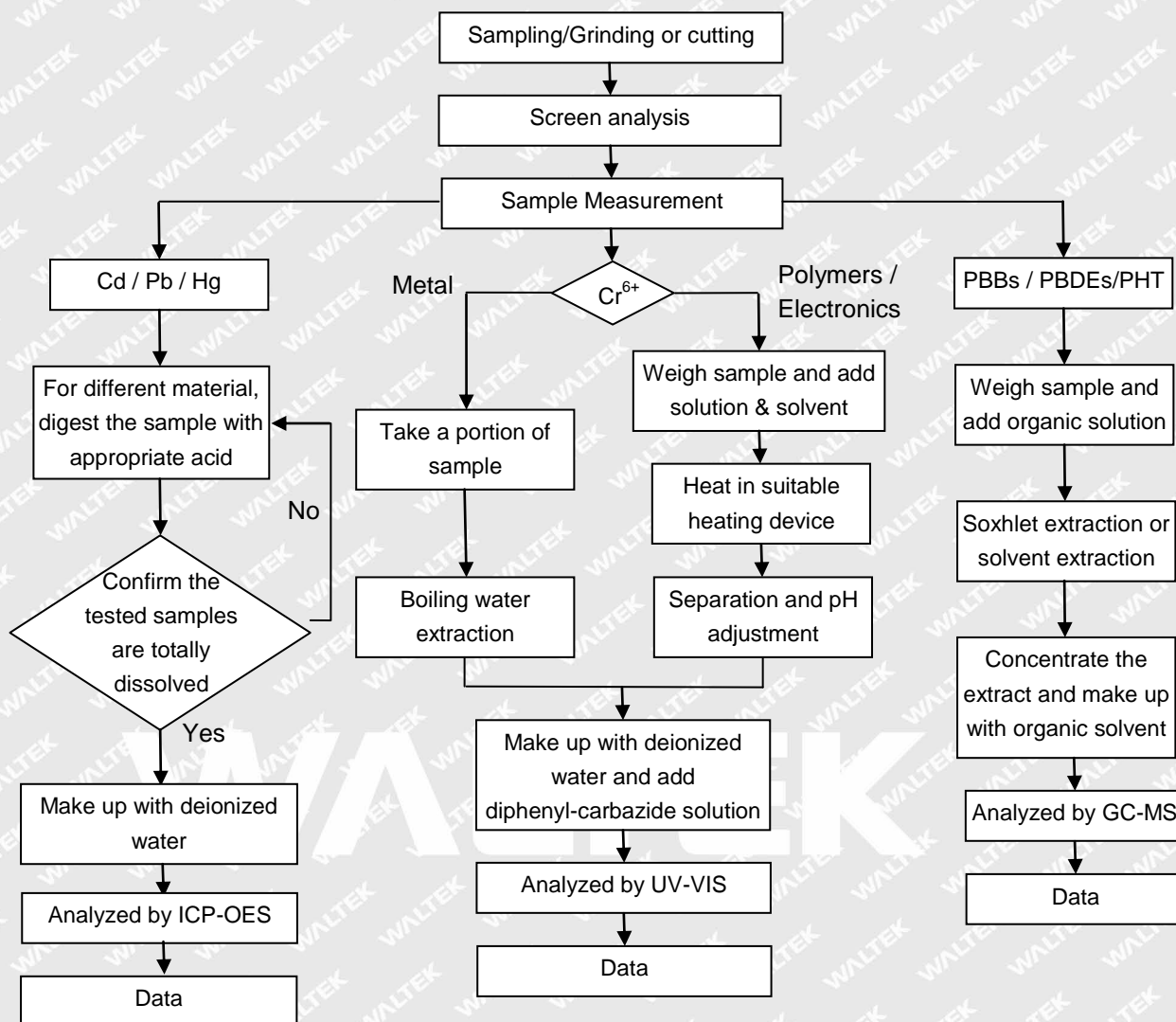
Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

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

WALTEK



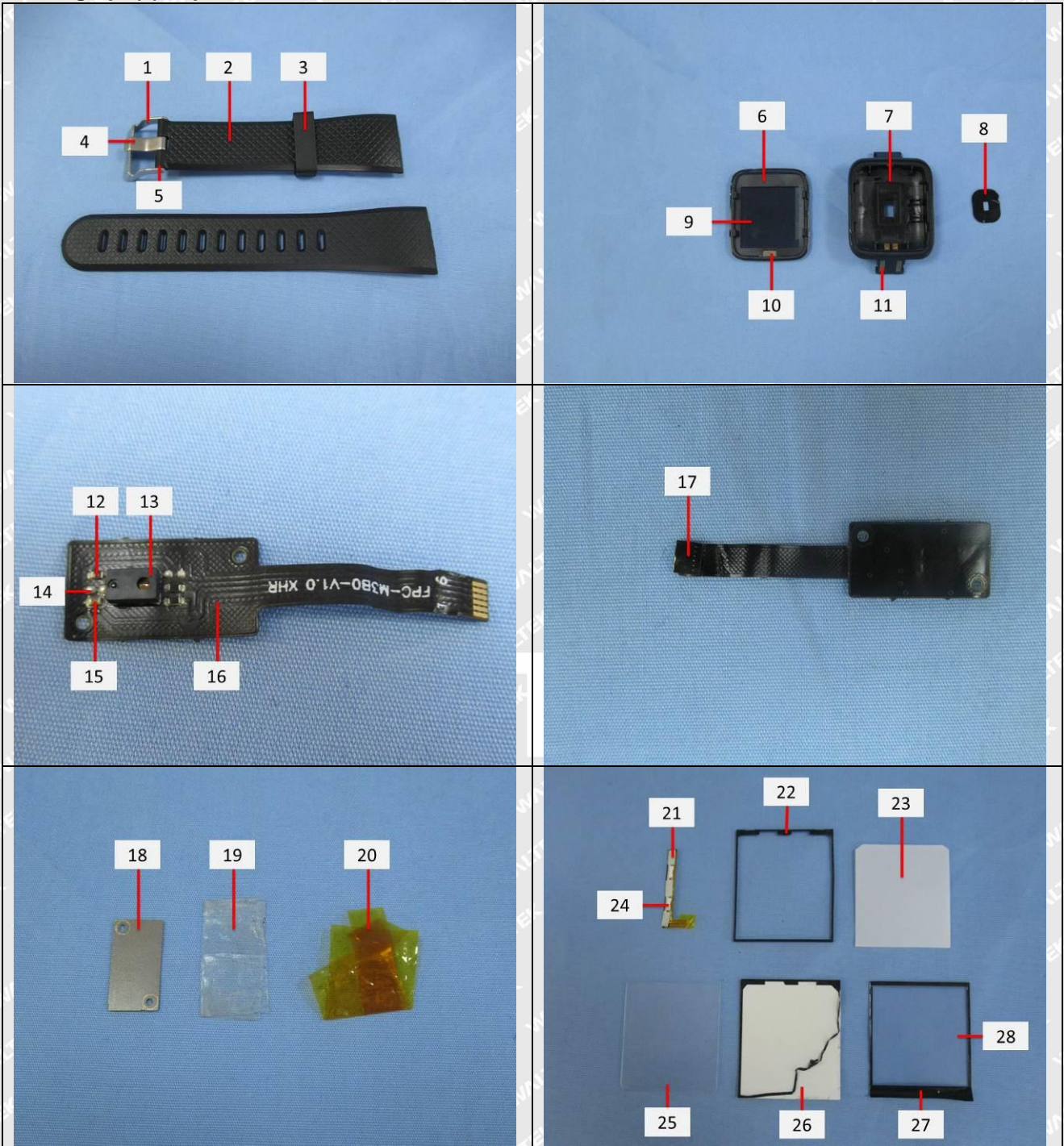
Measurement Flowchart:

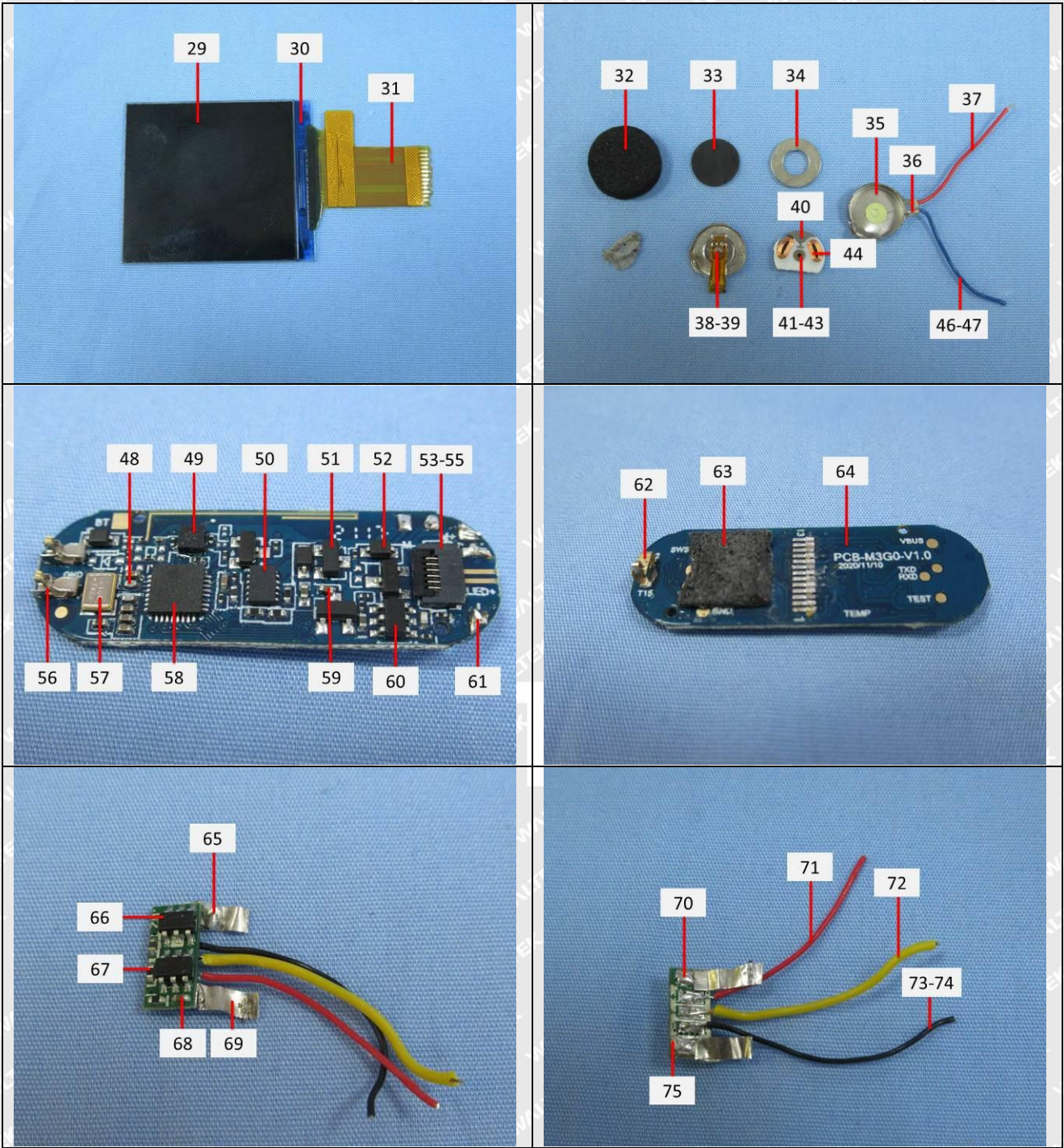




Report No.: WTF23F01006836C

Photograph(s) of parts tested:







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 =====