

Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 1 of 11

Applicant: Guangzhou Kinouwell Technology Co., Ltd
Contact information: Floor 6 NO.737 comprehensive building, Qiaoxing Avenue, Panyu District, Guangzhou ,China
Manufacturer: Zhuhai Piwin New Energy Co., Ltd
Contact information: No. 15, Science and Technology 6th Road, Science and Technology Innovation Coast, Tangjiawan Town, High-tech Zone, Xiangzhou District, Zhuhai City

The following sample(s) was (were) submitted and identified by client as:

Sample Description : EV Charger
Trademark : N/A
Model No. : PEVC2201E, PEVC2107E, PEVC3106E, PEVC3107E, PEVC3401E, PEVC3505E, PEVC3507E, PEVC3068E, PEVC3013E
Model differences : All models are identical except for model No and enclosure Colour. After comparison, tests carried out on model PEVC2201E were considered
Sample Received Date : Dec.10, 2021 to Dec.21, 2021
Testing Period : Dec.21, 2021
Test Request : Please refer to next page(s).
Test Result(s) : Please refer to next page(s).

Signed for and on behalf of ZRC International Certification (Shenzhen) Co., Ltd

Prepared by



Sammy Lin
Engineer

Checked by



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Supervisor

Approved by



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Manager

Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 2 of 11

Summary of test results:

TEST REQUEST

CONCLUSION

(1) RoHS Directive 2011/65/EU and its subsequent amendments & Directive (EU) 2015/863

Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)),
Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs),
Phthalates (DBP, BBP, DEHP, DIBP)

PASS

Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 3 of 11

Test Material List

Material No.	Description
1	Silver white plastic
3	Black plastic
3	Blue plastic(internal wire)
4	Grey plastic(internal wire)
5	Black plastic(internal wire)
6	Brown plastic(internal wire)
7	Yellow/green plastic(internal wire)
8	White cable plastic(internal wire)
9	Copper wire (internal wire)
10	Black plastic (DC connector)
11	Silver metal (DC connector)
12	Black plastic(Power cord)
13	silvery metal(Power cord)
14	White plastic(Power cord)
15	silvery metal(AC connector)
16	Copper wire (AC connector)
17	Solder
18	PCB
19	IC
20	Chip resistor
21	Chip capacitors
22	Triode
23	Diode
24	LED
25	Chock
25	Varistor
26	Relay
27	X-cap

Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 4 of 11

28	Button battery
29	Detonator
30	silvery metal(USB socket)
31	Black plastic(USB socket)
32	Black plastic (DC connector)
33	Silver metal (DC connector)

Test Result(s):

(1) Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP)

Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI))

Test Method: With reference to IEC 62321-5: 2013, IEC62321-4: 2013+A1:2017, IEC 62321-7-1: 2015 or IEC 62321-7-2: 2017, was analyzed by Ultraviolet-visible Spectrometry (UV-Vis).

No.	EDXRF Result ⁽¹⁾					Chemical Result ⁽²⁾ (mg/kg)	Remark ⁽³⁾	Conclusion
	Pb	Cd	Hg	Cr	Br			
1	BL	BL	BL	BL	BL	--	--	Pass
3	BL	BL	BL	BL	BL	--	--	Pass
3	BL	BL	BL	BL	BL	--	--	Pass
4	BL	BL	BL	BL	BL	--	--	Pass
5	BL	BL	BL	BL	BL	--	--	Pass
6	BL	BL	BL	BL	BL	--	--	Pass
7	BL	BL	BL	BL	BL	--	--	Pass
8	BL	BL	BL	BL	BL	--	--	Pass
9	BL	BL	BL	BL	NA	--	--	Pass
10	BL	BL	BL	BL	BL	--	--	Pass
11	BL	BL	BL	BL	NA	--	--	Pass
12	BL	BL	BL	BL	BL	--	--	Pass
13	BL	BL	BL	BL	NA	--	--	Pass
14	BL	BL	BL	BL	BL	--	--	Pass
15	BL	BL	BL	BL	NA	--	--	Pass

Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 5 of 11

16	BL	BL	BL	BL	NA	--	--	Pass
17	BL	BL	BL	BL	BL	--	--	Pass
18	BL	BL	BL	BL	X	PBBs: N.D. PBDEs: N.D.	--	Pass
19	BL	BL	BL	BL	BL	--	--	Pass
20	BL	BL	BL	BL	BL	--	--	Pass
21	BL	BL	BL	BL	BL	--	--	Pass
22	BL	BL	BL	BL	BL	--	--	Pass
23	BL	BL	BL	BL	BL	--	--	Pass
24	BL	BL	BL	BL	BL	--	--	Pass
25	BL	BL	BL	BL	BL	--	--	Pass
25	BL	BL	BL	BL	BL	PBBs: N.D. PBDEs: N.D.	--	Pass
26	BL	BL	BL	BL	BL	--	--	Pass
27	BL	BL	BL	BL	NA	--	--	Pass
28	BL	BL	BL	BL	NA	--	--	Pass
29	BL	BL	BL	BL	BL	--	--	Pass
30	BL	BL	BL	BL	BL	--	--	Pass
31	BL	BL	BL	BL	BL	--	--	Pass
32	BL	BL	BL	BL	BL	--	--	Pass
33	BL	BL	BL	BL	NA	--	--	Pass

Remark:

- (1) ① Results are obtained by EDXRF for primary screening, and further wet chemical testing by ICP-OES (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as "X" in below table) (unit: mg/kg).
- ② OL = Over Limit, BL = Below Limit, X = Inconclusive, NA = Not Applicable.
- ③ The EDXRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$L \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$

Test Report

Report No.: ZRC2112068XY-ROHS-R1
Date: Dec. 21, 2021
Page 6 of 11

Br	BL ≤ (300-3σ)< X	NA	BL ≤ (250-3σ)< X
Cr	BL ≤ (700-3σ)< X	BL ≤ (700-3σ)< X	BL ≤ (500-3σ)< X

Units and limits in EU RoHS Directive 2011/65/EU:

Element	Pb	Cd	Hg	Cr(VI)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit	1000	1000	1000	1000	1000	1000

(2) ① mg/kg = ppm = 0.0001%, N.D. = Not Detected (Less than RL).

② Unit and RL (Report limit) in wet chemical test.

Element	Pb	Cd	Hg	Cr(VI)	PBBs(single)	PBDEs(single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit	2	2	2	2	5	5

③ According to IEC 62321-7-1:2015, result on Cr(VI) for metal sample is shown as Positive/Negative.

Negative = Absence of Cr(VI) coating, Positive = Presence of Cr(VI) coating.

Storage condition and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

④ According to IEC 62321-3-1:2013, this column represents the results of wet chem test.

(3) This column represents the exempted decoration of material or other related testing sample's information.

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

Test Method: IEC 62321-8: 2017, analyzed by gas chromatographic- mass spectrometer (GC-MS).

Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit (mg/kg)	1000	1000	1000	1000	
RL (mg/kg)	30	30	30	30	
Material No.	Result (mg/kg)				
1	N.D.	N.D.	N.D.	N.D.	PASS
2	N.D.	N.D.	N.D.	N.D.	PASS
3	N.D.	N.D.	N.D.	N.D.	PASS
4	N.D.	N.D.	N.D.	N.D.	PASS
5	N.D.	N.D.	N.D.	N.D.	PASS
6	N.D.	N.D.	N.D.	N.D.	PASS
7	N.D.	N.D.	N.D.	N.D.	PASS
12	N.D.	N.D.	N.D.	N.D.	PASS

Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 7 of 11

14	N.D.	N.D.	N.D.	N.D.	PASS
31	N.D.	N.D.	N.D.	N.D.	PASS
32	N.D.	N.D.	N.D.	N.D.	PASS

- Note:** 1. mg/kg = milligram per kilogram (ppm).
2. RL = report limit.
3. N.D.=not detected(less than RL).

Test Process Flow

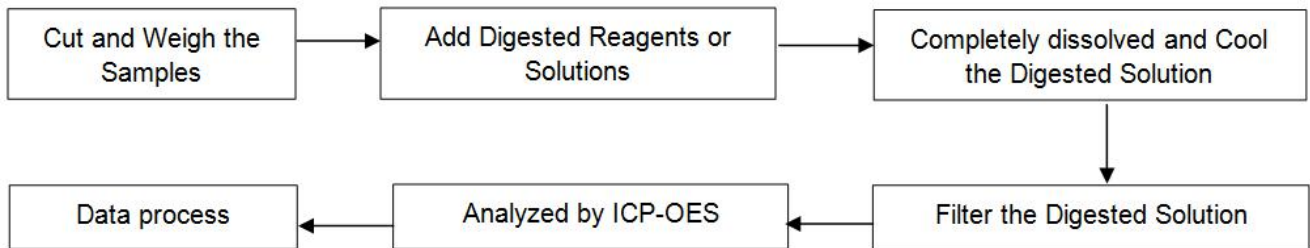
Test Report

Report No.: ZRC2112068XY-ROHS-R1

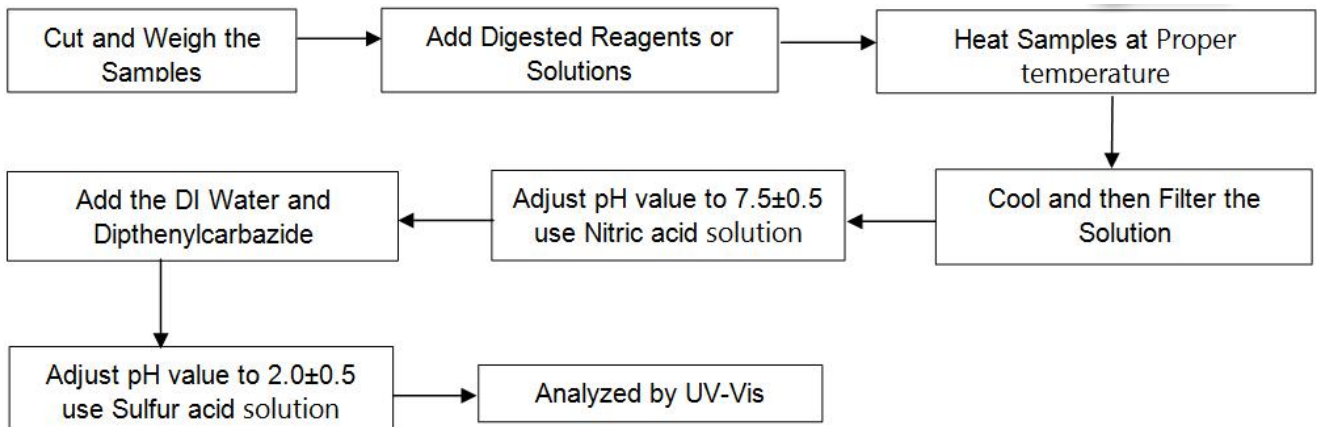
Date: Dec. 21, 2021

Page 8 of 11

1. Lead, Cadmium, Mercury



2. Hexavalent Chromium (Non-metal)



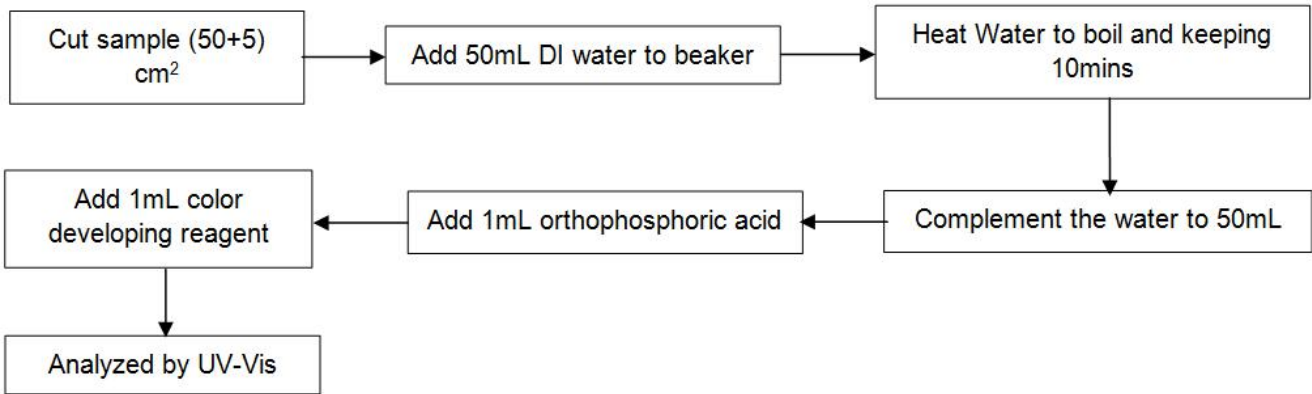
Test Report

Report No.: ZRC2112068XY-ROHS-R1

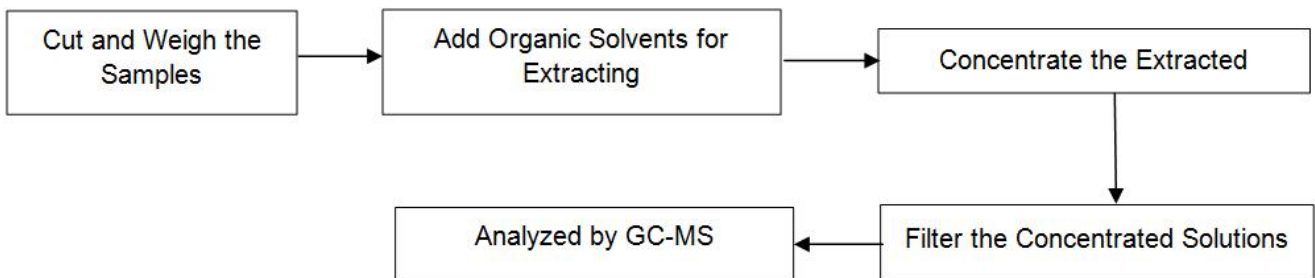
Date: Dec. 21, 2021

Page 9 of 11

Hexavalent Chromium (Metal)



3. PBBs & PBDEs, Phthalates



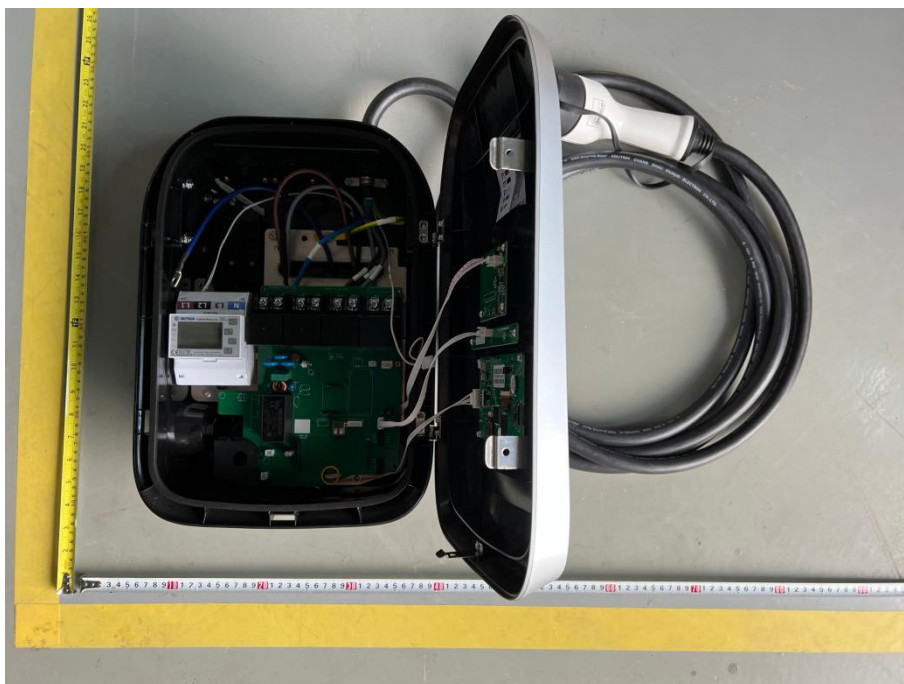
Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 10 of 11

Photo(s) of Sample:

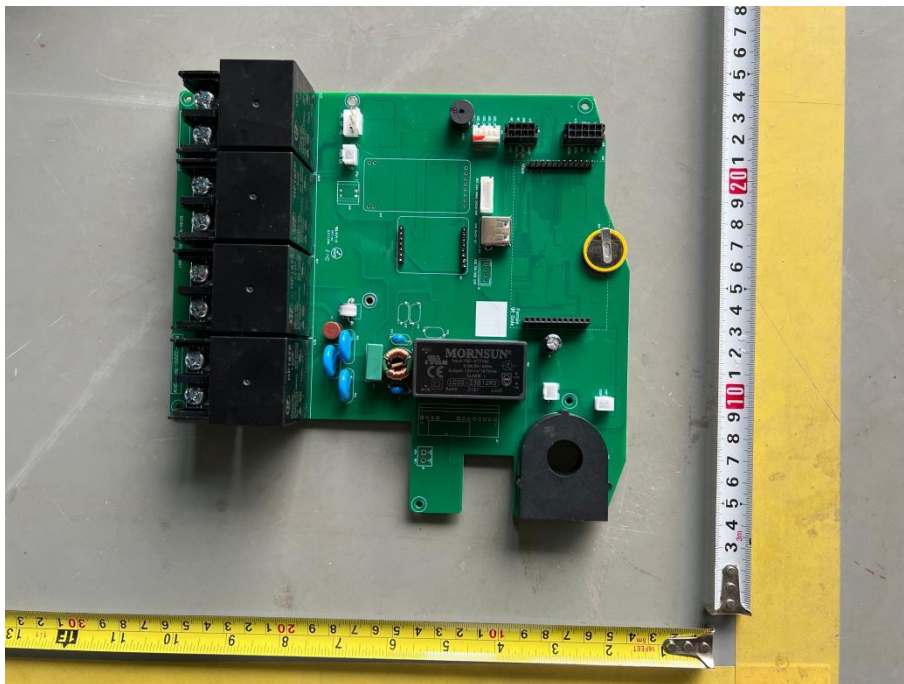


Test Report

Report No.: ZRC2112068XY-ROHS-R1

Date: Dec. 21, 2021

Page 11 of 11



*****End of Report*****