



# TEST REPORT

LAB NO. : (2420)345-0149  
 DATE : December 18, 2020  
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Applicant:  
**NINGBO YILIN AGUATECH CO.,LTD.**  
 NO.158,DUANTANG WEST ROAD, NINGBO CHINA

Date of Submission: 2020-12-10  
 Test Period: 2020-12-10 to 2020-12-18

Sample Description:	24V Battery Pack		
Sample Status:	Intact		
Manufacturer:	/	Buyer:	/
Style No.(s):	6-8238	PO No.:	/
Country of Origin:	/	Country of Destination:	/

Test Item(s): Details see attached page(s).

<b>SUMMARY OF TEST RESULTS</b>
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TEST REQUESTED	CONCLUSION
Compliance Test - Heavy Metals, Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments	PASS
Compliance Test - Phthalate Test - (EU) 2015/863 amending Annex II to Directive 2011/65/EU	PASS

Note: The tested part of the sample was specified by client.  
 The composite testing was performed as per client's request.  
 The test conclusion was given based on the results of tested part.

## REMARK

If there are questions or concerns on this report, please contact the following persons:

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 NINGBO BRANCH**

PREPARED BY : YAN

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**Photo of the Submitted Sample**



**24203450149**

**TEST RESULT**

**Compliance Test - Heavy Metals, Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments**

**Test Method : See Appendix.**

**See Analytes and their corresponding Maximum Allowable Limit in Appendix**

-			Result					Conclusion
Parameter			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
Tested components of 6-8238								
1	Silvery adhesive soft plastic label	Label	ND	ND	ND	ND	ND	PASS
2	Silvery metal screw	Inside	ND	ND	ND	ND	NA	PASS
3	Black adhesive plastic sheet	Inside	ND	ND	ND	ND	ND	PASS
4	Silvery metal spring	Inside	<500	ND	ND	ND	NA	PASS
5	Silvery metal sheet	Inside	ND	ND	ND	ND	NA	PASS
6	Multicolored adhesive soft plastic label	Label	ND	ND	ND	ND	ND	PASS
7	Black plastic housing	Housing	ND	ND	ND	ND	ND*	PASS
8	White glue	Inside	ND	ND	ND	ND	ND	PASS
9	Black plastic sheet	Switch	ND	ND	ND	ND	ND	PASS
10	Silvery metal sheet	Switch	<500	ND	ND	ND	NA	PASS
11	Silvery metal pin	Switch	ND	ND	ND	ND	NA	PASS
12	Transparent LED	PCB	ND	ND	ND	ND	ND	PASS
13	Green PCB	PCB	ND	ND	ND	ND	ND	PASS
14	Silvery metal sheet	Part	ND	ND	ND	ND	NA	PASS
15	Black plastic sheet	Part	ND	ND	ND	ND	ND*	PASS
16	Silvery metal wire	Wire	<500	ND	ND	ND	NA	PASS
17	Black diode	PCB	ND	ND	ND	ND	ND	PASS
18	Black IC	PCB	ND	ND	ND	ND	ND	PASS
19	Yellow chip capacitor	PCB	ND	ND	ND	ND	ND	PASS
20	Black chip resistor	PCB	ND	ND	ND	ND	NA	PASS
21	Silvery metal solder	PCB	ND	ND	ND	ND	NA	PASS
22	Red soft plastic wire jacket	Wire jacket	ND	ND	ND	ND	ND	PASS
23	Black soft plastic wire jacket	Wire jacket	ND	ND	ND	ND	ND	PASS



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Note / Key :

ND = Not detected	">" = Greater than	"<" = Less than
NR = Not requested	mg/kg = milligram(s) per kilogram = ppm = part(s) per million	
Detection Limit: See Appendix.	NA = Not applicable	EX= Exempted

Remark :

- The testing approach is listed in table of Appendix.
- \* denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.



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### TEST RESULT

#### Compliance Test - Phthalate Test – (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : Reference to IEC 62321-8: 2017.

Maximum Allowable Limit : 0.1% (Each)

Parameter	CAS No.	Unit	MDL	Result			
				1+6	3	7+9+15	8
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result	
				12+13+17+18+19	22+23
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND
Conclusion	-	-	-	PASS	PASS

Note: mg/kg= milligram per kilogram    % = percentage    1 mg/kg = 0.0001%  
MDL = Method Detection Limit    ND = Not Detected (< MDL)    “-“ = Not Regulated



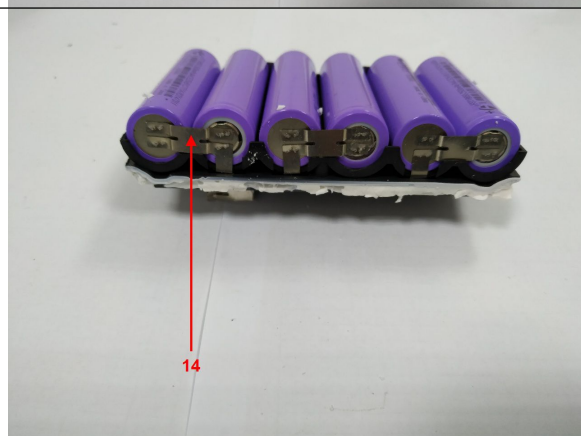
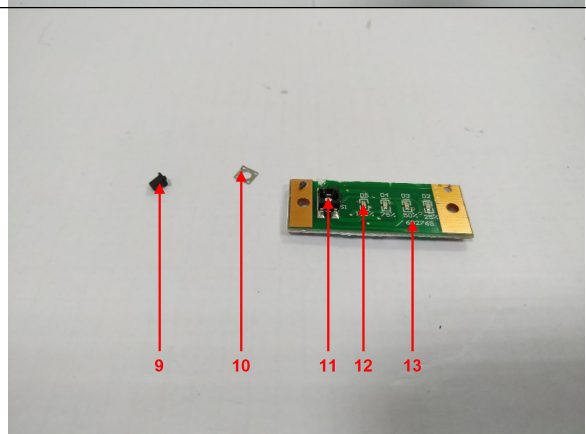
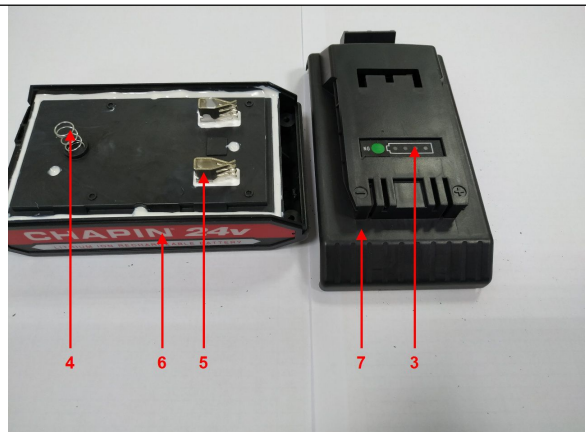
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Comment :

**Photograph(s) | Compliance Test for European Parliament and Council Directive 2011/65/EU | :**

**Photograph depicting Test Item(s)**

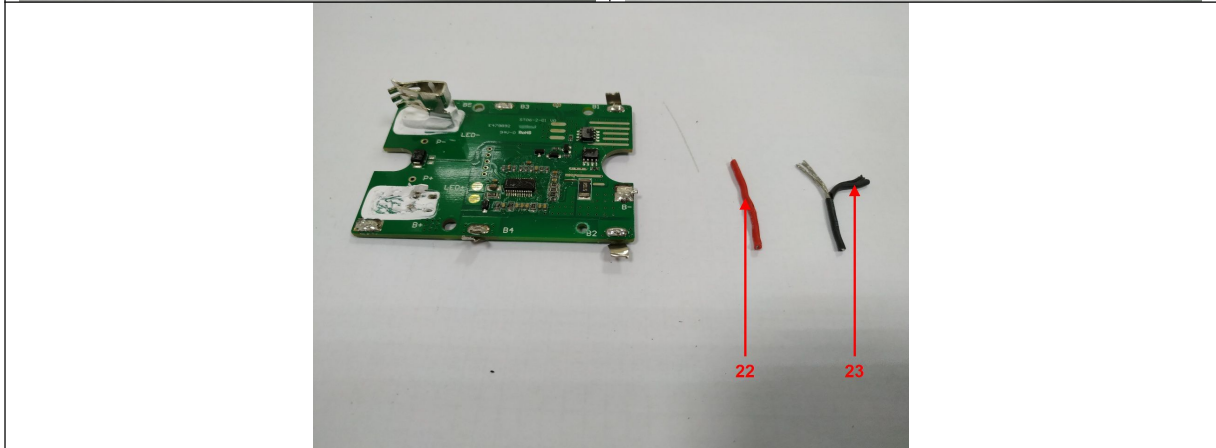
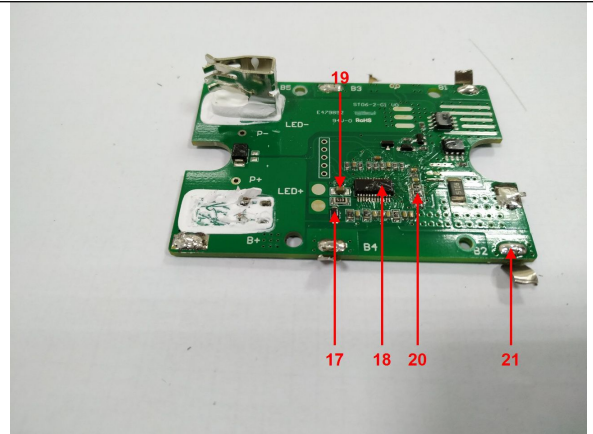
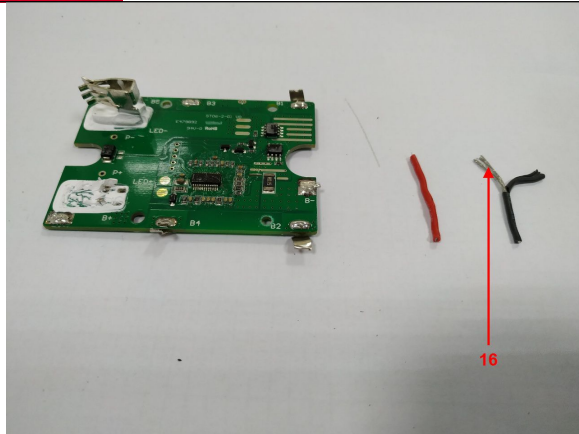






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#### APPENDIX

**List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [ Compliance Test for European Parliament and Council Directive 2011/65/EU ] :**

No.	Name of Analyte(s)	Detection Limit (mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF) <sup>[a]</sup>			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10 <sup>[b]</sup>	1 000
2	Cadmium (Cd)	50	50	50	10 <sup>[b]</sup>	100
3	Mercury (Hg)	100	200	200	10 <sup>[c]</sup>	1 000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 <sup>[g, h]</sup> / 10 <sup>[d]</sup> / See <sup>[e, i]</sup>	1 000 / Negative <sup>[i]</sup>
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 <sup>[f]</sup>	Sum 1 000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 <sup>[f]</sup>	Sum 1 000

NA = Not applicable IEC = International Electrotechnical Commission

[a] Test method with reference to International Standard IEC 62321-3-1: 2013.

[b] Test method with reference to International Standard IEC 62321-5: 2013.

[c] Test method with reference to International Standard IEC 62321-4: 2013+AMD1: 2017 CSV.

[d] Polymers and Electronics - Test method with reference to International Standard IEC 62321-7-2: 2017.

[e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015.

[f] Test method with reference to International Standard IEC 62321-6: 2015.

[g] Leather - Test method International Standard ISO 17075: 2017.

[h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075: 2017.

[i] Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).

#### **Testing Approach [ Compliance Test for European Parliament and Council Directive 2011/65/EU ] :**

The testing approach was with reference to the following document(s).

- 1 International Standards IEC 62321-1: 2013 and IEC 62321-2: 2013
- 2 "RoHS Enforcement Guidance Document Version 1" by EU RoHS Enforcement Authorities Informal Network. (May 2006)
- 3 "RoHS Regulations - Government Guidance Notes" by United Kingdom Department for Business Innovation & Skills. (February 2011)
- 4 "Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)

END