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# **Verification Report**

Applicant : V-TAC EXPORT LIMITED

Address : Room 301 Kam ON Building 176A, Queen's Road Central HongKong

Report on the submitted samples said to be:

Sample Name(s) : Portable Power Station

Trade Mark : V-TAC

Part No. : YW-600, YW600-VT-606

Sample Received Date : January 19, 2022

Testing Period : January 19, 2022 ~ January 27, 2022

Date of Report : November 11, 2022

F&G, 23/F, Technology Building, Quanzhi Science and Technology

Testing Location : Innovation Park, Industrial Building, Maozhoushan Industrial Park,

Houting, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Results : Please refer to next page(s).

TEST REQUEST	CONCLUSION
As specified by client, based on the performed tests on submitted sample, the result of	
Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs,	
Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl	PASS
Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by	LA STILL REY (Y)
RoHS Directive 2011/65/EU with amendment (EU) 2015/863.	立语型 Lab

Signed for and on behalf of LCS

Young/Laboratory Manager





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#### **Results:**

# A. EU RoHS Directive 2011/65/EU and its amendment directives

<u>Test method:</u> With reference to IEC 62321-1:2013&IEC 62321-2:2021&IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Sample	Sample		Date of sample					
No.	<b>Description</b>	Cd Pb		Hg	Cr▼	В	r▼	submission/
	•		10	10 Hg		PBBs	PBDEs	Resubmission
1	Black plastic buckle	BL	BL	BL	BL	BL	BL	2022-01-19
2	Black printed yellow plastic case	BL	BL	BL	BL	BL	BL	2022-01-19
3	White dry glue	BL	BL	BL	BL	BL	BL	2022-01-19
4	Black silver plated metal screws	BL	BL	BL	X	/	(Salves)	2022-01-19
5	Silver metal nut	X	BL	BL	X	/	/	2022-01-19
6	Clear plastic lens	BL	BL	BL	BL	BL	BL	2022-01-19
7	Silver metal screws	BL	BL	BL	BL	/	/	2022-01-19
8	White plastic socket shell	BL	BL	BL	BL	BL	BL	2022-01-19
9	Silver metal pins	BL	BL	BL	BL	/	/	2022-01-19
10	Black plastic key case	BL	BL	BL	BL	BL	BL	2022-01-19
11	Silver metal shell	BL	BL	BL	BL	1	/	2022-01-19
12	White PCB board	BL	BL	BL	BL	BL	BL	2022-01-19
13°5	Solder	BL	BL	BL	BL	/	/	2022-01-19
14	Silver metal pins (led)	BL	BL	BL	BL	/	/	2022-01-19
15	White plastic base (LED)	BL	BL	BL	BL	BL	BL	2022-01-19
16	Transparent plastic case (LED)	BL	BL	BL	BL	BL	BL	2022-01-19
17	Yellow substance (LED)	BL	BL	BL	BL	BL	BL	2022-01-19
18	Silver metal base (led)	BL	BL	BL	BL	/	/	2022-01-19
19	Silver metal screws	BL	BL	BL	BL	/	/	2022-01-19
20	Silver metal screws	BL	BL	BL	BL	/	/	2022-01-19
21	Silver metal screws	OL	BL	BL	BL	/	位讯	2022-01-19
22	Silver metal nut	BL	BL	BL	BL	/	Val res	2022-01-19
23	Black plastic case	BL	BL	BL	BL	X	X	2022-01-19
24	Gold metal pins	BL	OL	BL	BL	/	/	2022-01-19
25	Black plastic sleeve	BL	BL	BL	BL	BL	BL	2022-01-19
26	White printed black plastic thread	BL	BL	BL	BL	BL	BL	2022-01-19
27	Yellow plastic port shell	BL	BL	BL	BL	X	X	2022-01-19
28	Red plastic sleeve	BL	BL	BL	BL	BL	BL	2022-01-19
29	White printed red plastic thread	BL	BL	BL	BL	BL	BL	2022-01-19
30	Silver metal core	BL	La\BL	BL	BL	ing Vap	/	2022-01-19



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Tith Testin	Games Ver	Title	Lan	Res	sults	sting Lab		Date of sample submission/
Sample No.	Sample Description	Cd	Pb	Ца	Cr▼	В	r▼	
110.	_	Cu	ru	Hg	Cr.	PBBs	PBDEs	Resubmission
31	Blue printed white plastic thread skin	BL	BL	BL	BL	BL	BL	2022-01-19
32	Black foam with viscose	BL	BL	BL	BL	BL	BL	2022-01-19
33	Green PCB board	BL	BL	BL	BL	X	X	2022-01-19
34	Black disk	BL	BL	BL	BL	/	/	2022-01-19
35	Solder	BL	BL	BL	BL	/	/	2022-01-19/ 2022-01-26
36	Grey body (inductor)	BL	BL	BL	X	/	/	2022-01-19
37	Copper colored wire	BL	BL	BL	BL	/	A ALIMA	2022-01-19
38	Silver metal port shell	BL	OL	BL	BL	/	1	2022-01-19
39	Transparent glass	BL	BL	BL	BL	BL	BL	2022-01-19
40	Silver metal pins	OL	BL	BL	BL	/	/	2022-01-19
41	Silver metal port shell	BL	BL	BL	BL	/	/	2022-01-19
42	Blue plastic sheet	BL	BL	BL	BL	X	X	2022-01-19
43	Black plastic sheet	BL	BL	BL	BL	BL	BL	2022-01-19
44	Silver metal port shell	X	BL	BL	X	/	/	2022-01-19
45	Gold metal contacts	BL	份 BL	BL	BL	加股外	/	2022-01-19
46	Silver metal port shell	BL	BL	BL	BL	sting lab	/	2022-01-19
47	Transparent plastic sheet	BL	BL	BL	BL	BL	BL	2022-01-19
48	Silver metal plate	BL	BL	BL	BL	/	/	2022-01-19
49	Black plastic cord	BL	BL	BL	BL	BL	BL	2022-01-19
50	Silver metal plug shell	BL	BL	BL	BL	/	/	2022-01-19

#### Note:

1. Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
Cd	BL≤(70-3σ) <x<(130+3σ)≤ol< td=""><td>BL≤(70-3σ)<x<(130+3σ)≤ol< td=""><td>LOD<x<(150+3σ)≤ol< td=""></x<(150+3σ)≤ol<></td></x<(130+3σ)≤ol<></td></x<(130+3σ)≤ol<>	BL≤(70-3σ) <x<(130+3σ)≤ol< td=""><td>LOD<x<(150+3σ)≤ol< td=""></x<(150+3σ)≤ol<></td></x<(130+3σ)≤ol<>	LOD <x<(150+3σ)≤ol< td=""></x<(150+3σ)≤ol<>
Pb	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(700-3σ)<x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(500-3σ) <x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<>
Hg	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(700-3σ)<x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(700-3σ) <x<(1300+3σ)≤ol< td=""><td>BL≤(500-3σ)<x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<></td></x<(1300+3σ)≤ol<>	BL≤(500-3σ) <x<(1500+3σ)≤ol< td=""></x<(1500+3σ)≤ol<>
Cr	BL≤(700-3σ) <x< td=""><td>BL≤(700-3σ)<x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<></td></x<>	BL≤(700-3σ) <x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<>	BL≤(500-3σ) <x< td=""></x<>
Br	BL≤(300-3σ) <x< td=""><td>N/A</td><td>BL≤(250-3σ)<x< td=""></x<></td></x<>	N/A	BL≤(250-3σ) <x< td=""></x<>



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#### Remark:

- BL= Below Limit
- OL= Over Limit
- X= The range of needing to do further testing
- $3\sigma$ = The reproducibility of analytical instruments
- N/A= Not applicable
- LOD= Detection limit
- 2. The XRF screening test for RoHS elements The reading may be different to the actual content in the sample be of non-uniformity composition.
- 3. The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
- 4. ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	Till the little and 1000
Dibutyl Phthalate(DBP)	1000 MSA LOS TOS
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

#### Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.





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# B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, DBP, BBP, DEHP & DIBP content

#### Test method:

### Lead(Pb) & Cadmium(Cd) Content:

With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES) or Atomic absorption spectrometer (AAS).

#### Mercury(Hg) Content:

With reference to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES).

#### Hexavalent Chromium(Cr(VI)) Content:

With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, analysis was performed by UV-visible spectrophotometer (UV-Vis).

#### PBBs & PBDEs Content:

With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

# Phthalates(DBP, BBP, DEHP &DIBP) Content:

With reference to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

#### 1) The test results of Lead(Pb) & Cadmium(Cd)

1) The test results of Lea	d(Pb) & Cadmium(	<u>Cd)</u>					
Tested Items	MDL		Results (mg/kg)				
	(mg/kg)	(24)	(38)	(mg/kg)			
Lead(Pb) Content	5	19800#1	24700#1	1000			

Tested Items	MDL	(mg/kg)					
Tested Temp	(mg/kg)	(5)	(21)	(40)	(44)	(mg/kg)	
Cadmium(Cd) Content	5	N.D.	N.D.	N.D.	N.D.	100	

#### 2) The test results of Hexavalent Chromium(Cr(VI)(for coating on metal)

Tested Items	MDL	Results (μg/cm²)				Limit	
rested rems	(μg/cm <sup>2</sup> )	$\mu g/cm^2) \qquad (4) \qquad (5)$		(36)	(44)	(μg/cm <sup>2</sup> )	
Hexavalent Chromium(Cr(VI)) Content★	0.10 (LOQ)	N.D.	N.D.	N.D.	N.D.	1000	



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# 3) The test results of Phthalates(DBP, BBP, DEHP &DIBP)

Tested Items	MDL (mg/kg)	Results (mg/kg) 1+2+6+8+10+12	Limit (mg/kg)
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items	MDL	Results (mg/kg)	Limit	
rested rems	(mg/kg)	15+16+17+23+25+26	(mg/kg)	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000	
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000	
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000	
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000	

Tested Items	MDL (mg/kg)	Results (mg/kg) 27+28+29+31+33+39	Limit (mg/kg)
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items a Testing Lab	MDL (mg/kg)	Results (mg/kg) 42+43+47+49	Limit (mg/kg)
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000



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Tested Items	MDL (mg/kg)	Res (mg	Limit	
		3	32	(mg/kg)
Dibutyl Phthalate(DBP) Content	100	N.D.	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	100	N.D.	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	100	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP) Content	100	N.D.	N.D.	1000







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# 4) The test results of PBBs & PBDEs

Tested Items	MDL (mg/kg)	Results (mg/kg)				Limit
		(23)	(27)	(33)	(42)	(mg/kg)
Polybrominated Biphenyls(PBBs) Conte	nt					
Monobromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Dibromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Tribromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	加股份/
Tetrabromobiphenyl	5 1	N.D.	N.D.	N.D.	N.D.	sting Lab
Pentabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Hexabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Heptabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Octabromobiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Nonabromodiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Decabromodiphenyl	5	N.D.	N.D.	N.D.	N.D.	/
Total content	1	N.D.	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers(PBDEs)	Content		一世讯位	ing Lab	•	一九讯检
Monobromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	ST LCP TO
Dibromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Tribromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Tetrabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Pentabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Hexabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Heptabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Octabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	则股份/
Nonabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	sting Lab
Decabromodiphenyl ether	5	N.D.	N.D.	N.D.	N.D.	/
Total content	/	N.D.	N.D.	N.D.	N.D.	1000

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Note:

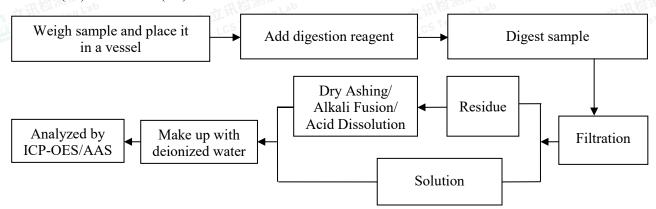
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL or LOQ)
- mg/kg = milligrams per kilogram
- LOQ = Limit Of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm<sup>2</sup>
- $\star$  = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13μg/cm<sup>2</sup>. The sample coating is considered to contain Cr(VI).
  - b. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than  $0.10\mu g/cm^2$ ). The sample coating is considered a non- Cr(VI) based coating.

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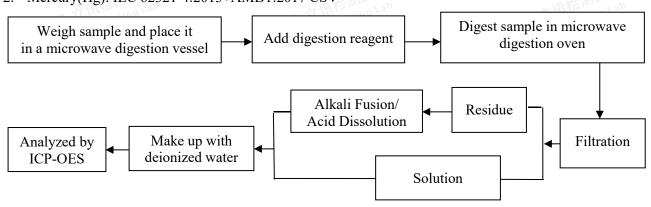
- c. The result between  $0.10\mu g/cm^2$  and  $0.13\mu g/cm^2$  is considered to be inconclusive, unavoidable coating variations may influence the determination.
- Information on storage conditions and production date of the tested samples is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
- According to customer's requirement, only the appointed materials have been tested.
- #1 According to RoHS Directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.
- According to the customer's statement, the materials of points  $1 \sim 50$  in this report are consistent with tho se of points  $1 \sim 50$  in LCS211111120AR. The raw data are directly quoted, and the referenced samples a re not tested this time.

### **Test Process**

1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013



2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV



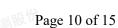


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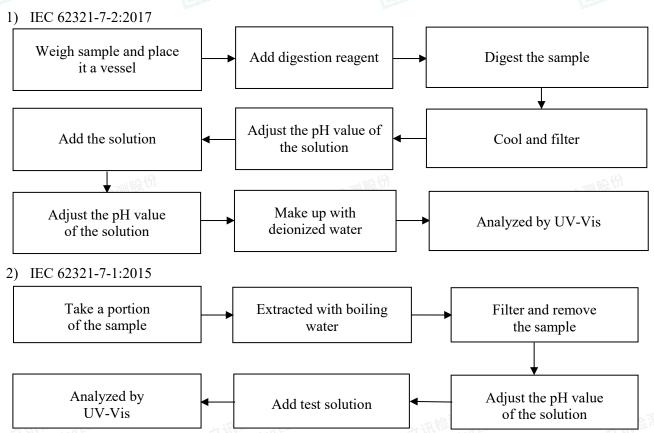
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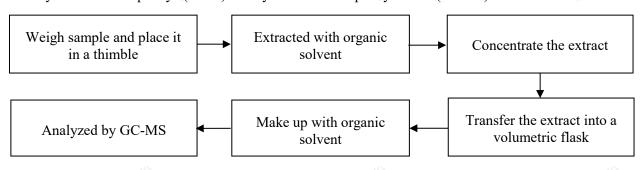




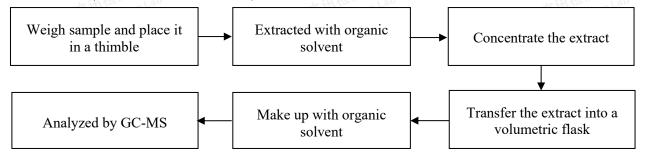
3. Hexavalent Chromium(Cr(VI))



4. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs): IEC 62321-6:2015



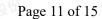
5. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017





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# The photo(s) of the sample







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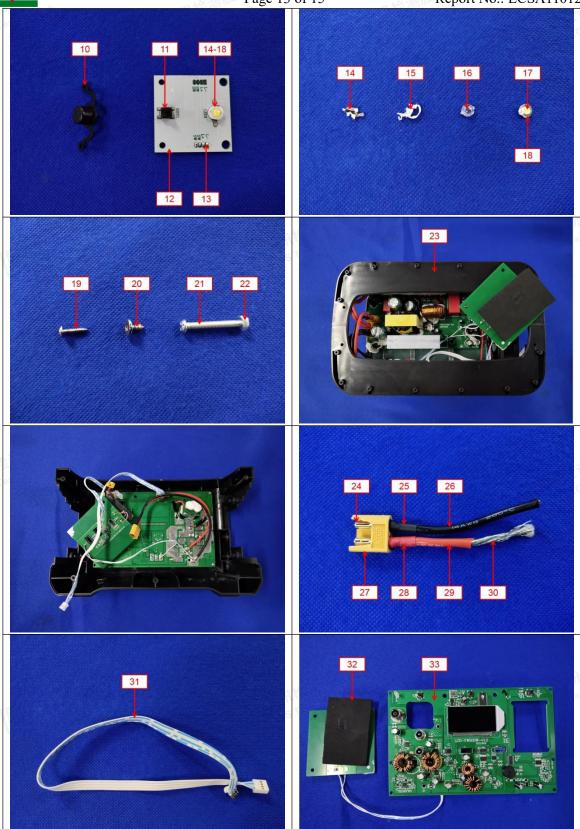


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#### **Statement:**

- 1. The test report is invalid without the signature of the approver and the special seal for the company's report;
- 2. The company name, address and sample information shown on the report were provided by the applicant who should be responsible for the authenticity which are not verified by LCS;
- 3. The test results in this report are only responsible for the tested samples;
- 4. Without written approval of LCS, this report can't be reproduced except in full;
- In case of any discrepancy between the corresponding Chinese and English contents in the test report, the English version shall prevail.

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



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