



TEST REPORT

Report No. : WTX19X09062415X1C

Date : Sept.18, 2019

Page 1 of 10

Applicant..... : Shenzhen Jumaoyuan Science and Technology Co., Ltd.
Applicant Address..... : Floor 6, Bld. G, No.1 Guanlong Industrial Zone, Xili Town, Nanshan District, Shenzhen, Guangdong, China

Manufacturer..... : Shenzhen Jumaoyuan Science and Technology Co., Ltd.
Manufacturer address..... : Floor 6, Bld. G, No.1 Guanlong Industrial Zone, Xili Town, Nanshan District, Shenzhen, Guangdong, China

Sample Name..... : Wood Moisture Meter
Model No. : GM605
Reference Model No. : GM610, GM611, GM620, GM640, GM630
Brand..... : BENETECH

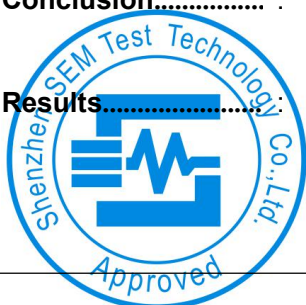
Date of Receipt sample... : Sept.09, 2019
Date of Issue..... : Sept.09, 2019 to Sept.18, 2019

Test Requested..... : 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.

Test Method..... : IEC 62321-3-1:2013, screening - Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry (XRF)
IEC 62321-4-2013 for mercury (Hg), analyzed by ICP-OES
IEC 62321-5-2013 for lead (Pb) and cadmium (Cd), analyzed by ICP-OES
IEC 62321-7-2:2017 and/or IEC 62321-7-1:2015 for hexavalent chromium (Cr⁶⁺), analyzed by UV-Vis
IEC 62321-6-2015 for PBBs and PBDEs, analyzed by GC-MS
IEC 62321-8:2017 for phthalates, analyzed by GC-MS

Test Conclusion..... : **Pass** (Based on the performed tests on the submitted samples, the results comply with the requirement of EU RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863).

Test Results..... : Refer to next page (s).



Tested by:

Charles Wang

Charles Wang

Reviewed by:

Eric Lu

Eric Lu

Approved by:

Jandyso

Jandyso

Declaration:

- (1) The report shall not be reproduced partly without the written approval of the laboratory, except in full produced.
- (2) All the results shown in the report apply to the tested sample, any erasure on the report is invalid.
- (3) All tested sample will be kept for one month, if there is any doubt about the test result, please inform within this period.

Shenzhen SEM Test Technology Co., Ltd.

1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C. (518101)

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

No.	Part Description	Result of XRF					Result of Chemical Testing (mg/kg)
		Pb	Cd	Hg	Cr	Br	
1	Silvery metal screw 1	BL	BL	BL	BL	NA	NA
2	Silvery metal screw 2	BL	BL	BL	BL	NA	NA
3	Silvery metal screw 3	BL	BL	BL	IN	NA	Cr ⁶⁺ : Negative
4	Silvery metal rod	BL	BL	BL	IN	NA	Cr ⁶⁺ : Negative
5	Coppery metal screw cap	IN [#]	BL	BL	BL	NA	Pb:10600
6	Gray plastic	BL	BL	BL	BL	BL	NA
7	Orange hard plastic	BL	BL	BL	BL	BL	NA
8	Orange soft plastic	BL	BL	BL	BL	BL	NA
9	Orange soft rubber	BL	BL	BL	BL	BL	NA
10	Transparent plastic plate	BL	BL	BL	BL	BL	NA
11	Solder	BL	BL	BL	BL	NA	NA

No.	Part Description	Result of XRF					Result of Chemical Testing (mg/kg)
		Pb	Cd	Hg	Cr	Br	
12	Silvery metal plate	BL	BL	BL	BL	NA	NA
13	Silvery metal spring	BL	BL	BL	BL	NA	NA
14	Black plastic wire jacket	BL	BL	BL	BL	BL	NA
15	Red plastic wire jacket	BL	BL	BL	BL	BL	NA
16	Silvery metal core	BL	BL	BL	BL	NA	NA
17	Pink rubber sheet	BL	BL	BL	BL	BL	NA
18	Dark glass screen	BL	BL	BL	BL	BL	NA
19	Black sponge	BL	BL	BL	BL	BL	NA
20	Brown capacitor SMD	BL	BL	BL	BL	BL	NA
21	Black solid material	BL	BL	BL	BL	BL	NA
22	Red plastic wire jacket	BL	BL	BL	BL	BL	NA
23	Silvery metal core	BL	BL	BL	BL	NA	NA

No.	Part Description	Result of XRF					Result of Chemical Testing (mg/kg)
		Pb	Cd	Hg	Cr	Br	
24	Coppery metal sheet	BL	BL	BL	BL	NA	NA
25	Green cladding PCB board	BL	BL	BL	BL	IN	PBBs: ND PBDEs: ND
26	Solder	BL	BL	BL	BL	NA	NA

Note:

- (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) ppm = mg/kg, based on the dry weight of tested sample.
- (5) ND = Not Detected, less than the value of Method Detection Limit.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit, it was not need to conduct the chemical testing.
- (7) MDL= Method Detection Limit in chemical test.

Test Items	Pb	Cd	Hg	Cr ⁶⁺		PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	µg/cm ²	mg/kg	mg/kg
MDL	10	10	10	10	0.1	10	10

The MDL for single compound of PBBs and PBDEs is 10mg/kg, MDL of Cr⁶⁺ for polymer and composite sample is 10mg/kg and MDL of Cr⁶⁺ for metal sample is 0.1µg/cm².

- (8) According to IEC 62321-7-1:2015, determined of Cr⁶⁺ on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.
- Boiling water extraction:
- Negative = Absence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is less than 0.10ug/cm².
- Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is greater than 0.13ug/cm².
- Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.
- (9) # = According to the declaration from client, the source of lead in test sample could be from copper alloy while lead as copper alloy containing up to 4% lead by weight is exempted by Directive 2011/65/EU.

2. Phthalates (DEHP,BBP,DBP,DIBP)

No.	Screening Result (mg/kg)				Result of Chemical Testing (mg/kg)			
	DEHP	DBP	BBP	DIBP	DEHP	DBP	BBP	DIBP
6	BL	BL	BL	BL	--	--	--	--
7	BL	BL	BL	BL	--	--	--	--
8	BL	BL	BL	BL	--	--	--	--
9	BL	BL	BL	BL	--	--	--	--
10	BL	BL	BL	BL	--	--	--	--
14	BL	BL	BL	BL	--	--	--	--
15	BL	BL	BL	BL	--	--	--	--
17	BL	BL	BL	BL	--	--	--	--
18	BL	BL	BL	BL	--	--	--	--
19	BL	BL	BL	BL	--	--	--	--
20	BL	BL	BL	BL	--	--	--	--
21	BL	BL	BL	BL	--	--	--	--
22	BL	BL	BL	BL	--	--	--	--
25	BL	BL	BL	BL	--	--	--	--

Note:

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

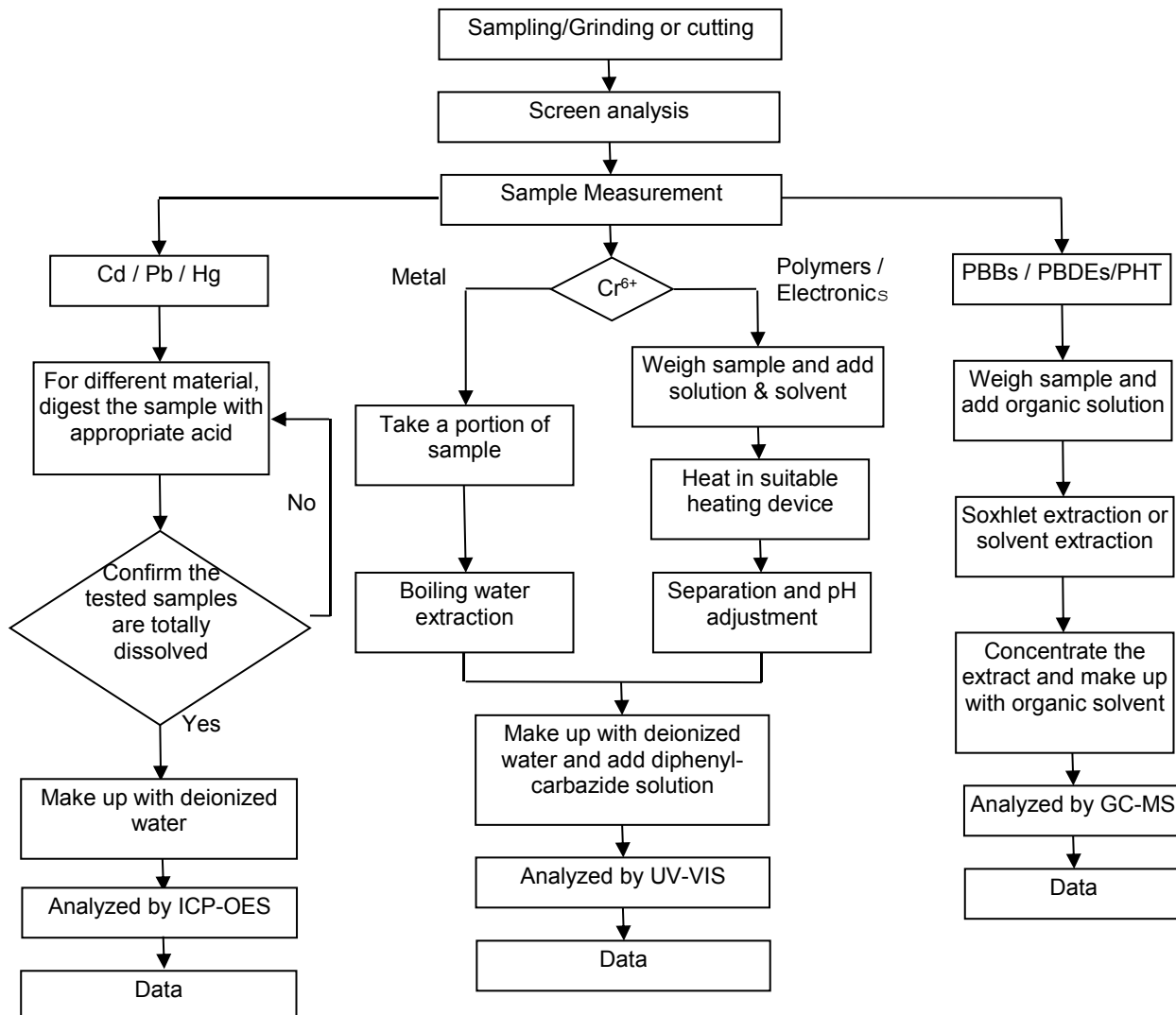
(2) Limit as per RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863

Test Item(s)	Limit (mg/kg)
Bis (2-ethylhexyl)- phthalate (DEHP)	1000
Dibutyl phthalate (DBP)	1000
Benzylbutyl phthalate (BBP)	1000
Diisobutyl phthalate (DIBP)	1000

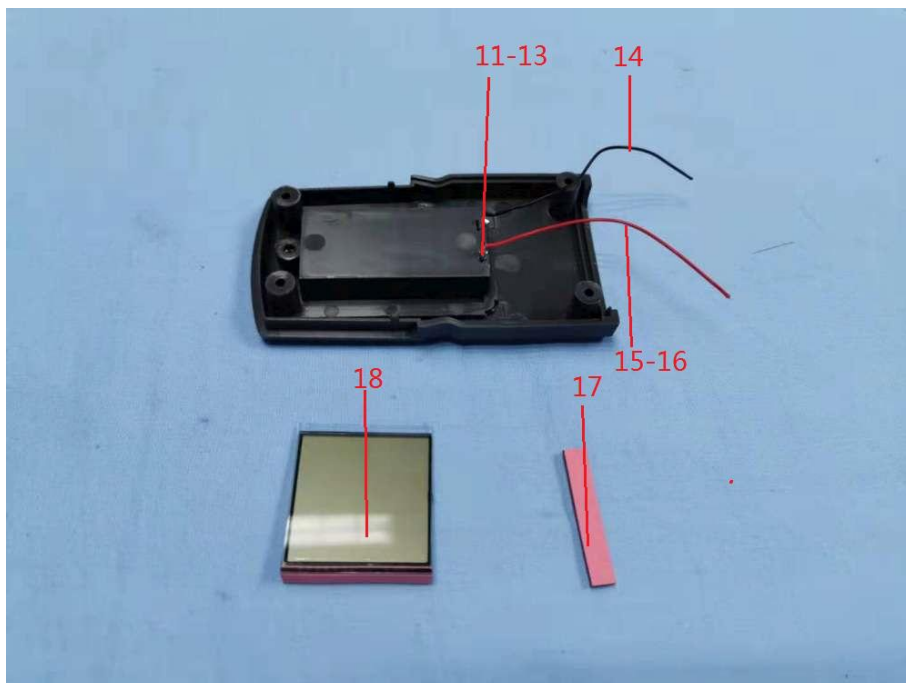
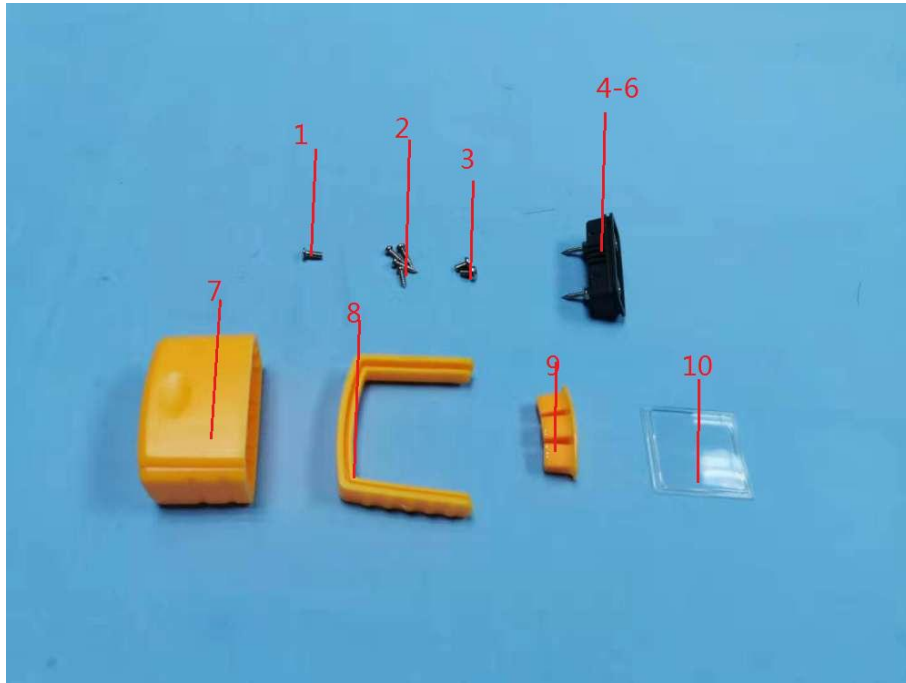
(3) Screening result of phthalates are for primary screening ,and further chemical testing by GC-MS (DEHP, DBP, BBP and DIBP) are recommended to be performed if the concentration exceeds the below warning value (unit: mg/kg)

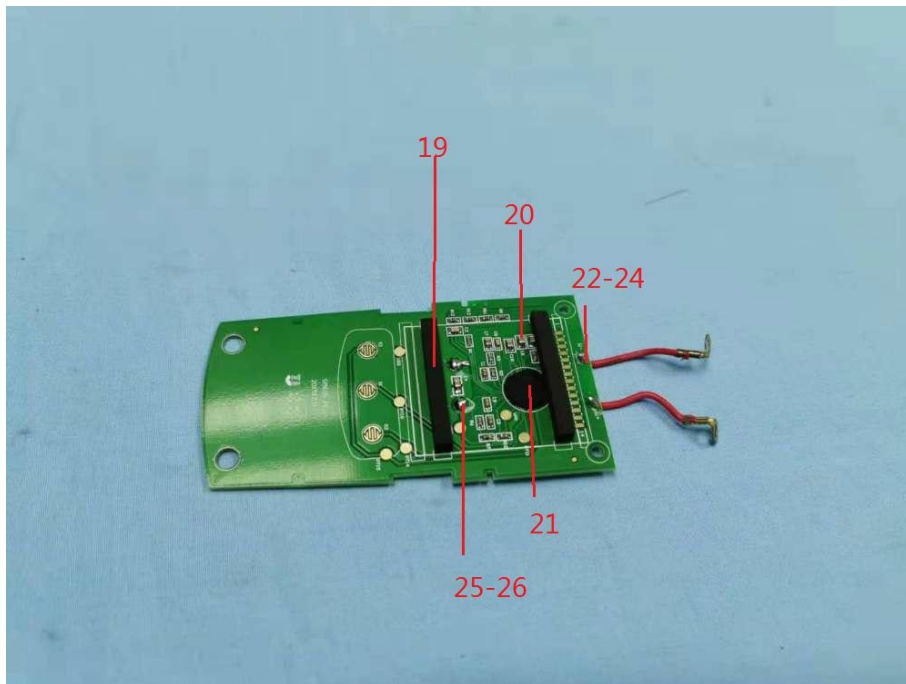
Test Item(s)	Polymer
Bis (2-ethylhexyl)- phthalate (DEHP)	BL≤600≤X
Dibutyl phthalate (DBP)	BL≤600≤X
Benzylbutyl phthalate (BBP)	BL≤600≤X
Diisobutyl phthalate (DIBP)	BL≤600≤X

Measurement Flow chart:



Sample Photo :

Photograph of parts tested :



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