Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: F&G, 23/F., Technology Building, Quanzhi Science and Technology Innovation Park, Industrial Building, Maozhoushan Industrial Park, Houting, Shajing Street , Bao'an District, Shenzhen, Guangdong, China
Tel: (86)755-23353209 Internet: Http://www.LCS-cert.com

TEST REPORT

Client company	:	[redacted]
Client address	:	
Manufacturer	:	
Address	:	/

Report on the submitted samples said to be:

Sample Name	:	**8000mAh power bank with solar panel**
Trade Mark	:	**N/A**
Test Item No.	:	**PB9150**
Style/ Item No.	:	**N/A**
Sample Receiving Date	:	**March 02, 2019**
Testing Period	:	**March 02, 2019 ~ March 11, 2019**
Results	:	**Please refer to next page(s).**

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Summary of Test Results:

TEST REQUEST

According to the customer's request, based on the performed tests on submitted sample, the results of lead(Pb), mercury(Hg), cadmium(Cd), hexavalent chromium(Cr^{6+}),polybrominated biphenyls(PBBs), polybrominated diphenyl(PBDEs) , (BBP), (DBP), (DEHP),(DIBP), comply with the limits as set by EU RoHS Directive 2011/65/EU and its amendment Directive 2015/863/EU

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Signed for and on behalf of LCS

Written By: _____ **Lilian Hao**

Checked by: _____ **Suez Su**

Approved by: _____ **Lily Dan**
Manager

Results:

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

Test method: With reference to IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Pb	Cd	Hg	Cr(Cr^{6+})▼	Br▼		
						PBBs	PBDEs	
1	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
2	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
3	Silver plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
4	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
5	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
6	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
7	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
8	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
9	Red plastic thread	BL	BL	BL	BL	BL	BL	2019-03-02
10	Black plastic thread	BL	BL	BL	BL	BL	BL	2019-03-02
11	Silver wire	BL	BL	BL	BL	BL	BL	2019-03-02
12	Tin solder	BL	BL	BL	BL	BL	BL	2019-03-02
13	Black Diode	BL	BL	BL	BL	X	X	2019-03-02
14	Black ceramics	BL	BL	BL	BL	BL	BL	2019-03-02
15	Gold wire	BL	BL	BL	BL	BL	BL	2019-03-02
16	Black IC	BL	BL	BL	BL	BL	BL	2019-03-02
17	Brown patch capacitor	BL	BL	BL	BL	BL	BL	2019-03-02
18	Black IC	BL	BL	BL	BL	BL	BL	2019-03-02
19	Black IC	BL	BL	BL	BL	BL	BL	2019-03-02
20	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
21	White plastic sheet	BL	BL	BL	BL	X	X	2019-03-02
22	Silver metal needle	BL	BL	BL	BL	BL	BL	2019-03-02
23	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
24	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
25	Silver metal sheet	BL	BL	BL	X	BL	BL	2019-03-02
26	Black plastic sheet	BL	BL	BL	BL	X	X	2019-03-02

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Pb	Cd	Hg	Cr(Cr^{6+})▼	Br▼		
						PBBs	PBDEs	
27	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
28	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
29	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
30	Silver metal needle	BL	BL	BL	BL	BL	BL	2019-03-02
31	White LED	BL	BL	BL	BL	X	X	2019-03-02
32	Black patch resistance	BL	BL	BL	X	BL	BL	2019-03-02
33	Black IC	BL	BL	BL	BL	BL	BL	2019-03-02
34	Brown patch capacitor	BL	BL	BL	BL	BL	BL	2019-03-02
35	Yellow tape	BL	BL	BL	BL	BL	BL	2019-03-02
36	PCB board	BL	BL	BL	BL	BL	BL	2019-03-02
37	Blue paper	BL	BL	BL	BL	BL	BL	2019-03-02
38	Yellow tape	BL	BL	BL	BL	BL	BL	2019-03-02
39	Black foamed cotton	BL	BL	BL	BL	BL	BL	2019-03-02
40	Silver plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
41	Green tape	BL	BL	BL	BL	BL	BL	2019-03-02
42	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
43	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
44	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-03-02
45	Golden metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
46	Silver metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
47	Black carbon powder	BL	BL	BL	BL	BL	BL	2019-03-02
48	Ferrous metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02
49	Blue metal sheet	BL	BL	BL	BL	BL	BL	2019-03-02

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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.

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<X

Note:

BL = Below Limit
OL = Over Limit
X = Inconclusive

(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 2015/863/EC amending RoHS directive 2011/65/EU:

(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)	1000
Dibuyl Phthalate(DBP)	1000
Benzylbutyl Phthalate(BBP)	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	1000
Diispbutyl 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 and its amendment Directives 2015/863/EU on Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content.

Test method:

Lead & Cadmium Content:
With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Mercury 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 Content:
With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, by alkaline digestion and 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)

BBP DBP 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 Hexavalent Chromium (Cr^{6+})(for nonmetal)

Item	Unit	MDL	Results	Limit
			(32)	
Hexavalent Chromium (Cr^{6+})	mg/kg	2	N.D.	1000 mg/kg
Conclusion	/	/	**Pass**	/

2) The test results of Hexavalent Chromium (Cr^{6+})(metal)

Item	Unit	MDL	Results	Limit
			(25)	
Hexavalent Chromium (Cr^{6+})	ug/cm^2	0.10	N.D.	1000 mg/kg
Conclusion	/	/	**Pass**	/

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Note:

- MDL = Method Detection Limit
- /= Not apply
- LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2
- mg/kg = ppm=parts per million
- N.D.=Not Detected(<MDL or LOQ)
- *The sample is negative for Cr(VI)-The Cr(VI) concentration is below 0.10ug/cm^2
  The coating is considered a non-Cr(VI) based coating.

#1 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.

#2 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in electronic ceramic parts (e.g. piezoelectronic devices).

#3 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.

#4 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

#5 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Aluminum containing up to 0.4% (4000ppm) by weight.

#6 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Cadmium and its compounds in electrical contact is exempted.

- Flow chart appendix is included.
- Photo appendix is included.
- (16,18,19,33)are same materials
- (35,38)are same materials
- (42,43,46)are same materials

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3) The test results of DBP、BBP、DEHP & DIBP

Item	Unit	MDL	Results			Limit
			8+9+1	2+4+5	7+10+13	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	/	/	**Pass**	**Pass**	**Pass**	/

Item	Unit	MDL	Results			Limit
			14+16+17	21+24+26	29+31+32	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	/	/	**Pass**	**Pass**	**Pass**	/

Item	Unit	MDL	Results			Limit
			34+35+36	37+39+40	41+44+47	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	/	/	**Pass**	**Pass**	**Pass**	/

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4) The test results of PBBs & PBDEs

Item	Unit	MDL	Results				Limit
			(13)	(21)	(26)	(31)	
Polybrominated Biphenyls (PBBs)							
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	1000 mg/kg
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)							
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	/	/	**Pass**	**Pass**	**Pass**	**Pass**	/

Remark:

- mg/kg = ppm
- N.D. = Not detected
- Results shown are of total weight of the battery sample.
- Flow chart appendix is included.
- Photo appendix is included.

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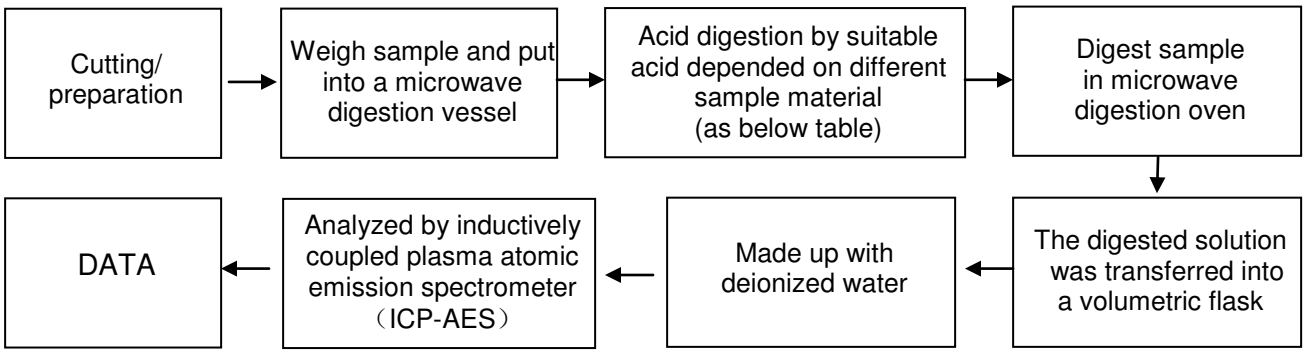
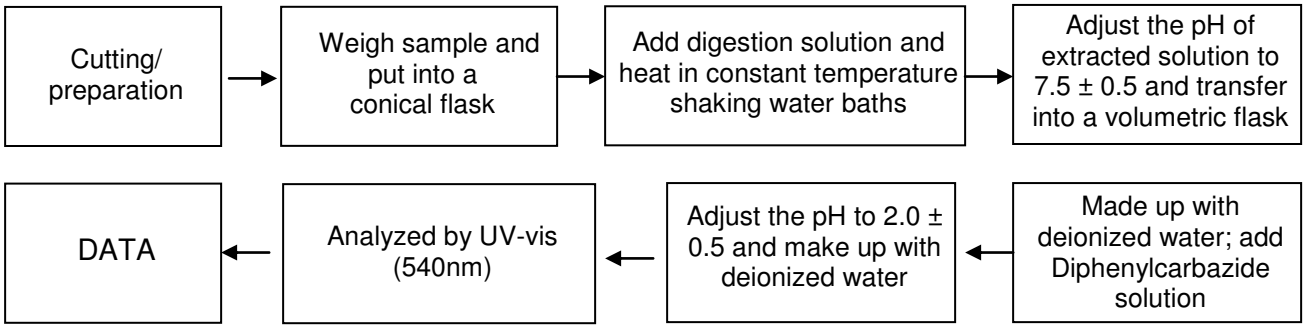
Appendix

Test Flow chart

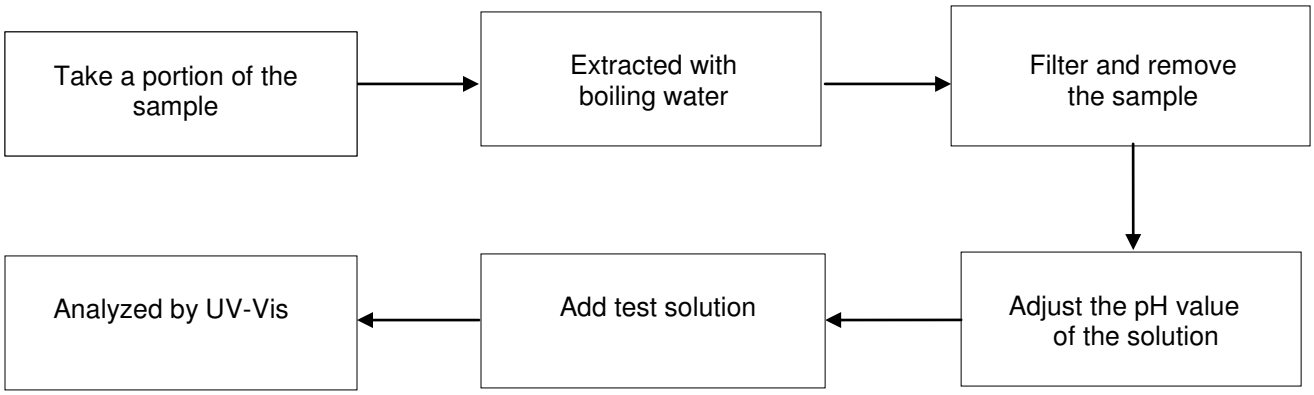
1. Test Flow chart for Cd / Pb /Hg content
These samples were dissolved totally by pre-conditioning method according to below flow chart.



2. Test Flowchart for Cr^{6+} content (For non-metal material)



Test Flowchart for Cr^{6+} content (For metal material)



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3. Test Flow chart for PBBs & PBDEs & DBP & BBP & DEHP & DIBP content

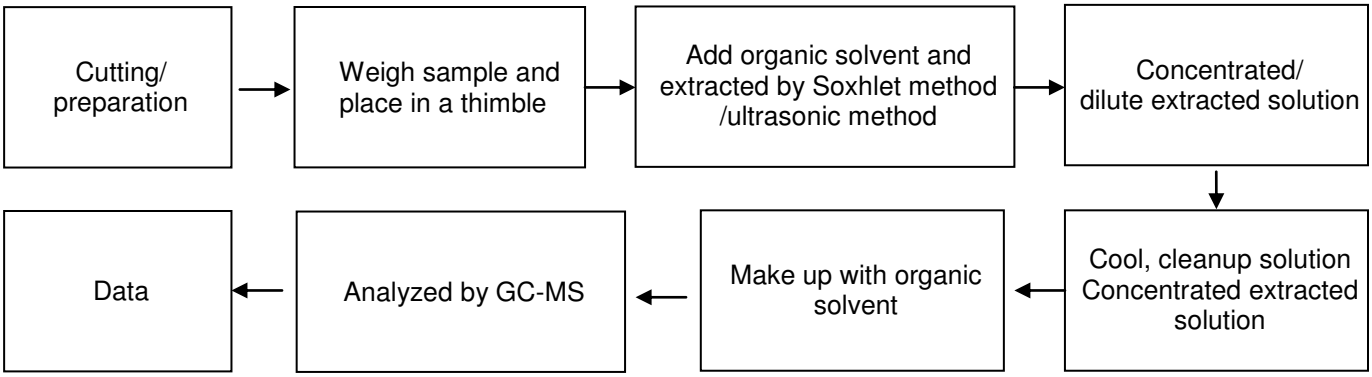

Table:

Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO_3, HCl, HF, H_2O_2
Glass	HNO_3/HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO_3
Plastic	H_2SO_4, H_2O_2, HNO_3, HCl
Others	Any acid to total digestion

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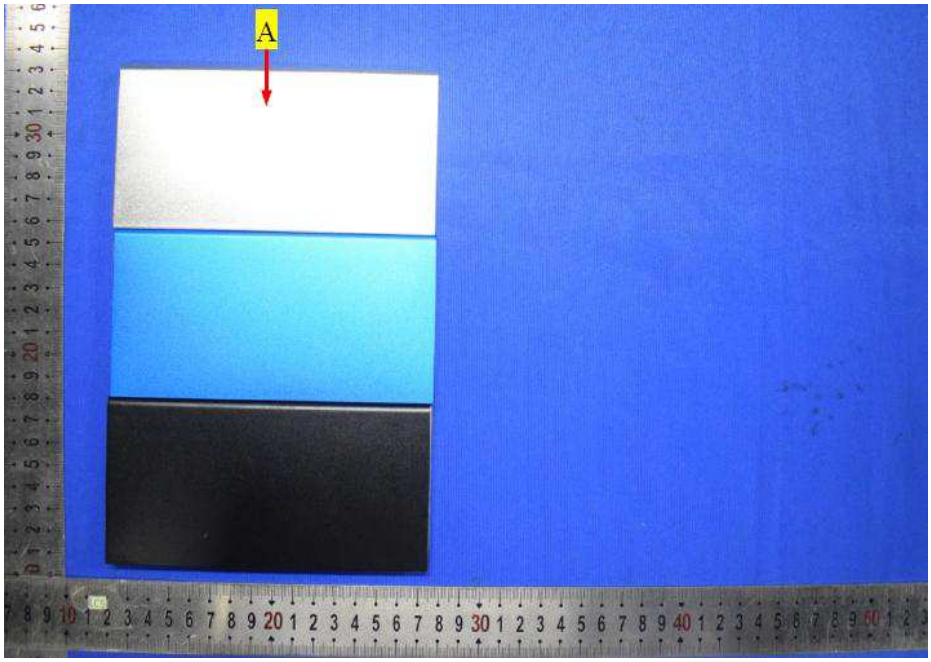
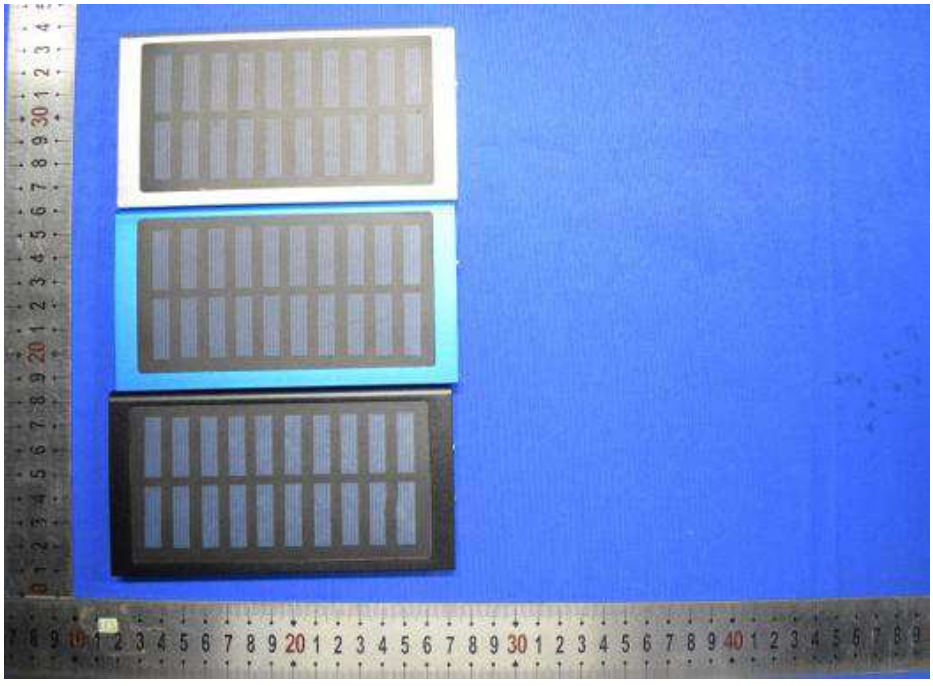
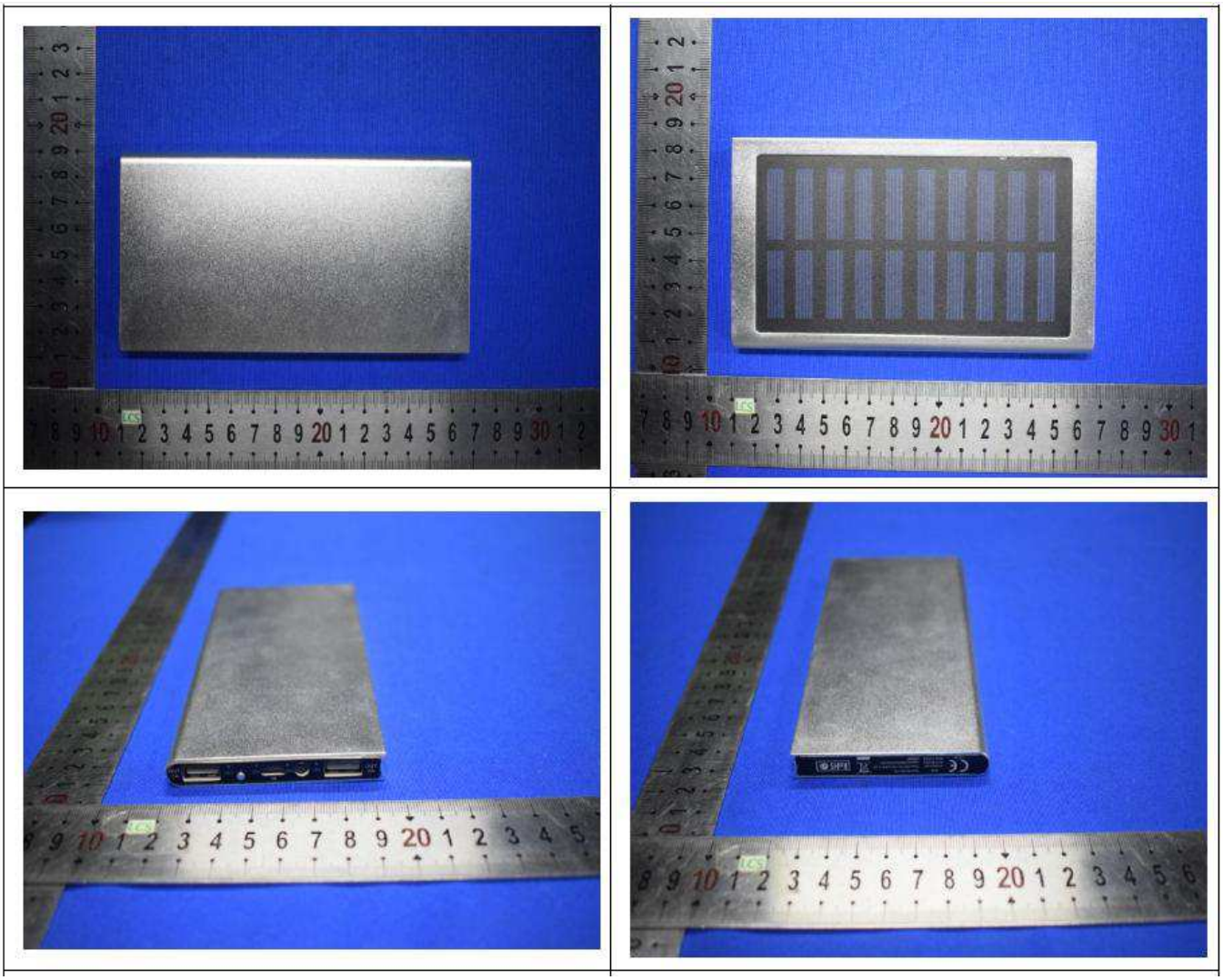
Appendix

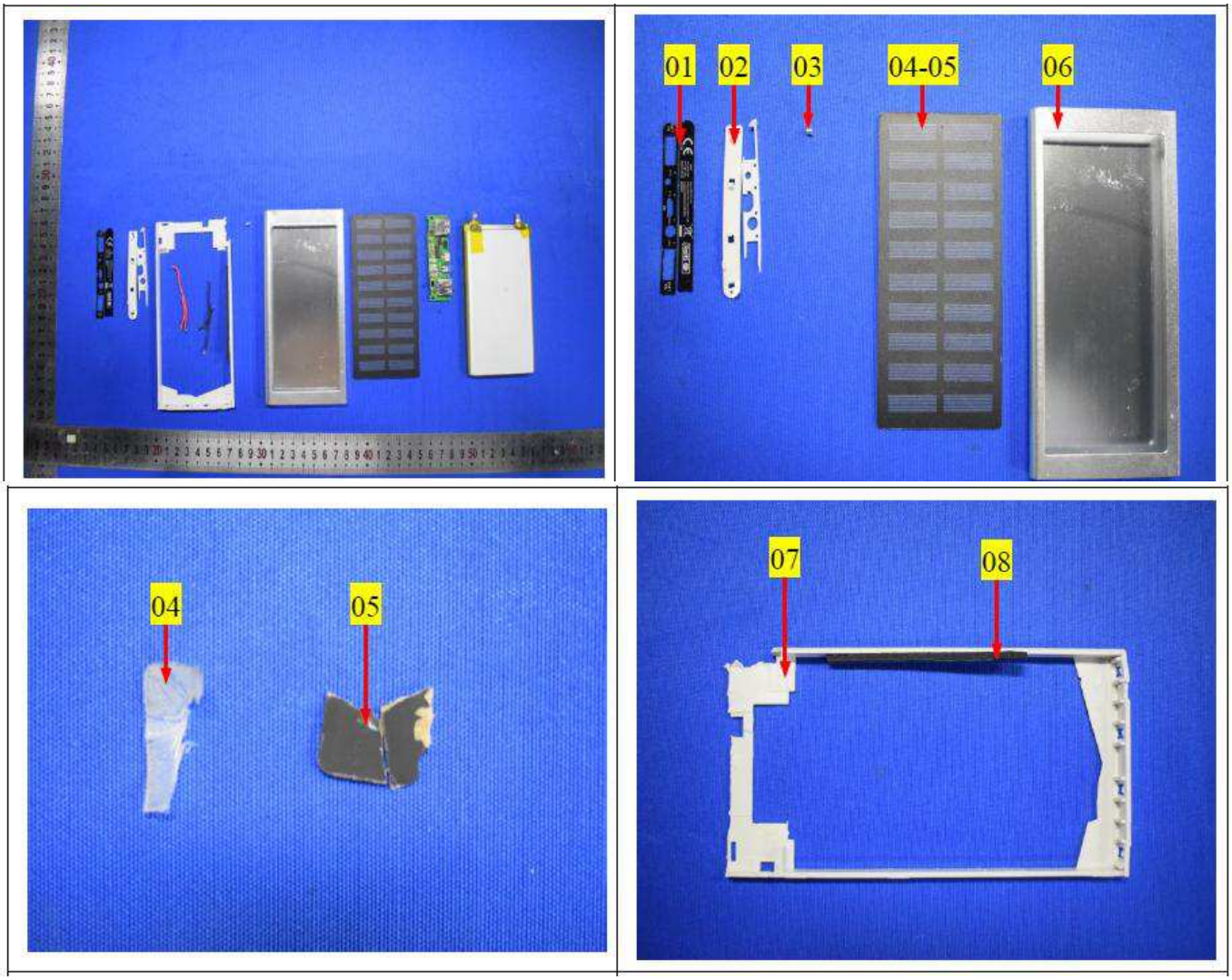
Photograph of Sample



Test Item No.: PB9150



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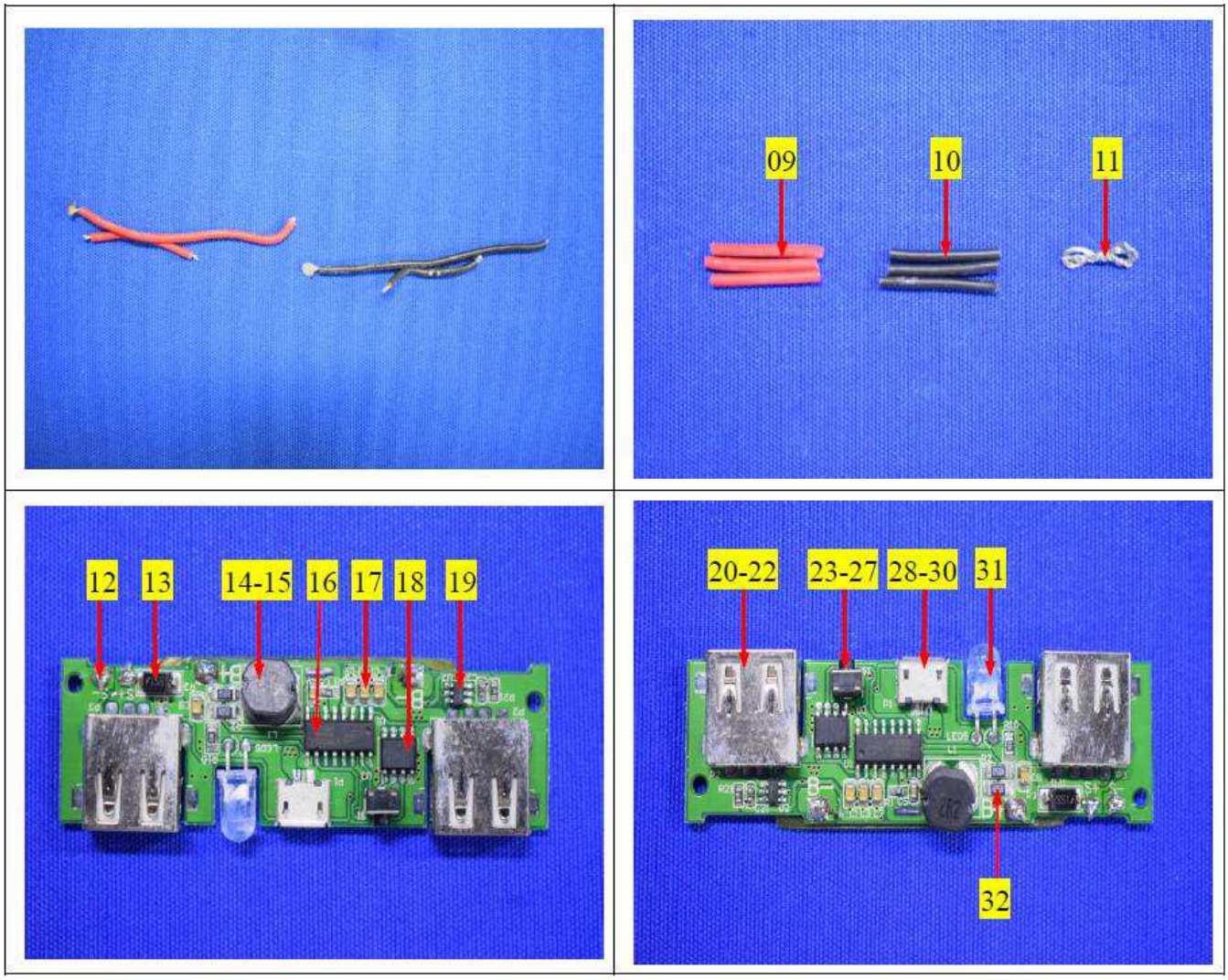
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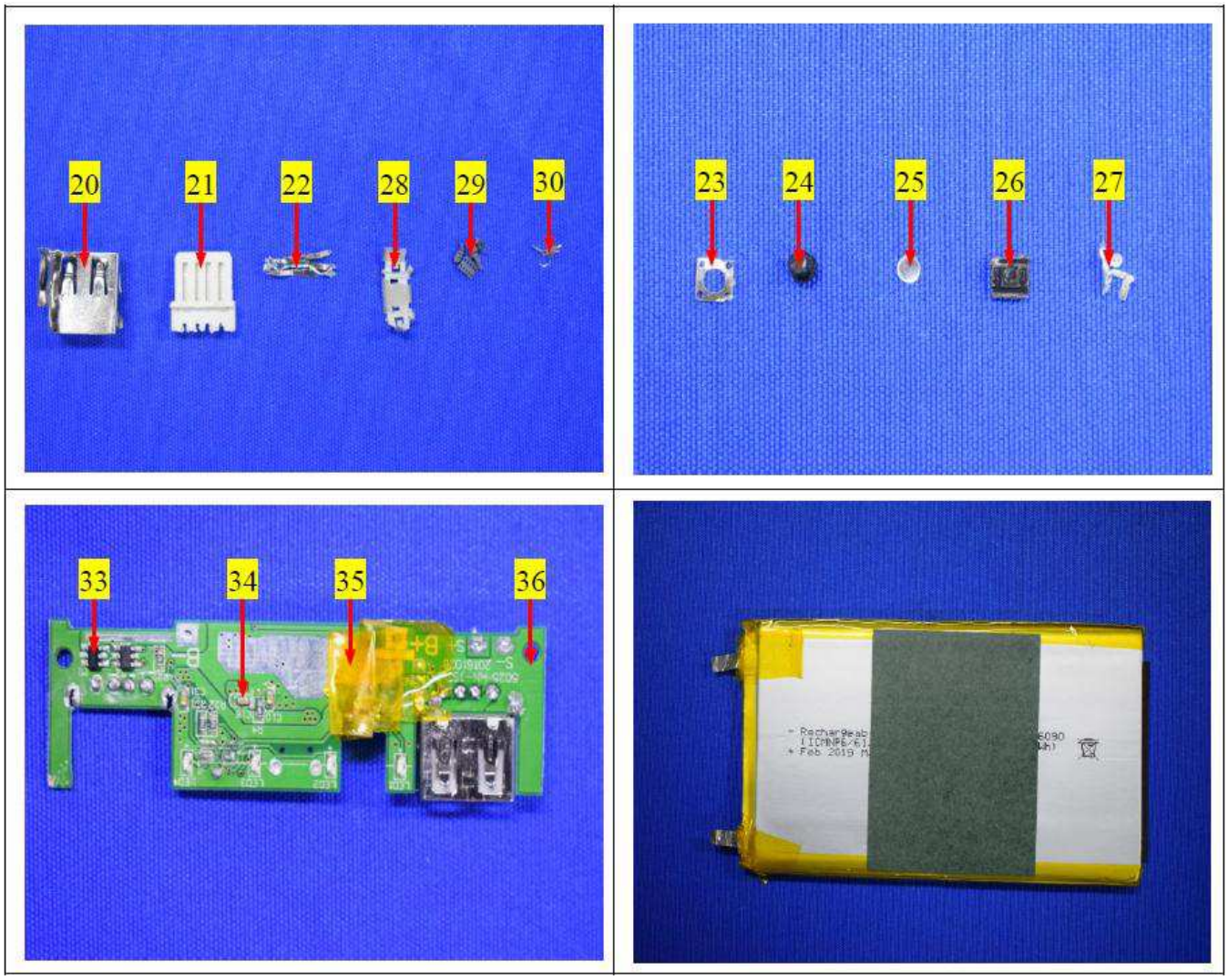
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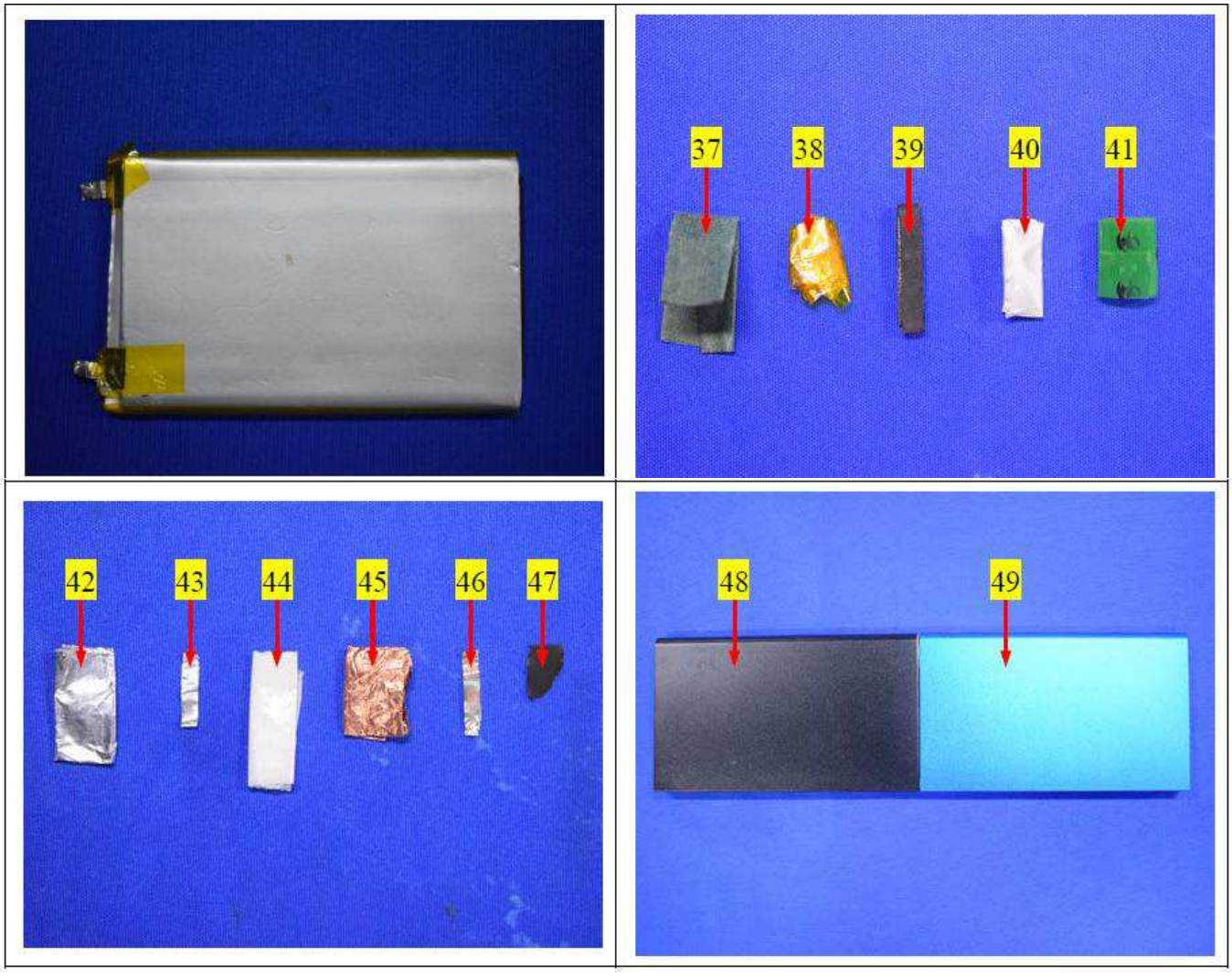


LCS authenticate the photo on original report only

Exempted Items of RoHS Directive

In accordance with Directive 2011/65/EU as amended , there are 41 exemption items in Annex III of 2011/65/EU altogether.

	Exemption	Scope and dates of applicability
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
1(a)	For general lighting purposes < 30 W: 5 mg	Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011 until 31 December 2012; 2,5 mg shall be used per burner after 31 December 2012.
1(b)	For general lighting purposes ≥ 30 W and < 50 W: 5 mg	Expires on 31 December 2011; 3,5 mg may be used per burner after 31 December 2011.
1(c)	For general lighting purposes ≥ 50 W and < 150 W: 5 mg	
1(d)	For general lighting purposes ≥ 150 W: 15 mg	
1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤17 mm	No limitation of use until 31 December 2011; 7 mg may be used per burner after 31 December 2011.
1(f)	For special purposes: 5 mg	
1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3,5 mg	Expires on 31 December 2017.
2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 5 mg	Expires on 31 December 2011; 4 mg may be used per lamp after 31 December 2011.
2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 5 mg	Expires on 31 December 2011; 3 mg may be used per lamp after 31 December 2011.
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8): 5 mg	Expires on 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011.
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 5 mg	Expires on 31 December 2012; 3,5 mg may be used per lamp after 31 December 2012.
2(a)(5)	Tri-band phosphor with long lifetime (≥ 25 000 h): 8 mg	Expires on 31 December 2011; 5 mg may be used per lamp after 31 December 2011.
2(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	
2(b)(1)	Linear halophosphate lamps with tube > 28 mm (e.g. T10 and T12): 10 mg	Expires on 13 April 2012.
2(b)(2)	Non-linear halophosphate lamps (all diameters): 15 mg	Expires on 13 April 2016.

2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9)	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011.
2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps).	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011.
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	
3(a)	Short length (≤500 mm)	No limitation of use until 31 December 2011; 3,5 mg may be used per lamp after 31 December 2011.
3(b)	Medium length (> 500 mm and ≤ 1 500 mm)	No limitation of use until 31 December 2011; 5 mg may be used per lamp after 31 December 2011.
3(c)	Long length (> 1500 mm)	No limitation of use until 31 December 2011; 13 mg may be used per lamp after 31 December 2011.
4(a)	Mercury in other low pressure discharge lamps (per lamp).	No limitation of use until 31 December 2011; 15 mg may be used per lamp after 31 December 2011.
4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:	
4(b)-I	P ≤ 155 W	No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011.
4(b)-II	155 W < P≤405 W	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011.
4(b)-III	P > 405 W	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011.
4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	
4(c)-I	P ≤ 155 W	No limitation of use until 31 December 2011; 25 mg may be used per burner after 31 December 2011.
4(c)-II	155 W < P ≤ 405 W	No limitation of use until 31 December 2011; 30 mg may be used per burner after 31 December 2011.
4(c)-III	P > 405 W	No limitation of use until 31 December 2011; 40 mg may be used per burner after 31 December 2011.
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV).	Expires on 13 April 2015.
4(e)	Mercury in metal halide lamps (MH)	

4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex.	
4(g)	Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury content shall be limited as follows: (a) 20 mg per electrode pair + 0,3 mg per tube length in cm ,but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20°C; (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.	Expires on 31 December 2018.
5(a)	Lead in glass of cathode ray tubes.	
5(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight.	
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight.	
6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight.	
6(c)	Copper alloy containing up to 4% lead by weight.	
7(a)	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead).	
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications.	
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.	
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher.	
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC.	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013.
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors.	
8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs.	Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the

		market before 1 January 2012.
8(b)	Cadmium and its compounds in electrical contacts.	
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution.	
9(b)	Lead in bearing shells and bushes for refrigerant -containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications.	Applies to categories 8, 9 and 11; expires on: -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; -21 July 2021 for other subcategories of categories 8 and 9.
9(b)-(I)	Lead in bearing shells and bushes for refrigerant -containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications.	Applies to category 1; expires on 21 July 2019.
11(a)	Lead used in C-press compliant pin connector systems.	May be used in spare parts for EEE placed on the market before 24 September 2010.
11(b)	Lead used in other than C-press compliant pin connector systems.	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013.
12	Lead as a coating material for the thermal conduction module C-ring.	May be used in spare parts for EEE placed on the market before 24 September 2010.
13(a)	Lead in white glasses used for optical applications.	Applies to all categories; expires on: -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; -21 July 2021 for all other categories and subcategories.
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards.	Applies to categories 8, 9 and 11; expires on: -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; -21 July 2021 for other subcategories of categories 8 and 9.

13(b)-(I)	Lead in ion coloured optical filter glass types.	Applies to categories 1 to 7 and 10; expires on 21 July 2021 for categories 1 to 7 and 10.
13(b)-(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex.	
13(b)-(III)	Cadmium and lead in glazes used for reflectance standards.	
14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight.	Expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011.
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages.	
16	Lead in linear incandescent lamps with silicate coated tubes.	Expires on 1 September 2013.
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications.	
18(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba)2MgSi2O7:Pb).	Expires on 1 January 2011.
18(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5 :Pb).	
19	Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps (ESL).	Expires on 1 June 2011.
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs).	Expires on 1 June 2011.

21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses.	
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0, 65 mm and less.	May be used in spare parts for EEE placed on the market before 24 September 2010.
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.	
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring.	
26	Lead oxide in the glass envelope of black light blue lamps.	Expires on 1 June 2011.
27	Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers.	Expired on 24 September 2010.
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC.	
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more.	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting).	
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes.	
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers.	
34	Lead in cermet-based trimmer potentiometer elements.	
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Expired on 1 July 2010.
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body.	
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide.	

39	Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm 2 of light-emitting area) for use in solid state illumination or display systems.	Expires on 1 July 2014.
40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment.	Expires on 31 December 2013.
41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council.	Expires on 31 December 2018.

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

Statement:

1. The test report is considered invalidated without approval signature, special seal on the perforation.
2. The result(s) shown in this report refer only to the sample(s) tested.
3. Without written approval of LCS, this report can't be reproduced except in full.
4. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which LCS hasn't verified.
5. In case of any discrepancy between the English version and Chinese version of the testing reports(if generated), the Chinese version shall prevail.

Revised pages

Edition	Release Date	Revision	Amendment

EMC TEST REPORT

For

8000mAh power bank with solar panel

Test Model: PB9150

Prepared for	:	
Address	:	

Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	101, 601, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
Tel	:	(+86)755-82591330
Fax	:	(+86)755-82591332
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com

Date of receipt of test sample	:	March 02, 2019
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	March 02, 2019 ~ March 05, 2019
Date of Report	:	March 12, 2019

EMC TEST REPORT
EN 55032: 2015
Electromagnetic compatibility of multimedia equipment - Emission Requirements
EN 55024: 2010+A1: 2015
Information technology equipment-Immunity characteristics-Limits and methods of measurement

Report Reference No. .....:	**LCS190302064AE**
Date Of Issue.....:	March 12, 2019
Testing Laboratory Name.....:	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....:	101, 601, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure .....:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....:	[redacted]
Address.....:	
Test Specification:	
Standard .....:	EN 55032: 2015 EN 55024: 2010+A1: 2015
Test Report Form No.....:	LCSEMC-1.0
TRF Originator.....:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF .....:	Dated 2011-03

Test Item Description.....:	8000mAh power bank with solar panel
Trade Mark.....:	N/A
Test Model.....:	PB9150
Ratings .....:	Input: DC 5V, 1A 5V, 2A Output: DC 5V, 1A 5V, 2A
Result .....:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Lylian Li	Warlen Song	Gavin Liang
Lylian Li/ File administrators	Warlen Song / Technique principal	Gavin Liang/ Manager

EMC -- TEST REPORT

Test Report No. : LCS190302064AE	March 12, 2019 Date of issue

Test Model.....	: PB9150
EUT.....	: 8000mAh power bank with solar panel
Applicant.....	**: LTd**
Address.....	:
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: 114628**
Address.....	: /
Telephone.....	: /
Fax.....	: /
Factory.....	**: 114628**
Address.....	: /
Telephone.....	: /
Fax.....	: /

Test Result according to the standards on page 6: **Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory

Revision History

Revision	Issue Date	Revisions	Revised By
000	March 12, 2019	Initial Issue	Gavin Liang

TABLE OF CONTENT

Test Report Description Page

1. SUMMARY OF STANDARDS AND RESULTS

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION (EN 55032: 2015)			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	EN 55032: 2015	Class B	N/A
Conducted disturbance at telecommunication port	EN 55032: 2015	Class B	N/A
Radiated disturbance	EN 55032: 2015	Class B	PASS
Harmonic current emissions	EN 61000-3-2: 2014	Class A	N/A
Voltage fluctuations & flicker	EN 61000-3-3: 2013	--------	N/A

IMMUNITY(EN 55024: 2010+A1: 2015)			
Description of Test Item	**Basic Standard**	**Performance Criteria**	**Results**
Electrostatic discharge (ESD)	EN 61000-4-2: 2009	B	PASS
Radio-frequency, Continuous radiated disturbance	EN 61000-4-3: 2006+A2: 2010	A	PASS
Electrical fast transient (EFT)	EN 61000-4-4: 2012	B	N/A
Surge (Input a.c. power ports)	EN 61000-4-5: 2014+A1: 2017	B	N/A
Surge (Telecommunication ports)		B	N/A
Radio-frequency, Continuous conducted disturbance	EN 61000-4-6: 2014	A	N/A
Power frequency magnetic field	EN 61000-4-8: 2010	A	PASS
Voltage dips, >95% reduction	EN 61000-4-11: 2004+A1: 2017	B	N/A
Voltage dips, 30% reduction		B	N/A
Voltage interruptions		C	N/A
N/A is an abbreviation for Not Applicable.			

Test mode:		
Mode 1	Discharge	Record
Mode 2	Charge	Pre-scan
Mode 3	Charging And Discharging(Full Load)	Pre-scan
***Note: All test modes were tested, but we only recorded the worst case in this report.		

1.2.Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

— essential operational modes and states;
— tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);
— quality of software execution;
— quality of data display and transmission;
— quality of speech transmission.

1.2.1.Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deliver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.2.Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deliver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.3.Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture’s instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

EUT	:	8000mAh power bank with solar panel
Trade Mark	:	N/A
Test Model	:	PB9150
Power Supply	:	Input: DC 5V, 1A 5V, 2A Output: DC 5V, 1A 5V, 2A
EUT Clock Frequency	:	≤ 108MHz

2.2.Description of Test Facility

Site Description

EMC Lab. : FCC Registration Number. is 254912.
Industry Canada Registration Number. is 9642A-1.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001.
NVLAP Registration Code is 600167-0.

2.3.Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.4.Measurement Uncertainty

Test Item	**Frequency Range**	**Expanded uncertainty (Ulab)**	**Expanded uncertainty (Ucispr)**
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Power disturbance	Level accuracy (30MHz to 300MHz)	± 2.90dB	± 4.5 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.60 dB	± 3.3 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB
Mains Harmonic	Voltage	± 0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.510%	N/A
EMF		± 21.59%	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1.Radiated Disturbance (Electric Field)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Software	AUDIX	E3	/	2018-06-16
2	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2018-06-16
3	Positioning Controller	MF	MF-7082	/	2018-06-16
4	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2018-07-26
5	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2018-07-02
6	EMI Test Receiver	R&S	ESR 7	101181	2018-06-16
7	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2018-11-15
8	AMPLIFIER	QuieTek	QTK	CHM/0809065	2018-11-15
9	RF Cable-R03m	Jye Bao	RG142	CB021	2018-06-16
10	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2018-06-16

3.2.Electrostatic Discharge

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	ESD Simulator	SCHLODER	SESD 230	604035	2018-07-02

3.3.RF Field Strength Susceptibility

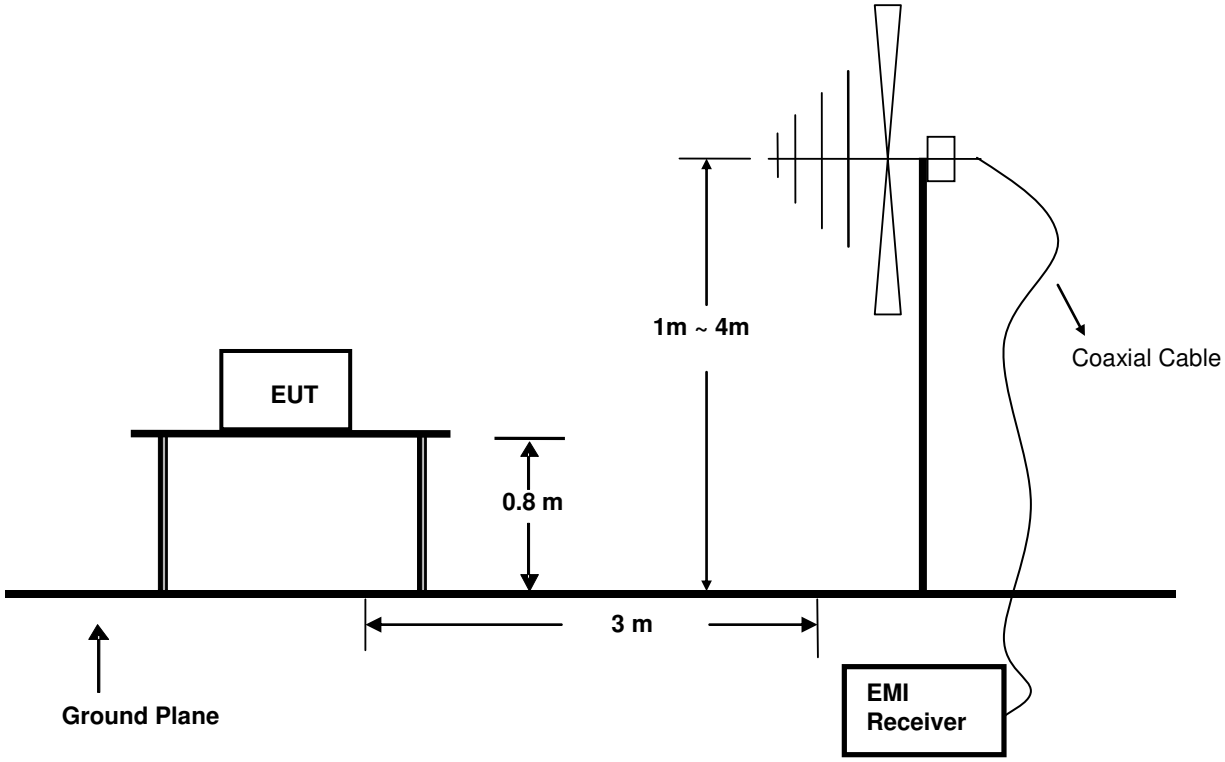
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	RS Test Software	Tonscend	/	/	2018-06-16
2	ESG Vector Signal Generator	Agilent	E4438C	MY42081396	2018-11-15
3	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2018-06-16
4	RF POWER AMPLIFIER	OPHIR	5225R	1052	NCR
5	RF POWER AMPLIFIER	OPHIR	5273F	1019	NCR
6	Stacked Broadband Log Periodic Antenna	SCHWARZBECK	STLP 9128	9128ES-145	NCR
7	Stacked Mikrowellen Log.-Per Antenna	SCHWARZBECK	STLP 9149	9149-484	NCR
8	Electric field probe	Narda S.TS./PMM	EP601	611WX80208	2018-03-26
Note: NCR means no calibration requirement					

3.4.Power Frequency Magnetic Field Susceptibility

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Power frequency mag-field generator System	EVERFINE	EMS61000-8K	906003	2018-06-16

4. RADIATED EMISSION MEASUREMENT

4.1.Block Diagram of Test Setup



4.2.Measuring Standard

EN 55032: 2015

4.3.Radiated Emission Limits

EN 55032 Limits:

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

4.4.EUT Configuration on Test

The EN 55032 regulations test method must be used to find the maximum emission during radiated emission measurement.

4.5.Operating Condition of EUT

4.5.1 Turn on the power.

4.5.2 After that, let the EUT work in test mode (1) and measure it.

4.6.Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

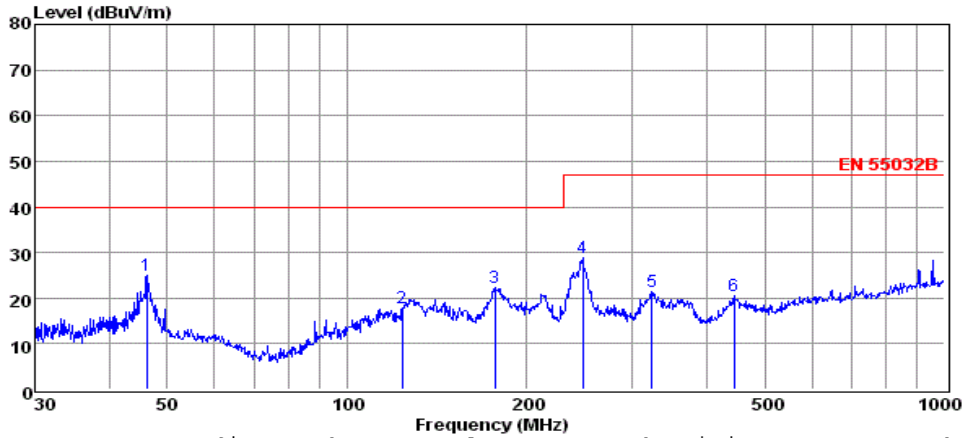
The frequency range from 30MHz to 1000MHz is investigated.

4.7.Test Results

PASS.

The test result please refer to the next page.

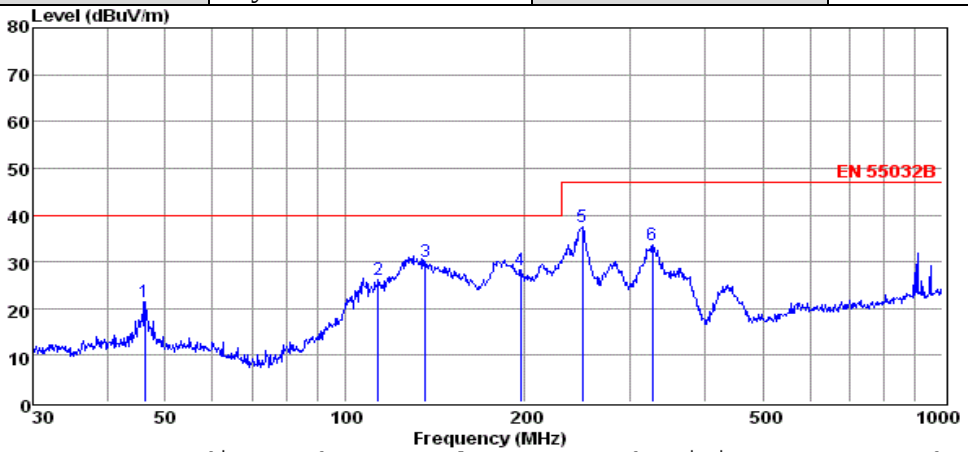
Test Model	PB9150	Test Mode	Mode 1
Environmental Conditions	23.2℃, 52.9% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Jay Li		



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	46.18	10.97	0.41	13.48	24.86	40.00	-15.14	QP
2	123.70	7.23	0.71	9.91	17.85	40.00	-22.15	QP
3	176.89	12.04	0.73	9.46	22.23	40.00	-17.77	QP
4	247.68	15.71	0.97	12.07	28.75	47.00	-18.25	QP
5	323.32	6.91	1.10	13.46	21.47	47.00	-25.53	QP
6	444.85	3.56	1.42	15.57	20.55	47.00	-26.45	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Test Model	PB9150	Test Mode	Mode 1
Environmental Conditions	23.2℃, 52.9% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Jay Li		



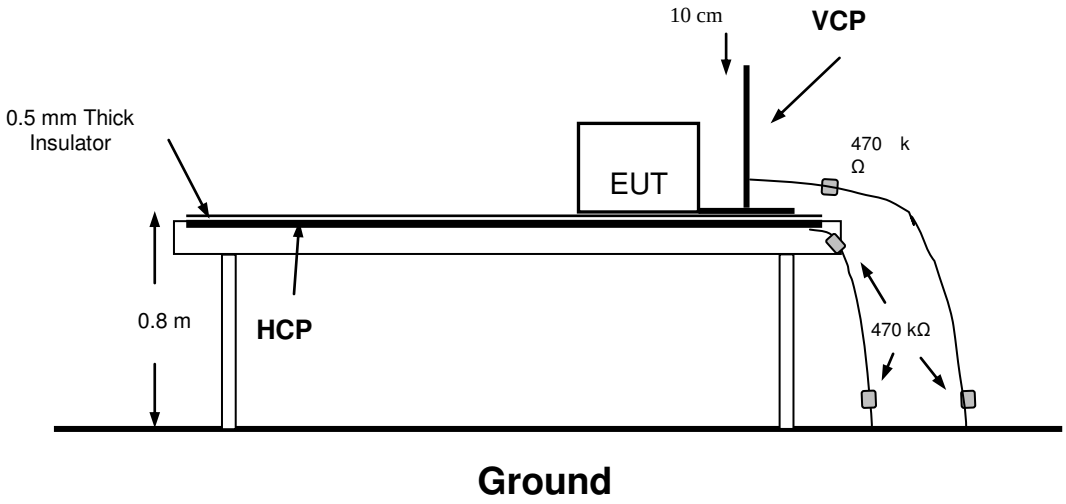
	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	46.18	7.61	0.41	13.48	21.50	40.00	-18.50	QP
2	113.71	13.97	0.65	11.59	26.21	40.00	-13.79	QP
3	136.46	20.97	0.70	8.45	30.12	40.00	-9.88	QP
4	196.51	16.80	0.96	10.57	28.33	40.00	-11.67	QP
5	249.43	24.40	1.02	12.07	37.49	47.00	-9.51	QP
6	326.74	18.88	1.04	13.60	33.52	47.00	-13.48	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

5. ELECTROSTATIC DISCHARGE IMMUNITY TEST

5.1.Block Diagram of Test Setup



5.2.Test Standard

EN 55024: 2010+A1: 2015

Severity Level: 3 / Air Discharge: ±8KV, Level: 2 / Contact Discharge: ±4KV)

5.3.Severity Levels and Performance Criterion

5.3.1.Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

5.3.2.Performance Criterion: **B**

5.4.EUT Configuration on Test

The configuration of EUT is listed in Section 2.1.

5.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5. Except the test set up replaced by Section 5.1.

5.6.Test Procedure

5.6.1.Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT.
After each discharge, the discharge electrode shall be removed from the EUT.
The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

5.6.2.Contact Discharge

All the procedure shall be same as Section 5.6.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

5.6.3.Indirect Discharge For Horizontal Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

5.6.4.Indirect Discharge For Vertical Coupling Plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

5.7.Test Results

PASS.

Please refer to the following pages

Electrostatic Discharge Test Results

Standard	☐ IEC 61000-4-2 ☑ EN 61000-4-2		
Applicant			
EUT	8000mAh power bank with solar panel	**Temperature**	22.8℃
M/N	PB9150	**Humidity**	54.2%
Criterion	B	**Pressure**	1021mbar
Test Mode	Mode 1	**Test Engineer**	Jay Li

Air Discharge

Test Points	Test Levels			Results		
	± 2kV	± 4kV	± 8kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☒	☐	☐A ☒B
Back	☒	☒	☒	☒	☐	☐A ☒B
Left	☒	☒	☒	☒	☐	☐A ☒B
Right	☒	☒	☒	☒	☐	☐A ☒B
Top	☒	☒	☒	☒	☐	☐A ☒B
Bottom	☒	☒	☒	☒	☐	☐A ☒B

Contact Discharge

Test Points	Test Levels		Results		
	± 2 kV	±4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐A ☒B
Back	☒	☒	☒	☐	☐A ☒B
Left	☒	☒	☒	☐	☐A ☒B
Right	☒	☒	☒	☐	☐A ☒B
Top	☒	☒	☒	☐	☐A ☒B
Bottom	☒	☒	☒	☐	☐A ☒B

Discharge To Horizontal Coupling Plane

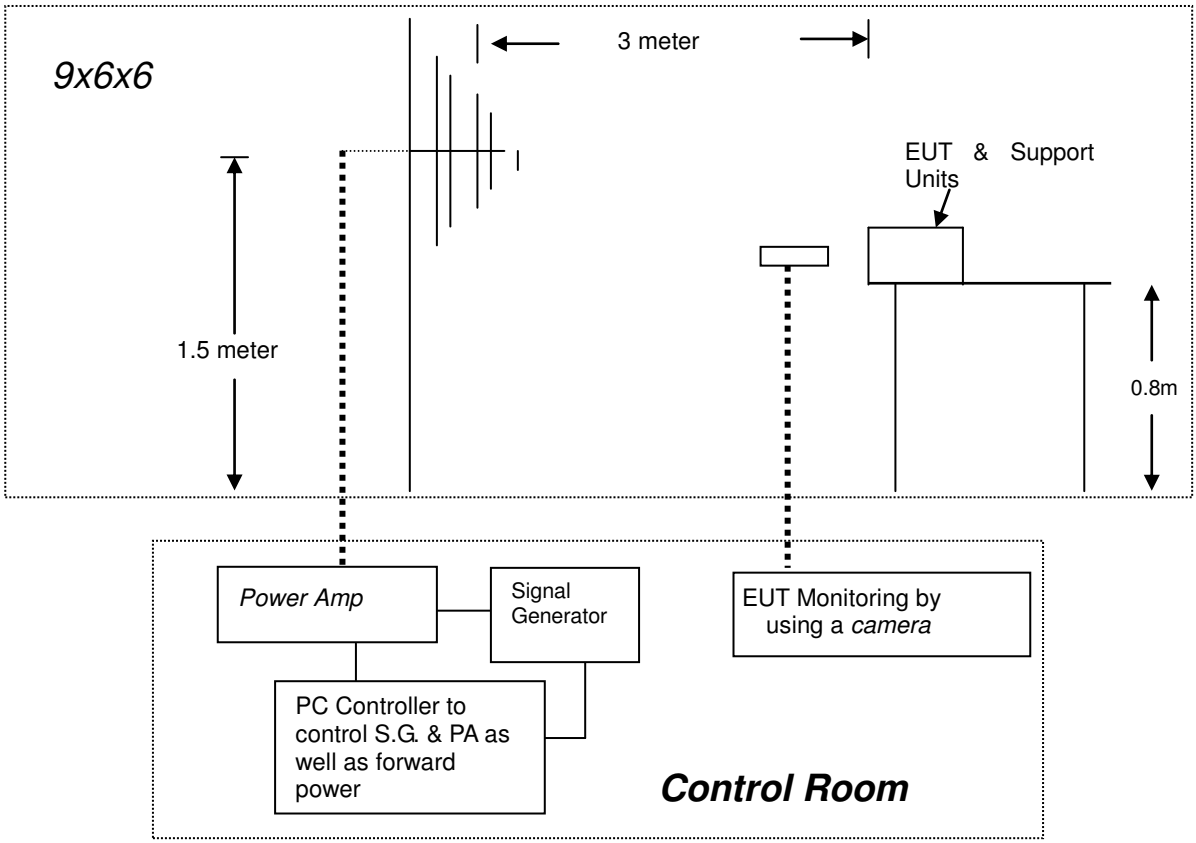
Side of EUT	Test Levels		Results		
	± 2 kV	± 4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐A ☒B
Back	☒	☒	☒	☐	☐A ☒B
Left	☒	☒	☒	☐	☐A ☒B
Right	☒	☒	☒	☐	☐A ☒B

Discharge To Vertical Coupling Plane

Side of EUT	Test Levels		Results		
	± 2 kV	± 4 kV	Passed	Fail	Performance Criterion
Front	☒	☒	☒	☐	☐A ☒B
Back	☒	☒	☒	☐	☐A ☒B
Left	☒	☒	☒	☐	☐A ☒B
Right	☒	☒	☒	☐	☐A ☒B

6. RF FIELD STRENGTH SUSCEPTIBILITY TEST

6.1.Block Diagram of Test



6.2.Test Standard

EN 55024: 2010+A1: 2015,

(EN 61000-4-3: 2006+A2: 2010, Severity Level: 2, 3V / m)

6.3.Severity Levels and Performance Criterion

6.3.1.Severity Levels

Level	Field Strength (V/m)
1.	1
2.	3
3.	10
X.	Special

6.3.2.Performance Criterion: **A**

6.4.EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

6.5.Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 4.5, except the test setup replaced as Section 6.1.

6.6.Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.
In order to judge the EUT performance, a CCD Recording is used to monitor its screen.
All the scanning conditions are as following:

Condition of Test	Remark
1. Fielded Strength	3V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80-1000MHz
4. Sweep time of radiated	0.0015 Decade/s
5. Dwell Time	3 Sec.

6.7.Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

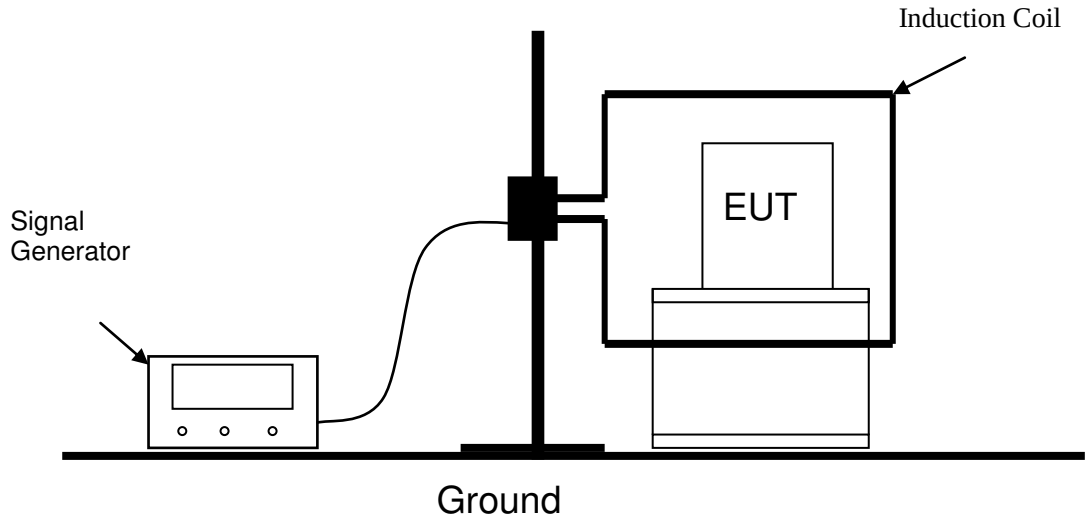
Standard	☐ IEC 61000-4-3 ☑ EN 61000-4-3		
Applicant			
EUT	8000mAh power bank with solar panel	**Temperature**	23.5℃
M/N	PB9150	**Humidity**	53.3%
Field Strength	3 V/m	**Criterion**	A
Test Mode	Mode 1	**Test Engineer**	Jay Li
Frequency Range	80 MHz to 1000 MHz		
Modulation	☐None ☐ Pulse ☑AM 1KHz 80%		
Steps	1%		

	Horizontal	**Vertical**
Front	PASS	PASS
Right	PASS	PASS
Rear	PASS	PASS
Left	PASS	PASS

Note:

7. MAGNETIC FIELD SUSCEPTIBILITY TEST

7.1.Block Diagram of Test Setup



7.2.Test Standard

EN 55024: 2010+A1: 2015,

(EN 61000-4-8: 2010, Severity Level: Level 1, 1A / m)

7.3.Severity Levels and Performance Criterion

7.3.1.Severity Levels

Level	Field Strength (A/m)
1	1
2	3
3	10
4	30
5	100
X	Special

7.3.2.Performance Criterion: **A**

7.4.EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

7.5.Test Procedure

The EUT is placed in the middle of a induction coil (1*1m), under which is a 1*1*0.1m (high) table, this small table is also placed on a larger table, 0.8 m above the ground. Both horizontal and vertical polarization of the induction coil is set on test, so that each side of the EUT is affected by the magnetic field. Also can reach the same aim by change the position of the EUT.

7.6.Test Results

PASS.

Please refer to the following page.

Magnetic Field Immunity Test Result

Standard	☐ IEC 61000-4-8 ☑ EN 61000-4-8		
Applicant			
EUT	8000mAh power bank with solar panel	**Temperature**	23.5℃
M/N	PB9150	**Humidity**	53.3%
Test Mode	Mode 1	**Criterion**	A
Test Engineer	Jay Li		

Test Level (A/M)	Testing Duration	Coil Orientation	Criterion	Result
1	5 mins	X	A	PASS
1	5 mins	Y	A	PASS
1	5 mins	Z	A	PASS

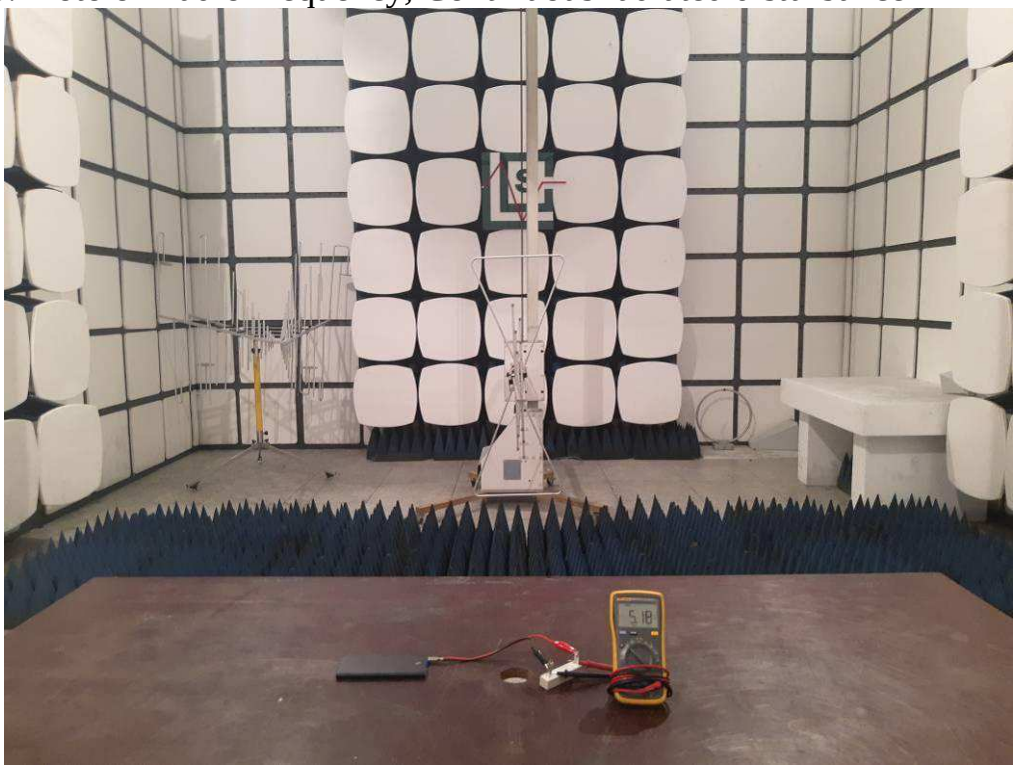
Note:

8. PHOTOGRAPH

8.1.Photo of Radiated Measurement

8.2.Photo of Electrostatic Discharge Test

8.3.Photo of Radio-frequency, Continuous radiated disturbance



8.4.Photo of Magnetic Field Immunity Test

9. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

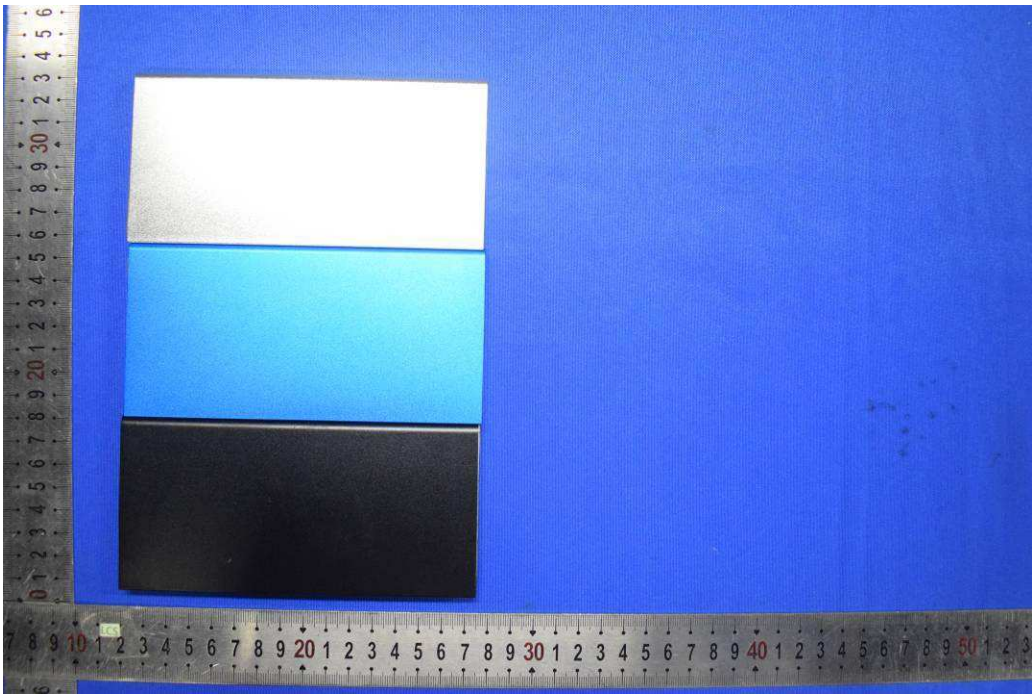


Fig. 1

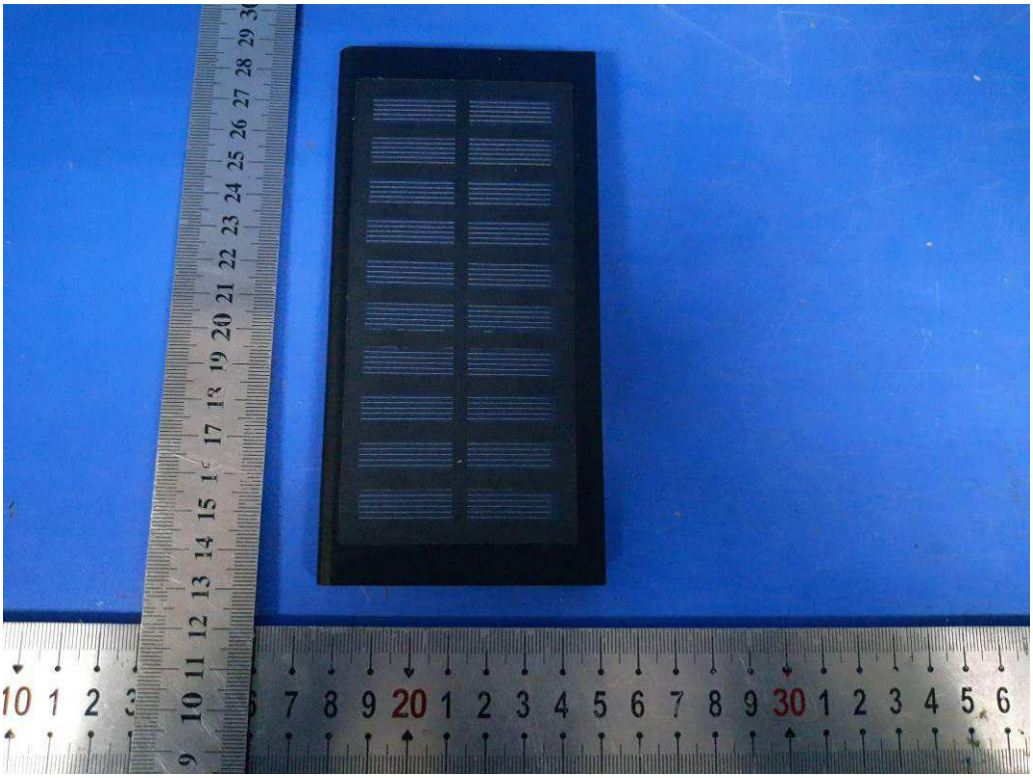


Fig. 2

Fig. 3

Fig. 4

Fig. 5

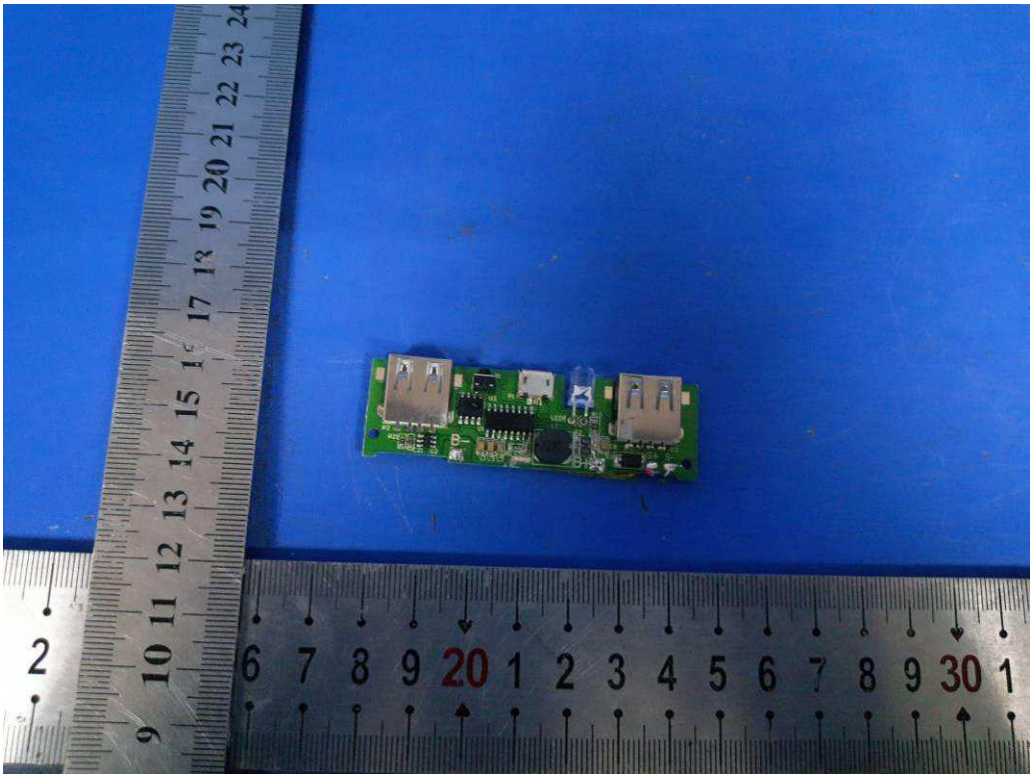


Fig. 6

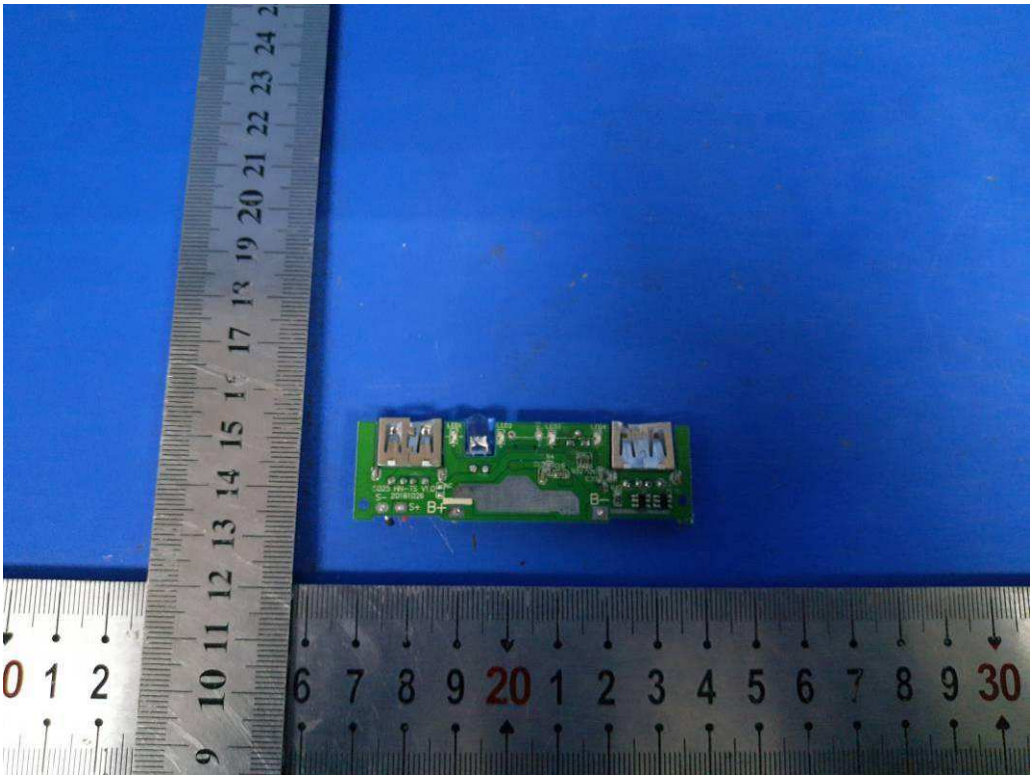


Fig. 7

----------THE END OF TEST REPORT----------

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检测
TESTING
CNAS L6478

TEST REPORT

Reference No.	:	WTF19F03011494S
Applicant	:	[redacted]
Address	:	
Manufacturer	:	
Address	:	
Vendor code	:	114628
Product Name	:	Power bank
Model No.	:	PB9150
Standards	:	Information technology equipment – Safety – Part 1: General requirements IEC 60950-1:2005+A1:2009+A2:2013
Date of Receipt sample	:	2019-03-06
Date of Test	:	2019-03-06 to 2019-03-13
Date of Issue	:	2019-03-13
Test Report Form No.	:	WSH-609501F-01A
Test Result	:	Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Services (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

Compiled by:

Jaca Huang / Project Engineer

Approved by:

Jerry Mu / Manager

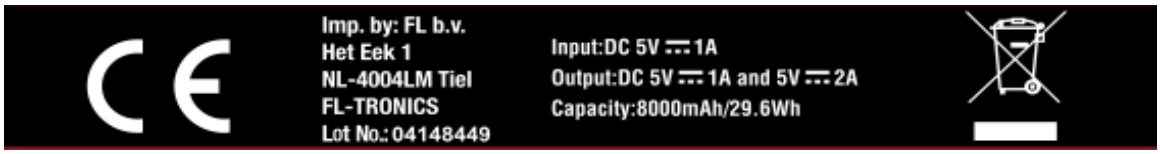
Test item description .....: Power bank

Trade Mark .....:

Model/Type reference .....: PB9150

Ratings .....: See marking plate for details

Copy of marking plate:



Remark:

The CE marking and WEEE symbol should be at least 5.0 mm and 7.0 mm respectively in height.

When the equipment is vended to EU, then name and address of the importer or authorized representative within the EEA shall be added on the equipment.

National difference:

EU group national differences were considered accroding to below standard:

EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

Summary of testing:

1. These samples are tested and complied with the requirements of standards listed.
2. Full tests were performed on model PB9150.
3. The model is in compliance with the requirements of sub-clause 2.5 (limited power source).

Test item particulars ..... :	
Equipment mobility..... :	[x] movable [] hand-held [x] transportable [] stationary [] for building-in [] direct plug-in
Connection to the mains..... :	[] pluggable equipment [] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [x] not directly connected to the mains [] built-in component, consider in end system
Operating condition..... :	[x] continuous [] rated operating / resting time: 90 sec ON / 30 min OFF
Access location ..... :	[x] operator accessible [] restricted access location [] built-in component, consider in end system
Over voltage category (OVC) ..... :	[] OVC I [] OVC II [] OVC III [] OVC IV [x] other:
Mains supply tolerance (%) or absolute mains supply values ..... :	N
Tested for IT power systems ..... :	[] Yes [x] No
IT testing, phase-phase voltage (V) ..... :	N
Class of equipment ..... :	[] Class I [] Class II [x] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) ..... :	N
Pollution degree (PD) ..... :	[] PD 1 [x] PD 2 [] PD 3
IP protection class ..... :	IPX0
Altitude during operation (m) ..... :	Up to 2000
Altitude of test laboratory (m) ..... :	Below 2000
Mass of equipment (kg) ..... :	Max. approx. 0.21 kg
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N
- test object does meet the requirement..... :	P(Pass)
- test object does not meet the requirement..... :	F(Fail)

Abbreviations used in the report:

- normal conditions	**N.C**.	- single fault conditions	**S.F.C**
- functional insulation	**OP**	- basic insulation	**BI**
- double insulation	**DI**	- supplementary insulation	**SI**
- between parts of opposite polarity	**BOP**	- reinforced insulation	**RI**

Indicate used abbreviations (if any)

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

General product information:

1. Power bank, models PB9150, intended for use with the information technology equipment, output is USB port.
2. The maximum operating temperature is 40°C.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		P
1.5	**Components**		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls	No thermal controls used	N
1.5.4	Transformers		N
1.5.5	Interconnecting cables		N
1.5.6	Capacitors bridging insulation		N
1.5.7	Resistors bridging insulation		N
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N
1.5.8	Components in equipment for IT power systems		N
1.5.9	Surge suppressors	No surge suppressor used.	N
1.5.9.1	General		N
1.5.9.2	Protection of VDRs		N
1.5.9.3	Bridging of functional insulation by a VDR		N
1.5.9.4	Bridging of basic insulation by a VDR		N
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N
1.6	**Power interface**		P
1.6.1	AC power distribution systems	Not directly connected to the mains	N
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		P
1.6.4	Neutral conductor	Not directly connected to the mains	N
1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking	See below	P
	Multiple mains supply connections.....:		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated voltage(s) or voltage range(s) (V) .....:	5V	P
	Symbol for nature of supply, for d.c. only.....:	⎓	P
	Rated frequency or rated frequency range (Hz) ...:		N
	Rated current (mA or A) .....:	1A	P
1.7.1.2	Identification markings	See below	P
	Manufacturer's name or trade-mark or identification mark .....:	See marking plate for details	P
	Model identification or type reference .....:	See marking plate for details	P
	Symbol for Class II equipment only .....:		N
	Other markings and symbols .....:	Additional symbols or marking does not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	Not directly connected to the mains.	N
1.7.2.3	Overcurrent protective device	Not such equipment.	N
1.7.2.4	IT power distribution systems		N
1.7.2.5	Operator access with a tool		N
1.7.2.6	Ozone		N
1.7.3	Short duty cycles		N
1.7.4	Supply voltage adjustment .....:	No voltage selector.	N
	Methods and means of adjustment; reference to installation instructions .....:		N
1.7.5	Power outlets on the equipment .....:		N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:		N
1.7.7	Wiring terminals	See below.	N
1.7.7.1	Protective earthing and bonding terminals .....:		N
1.7.7.2	Terminals for a.c. mains supply conductors		N
1.7.7.3	Terminals for d.c. mains supply conductors		N
1.7.8	Controls and indicators		N
1.7.8.1	Identification, location and marking .....:		N
1.7.8.2	Colours .....:		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.3	Symbols according to IEC 60417.....:		N
1.7.8.4	Markings using figures .....:		N
1.7.9	Isolation of multiple power sources .....:		N
1.7.10	Thermostats and other regulating devices .....:	No such componentes provided	N
1.7.11	Durability		P
1.7.12	Removable parts	No removable part.	N
1.7.13	Replaceable batteries .....:	No battery provided.	N
	Language(s) .....:		—
1.7.14	Equipment for restricted access locations.....:	Not intended for use in restricted access locations.	N
2	**PROTECTION FROM HAZARDS**		P
2.1	**Protection from electric shock and energy hazards**		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts	No hazard live part.	P
	Test by inspection .....:		N
	Test with test finger (Figure 2A) .....:		N
	Test with test pin (Figure 2B) .....:		N
	Test with test probe (Figure 2C) .....:	No TNV present.	N
2.1.1.2	Battery compartments		N
2.1.1.3	Access to ELV wiring	No ELV circuit	N
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No such component	N
2.1.1.5	Energy hazards .....:	(see appended tables 2.1.1.5)	P
2.1.1.6	Manual controls	No manual controls.	N
2.1.1.7	Discharge of capacitors in equipment		N
	Measured voltage (V); time-constant (s).....:		—
2.1.1.8	Energy hazards – d.c. mains supply		N
	a) Capacitor connected to the d.c. mains supply ..:		N
	b) Internal battery connected to the d.c. mains supply :		N
2.1.1.9	Audio amplifiers .....:		N
2.1.2	Protection in service access areas		N
2.1.3	Protection in restricted access locations		N
2.2	**SELV circuits**		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.1	General requirements	(see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V) .....:	Within SELV limits	P
2.2.3	Voltages under fault conditions (V) .....:	Within SELV limits	P
2.2.4	Connection of SELV circuits to other circuits .....:	SELV circuits are only connected to other secondary circuits. SELV circuit and all interconnected circuits separated from primary by reinforced insulation. The SELV circuit does not exceed the SELV limits under normal and fault conditions.	P
2.3	**TNV circuits**		N
2.3.1	Limits	No TNV circuits	N
	Type of TNV circuits .....:		—
2.3.2	Separation from other circuits and from accessible parts		N
2.3.2.1	General requirements		N
2.3.2.2	Protection by basic insulation		N
2.3.2.3	Protection by earthing		N
2.3.2.4	Protection by other constructions .....:		N
2.3.3	Separation from hazardous voltages		N
	Insulation employed .....:		—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed .....:		—
2.3.5	Test for operating voltages generated externally		N
2.4	**Limited current circuits**		N
2.4.1	General requirements		N
2.4.2	Limit values		N
	Frequency (Hz).....:		—
	Measured current (mA) .....:		—
	Measured voltage (V) .....:		—
	Measured circuit capacitance (nF or µF) .....:		—
2.4.3	Connection of limited current circuits to other circuits		N
2.5	**Limited power sources**		P
	a) Inherently limited output	(see appended table 2.5)	N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) Impedance limited output	(see appended table 2.5)	N
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	(see appended table 2.5)	P
	Use of integrated circuit (IC) current limiters		N
	d) Overcurrent protective device limited output		N
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....:		—
	Current rating of overcurrent protective device (A) .:		—
2.6	**Provisions for earthing and bonding**		N
2.6.1	Protective earthing	Class III apparatus.	N
2.6.2	Functional earthing		N
	Use of symbol for functional earthing .....:		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	General		N
2.6.3.2	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
2.6.3.3	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
	Protective current rating (A), cross-sectional area (mm^2), AWG .....:		N
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) .....:		N
2.6.3.5	Colour of insulation.....:		N
2.6.4	Terminals		N
2.6.4.1	General		N
2.6.4.2	Protective earthing and bonding terminals		N
	Rated current (A), type, nominal thread diameter (mm) .....:		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing		N
2.6.5.1	Interconnection of equipment		N
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N
2.6.5.3	Disconnection of protective earth		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.4	Parts that can be removed by an operator		N
2.6.5.5	Parts removed during servicing		N
2.6.5.6	Corrosion resistance		N
2.6.5.7	Screws for protective bonding		N
2.6.5.8	Reliance on telecommunication network or cable distribution system		N
2.7	**Overcurrent and earth fault protection in primary circuits**		N
2.7.1	Basic requirements	Not directly connected to the mains	N
	Instructions when protection relies on building installation		N
2.7.2	Faults not simulated in 5.3.7		N
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices .....:		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel.....:		N
2.8	**Safety interlocks**		N
2.8.1	General principles	No safety interlocks	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
	Protection against extreme hazard		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches, relays and their related circuits		N
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....:		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test	(see appended table 5.2)	N
2.8.8	Mechanical actuators		N
2.9	**Electrical insulation**		N
2.9.1	Properties of insulating materials	Not directly connected to the mains	N
2.9.2	Humidity conditioning		N

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%), temperature (°C) .....:		—
2.9.3	Grade of insulation		N
2.9.4	Separation from hazardous voltages		N
	Method(s) used .....:		—
2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General	Not directly connected to the mains	N
2.10.1.1	Frequency .....:		N
2.10.1.2	Pollution degrees .....:		N
2.10.1.3	Reduced values for functional insulation		N
2.10.1.4	Intervening unconnected conductive parts		N
2.10.1.5	Insulation with varying dimensions		N
2.10.1.6	Special separation requirements		N
2.10.1.7	Insulation in circuits generating starting pulses		N
2.10.2	Determination of working voltage		N
2.10.2.1	General		N
2.10.2.2	RMS working voltage		N
2.10.2.3	Peak working voltage		N
2.10.3	Clearances		N
2.10.3.1	General		N
2.10.3.2	Mains transient voltages		N
	a) AC mains supply .....:		N
	b) Earthed d.c. mains supplies .....:		N
	c) Unearthed d.c. mains supplies .....:		N
	d) Battery operation .....:		N
2.10.3.3	Clearances in primary circuits		N
2.10.3.4	Clearances in secondary circuits		N
2.10.3.5	Clearances in circuits having starting pulses		N
2.10.3.6	Transients from a.c. mains supply .....:		N
2.10.3.7	Transients from d.c. mains supply .....:		N
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....:		N
2.10.3.9	Measurement of transient voltage levels	See 2.10.3.6.	N
	a) Transients from a mains supply		N
	For an a.c. mains supply .....:		N
	For a d.c. mains supply .....:		N

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Transients from a telecommunication network :		N
2.10.4	Creepage distances		N
2.10.4.1	General		N
2.10.4.2	Material group and comparative tracking index		N
	CTI tests .....:		—
2.10.4.3	Minimum creepage distances		N
2.10.5	Solid insulation		N
2.10.5.1	General		N
2.10.5.2	Distances through insulation		N
2.10.5.3	Insulating compound as solid insulation		N
2.10.5.4	Semiconductor devices		N
2.10.5.5.	Cemented joints		N
2.10.5.6	Thin sheet material – General		N
2.10.5.7	Separable thin sheet material		N
	Number of layers (pcs) .....:		—
2.10.5.8	Non-separable thin sheet material		N
2.10.5.9	Thin sheet material – standard test procedure		N
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N
	Electric strength test		—
2.10.5.11	Insulation in wound components		N
2.10.5.12	Wire in wound components		N
	Working voltage .....:		N
	a) Basic insulation not under stress .....:		N
	b) Basic, supplementary, reinforced insulation .....:		N
	c) Compliance with Annex U .....:		N
	Two wires in contact inside wound component; angle between 45° and 90° .....:		N
2.10.5.13	Wire with solvent-based enamel in wound components	No such construction.	N
	Electric strength test		—
	Routine test		N
2.10.5.14	Additional insulation in wound components	No such construction.	N
	Working voltage .....:		N
	- Basic insulation not under stress .....:		N
	- Supplementary, reinforced insulation .....:		N
2.10.6	Construction of printed boards		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N
2.10.6.4	Insulation between conductors on different layers of a printed board		N
	Distance through insulation		N
	Number of insulation layers (pcs).....:		N
2.10.7	Component external terminations		N
2.10.8	Tests on coated printed boards and coated components		N
2.10.8.1	Sample preparation and preliminary inspection		N
2.10.8.2	Thermal conditioning		N
2.10.8.3	Electric strength test		N
2.10.8.4	Abrasion resistance test		N
2.10.9	Thermal cycling		N
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N
2.10.11	Tests for semiconductor devices and cemented joints		N
2.10.12	Enclosed and sealed parts	No hermetically sealed component.	N
3	**WIRING, CONNECTIONS AND SUPPLY**		P
3.1	**General**		P
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	(see appended table 5.2)	P
3.1.5	Beads and ceramic insulators	Not used.	N
3.1.6	Screws for electrical contact pressure	No such screws provided.	N
3.1.7	Insulating materials in electrical connections		N
3.1.8	Self-tapping and spaced thread screws	Not used.	N
3.1.9	Termination of conductors		N
	10 N pull test		N
3.1.10	Sleeving on wiring		N
3.2	**Connection to a mains supply**		N

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1	Means of connection	Not directly connected to the mains	N
3.2.1.1	Connection to an a.c. mains supply	See above	N
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N
3.2.5.1	AC power supply cords		N
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
3.2.5.2	DC power supply cords		N
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N
3.2.8	Cord guards	No cord guard provided.	N
	Diameter or minor dimension D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm)..... :		—
3.2.9	Supply wiring space	Not permanent connection or non-detachable power cord type.	N
3.3	**Wiring terminals for connection of external conductors**		N
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm^2)..... :		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type, nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminal design		N
3.3.7	Grouping of wiring terminals		N

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.8	Stranded wire		N
3.4	**Disconnection from the mains supply**		P
3.4.1	General requirement	Not directly connected to the mains	N
3.4.2	Disconnect devices		N
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N
3.4.5	Switches in flexible cords		N
3.4.6	Number of poles - single-phase and d.c. equipment		P
3.4.7	Number of poles - three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N
3.4.11	Multiple power sources		N
3.5	**Interconnection of equipment**		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits ..... :	SELV circuits	P
3.5.3	ELV circuits as interconnection circuits		N
3.5.4	Data ports for additional equipment		P
4	**PHYSICAL REQUIREMENTS**		P
4.1	**Stability**		N
	Angle of 10°		N
	Test force (N) .....:		N
4.2	**Mechanical strength**		P
4.2.1	General		P
	Rack-mounted equipment.	(see Annex DD)	N
4.2.2	Steady force test, 10 N		N
4.2.3	Steady force test, 30 N		N
4.2.4	Steady force test, 250 N	Enclosure, no damaged	P
4.2.5	Impact test		N
	Fall test		N
	Swing test		N

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.6	Drop test; height (mm) .....:	1000	P
4.2.7	Stress relief test	7 h, 70°C	P
4.2.8	Cathode ray tubes		N
	Picture tube separately certified .....:	(see separate test report or attached certificate)	N
4.2.9	High pressure lamps		N
4.2.10	Wall or ceiling mounted equipment; force (N) .....:		N
4.3	**Design and construction**		P
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute hazard.	P
4.3.2	Handles and manual controls; force (N)..... :		N
4.3.3	Adjustable controls		N
4.3.4	Securing of parts		N
4.3.5	Connection by plugs and sockets		N
4.3.6	Direct plug-in equipment		N
	Torque .....:		—
	Compliance with the relevant mains plug standard .....:		N
4.3.7	Heating elements in earthed equipment		N
4.3.8	Batteries	(see appended tables 4.3.8)	P
	- Overcharging of a rechargeable battery		P
	- Unintentional charging of a non-rechargeable battery		N
	- Reverse charging of a rechargeable battery		P
	- Excessive discharging rate for any battery		P
4.3.9	Oil and grease	No heating elements provided.	N
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N
4.3.12	Flammable liquids .....:	No such flammable liquid.	N
	Quantity of liquid (l) .....:		N
	Flash point (°C) .....:		N
4.3.13	Radiation		P
4.3.13.1	General		P
4.3.13.2	Ionizing radiation		N

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured radiation (pA/kg) .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N
	Part, property, retention after test, flammability classification .....:		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N
4.3.13.5	Lasers (including laser diodes) and LEDs	Indicator light	P
4.3.13.5.1	Lasers (including laser diodes)		N
	Laser class .....:		—
4.3.13.5.2	Light emitting diodes (LEDs)	Only indicator light	P
4.3.13.6	Other types .....:		N
4.4	**Protection against hazardous moving parts**		N
4.4.1	General	No moving parts.	N
4.4.2	Protection in operator access areas .....:		N
	Household and home/office document/media shredders	(see Annex EE)	N
4.4.3	Protection in restricted access locations .....:		N
4.4.4	Protection in service access areas		N
4.4.5	Protection against moving fan blades		N
4.4.5.1	General		N
	Not considered to cause pain or injury. a)……:		N
	Is considered to cause pain, not injury. b) ……..:		N
	Considered to cause injury. c) ……:		N
4.4.5.2	Protection for users		N
	Use of symbol or warning ……..:		N
4.4.5.3	Protection for service persons		N
	Use of symbol or warning ……..:		N
4.5	**Thermal requirements**		P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L .....:		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....:		N
4.6	**Openings in enclosures**		N
4.6.1	Top and side openings	No opening.	N
	Dimensions (mm) .....:		—
4.6.2	Bottoms of fire enclosures		N
	Construction of the bottomm, dimensions (mm) ..:		—
4.6.3	Doors or covers in fire enclosures		N
4.6.4	Openings in transportable equipment		N
4.6.4.1	Constructional design measures		N
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N
4.6.4.3	Use of metallized parts		N
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature (°C), time (weeks).....:		—
4.7	**Resistance to fire**		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	V-1 or better.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No part outside fire enclosure.	N
4.7.3.4	Materials for components and other parts inside fire enclosures		N
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		**N**

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Clause	Requirement + Test	Result - Remark	Verdict
5.1	**Touch current and protective conductor current**		N
5.1.1	General		N
5.1.2	Configuration of equipment under test (EUT)		N
5.1.2.1	Single connection to an a.c. mains supply		N
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N
5.1.3	Test circuit		N
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
	Measured protective conductor current (mA) .....:		—
	Max. allowed protective conductor current (mA)...:		—
5.1.7	Equipment with touch current exceeding 3,5 mA	Neither stationary permanently connected equipment nor stationary pluggable equipment type B.	N
5.1.7.1	General .....:		N
5.1.7.2	Simultaneous multiple connections to the supply		N
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV.	N
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks		N
	a) EUT with earthed telecommunication ports .....:		N
	b) EUT whose telecommunication ports have no reference to protective earth		N
5.2	**Electric strength**		N
5.2.1	General		N

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2	Test procedure		N
5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N
5.3.3	Transformers		N
5.3.4	Functional insulation.....:	By short circuit	P
5.3.5	Electromechanical components		N
5.3.6	Audio amplifiers in ITE .....:		N
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment		N
5.3.9	Compliance criteria for abnormal operating and fault conditions	No flames emitted, no molten material emitted and no hazard.	P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N
6.1	**Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment**		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements		N
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N
6.2.2.3	Compliance criteria		N
6.3	**Protection of the telecommunication wiring system from overheating**		N
	Max. output current (A) .....:		—
	Current limiting method .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N
7.1	**General**	Not connected to cable distribution system	N
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N
7.3	Protection of equipment users from overvoltages on the cable distribution system		N
7.4	Insulation between primary circuits and cable distribution systems		N
7.4.1	General		N
7.4.2	Voltage surge test		N
7.4.3	Impulse test		N

A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N
A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N
A.1.1	Samples.....:		—
	Wall thickness (mm) .....:		—
A.1.2	Conditioning of samples; temperature (°C) .....:		N
A.1.3	Mounting of samples .....:		N
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D .....:		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	Sample 1 burning time (s) .....:		—
	Sample 2 burning time (s) .....:		—
	Sample 3 burning time (s) .....:		—
A.2	**Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)**		N
A.2.1	Samples, material.....:		—
	Wall thickness (mm) .....:		—
A.2.2	Conditioning of samples; temperature (°C) .....:		N
A.2.3	Mounting of samples .....:		N
A.2.4	Test flame (see IEC 60695-11-4)		N

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Clause	Requirement + Test	Result - Remark	Verdict
	Flame A, B or C .....:		—
A.2.5	Test procedure	Material approved by UL	N
A.2.6	Compliance criteria		N
	Sample 1 burning time (s) .....:		—
	Sample 2 burning time (s) .....:		—
	Sample 3 burning time (s) .....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N
	Sample 1 burning time (s) .....:		—
	Sample 2 burning time (s) .....:		—
	Sample 3 burning time (s) .....:		—
A.3	**Hot flaming oil test (see 4.6.2)**		N
A.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N
B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N
B.1	**General requirements**	No motor provided.	N
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
B.2	**Test conditions**		N
B.3	**Maximum temperatures**		N
B.4	**Running overload test**		N
B.5	**Locked-rotor overload test**		N
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	**Running overload test for d.c. motors in secondary circuits**		N
B.6.1	General		N
B.6.2	Test procedure		N
B.6.3	Alternative test procedure		N
B.6.4	Electric strength test; test voltage (V) .....:		N
B.7	**Locked-rotor overload test for d.c. motors in secondary circuits**		N
B.7.1	General		N

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Clause	Requirement + Test	Result - Remark	Verdict
B.7.2	Test procedure		N
B.7.3	Alternative test procedure		N
B.7.4	Electric strength test; test voltage (V) .....:		N
B.8	**Test for motors with capacitors**		N
B.9	**Test for three-phase motors**		N
B.10	**Test for series motors**		N
	Operating voltage (V) .....:		—
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
	Method of protection..... :		—
C.1	**Overload test**		N
C.2	**Insulation**		N
	Protection from displacement of windings..... :		N
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		N
D.1	**Measuring instrument**		N
D.2	**Alternative measuring instrument**		N
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		N
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N
G.1	**Clearances**		N
G.1.1	General		N
G.1.2	Summary of the procedure for determining minimum clearances		N
G.2	**Determination of mains transient voltage (V)**		N
G.2.1	AC mains supply .....:		N
G.2.2	Earthed d.c. mains supplies .....:		N
G.2.3	Unearthed d.c. mains supplies .....:		N

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.4	Battery operation .....:		N
G.3	**Determination of telecommunication network transient voltage (V) ..... :**		N
G.4	**Determination of required withstand voltage (V)**		N
G.4.1	Mains transients and internal repetitive peaks .....:		N
G.4.2	Transients from telecommunication networks .....:		N
G.4.3	Combination of transients		N
G.4.4	Transients from cable distribution systems		N
G.5	**Measurement of transient voltages (V)**		N
	a) Transients from a mains supply		N
	For an a.c. mains supply		N
	For a d.c. mains supply		N
	b) Transients from a telecommunication network		N
G.6	**Determination of minimum clearances ..... :**		N
H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N
J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N
	Metal(s) used .....:		—
K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N
K.1	Making and breaking capacity	No thermal limiter or thermostat	N
K.2	Thermostat reliability; operating voltage (V) .....:		N
K.3	Thermostat endurance test; operating voltage (V) .....:		N
K.4	Temperature limiter endurance; operating voltage (V) .....:		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation		N
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		N
L.1	Typewriters		N
L.2	Adding machines and cash registers		N
L.3	Erasers		N
L.4	Pencil sharpeners		N
L.5	Duplicators and copy machines		N
L.6	Motor-operated files		N

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Clause	Requirement + Test	Result - Remark	Verdict
L.7	Other business equipment		N
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N
M.1	Introduction		N
M.2	Method A		N
M.3	Method B		N
M.3.1	Ringing signal		N
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .....:		N
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V) .....:		N
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N
P	**ANNEX P, NORMATIVE REFERENCES**		—
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N
	- Preferred climatic categories .....:		N
	- Maximum continuous voltage .....:		N
	- Combination pulse current .....:		N
	Body of the VDR Test according to IEC60695-11-5.....:		N
	Body of the VDR. Flammability class of material (min V-1).....:		N
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N
R.2	Reduced clearances (see 2.10.3)		N

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Clause	Requirement + Test	Result - Remark	Verdict

S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N

T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N
		See separate test report	—

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N
		See separate test report	—

V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		N
V.1	Introduction		N
V.2	TN power distribution systems		N

W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N
W.1	Touch current from electronic circuits		N
W.1.1	Floating circuits		N
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N

X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N
X.1	Determination of maximum input current		N
X.2	Overload test procedure		N

Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N
Y.1	Test apparatus ..... :		N
Y.2	Mounting of test samples ..... :		N
Y.3	Carbon-arc light-exposure apparatus ..... :		N
Y.4	Xenon-arc light exposure apparatus ..... :		N

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Clause	Requirement + Test	Result - Remark	Verdict
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		P
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—
CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N
CC.1	General		N
CC.2	Test program 1……:		N
CC.3	Test program 2……:		N
CC.4	Test program 3.....:		N
CC.5	Compliance.....:		N
DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N
DD.1	General		N
DD.2	Mechanical strength test, variable N……..:		N
DD.3	Mechanical strength test, 250N, including end stops……:		N
DD.4	Compliance……:		N
EE	**ANNEX EE, Household and home/office document/media shredders**		N
EE.1	General		N
EE.2	Markings and instructions		N
	Use of markings or symbols……:		N
	Information of user instructions, maintenance and/or servicing instructions……:		N
EE.3	Inadvertent reactivation test……:		N
EE.4	Disconnection of power to hazardous moving parts:		N
	Use of markings or symbols……:		N
EE.5	Protection against hazardous moving parts		N
	Test with test finger (Figure 2A) ……:		N
	Test with wedge probe (Figure EE1 and EE2) …:		N

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1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Plastic Enclosure	NAN YA PLASTICS CORP	6410G5	V-0, 115°C, min. 1.5mm	UL 94	UL
Metal enclosure	--	--	Metal, min. 0.4mm	--	--
PCB	Interchangeable	Interchangeable	V-0, 130°C	UL 796	UL
Battery		126090	3.7V, 8000mAh, Maximum charge and discharge current: 8000mA	IEC/EN 62133	Waltek Report (WTF17S0784865S)

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

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1.5.1	**TABLE: Opto Electronic Devices**	N
Manufacturer.....:		
Type .....:		
Separately tested.....:		
Bridging insulation .....:		
External creepage distance .....:		
Internal creepage distance .....:		
Distance through insulation .....:		
Tested under the following conditions .....:		
Input .....:		
Output .....:		
supplementary information		

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1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
5.0Vdc	1.05	1.0	5.25	--	--	Charging for Empty battery by USB port
3.7Vdc	3.3	--	12.21	--	--	USB port load to 5Vdc, 2A
Supplementary information: --						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
5.0	2	5.1	2.38	12.1	
supplementary information: --					

2.1.1.5 c) 2)	TABLE: stored energy	N
Capacitance C (µF)	Voltage U (V)	Energy E (J)
supplementary information:		

2.2	TABLE: evaluation of voltage limiting components in SELV circuits		N
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
supplementary information:			

2.5	TABLE: Limited power sources				P
Circuit output tested:					
Note: Measured Uoc (V) with all load circuits disconnected:					
Components	Test condition (Single fault)	Uoc (V)	I_{sc} (A)	VA	

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			Meas.	Limit	Meas.	Limit
Output	Normal	5.0	2.38	8	12.1	100
Output	U1 pin8 to pin7 Sc	4.2	2.65	8	10.2	100
supplementary information: Sc=Short circuit, Oc=Open circuit						

2.10.2	**Table: working voltage measurement**			N
Location	RMS voltage (V)	Peak voltage (V)	Comments	
supplementary information:				

2.10.3 and 2.10.4	**TABLE: Clearance and creepage distance measurements**					N
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional:						
Basic/supplementary:						
Reinforced:						
Supplementary information:						

2.10.5	**TABLE: Distance through insulation measurements**				N
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Supplementary information:					

4.3.8	**TABLE: Batteries**		P
The tests of 4.3.8 are applicable only when appropriate battery data is not available		--	P
Is it possible to install the battery in a reverse polarity position?		--	P
	Non-rechargeable batteries	Rechargeable batteries	

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	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	1.187	8A	3.3	8A	--	--
Max. current during fault condition (U1 pin1 to pin8 SC)	--	--	--	1.189	8A	3.3	8A	--	--

Test results:		Verdict
- Chemical leaks	--	P
- Explosion of the battery	--	P
- Emission of flame or expulsion of molten metal	--	P
- Electric strength tests of equipment after completion of tests	--	P
Supplementary information:		

4.3.8	TABLE: Batteries	N

Battery category.....: (Lithium, NiMh, NiCad, Lithium Ion …)
Manufacturer.....:
Type / model.....:
Voltage.....:
Capacity.....: mAh
Tested and Certified by (incl. Ref. No.).....:
Circuit protection diagram:

MARKINGS AND INSTRUCTIONS (1.7.13)

Location of replaceable battery	
Language(s) ……:	
Close to the battery ……:	
In the servicing instructions ……:	
In the operating instructions ……..:	

4.5	TABLE: Thermal requirements	P

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	Supply voltage (V) .....:	Charging for Empty battery by USB port		Output load to 5Vdc, 2A		—
	Ambient T_{min} (°C) .....:	--	--	--	--	—
	Ambient T_{max} (°C) .....:	See below	Shift to 40°C	See below	Shift to 40°C	—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed T_{max} (°C)
PCB near U1		30.6	46.2	74.0	94.0	130
PCB near USB		29.8	45.4	71.7	91.7	130
Battery body		29.7	45.3	35.0	55.0	--
Metal enclosure inside near U1		28.8	44.4	30.2	50.2	--
Metal enclosure outside near U1		28.5	44.1	28.7	48.7	60
Ambient		24.4	40.0	20.0	40.0	--
Supplementary information:						

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class

Supplementary information: --

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N
	Allowed impression diameter (mm) .....:	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information:			

4.7	TABLE: Resistance to fire					N
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Supplementary information:						

5.1	TABLE: touch current measurement			N
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	

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supplementary information:			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Basic/supplementary:				
Reinforced:				
Supplementary information:				

5.3	TABLE: Fault condition tests						P
	Ambient temperature (°C) .....:				25°C unless otherwise specified		—
	Power source for EUT: Manufacturer, model/type, output rating .....:				--		—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
U1 pin 1 to pin8	s-c	5VDC	7H	--	--	Unit works as normal, and no damage, no hazard.	
U1 pin 1 to pin8	s-c	3.7VDC	7H	--	--	Unit works as normal, and no damage, no hazard.	
USB	s-c	3.7VDC	10 mins	--	--	Unit shut down immediately, and recoverable, no hazard.	
Battery	s-c	3.7VDC	7H	--	--	No damage, no hazard.	
Supplementary information: --							

C.2	TABLE: transformers						N
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)

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Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
supplementary information:					

C.2	**TABLE: transformers**	N
Transformer		

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

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)		
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”	P
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2	P
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note	P
General (A2:2013)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.	P
1.1.1 (A1:2010)	**Replace** the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.	P

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N
	Zx Protection against excessive sound pressure from personal music players		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: – hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: – equipment provided as a package (personal music player with its listening device), where the acoustic output LAeq,T is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level LAeq,T is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term LAeq,T) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term LAeq,T) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  **Figure 1 – Warning label (IEC 60417-6044)** Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.		N
	Zx.4 Requirements for listening devices (headphones and earphones)		N
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output LAeq,T, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		N
	Zx.4.3 Wireless listening devices In wireless mode: – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;		N
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N
2.7.2	This subclause has been declared 'void'.		N
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 | 0,75 [a] | Over 6 up to and including 10| (0,75) [b] 1,0 | Over 10 up to and including 16| (1,0) [c] 1,5 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A		N
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).		N
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N
Bibliography	Additional EN standards.		—
ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		—
ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
1.2.4.1	In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N
1.2.13.14 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N
1.5.7.1 (A11:2009)	In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N
1.7.2.1	In **Finland**, **Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N
1.7.2.1 (A11:2009)	In **Norway** and **Sweden**, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).”		

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N
1.7.2.1 (A2:2013)	In **Denmark**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in **Denmark** shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”		N
1.7.5 1.7.5 (A11:2009)	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c		N
2.2.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N
2.3.2	In **Finland**, **Norway** and **Sweden** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N
2.3.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N
3.2.1.1	In **Switzerland**, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N
3.2.1.1 (A2:2013)	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In **Spain**, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N
4.3.6	In **Ireland**, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N
5.1.7.1	In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N

IEC 60950-1 – Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N
7.2	In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N
7.3 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N

Annex ZD
(informative)
IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

====== End of Attachment ======

Photo Documentation

Model: PB 9150

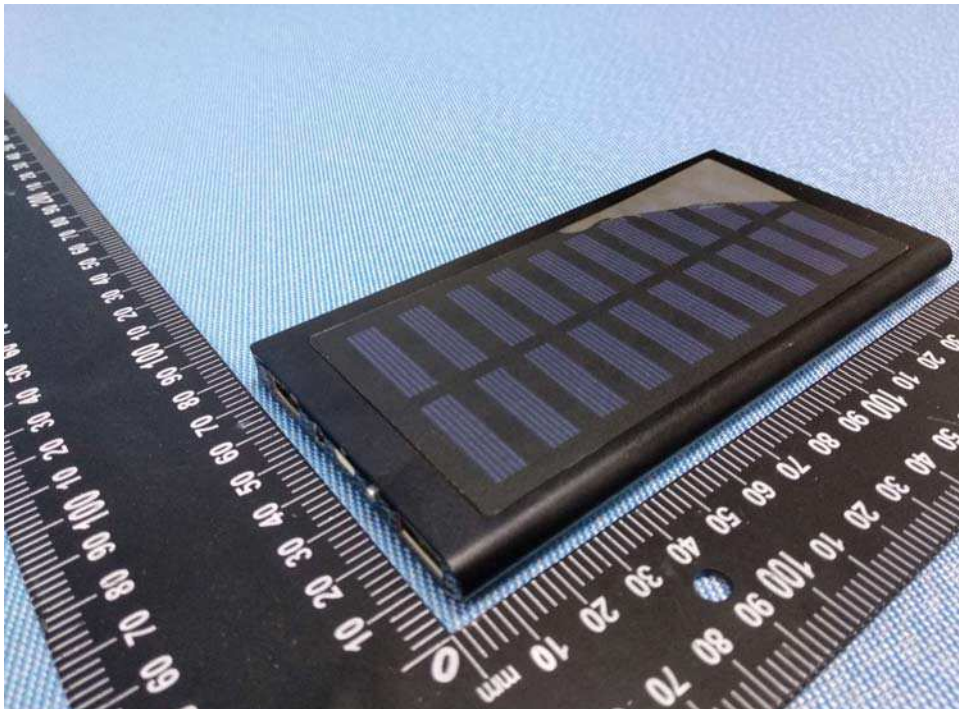

Photo 1

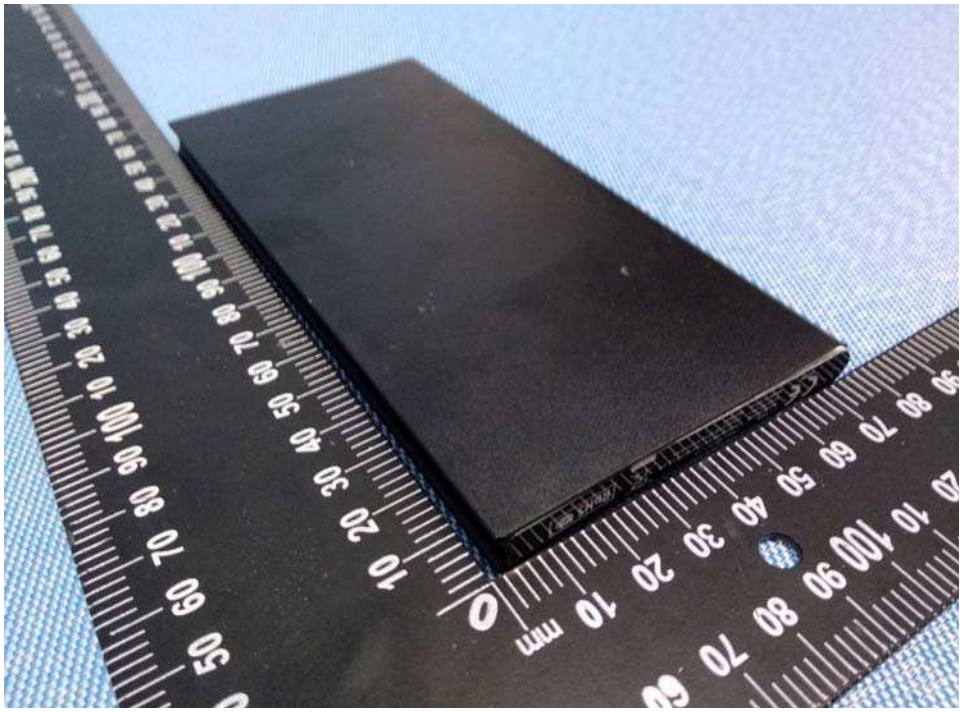

Photo 2

Photo Documentation

Photo 3

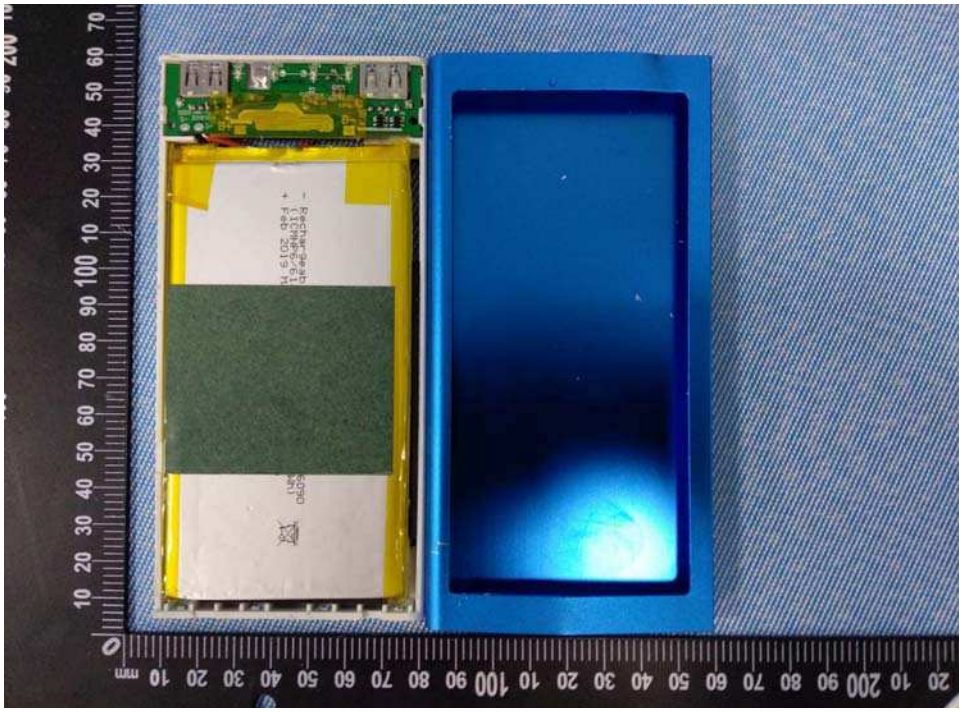

Photo 4

Photo Documentation

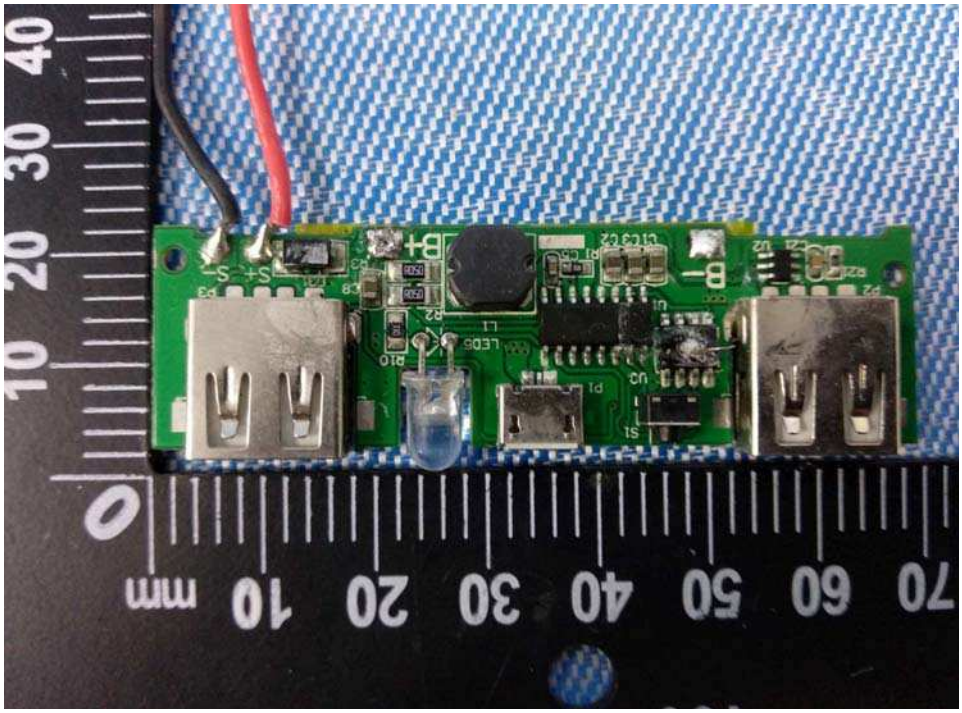

Photo 5

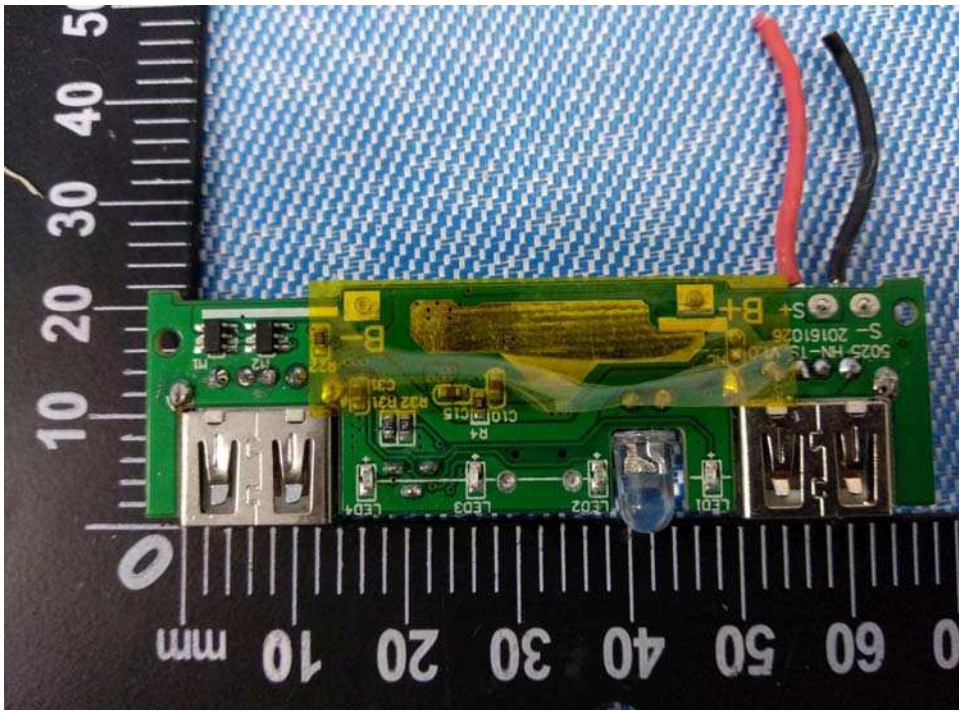

Photo 6

Photo Documentation

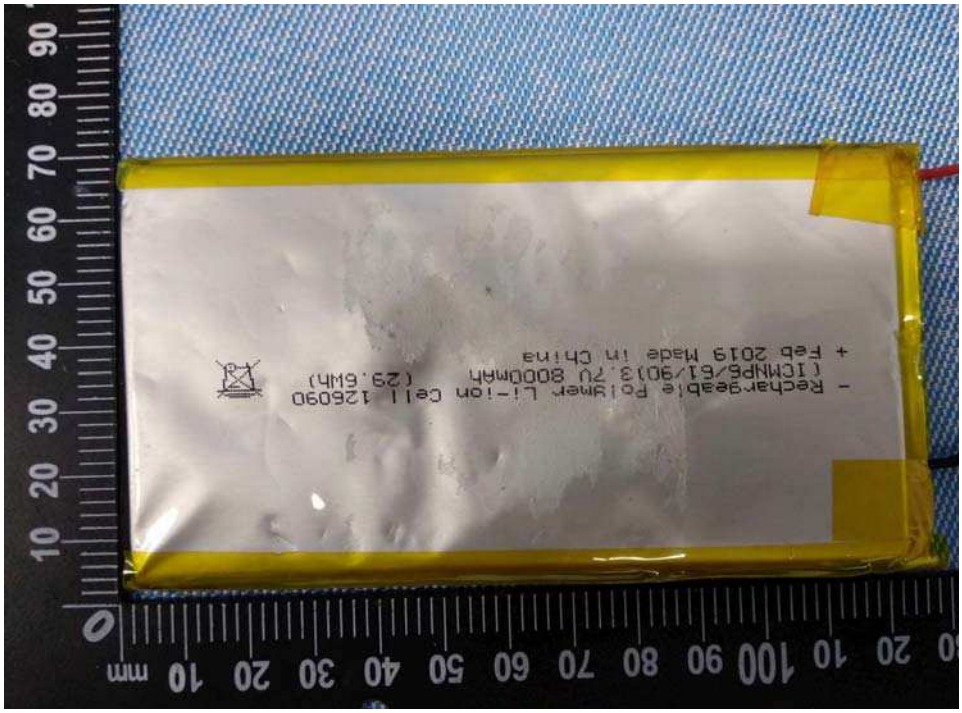

Photo 7

====== End of Photo ======

TEST REPORT

Reference No.	:	WTF18S0784865S
Applicant	:	[redacted]
Address	:	
Manufacturer	:	
Address	:	
Product Name	:	Rechargeable Polymer Li-ion Cell
Model No.	:	126090
Trade Mark	:	N/A
Total pages	:	21 pages and 1 page of photo.
Standards	:	☒ IEC 62133: 2012
Date of Receipt sample	:	June 27, 2018
Date of Test	:	June 28, 2018 to July 10, 2018
Date of Issue	:	July 24, 2018
Test Result	:	The submitted samples comply with the above standards

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
Waltek Services (Shenzhen) Co., Ltd.
Address: 1/F, Fukangtai Building, West Baima Rd., Songgang Street, Bao'an District, Shenzhen Guangdong, China
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Compiled by:

Eileen Zhang / Project Engineer

Approved by:

Philo Zhong / Manager

List of Attachments (including a total number of pages in each attachment):
Attachments 1: Photos documentation (1 pages);

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
☒8.2.1 Continuous charging at constant voltage (cells) ☐8.2.2 Moulded case stress at high ambient temperature (battery) ☒8.3.1 External short circuit (cell) ☐8.3.2 External short circuit (battery) ☒8.3.3 Free fall ☒8.3.4 Thermal abuse (cells) ☒8.3.5 Crush (cells) ☐8.3.6 Over-charging of battery ☒8.3.7 Forced discharge (cells) ☐8.3.8 Transport tests ☐8.3.9 Design evaluation – Forced internal short circuit (cells)	**Waltek Services (Shenzhen) Co., Ltd.** 1/F, Fukangtai Building, West Baima Rd., Songgang Street, Baoan District, Shenzhen Guangdong, China

Summary of compliance with National Differences
List of countries addressed:

☒ **The product fulfils the requirements of EN 62133: 2013.**

Test item particulars:	--
Classification of installation and use	To be defined in final product
Supply connection	Didn't be provided
Recommend charging method declaired by the manufacturer	Charge at constant current (0.2C) 1600mA until voltage reaches 4.2V, then charge at constant voltage 4.2V till charge current is (0.02C) 160mA.
Discharge current (0,2 I_t A)	1600mA
Specified final voltage:	2.7V
Chemistry :	☐ nickel systems ☒ lithium systems
Recommend of charging limit for lithium system	
Upper limit charging voltage per cell:	4.25V
Maximum charging current	8000mA
Charging temperature upper limit	45°C
Charging temperature lower limit	0 °C
Polymer cell electrolyte type	☐ gel polymer ☐ solid polymer ☒N/A
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	June 27, 2018
Date (s) of performance of tests	June 28, 2018 to July 10, 2018
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. All technical testing date is based on the original report no. WTF18S0682561S, but only update the Applicant and Manufacturer.	
Throughout this report a ☐comma / ☒point is used as the decimal separator.	
Name and address of factory (ies)	114628

General product information:

The cells have been tested and evaluated according to their specified working conditions (as given below), which are provided by client.

Details information of the cell ,as following:

Product	Cell
Model	126090
Nominal voltage	3.7V
Rated capacity	Typ. 8000mAh Min. 7800mAh
Charge method	C.C./C.V.
Charge temp. range	0~45℃
Std. charge current	1600mA
Max. charge current	8000mA
Max. discharge current	8000mA
Upper limit charge voltage	4.2V
Discharge Cut-off voltage	2.7V
Dimension	65.76mm*119.84mm*7.29mm
Weight	135.294g
Shape	Prismatic

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Remark: N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
4	**Parameter measurement tolerances**		**P**
	Parameter measurement tolerances	All control and measure values were within the tolerances.	P
5	**General safety considerations**		**P**
5.1	General	Considered	P
5.2	Insulation and wiring	See below.	N/A
	The insulation resistance between the positive terminal and externally exposed metal surfaces of the battery (excluding electrical contact surfaces) is not less than 5 MΩ		N/A
	Insulation resistance (MΩ)..... :		--
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		N/A
	Orientation of wiring maintains adequate creepage and clearance distances between conductors		N/A
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		N/A
5.3	Venting		P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition		P
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief		P
5.4	Temperature/voltage/current management		N/A
	Batteries are designed such that abnormal temperature rise conditions are prevented		N/A
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer		N/A
	Batteries are provided with specifications and charging instructions for equipment manufacturers so that associated chargers are designed to maintain charging within the temperature, voltage and current limits specified		N/A
5.5	Terminal contacts	See below.	P
	Terminals have a clear polarity marking on the external surface of the battery		N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current	Maximum anticipated current can be carried.	P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance	Contact surfaces are conductive with good mechanical strength and corrosion resistance.	P
	Terminal contacts are arranged to minimize the risk of short circuits	Suitable arrangement of terminals to prevent short circuit.	P
5.6	Assembly of cells into batteries	Cell only	P
5.6.1	If there is more than one battery housed in a single battery case, cells used in the assembly of each battery have closely matched capacities, be of the same design, be of the same chemistry and be from the same manufacturer		N/A
	Each battery has an independent control and protection		N/A
	Manufacturers of cells make recommendations about current, voltage and temperature limits so that the battery manufacturer/designer may ensure proper design and assembly		N/A
	Batteries that are designed for the selective discharge of a portion of their series connected cells incorporate separate circuitry to prevent the cell reversal caused by uneven discharges		N/A
	Protective circuit components are added as appropriate and consideration given to the end-device application		N/A
	When testing a battery, the manufacturer of the battery provides a test report confirming the compliance according to this standard		N/A
5.6.2	Design recommendation for lithium systems only	Cell only	P
	For the battery consisting of a single cell or a single cellblock: - Charging voltage of the cell does not exceed the upper limit of the charging voltage specified in Clause 8.1.2, Table 4; or		P
	- Charging voltage of the cell does not exceed the different upper limit of the charging voltage determined through Clause 8.1.2, NOTE 1.		N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks: - The voltages of any one of the single cells or single cellblocks does not exceed the upper limit of the charging voltage, specified in Clause 8.1.2, Table 4, by monitoring the voltage of every single cell or the single cellblocks; or		N/A
	- The voltages of any one of the single cells or single cellblocks does not exceed the different upper limit of the charging voltage, determined through Clause 8.1.2, NOTE 1, by monitoring the voltage of every single cell or the single cellblocks		N/A
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks: - Charging is stopped when the upper limit of the charging voltage, specified in Clause 8.1.2, Table 4, is exceeded for any one of the single cells or single cellblocks by measuring the voltage of every single cell or the single cellblocks; or		N/A
	- Charging is stopped when the upper limit of the different charging voltage, determined through Clause 8.1.2, NOTE 1, is exceeded for any one of the single cells or single cellblocks by measuring the voltage of every single cell or the single cellblocks		N/A
5.7	Quality plan	Considered.	P
	The manufacturer prepares and implements a quality plan that defines procedures for the inspection of materials, components, cells and batteries and which covers the whole process of producing each type of cell or battery	The manufacturer has ISO 9001:2008 certificate and such quality plan.	P
6	**Type test conditions**		**P**
	Tests were made with the number of cells or batteries specified in Table 1 for nickel-cadmium and nickel-metal hydride systems and Table 2 for lithium systems, using cells or batteries that are not more than six months old	Tests are performed according to specified in Table 2 of the standard. The samples are not more than 6 months old.	P
	Unless noted otherwise in the test methods, testing was conducted in an ambient of 20°C ± 5°C.	The tests are conducted in an ambient of 20 °C±5°C.	P
7	**Specific requirements and tests (nickel systems)**		**N/A**
7.1	Charging procedure for test purposes	Lithium system.	N/A
7.2	Intended use		N/A
7.2.1	Continuous low-rate charging (cells)		N/A
	Results: No fire. No explosion	(See Table 7.2.1)	N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
7.2.2	Vibration		N/A
	Results: No fire. No explosion. No leakage	(See Table 7.2.2)	N/A
7.2.3	Moulded case stress at high ambient temperature		N/A
	Oven temperature (°C) .....:		—
	Results: No physical distortion of the battery casing resulting in exposure if internal components		N/A
7.2.4	Temperature cycling		N/A
	Results: No fire. No explosion. No leakage.		N/A
7.3	Reasonably foreseeable misuse		N/A
7.3.1	Incorrect installation cell		N/A
	The test was carried out using: - Four fully charged cells of the same brand, type, size and age connected in series, with one of them reversed; or		N/A
	- A stabilized dc power supply.		N/A
	Results: No fire. No explosion .....:	(See Table 7.3.1)	N/A
7.3.2	External short circuit		N/A
	The cells or batteries were tested until one of the following occurred: - 24 hours elapsed; or		N/A
	- The case temperature declined by 20% of the maximum temperature rise		N/A
	Results: No fire. No explosion .....:	(See Table 7.3.2)	N/A
7.3.3	Free fall		N/A
	Results: No fire. No explosion.		N/A
7.3.4	Mechanical shock (crash hazard)		N/A
	Results: No fire. No explosion. No leakage.		N/A
7.3.5	Thermal abuse		N/A
	Oven temperature (°C) .....:		—
	Results: No fire. No explosion.		N/A
7.3.6	Crushing of cells		N/A
	The crushing force was released upon: - The maximum force of 13kN ± 1kN has been applied; or		N/A
	- An abrupt voltage drop of one-third of the original voltage has been obtained		N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	The cell is prismatic type and a second set of samples was tested, rotated 90° around longitudinal axis compared to the first set		N/A
	Results: No fire. No explosion ..... :	(See Table 7.3.6)	N/A
7.3.7	Low pressure		N/A
	Chamber pressure (kPa) ..... :		—
	Results: No fire. No explosion. No leakage.		N/A
7.3.8	Overcharge		N/A
	Results: No fire. No explosion ..... :	(See Table 7.3.8)	N/A
7.3.9	Forced discharge		N/A
	Results: No fire. No explosion ..... :	(See Table 7.3.9)	N/A
8	**Specific requirements and tests (lithium systems)**		**P**
8.1	Charging procedures for test purposes	Considered	P
8.1.1	First procedure: This charging procedure applied to tests other than those specified in 8.1.2	Considered	P
8.1.2	Second procedure: This charging procedure applied to the tests of 8.3.1, 8.3.2, 8.3.4, 8.3.5, and 8.3.9	Considered	P
	If a cell's specified upper and/or lower charging temperature exceeds values for the upper and/or lower limit test temperatures of Table 4, the cells were charged at the specified values plus 5 °C for the upper limit and minus 5 °C for the lower limit	Charge temperature 0-45°C declared. The upper limit test temperature was 45°C, The lower limit test temperature was -5°C.	P
	A valid rationale was provided to ensure the safety of the cell (see Figure A.1) ..... :	Considered	P
	For a different upper limit charging voltage (i.e. other than for lithium cobalt oxide systems at 4.25 V), the applied upper limit charging voltage and upper limit charging temperatures were adjusted accordingly	Lithium cobalt oxide systems The upper limit charging voltage is 4.25V during test.	N/A
	A valid rationale was provided to ensure the safety of the cell (see Figure A.1) ..... :		N/A
8.2	Intended use	See below	P
8.2.1	Continuous charging at constant voltage (cells)	Considered	P
	Results: No fire, no explosion, no leakage ..... :	No fire, no explosion, no leakage (See Table 8.2.1)	P
8.2.2	Moulded case stress at high ambient temperature (battery)		N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	Oven temperature (°C)..... :	--	--
	Results: No physical distortion of the battery casing resulting in exposure if internal components		N/A
8.3	Reasonably foreseeable misuse	See below	P
8.3.1	External short circuit (cell)	Considered	P
	The cells were tested until one of the following occurred: - 24 hours elapsed; or		N/A
	- The case temperature declined by 20% of the maximum temperature rise	Considered	P
	Results: No fire， no explosion ..... :	No fire. No explosion (See Table 8.3.1)	P
8.3.2	External short circuit (battery)		N/A
	The cells were tested until one of the following occurred: - 24 hours elapsed; or		N/A
	- The case temperature declined by 20% of the maximum temperature rise		N/A
	In case of rapid decline in short circuit current, the battery pack remained on test for an additional one hour after the current reached a low end steady state condition		N/A
	Results: No fire, no explosion ..... :		N/A
8.3.3	Free fall	3 sets of cells were tested	P
	Results: No fire, no explosion.	No fire, no explosion.	P
8.3.4	Thermal abuse (cells)	Considered	P
	The cells were held at 130°C ± 2°C for: - 10 minutes; or	Considered	P
	- 30 minutes for large cells (gross mass of more than 500 g as defined in IEC 62281)		N/A
	Oven temperature (°C)..... :	The oven temperature was raised at a rate of 5℃/min ± 2℃/min to a temperature of 130℃ ± 2℃.	--
	Gross mass of cell (g) ..... :	135.294g	--
	Results: No fire, no explosion.	No fire, no explosion	P
8.3.5	Crush (cells)	Considered	P
	The crushing force was released upon: - The maximum force of 13 kN ± 1 kN has been applied; or	Considered	P

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	- An abrupt voltage drop of one-third of the original voltage has been obtained; or		N/A
	- 10% of deformation has occurred compared to the initial dimension		N/A
	Results: No fire, no explosion ..... :	No fire, no explosion (See Table 8.3.5)	P
8.3.6	Over-charging of battery		N/A
	Test was continued until the temperature of the outer casing: - Reached steady state conditions (less than 10°C change in 30-minute period); or		N/A
	- Returned to ambient		N/A
	Results: No fire, no explosion ..... :		N/A
8.3.7	Forced discharge (cells)		P
	Results: No fire. No explosion..... :	(See Table 8.3.7)	P
8.3.8	Transport tests		N/A
	Manufacturer's documentation provided to show compliance with UN Recommendations on Transport of Dangerous Goods	No provided	N/A
8.3.9	Design evaluation – Forced internal short circuit (cells)	The applicant declares that this battery isn't to be sold in France, Japan, Republic of Korea and Switzerland.	N/A
	The cells complied with national requirement for..... :		--
	The pressing was stopped upon: - A voltage drop of 50 mV has been detected; or		N/A
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached		N/A
	Results: No fire ..... :	(See Table 8.3.9)	N/A

9	**Information for safety**		P
	The manufacturer of secondary cells ensures that information is provided about current, voltage and temperature limits of their products.		P
	The manufacturer of batteries ensures that equipment manufacturers and, in the case of direct sales, end-users are provided with information to minimize and mitigate hazards.		N/A
	Systems analyses performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product		N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	As appropriate, information relating to hazard avoidance resulting from a system analysis is provided to the end user ..... :		N/A
10	**Marking**		**P**
10.1	Cell marking	See below.	P
	Cells marked as specified in the applicable cell standards: IEC 61951-1, IEC 61951-2 or IEC 61960.	Please see page 5	P
10.2	Battery marking		N/A
	Batteries marked in accordance with the requirements for the cells from which they are assembled.		N/A
	Batteries marked with an appropriate caution statement.		N/A
10.3	Other information	See below.	P
	Storage and disposal instructions marked on or supplied with the battery.	Information for safety mentioned in manufacturer's specification.	P
	Recommended charging instructions marked on or supplied with the battery.	Information for safety mentioned in manufacturer's specification.	P
11	**Packaging**		**P**
	The materials and packaging design are chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of environmental contaminants.	Considered.	P

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
Annex A	**Charging range of secondary lithium ion cells for safe use**		**P**
A.1	General		P
A.2	Safety of lithium-ion secondary battery		P
A.3	Consideration on charging voltage		P
A.3.1	General		P
A.3.2	Upper limit charging voltage		P
A.3.2.1	General		P
A.3.2.2	Explanation of safety viewpoint		P
A.3.2.3	Safety requirements, when different upper limit charging voltage is applied	4.25V applied	N/A
A.4	Consideration of temperature and charging current		N/A
A.4.1	General		N/A
A.4.2	Recommended temperature range		N/A
A.4.2.1	General		N/A
A.4.2.2	Safety consideration when a different recommended temperature range is applied	0-45°C by client, -5-45°C by used.	P
A.4.3	High temperature range		N/A
A.4.3.1	General		N/A
A.4.3.2	Explanation of safety viewpoint		N/A
A.4.3.3	Safety considerations when specifying charging conditions in high temperature range		N/A
A.4.3.4	Safety consideration when specifying new upper limit in high temperature range		N/A
A.4.4	Low temperature range	0°C by client	P
A.4.4.1	General		P
A.4.4.2	Explanation of safety viewpoint		P
A.4.4.3	Safety considerations, when specifying charging conditions in low temperature range		P
A.4.4.4	Safety considerations when specifying a new lower limit in the low temperature range	-5°C by used.	P
A.4.5	Scope of the application of charging current		P
A.5	Sample preparation		N/A
A.5.1	General		N/A
A.5.2	Insertion procedure for nickel particle to generate internal short		N/A

IEC 62133: 2012			
Clause	Requirement + Test	Result - Remark	Verdict
	The insertion procedure carried out at 20°C±5°C and under -25 °C of dew point		N/A
A.5.3	Disassembly of charged cell		N/A
A.5.4	Shape of nickel particle		N/A
A.5.5	Insertion of nickel particle to cylindrical cell		N/A
A.5.5.1	Insertion of nickel particle to winding core		N/A
A.5.5.2	Mark the position of nickel particle on the both end of winding core of the separator		N/A
A.5.6	Insertion of nickel particle to prismatic cell		N/A

	TABLE: Critical components information				P
Object/part no.	**Manufacturer/ trademark**	**Type/model**	**Technical data**	**Standard**	**Mark(s) of conformity [1)]**
- Electrolyte	Shenzhen Capchem Technology Co., Ltd	A1	$LiPF_6$/Dimethyl carbonate/ Ethyl acetate /Ethylene carbonate	IEC 62133: 2012	Tested with cell
- Separator	SK innovation Co., ltd	TM123AHS	Al_2O_3/PE 12 μm*65mm*1289mm	IEC 62133: 2012	Tested with cell
- Positive electrode	Xiamen Tungsten Co., Ltd	B13090	LiCoO2,Co:59-61% D50:9 ± 2 μm Surface area:0.25 ± 0.1㎡/g Tap density: > 2.2g/cm³	IEC 62133: 2012	Tested with cell
- Negative electrode	Shanghai shanshan science & technology Co., Ltd	RG-B	Graphite D50:15 ± 2 μm Surface area:1.9 ± 0.4㎡/g Tap density: > 1.1g/cm³	IEC 62133: 2012	Tested with cell
Supplementary information: **[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.**					

7.2.1	TABLE: Continuous low rate charge (cells)				N/A
Model	Recommended charging method, (CC, CV, or CC/CV)	Recommended charging voltage V_c, (Vdc)	Recommended charging current I_{rec}, (A)	OCV at start of test, (Vdc)	Results
--	--	--	--	--	--

Supplementary information:

A - No fire or explosion B - Fire C - Explosion
D - Others (please explain)

7.2.2	TABLE: Vibration		N/A
Model	OCV at start of test, (Vdc)	Results	
-	--	--	

Supplementary information:

A - No fire or explosion B - No leakage C - Leakage
D - Fire E - Explosion F - Others (please explain)

7.3.1	TABLE: Incorrect installation (cells)	
Model	OCV of reversed cell, (Vdc)	Results
--	--	--

Supplementary information:

A - No fire or explosion B - Fire C - Explosion
D - Others (please explain)

7.3.2	TABLE: External short circuit					N/A
Model	Ambient (at 20°C ± 5°C or 55°C ± 5°C)	OCV at start of test, (Vdc)	Resistance of circuit, (Ω)	Maximum case temperature rise ΔT, (°C)	Results	
--	--	--	--	--	--	

Supplementary information:

A - No fire or explosion B - Fire C - Explosion
D - Others (please explain)

7.3.6	TABLE: Crush			N/A
Model	OCV at start of test, (Vdc)	OCV at removal of crushing force, (Vdc)	Results	
--	--	--	--	

Supplementary information:

A - No fire or explosion B - Fire C - Explosion
D - Others (please explain)

7.3.8	TABLE: Overcharge			N/A
Model	**OCV prior to charging, (Vdc)**	**Maximum charge current, (A)**	**Time for charging, (hours)**	**Results**
--	--	--	--	--
Supplementary information: A - No fire or explosion B - Fire C - Explosion D - Others (please explain)				

7.3.9	TABLE: Forced discharge (cells)			N/A
Model	**OCV before application of reverse charge, (Vdc)**	**Measured reverse charge I_t, (A)**	**Time for reversed charge, (minutes)**	**Results**
--	--	--	--	--
Supplementary information: A - No fire or explosion B - Fire C - Explosion D - Others (please explain)				

8.2.1	TABLE: Continuous charging at constant voltage (cells)			P
Model	**Recommended charging voltage V_c, (Vdc)**	**Recommended charging current I_{rec}, (A)**	**OCV at start of test, (Vdc)**	**Results**
126090 (#1)	4.20	1.6	4.152	A
126090 (#2)	4.20	1.6	4.154	A
126090 (#3)	4.20	1.6	4.149	A
126090 (#4)	4.20	1.6	4.153	A
126090 (#5)	4.20	1.6	4.152	A

Supplementary information:

A - No fire or explosion B - No leakage C - Leakage

D - Fire E - Explosion F - Others (please explain)

8.3.1	TABLE: External short circuit (cell)				P
Model	**Ambient, (°C)**	**OCV at start of test, (Vdc)**	**Resistance of circuit, (Ω)**	**Maximum case temperature ~~rise~~ ΔT, (°C)**	**Results**
Samples charged at charging temperature upper limit (45°C)					
126090 (#6)	24.2	4.096	0.086	78.7	A
126090 (#7)	24.2	4.097	0.086	82.5	A
126090 (#8)	24.2	4.125	0.086	78.4	A
126090 (#9)	24.2	4.102	0.086	78.7	A
126090 (#10)	24.2	4.093	0.086	81.4	A
Samples charged at charging temperature lower limit (-5°C)					
126090 (#11)	24.2	4.038	0.086	74.5	A
126090 (#12)	24.2	4.037	0.086	81.6	A
126090 (#13)	24.2	4.038	0.086	73.2	A
126090 (#14)	24.2	4.040	0.086	75.4	A
126090 (#15)	24.2	4.036	0.086	78.2	A

Supplementary information:

A - No fire or explosion B – Fire C – Explosion D – The test was completed after 24 h

E – The test was completed after the cell casing declines to 20% of the maximum temperature rise

8.3.2	TABLE: External short circuit (battery)				N/A
Model	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (Ω)	Maximum case temperature ~~rise~~ ΔT, (°C)	Results
Samples charged at charging temperature upper limit (°C)					
Samples charged at charging temperature lower limit (°C)					

Supplementary information:

A – No fire or no explosion B – Fire C – Explosion D – The test was completed after 24 h

E – The test was completed after the cell casing declines by 20% of the maximum temperature rise

F - In case of rapid decline in short circuit current, the battery pack should remain on test for an additional one hour after the current reaches a low end steady state condition.

G – The per cell voltage (series cells only) of the battery is below 0.8 V and is decreasing by less than 0.1 V in a 30- minute period.

8.3.5	TABLE: Crush(Cell)				P
Model	OCV at start of test, (Vdc)	OCV at removal of crushing force, (Vdc)	Width/ diameter of cell before crush, (mm)	Required deformation for crush, (mm)	Results
Samples charged at charging temperature upper limit (45°C)					
126090 (#29)	4.092	4.091	--	--	A
126090 (#30)	4.092	4.090	--	--	A
126090 (#31)	4.122	4.122	--	--	A
126090 (#32)	4.098	4.096	--	--	A
126090 (#33)	4.088	4.088	--	--	A
Samples charged at charging temperature lower limit (-5°C)					
126090 (#34)	4.053	4.052	--	--	A
126090 (#35)	4.052	4.051	--	--	A
126090 (#36)	4.050	4.050	--	--	A
126090 (#37)	4.053	4.052	--	--	A
126090 (#38)	4.049	4.049	--	--	A

Supplementary information:

A - No fire or explosion B - Fire C - Explosion

D - Others (please explain)

8.3.6	TABLE: Over-charging of battery		N/A
Constant charging current (A) ..... :		--	--
Supply voltage (Vdc) ..... :		--	--

Model	OCV before charging, (Vdc)	Resistance of circuit, (Ω)	Maximum outer casing temperature, (°C)	Results

Supplementary information:

A - No fire or explosion B - Fire C - Explosion

D - Others (please explain)

8.3.7	TABLE: Forced discharge cells)			P

Model	OCV before application of reverse charge, (Vdc)	Measured Reverse charge I_t, (A)	Time for reversed charge, (minutes)	Results
126090 (#39)	2.970	8	90	A
126090 (#40)	2.957	8	90	A
126090 (#41)	2.969	8	90	A
126090 (#42)	2.913	8	90	A
126090 (#43)	2.930	8	90	A

Supplementary information:

A - No fire or no explosion B - Fire C - Explosion

D - Others (please explain)

8.3.9	TABLE: Forced internal short circuit (cells)				N/A

Model	Chamber ambient, (°C)	OCV at start of test, (Vdc)	Particle location [1)]	Maximum applied pressure, (N)	Results
--	--	--	--	--	--

Supplementary information:

[1)] Identify one of the following:

1: Nickel particle inserted between positive and negative (active material) coated area.

2: Nickel particle inserted between positive aluminium foil and negative active material coated area.

A - No fire B – Fire C - Others (please explain)

Attachment 1
Photo Documentation

Photo 1

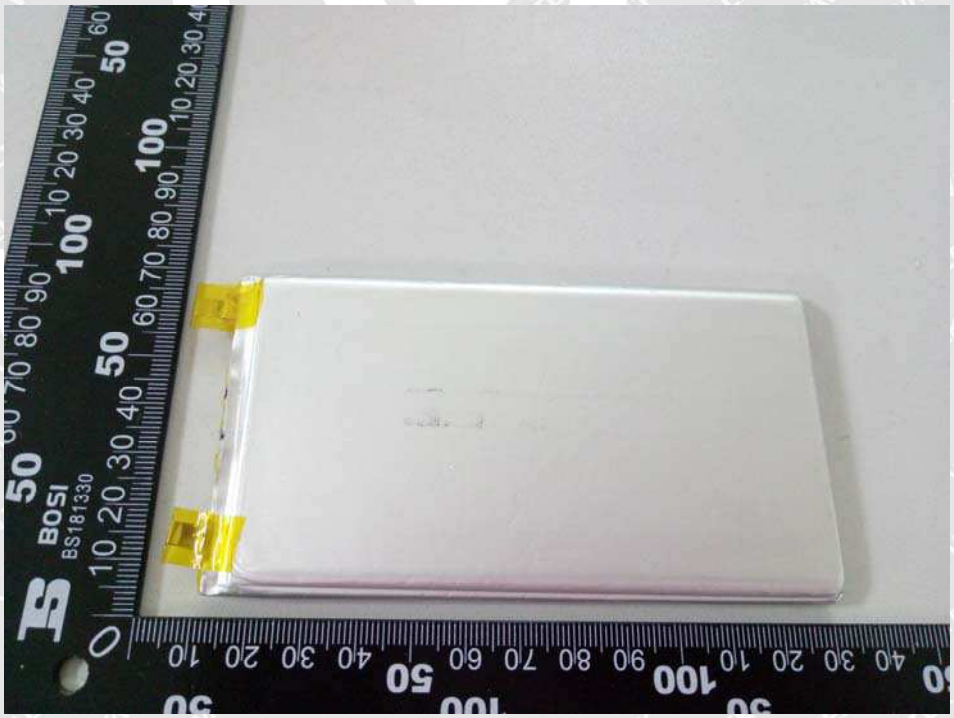


Photo 2

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

TEST REPORT

APPLICANT	:	
ADDRESS	:	
SAMPLE DESCRIPTION	:	8000mAh power bank with solar panel
ITEM NO.	:	PB9150
MANUFACTURER	:	
COUNTRY OF ORIGIN	:	China
COUNTRY OF DESTINATION	:	Nederland
SAMPLE RECEIVED DATE	:	15-Aug-2019
TURN AROUND TIME	:	15-Aug-2019 to 26-Aug-2019

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Polycyclic Aromatic Hydrocarbons (PAHs)	REACH Annex XVII, Entry 50	Pass

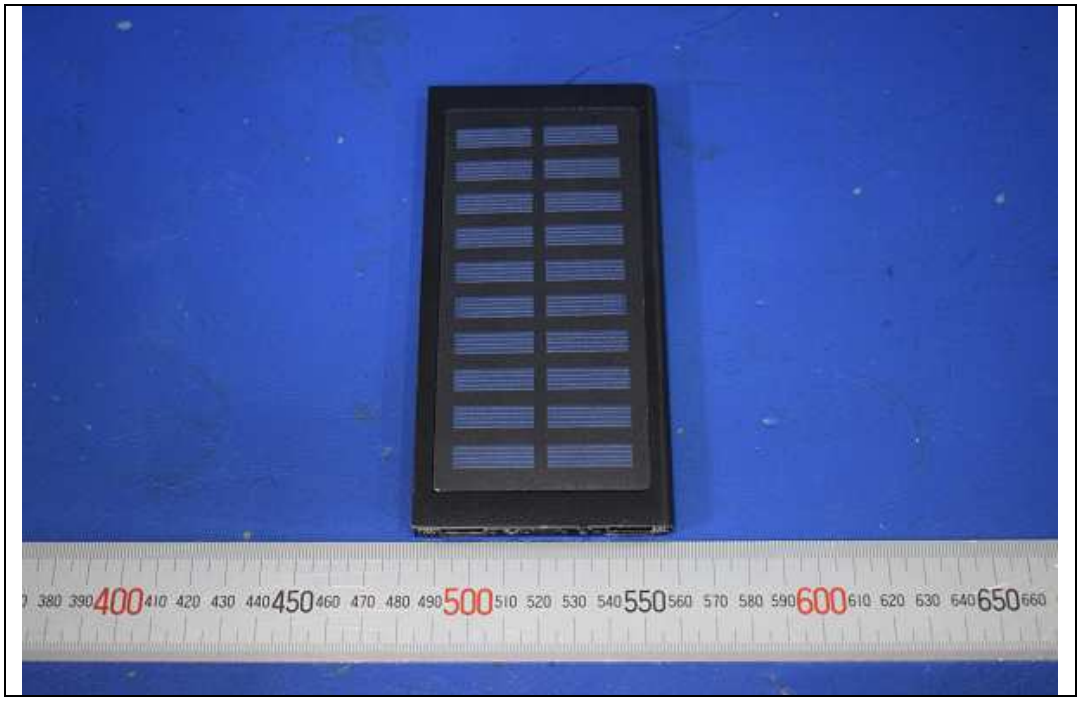
Eurofins（Shanghai）contact information
Customer service: ElsieWu@eurofins.com / +86 21 36202808
Sales specialist: AmyXu@eurofins.com/ +86 13456161010

********** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) **********

Signed for and on behalf of
Eurofins Product Testing Service (Shanghai) Co., Ltd

Lemon Zhang
Chemical Lab Supervisor

SAMPLE PHOTO



EFSH19081332-CG-01

TO BE CONTINUED

COMPONENT LIST

Component No.	Component
1	Black/white plastic sticker
2	Transparent plastic sticker
3	Transparent plastic lamp bead
4	Black plastic (body)

TO BE CONTINUED

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Request: Polycyclic Aromatic Hydrocarbons (PAHs) content as specified in Regulation (EU) 2015/326 amending entry 50 of Annex XVII of REACH Regulation (EC) No 1907/2006.

Test Method: Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to AfPS GS 2014:01 PAK (PAK=PAHs) requirement.

Tested Item(s)	CAS No.	Unit	Limit	MDL	Result		
					1	2	3+4
For rubber or plastic will direct contact with skin and mouth.							
Benzo(a)anthracene	56-55-3	mg/kg	1	0.2	ND	ND	ND
Chrysene	218-01-9	mg/kg	1	0.2	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	1	0.2	ND	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	1	0.2	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	1	0.2	ND	ND	ND
Benzo(a)pyrene	50-32-8	mg/kg	1	0.2	ND	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1	0.2	ND	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.2	ND	ND	ND

Remark:
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Not detected, less than MDL
According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

END OF THE REPORT

Auditee :	[redacted]
Audit Date From :	**13/12/2019**
Audit Date To :	**13/12/2019**
Expiry Date of the Audit :	**Please refer to the producer profile in the amfori BSCI platform**
Auditing Company :	**BureauVeritas**
Auditor's Name(s) :	**Terry Lai(Lead)**
Auditing Branch (if applicable) :	

This is an extract of the on line Audit Report.The complete report is available in the amfori BSCI Platform.
Access www.bsciplatform.org, for entitled users only.

Rating Definitions

Rating	A combination of ratings per Performance Area where:	Consequence
A **Very Good**	• Minimum 7 Performance Areas rated A • No Performance Areas rated C, D or E These are three examples: A A A A A A A A A A A A A A A A A A A A A A A B B B A A A A A A A B B B B B B	The auditee has the level of maturity to maintain its improvement process without the need for a follow-up audit.
B **Good**	• Maximum 3 Performance Areas rated C • No Performance Areas rated D or E These are three examples: A A A A A A B B B B B B B A A A A A B B B B B B B C B B B B B B B B B B C C C	The auditee has the level of maturity to maintain its improvement process without the need for a follow-up audit.
C **Acceptable**	• Maximum 2 Performance Areas rated D • No Performance Areas rated E These are three examples: A A A A A A A A C C C C A A A A B B B B C C C D C C C C C C C C C C D D	The auditee needs follow up to support its progress. Following the completion of the audit, the auditee develops a Remediation Plan within 60 days.
D **Insufficient**	• Maximum 6 Performance Areas rated E These are three examples: A A A A A A A A A D D D A A A B B B C C C D D D E D D D D D D D E E E E E E	The auditee needs follow up to support its progress. Following the completion of the audit, the auditee develops a Remediation Plan within 60 days.
E **Unacceptable**	• Minimum 7 Performance Areas rated E These are three examples: A A A A A A E E E E E E E A A B B C D E E E E E E E E E E E E E E E E E E E E	amfori BSCI Participants shall closely oversee the auditee's progress as the producer may represent a higher risk than other business partners.
Zero Tolerance	**A Zero Tolerance Issue was identified (see amfori BSCI System Manual Part V – Annex 5: amfori BSCI Zero Tolerance Protocol)**	**Immediate actions are required. The amfori BSCI Zero Tolerance Protocol is to be followed.**

Main Auditee Information

Name of producer :	[redacted]		
DBID number :	[redacted]		
Audit ID :	[redacted]		
Address :	[redacted]		
Province :	**Guangdong**	Country :	**China**
Management Representative :	**Jane Liu**		
Contact person:	**Jane Liu**	Sector :	**Non-Food**
Industry Type :	**Mechanical and electrical engineering**	Product group :	**Electrical supplies**
Product Type :	**Portable power**		

Audit Details

Audit Range :	☐ **Full Audit**	☒ **Follow-up Audit**	
Audit Scope :	☒ **Main Auditee**	☐ **Main Auditee & Farms**	
Audit Environment :	☒ **Industrial**	☐ **Agricultural**	☐ **Small Producer**
Audit Announcement :	☒ **Fully-Announced**	☐ **Fully-Unannounced**	☐ **Semi-Announced**
Random Unannounced Check (RUC) :	**No**		
Audit extent (if applicable) :	**none**		
Audit interferences or contingencies (if applicable) :	**none**		
Overall rating :	**C**		
Need of follow-up :	**Yes**	If YES, by :	**13/12/2020**

Rating per Performance Area (PA)

PA 1	PA 2	PA 3	PA 4	PA 5	PA 6	PA 7	PA 8	PA 9	PA 10	PA 11	PA 12	PA 13
C	A	A	A	B	D	B	A	A	A	A	B	A

Executive summary of audit report

This is a partial follow up audit.

The audited facility had been established on January 5, 2011; its business license number was 9144030056709591XN. The factory name in Chinese on Business License was深圳市诚辉达电子有限公司, the factory address in Chinese on Business License was 深圳市宝安区福永街道桥头社区富桥第五工业区7栋. The auditee occupied one 3-storey production building (building No.7) and 1st floor of one 2-storey production building (building No.8). Total occupied area by the factory was approximately 5450 square meters. There was one canteen on 1st floor of the 2-storey production building. No dormitory or kitchen was provided to employees.

The factory specialized in the production of Portable power. Production processes included injection molding, SMT, tin soldering, tempo printing, assembly, inspection and packing. Current capacity of the factory was around 1,000,000 pieces per month. There was no obvious peak season affected its production during the past 12 months.

On the audit day, there were 221 employees in the factory, including 166 production employees and 55 non-production employee. 112 employees were male and 109 employees were female. The youngest employee in the factory was 18 years old.

The factory adopted IC card to record employees' working hours. There was only one working shift for employees except employees in injection molding workshop. There were two working shifts for employees in injection molding workshop and working hours were 8:00 to 20:00 (shift No.1) and 20:00 to 8:00 (shift No.2) with 8 hours' regular working, 2 hours' meal break and 2 hours' overtime on each shift. Working hours for security guards were 7:00 to 19:00 with 8 hours' regular working and 2 hours' meal break and 2 hours' overtime. Working hours for the rest employees were 8:30 to 12:30 and 14:00 to 18:00. Employees' wages were paid on or before 7th of each month after the payment period by cash with wage stubs issued. Per payroll review and interviews with management and employees, all employees were paid by hourly rate.

During the audit, 21 employees' time records and payrolls were sampled as follows for working hour and wage testing: 7 samples from current paid month of November 2019, 7 samples from random month of August 2019, 7 samples from random month of February 2019. It was noted that all sampled employees were paid at least RMB12.64 per hour for normal working hours, which met the local minimum wage of RMB2200 per month or RMB12.64 per hour since August 1, 2018. Based on the samples, all employees were compensated with no less than 150% and 200% of normal wages for overtime hours on regular days and rest days respectively, which was compliance with legal requirement. No overtime was found on statutory holidays. According to the sampled time records, the maximum monthly overtime hours were 94 hours while maximum daily overtime hours were 3 hours. All sampled employees obtained at least one day off every seven consecutive days.

According to the social insurance payment receipt provided by factory management, it was noted that only 193 out of 221 employees (87.33%) were provided with accident insurance, maternity insurance, unemployment insurance and medical insurance, 81 out of 221 employees (36.65%) were provided with pension insurance in November 2019.

Further, 7 employees were selected for private interviews from different workshops. No negative comment was issued during employee interviews. Interviewed employees were satisfied with the working environment, compensation, working hour and management team in the factory.

During the closing meeting, auditor provided the factory representatives with a general overview and explained all of the findings to them. Ms. Jane Liu / Factory Director, Mr. He Wei / Worker Representative signed the onsite CAP and agreed to take corrective action.

Remarks:
1. Attendance person list: Ms. Jane Liu/ Factory Director, Ms. Liu Suzhi / HR Manager, Mr. He Wei / Worker Representative

2. The auditee originally occupied one 3-storey production building (building No.7) and expanded the 1st floor of another 2-storey production building (building No.8) since January 2019 due to business needs. There was another factory named Tai Hua Toys (Shenzhen) Co., Ltd located on the 2nd floor of the 2-storey production building with independent business license. Both factories had separate management system, payroll and attendance system. No manpower sharing was detected.

3. The factory buildings were completed in 1992 and the structural licenses were not legally required, which made the structural licenses not applicable.

4. There was no contractor/agencies/government waivers/collective bargaining used or available by the auditee, which made the contractor license/agency labour contract/government waivers/collective bargaining agreements not applicable.

5. Audit Company: Bureau Veritas Consumer Products Service
Audit Company APSCA Number: 11600002
Lead Auditor Name: Terry Lai
APSCA Auditor Registered Number: 21701187

Ratings Summary

Auditee's background information

Auditee's name :	[redacted]	Legal status :	**Ltd company**
Local Name :		Year in which the auditee was founded :	**2011**
Address :		Contact person (please select) :	**Jane Liu**
Province :		Contact's Email :	[redacted]
City :		Auditee's official language(s) for written communications :	
Region :		Other relevant languages for the auditee :	
Country :		Website of auditee (if applicable) :	
GPS coordinates :		Total turnover (in Euros) :	
Sector :	**Non-Food**	Of which exports % :	**90.00**
Industry :	**Mechanical and electrical engineering**	Of which domestic market % :	**10.00**
If other, please specify :		Production volume :	**1000000 pcs per month**
Product Group :	**Electrical supplies**	Production cost calculation :	**Yes**
If other, please specify :		Lost time injury calculation cost :	**Yes**
Product Type :	**Portable power**		

Auditee's employment structure at the time of the audit

Total number of workers : **221** Total number of workers in the production unit to be monitored (if applicable) :

	MALE WORKERS	FEMALE WORKERS
Permanent workers	**112**	**109**
Temporary workers	**0**	**0**
In management positions	**10**	**10**
Apprentices	**0**	**0**
On probation	**0**	**0**
With disabilities	**0**	**0**
Migrants (national citizens)	**83**	**82**
Migrants (foreign citizens)	**0**	**0**
Workers on the permanent payroll	**112**	**109**
Production based workers	**17**	**5**
With shifts at night	**0**	**0**
Unionised	**0**	**0**
Pregnant	**-**	**0**
On maternity leave	**-**	**0**

Finding Report

Performance Area 1 : Social Management System and Cascade Effect

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: C — Deadline date:12/06/2020

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

The main auditee partially respects this principle because: The auditee had established a management manual and procedures according to the BSCI Code of Conduct. The executives and management staffs were aware of the legal rights and duties under labor legislation. Coherent relevant documents with the statements were provided for review. Regular training against BSCI Code and Terms of Implementation were held in the factory. The BSCI Code of Conduct was posted at the place available by all employees. A senior management who has sufficient skills was appointed for the responsibilities of implementing BSCI in the business culture, following up with the grievance mechanism, HR and ensuring that workers receive training relevant to the BSCI requirement and OHS issues. However, gap was identified in implementation.
被审核方部分尊重BSCI的本条原则，原因是： 被审核方已经根据BSCI行为守则要求建立了管理手册和程序文件。管理层员工了解劳工权益和劳动法规要求。工厂提供了描述一致的相关文件参考。定期举行BSCI生产商实施条款培训。工厂在员工可见处张贴BSCI行为守则。工厂指定有适当能力高级管理人员，负责BSCI的实施，跟进投诉申诉机制，人事资源管理，确保员工接受BSCI行为准则培训；职业健康安全事项。但是，工厂在BSCI体系执行上仍存在差距。

1.4 - Previous finding on December 19, 2018: The factory did not recruit enough employees or organize its workforce capacity to meet the expectations of the delivery order and/or contracts, so that employees' overtime hours exceeded legal limit. BSCI Code of Conduct: The auditee should organize its workforce capacity to meet the expectations of the delivery order and/or contracts. Employees could refuse to work for overtime freely, without penalty. Employees were compensated with overtime wage in accordance with legal requirement. Factory management represented that they would take corrective action as soon as possible. Corrective Action Not Taken (December 13, 2019): The factory did not recruit enough employees or organize its workforce capacity to meet the expectations of the delivery order and/or contracts, so that employees' overtime hours exceeded legal limit. BSCI Code of Conduct: The auditee should organize its workforce capacity to meet the expectations of the delivery order and/or contracts. Employees could refuse to work for overtime freely, without penalty. Employees were compensated with overtime wage in accordance with legal requirement. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 审核发现工厂没有足够的员工或者进行良好的生产组织来达成交付订单和/或合同预期，以至于员工月加班超出法律规定。 BSCI行为守则：被审核方（生产商）组织其劳工来达成交付订单和/或合同预期和要求。 员工可以自由地拒绝加班工作，没有被处罚。工厂按照法规要求支付了加班费。 工厂表示会尽快做出整改。 尚未采取纠正措施（2019年12月13日）： 审核发现工厂没有足够的员工或者进行良好的生产组织来达成交付订单和/或合同预期，以至于员工月加班超出法律规定。 BSCI行为守则：被审核方（生产商）组织其劳工来达成交付订单和/或合同预期和要求。 员工可以自由地拒绝加班工作，没有被处罚。工厂按照法规要求支付了加班费。 工厂表示会尽快做出整改。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: C — Deadline date:18/12/2019

Good practices

None

Areas of improvement

The factory had established management system to implement BSCI social system. Senior manager was appointed to take lead the operation of the BSCI social system. The factory required the business partners were coherent with updated BSCI Code of Conduct. However, gap was still noted.
工厂建立了管理系统以实施BSCI体系，高级管理人员被任命以更好的领导实施工厂的社会责任方针，并且要求供应商符合新版BSCI的要求。但仍然存在一些差距。

1.4 - The factory did not recruit enough employees or organize its workforce capacity to meet the expectations of the delivery order and/or contracts, so that employees' overtime hours exceeded legal limit. BSCI Code of Conduct: The auditee should organize its workforce capacity to meet the expectations of the delivery order and/or contracts. Employees could refuse to work for overtime freely, without penalty. Employees were compensated with overtime wage in accordance with legal requirement. Factory management represented that they would take corrective action as soon as possible.
审核发现工厂没有足够的员工或者进行良好的生产组织来达成交付订单和/或合同预期，以至于员工月加班超出法律规定。 BSCI行为守则：被审核方（生产商）组织其劳工来达成交付订单和/或合同预期和要求。 员工可以自由地拒绝加班工作，没有被处罚。工厂按照法规要求支付了加班费。 工厂表示会尽快做出整改。

Remarks from Auditee

Performance Area 2 : Workers Involvement and Protection

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A — Deadline date:12/02/2020

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

The main auditee partially respects this principle because: The auditee had defined long-term goals to protect workers according to BSCI COC. The regular meeting between the management staffs and worker were held in the factory, suggestion box was provided in the factory. Trainings on the requirements of BSCI Code of Conduct were provided to workers. BSCI Code of Conduct was also provided onsite for employees' reference. However, gap was identified in implementation.
被审核方部分尊重BSCI的本条原则，原因是： 被审核方按照BSCI要求设立长期目标按照BSCI的要求保护员工。被审核方定期举行管理层和员工会议，并且设置了意见箱。被审核方为员工提供了关于BSCI行为准则要求相关培训。现场有张贴了BSCI行为守则供员工阅读。但是，工厂在BSCI体系执行上仍存在差距。

2.5 - Previous finding on December 19, 2018: It was noted that the factory had established or participated in an effective grievance mechanism for individuals, the grievance mechanism allowed worker to lodge suggestions or complaints related to the workers' rights, and individuals had alternative ways for lodging a complaint, such as through suggestion box, worker representative or directly to the management. However, the factory had not set up a channel for local communities' coming up with its suggestions or complaints to management for improvement. BSCI Code of Conduct: The auditee establishes or participates in an effective grievance mechanism for individuals and communities. Factory management represented that they would take corrective action as soon as possible. Corrective Action Not Taken (December 13, 2019): It was noted that the factory had established or participated in an effective grievance mechanism for individuals, the grievance mechanism allowed worker to lodge suggestions or complaints related to the workers' rights, and individuals had alternative ways for lodging a complaint, such as through suggestion box, worker representative or directly to the management. However, the factory had not set up a channel for local communities' coming up with its suggestions or complaints to management for improvement. BSCI Code of Conduct: The auditee establishes or participates in an effective grievance mechanism for individuals and communities. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 审核员发现工厂建立和参与了有效的个人申述机制，申诉机制赋予了工人提出建议，投诉的权利，并且开放了可替代的投诉方式，例如通过意见箱，工人代表或直接向管理层投诉。但是，工厂尚未创建给当地社区提供申诉的渠道。 BSCI行为守则：被审核方（生产商）建立或参与了有效的个人和团体申诉机制。 工厂表示会尽快做出整改。 尚未采取纠正措施（2019年12月13日）： 审核员发现工厂建立和参与了有效的个人申述机制，申诉机制赋予了工人提出建议，投诉的权利，并且开放了可替代的投诉方式，例如通过意见箱，工人代表或直接向管理层投诉。但是，工厂尚未创建给当地社区提供申诉的渠道。 BSCI行为守则：被审核方（生产商）建立或参与了有效的个人和团体申诉机制。 工厂表示会尽快做出整改。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:18/02/2019

Good practices

None

Areas of improvement

The factory established an effective system to involve workers and their representatives in sound information exchange on workplace issues, and managers and worker representatives were trained on the content of the BSCI code. However, gap was still noted.
审核发现工厂建立有效的系统方便员工积极参与并充分知晓工厂的运作，而且有为管理层及员工代表提供BSCI守则的培训. 但仍然存在一些差距。

2.5 - It was noted that the factory had established or participated in an effective grievance mechanism for individuals, the grievance mechanism allowed worker to lodge suggestions or complaints related to the workers' rights, and individuals had alternative ways for lodging a complaint, such as through suggestion box, worker representative or directly to the management. However, the factory had not set up a channel for local communities' coming up with its suggestions or complaints to management for improvement. BSCI Code of Conduct: The auditee establishes or participates in an effective grievance mechanism for individuals and communities. Factory management represented that they would take corrective action as soon as possible.
审核员发现工厂建立和参与了有效的个人申述机制，申诉机制赋予了工人提出建议，投诉的权利，并且开放了可替代的 投诉方式，例如通过意见箱，工人代表或直接向管理层投诉。但是，工厂尚未创建给当地社区提供申诉的渠道。 BSCI行为守则：被审核方（生产商）建立或参与了有效的个人和团体申诉机制。 工厂表示会尽快做出整改。

Remarks from Auditee

Performance Area 3 : The rights of Freedom of Association and Collective Bargaining

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A — Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:

Good practices

None

Areas of improvement

The overall observation showed that the auditee respects the right of workers to form and to bargain collectively, and the auditee encourages enforcing the communication between worker representative and workers.
被审核方尊重员工推举代表和协商参与工厂事务的权利，工厂还鼓励员工代表多与员工沟通。

Remarks from Auditee

Performance Area 4 : No Discrimination

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A — Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:

Good practices

None

Areas of improvement

The overall observation showed that the auditee had established related non-discrimination policy and effectively cascade to all employees. All interview employees, especially the female interviewees told auditors there was no discrimination within the factory.
被审核方建立了明确的反歧视政策并且清楚地通过培训，员工手册告知员工。所有受访员工，尤其是女性都向审核员反映没有歧视。

Remarks from Auditee

Performance Area 5 : Fair Remuneration

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: B — Deadline date:12/06/2020

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

The main auditee partially respects this principle because: The main auditee had set up wage and benefits paying system, which included paid statutory holidays, sick leave, annual leave, marriage leave and maternity leave etc. Based on the wages and time records provided by the main auditee, workers were paid by hourly rate. Employees minimum wage was paid at least RMB12.64 per hour, which was not less than local minimum wage standard of RMB12.64 per hour. Employees' wages were paid by 7th of each month after the payment cycle. During the audit, no unreasonable deduction or illegal deduction was found. Currently, the auditee was only able to provide social insurance to partial employees, but the auditee was willing to increase the coverage rate step by step.
被审核方部分尊重BSCI的本条原则，原因是： 被审核方制定了工资支付政策和福利政策，福利政策包括给员工提供法定节假日，病假，婚假，产假等假期。根据被审核方提供的工资和考勤记录显示, 员工按计时计算工资。员工的最低工资是12.64元/小时，不低于当地最低工资标准（12.64元/小时）。员工的工资在工资结算周期后的7日以前发放。审核过程中，未发现被审核方有不合理或者非法扣款现象。目前被审核方仅能为部分员工提供社会保险福利，但是愿意逐步提高员工的社保参保率。

5.5 - Previous finding on December 19, 2018: It was noted that the factory's coverage of social insurance was insufficient. According to the social insurance payment receipt of November 2018 provided by factory management, it was noted that 98 out of 98 employees (100%) were provided with medical insurance, accident insurance, unemployment insurance and maternity insurance, and 20 out of 98 employees (21%) were provided with pension insurance. No group commercial insurance was provided to any employees currently. However, some employees were not willing to buy social insurance. This violated Article 73 of the Labor Law of the People's Republic of China. The factory stated that they planned to purchase commercial insurance for all employees. And the factory would gradually increase the social insurance rate. Corrective Action Not Taken (December 13, 2019): According to the social insurance payment receipt provided by factory management, it was noted that only 193 out of 221 employees (87.33%) were provided with accident insurance, maternity insurance, unemployment insurance and medical insurance, 81 out of 221 employees (36.65%) were provided with pension insurance in November 2019. In accordance with Article 73 of the Labor Law of the People's Republic of China No evidence indicated that the insufficient coverage of social insurance was caused by the employees' unwillingness to participate in the program. Local government department did not mandatorily required the factory to provide all five types of social insurances to all employees. The factory did not provide commercial accident insurance to employees. No social insurance waiver was obtained. Factory management represented that they could not provide all five types of insurances to all employees currently and had not set up a plan to increase the social insurance participation rate so far.
前次问题点（2018年12月19日）： 审核员发现工厂的社会保险覆盖不足。根据厂方提供的2018年11月社会保险缴费单据显示工厂有为98/98名员工提供医疗保险、工伤保险、失业保险和生育保险，为20/98名员工(21%) 提供养老保险。目前工厂没有为任何员工提供团体商业保险。但是部分员工不愿意购买社会保险。 根据《中华人民共和国劳动法》第73条 工厂表示打算为所有员工购买了商业意外保险，并且会逐步提高参加社保比率。 尚未采取纠正措施（2019年12月13日）： 审核员发现工厂的社会保险覆盖不足。根据厂方提供的2019年11月社会保险缴费单据显示工厂仅为193/221名员工(87.33%)购买了工伤保险，医疗保险，生育保险和失业保险，为81/221名员工(36.65%)购买养老保险。 根据《中华人民共和国劳动法》第73条 没有记录显示员工不愿意购买社保。当地政府部门没有强制要求所有员工都购买5种保险。工厂没有为员工提供商业意外保险。工厂没有获得社保批文。 工厂表示暂时未能为所有员工提供五险，并且，当前没有提高员工参保率的计划。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:18/12/2019

Good practices

None

Areas of improvement

The factory respected the local law requirements, and the wage related regulations were posted and clearly communicated to all employees. In addition, the wage by the factory paid met the local BNW. However, not all employees were participated in social insurance.
工厂遵守当地关于工资和福利的要求，并且把相关法规要求张贴出来，并且通过员工手册和开会让员工知晓。另外工人的工资达到当地基本生活需求工资标准。但是不是所有员工都参加了5种社会保险。

5.5 - It was noted that the factory's coverage of social insurance was insufficient. According to the social insurance payment receipt of November 2018 provided by factory management, it was noted that 98 out of 98 employees (100%) were provided with medical insurance, accident insurance, unemployment insurance and maternity insurance, and 20 out of 98 employees (21%) were provided with pension insurance. No group commercial insurance was provided to any employees currently. However, some employees were not willing to buy social insurance. This violated Article 73 of the Labor Law of the People's Republic of China. The factory stated that they planned to purchase commercial insurance for all employees. And the factory would gradually increase the social insurance rate.
审核员发现工厂的社会保险覆盖不足。根据厂方提供的2018年11月社会保险缴费单据显示工厂有为98/98名员工提供医疗保险、工伤保险、失业保险和生育保险，为20/98名员工(21%) 提供养老保险。目前工厂没有为任何员工提供团体商业保险。但是部分员工不愿意购买社会保险。 根据《中华人民共和国劳动法》第73条 工厂表示打算为所有员工购买了商业意外保险，并且会逐步提高参加社保比率。

Remarks from Auditee

Performance Area 6 : Decent Working Hours

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: D — Deadline date:12/06/2020

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

The main auditee partially respects this principle because: The auditee respected local law and ILO requirement related to regular working hours. Regular working hours were 40 hours per week and 8 hours per day and at least 1 day off after 6 days consecutive working days was guaranteed. Employees' attendance was recorded by IC card. Based on the samples, the maximum monthly overtime reached 94 hours while the maximum daily hours were 3 hours. Employees might obtain at least one day off after six consecutive working days. The auditee admitted that they were unable to control the overtime hours within local law limit, but they granted workers the right to resting breaks in every working day, and meanwhile they had clearly communicated working hour policy to all employees through employee handbook. Interviewed employees confirmed that they could choose to OT or not.
被审核方部分尊重BSCI的本条原则，原因是： 被审核方尊重当地法规和ILO规定的关于工作时间的规定。正常工作时间是40小时/周，8小时/天，被审核方确保员工连续工作6天后会有至少1天的休息日。员工的出勤通过IC卡记录。抽样员工最大月加班达到94小时，最大日加班达到3小时。员工每工作6天将获得至少1天休息。被审核方承认目前无法完全做到加班时间控制在法律规定范围内，但是，赋予工人在工作日休息的权利，同时，通过员工手册向员工传达了工厂关于工作时间的政策。面谈的员工证实加班是自愿的。

6.2 - Previous finding on December 19, 2018: It was noted that 20 out of 30 sample population employees worked in excess of the statutory overtime hour limits (no more than 36 overtime hours per month). A review of the sample population employees' time records (10 samples from current paid month of November 2018, 10 samples from June 2018 and 10 samples from February 2018) yielded the following: 1) In November 2018, 10 out of 10 sample population employees worked 76 to 84 overtime hours per month; 2) In June 2018, 10 out of 10 sample population employees worked 80 to 90 overtime hours per month. This violated Article 41 of the Labor Law of the PRC. Employees could refuse to work for overtime freely, without penalty. Employees were compensated with overtime wage in accordance with legal requirement. Factory management represented that they would take corrective action step by step. Corrective Action Not Taken (December 13, 2019): It was noted that 21 out of 21 sample population employees worked in excess of the statutory overtime hour limits. A review of 21 sample population employees' time records (7 samples from current paid month of November 2019, 7 samples from random month of August 2019, 7 samples from random month of February 2019) yielded the following: a) 7 (selected from various departments) out of 7 sample population employees' monthly overtime in November 2019 reached 85.5 to 92 hours, b) 7 (selected from various departments) out of 7 sample population employees' monthly overtime in August 2019 reached 86 to 94 hours, c) 7 (selected from various departments) out of 7 sample population employees' monthly overtime in February 2019 reached 40.5 to 42 hours, which exceeded the legal limit of 36 hours per month. In accordance with Article 41 of the Labor Law of the PRC Employees could refuse to work for overtime freely, without penalty. Employees were compensated with overtime wage in accordance with legal requirement. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 根据厂方提供的工时记录，审核员发现员工加班时间超出了法定标准。审核员抽取30个样本(从最近工资支付月2018年11月、2018年6月和2018年2月各抽取10个样本)，发现共有20名员工加班时间超出了法定标准（每月加班时间不能超过36小时），具体为： （1）2018年11月，10/10名员工的月加班时间为76至84小时； （2）2018年6月，10/10名员工的月加班时间为80至90小时。 根据《中华人民共和国劳动法》第41条。 员工可以自由地拒绝加班工作，没有被处罚。工厂按照法规要求支付了加班费。 工厂表示会逐步做出整改。 尚未采取纠正措施（2019年12月13日）： 根据厂方提供的工时记录，审核员发现员工加班时间超出了法定标准。 审核员从厂方提供的工资和考勤记录中工抽取21个样本(从最近工资支付月份2019年11月，从随机月份2019年8月，从随机月份2019年2月各抽取7个样本)，发现共有21名员工加班时间超出了法定标准，具体为：a) 7/7名抽样员工在2019年11月的加班时间为85.5-92小时；b) 7/7名抽样员工在2019年8月的加班时间为86-94小时；c) 7/7名抽样员工在2019年2月的加班时间为40.5-42小时，超过每月加班时间不能超过36小时的法律规定。 根据《中华人民共和国劳动法》第41条。 员工可以自由地拒绝加班工作，没有被处罚。工厂按照法规要求支付了加班费。 工厂表示会尽快做出整改。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: D — Deadline date:18/12/2019

Good practices

None

Areas of improvement

The factory did not respect local law related to working hours and overtime hours. The factory had clearly communicated working hour policy to all employees through training. Interviewed employees confirmed that they could choose OT or not.
工厂没有尊重当地的关于工作时间和加班时间的规定，工厂向员工传达了工厂关于工作时间的政策。面谈的员工证实加班是自愿的。

6.2 - It was noted that 20 out of 30 sample population employees worked in excess of the statutory overtime hour limits (no more than 36 overtime hours per month). A review of the sample population employees' time records (10 samples from current paid month of November 2018, 10 samples from June 2018 and 10 samples from February 2018) yielded the following: 1) In November 2018, 10 out of 10 sample population employees worked 76 to 84 overtime hours per month; 2) In June 2018, 10 out of 10 sample population employees worked 80 to 90 overtime hours per month. This violated Article 41 of the Labor Law of the PRC. Employees could refuse to work for overtime freely, without penalty. Employees were compensated with overtime wage in accordance with legal requirement. Factory management represented that they would take corrective action step by step.
根据厂方提供的工时记录，审核员发现员工加班时间超出了法定标准。审核员抽取30个样本(从最近工资支付月2018年11月、2018年6月和2018年2月各抽取10个样本)，发现共有20名员工加班时间超出了法定标准（每月加班时间不能超过36小时），具体为： （1）2018年11月，10/10名员工的月加班时间为76至84小时； （2）2018年6月，10/10名员工的月加班时间为80至90小时。 根据《中华人民共和国劳动法》第41条。 员工可以自由地拒绝加班工作，没有被处罚。工厂按照法规要求支付了加班费。 工厂表示会逐步做出整改。

Remarks from Auditee

Performance Area 7 : Occupational Health and Safety

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: B Deadline date:12/02/2020

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

The main auditee partially respects this principle because: The auditee had made its own health and safety regulations and rules based on the legal requirements and BSCI Code of Conduct and also established OHS committee. A risk assessment was conducted throughout the facility. The factory had appointed specialized management staff to take charge of the OHS affairs and provided periodical health and safety training to workers regarding such as medical emergency treatment, PPE usage, chemical safety, machine operation, fire drill exercises and etc. Fire drills were conducted at least twice per year and the latest fire drill was conducted in November 2019. Furthermore, the factory provided a safe and comfortable working environment to workers: installing sufficient fire equipment, inspecting the fire equipment and facilities on a monthly basis, providing sufficient toilets, first aid kits, and qualified drinking water, and etc. However, gap was identified in implementation.
被审核方部分尊重BSCI的本条原则, 原因是： 被审核方根据法律要求以及BSCI的要求建立了健康安全规定和守则，同时也建立了环境健康安全委员会。被审核方对整个厂区由进行风险评估。工厂委任专门的管理层代表负责健康安全事宜并定期给员工举行关于健康安全的培训，比如医疗救护培训、个人防护用品培训、化学品安全培训、机器设备操作培训、消防演习等。消防演习每年至少举行两次，最近一次消防演习时间是2019年11月。另外，工厂给员工提供了安全的工作环境，比如提供了足够的消防设备、对消防设备和器材等每月进行检查、提供了足够的洗手间、急救药箱、合格的饮用水等。但是，工厂在BSCI体系执行上仍存在差距。

7.2 - New Finding (December 13, 2019): According to the social insurance records, it was noted that only 193 out of 221 employees were provided with accident insurance in November 2019. The factory did not provide commercial accident insurance to employees. BSCI Code of Conduct: The auditee seeks workers' protection in case of accident, including through compulsory insurance schemes. Factory management represented that they would take corrective action as soon as possible.
新问题点（2019年12月13日）： 根据工厂的社会保险参保记录，审核员发现工厂在2019年11月仅为193/221名员工购买工伤保险。工厂没有为员工购买商业意外保险。 BSCI行为守则：被审核方（生产商）在意外发生时为工人寻求保护，包括通过强制保险方案。 工厂表示会尽快做出整改。

7.4 - Previous finding on December 19, 2018: No evidence was provided to prove that workers or their representatives were actively involved the risk assessment, the development and implementation of the OHS systems with factory management. BSCI Code of Conduct: There is active cooperation between management and workers (and/or their representatives) when developing and implementing systems towards ensuring OHS. The factory could not identify employees' working area's hidden danger effectively without workers or their representatives involving the OHS systems. Factory management represented that they would take corrective action as soon as possible. Corrective Action Not Taken (December 13, 2019): No evidence was provided to prove that workers or their representatives were actively involved the risk assessment, the development and implementation of the OHS systems with factory management. BSCI Code of Conduct: There is active cooperation between management and workers (and/or their representatives) when developing and implementing systems towards ensuring OHS. The factory could not identify employees' working area's hidden danger effectively without workers or their representatives involving the OHS systems. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 没有证据显示员工或其代表有积极参与到健康安全的风险评估以及建设健康安全体系中。 BSCI行为守则：管理层和工人（和/或其代表）之间就开发和执行确保职业健康与安全的体系展开积极合作。 没有员工或者其代表参与建设健康安全体系，工厂不能有效识别员工作业场所的安全隐患。 工厂表示会尽快做出整改。 尚未采取纠正措施（2019年12月13日）： 没有证据显示员工或其代表有积极参与到健康安全的风险评估以及建设健康安全体系中。 BSCI行为守则：管理层和工人（和/或其代表）之间就开发和执行确保职业健康与安全的体系展开积极合作。 没有员工或者其代表参与建设健康安全体系，工厂不能有效识别员工作业场所的安全隐患。 工厂表示会尽快做出整改。

7.5 - Previous finding on December 19, 2018: It was noted that the occupational health checks were not provided to employees who were in contact with hazardous materials in workshops before they took or left the posts. This violated Article 35 Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases. Factory management represented that they would take corrective action step by step. Corrective Action Taken (December 13, 2019): During the audit, the factory had provided pre-post, on-post and off-post occupational health checks to employees who worked in contact with hazardous materials in workshops.
前次问题点（2018年12月19日）： 审核员发现厂方没有组织在车间接触有毒有害物质的员工在上岗前或者离岗前进行职业病体检。 根据《中华人民共和国职业病防治法》第35条 工厂表示会逐步改善。 已经采取纠正措施（2019年12月13日）： 本次审核工厂有为车间接触有毒有害物质的员工提供岗前，在岗期间和离岗时的职业病体检。

7.6 - Previous finding on December 19, 2018: It was noted that 10 out of 10 tin soldering workers were wearing surgical marks instead of dust proof marks. This violated Article 37 of Law of the People's Republic of China on Production Safety. Workers didn't wear proper PPE, which would hurt their body health. Factory management represented that they would take corrective action as soon as possible. Corrective Action Not Taken (December 13, 2019): It was noted that the employees who worked in contact with lead smoke in the tin soldering workshop were wearing active carbon masks rather than smoke-proofed masks. In accordance with Article 42 of Law of the People's Republic of China on Production Safety It might cause harm to employees' health if they were not wearing appropriate PPEs during working in the specific environment. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 工厂10/10名焊锡员工佩戴的口罩是医用口罩，而不是防尘口罩。 根据《中华人民共和国安全生产法》第37条。 工人没有佩戴合适的PPE，会对工人的身体健康造成伤害。 工厂表示会尽快做出整改。 尚未采取纠正措施（2019年12月13日）： 审核员发现焊锡车间接触铅烟的员工佩戴的口罩是活性炭口罩，并非防烟尘口罩。 根据《中华人民共和国安全生产法》第42条 员工在工作期间没有佩戴相应的劳保用品，有可能对身体健康造成一定危害。 工厂表示会尽快做出整改。

7.7 - Previous finding on December 19, 2018: It was noted that all cleaner containers being used in the tempo printing workshop on the 3rd floor of production building were not posted with a safety label. This Violated Article 14 of the Regulation For Chemical Usage Safety in Work Place: Without safety label, thus, employees could not obtain some useful information in case of emergency. Risk of health and safety was existing. Factory management represented that they would take corrective action as soon as possible. Corrective Action Not Taken (December 13, 2019): It was noted that the paint and detergent containers in the tempo printing workshop and detergent containers being used in the assembling workshop on the 3rd floor were posted with content labels rather than safety labels. In accordance with Article 14 of the Regulation For Chemical Usage Safety in Work Place. The factory had established a written chemical management procedure and the employees who worked in contact with chemicals were provided with safety training. MSDS was posted onsite for employees' reference. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 审核员发现生产楼3楼移印车间所有正在使用的盛清洁剂的容器没有张贴安全标签。 根据《工作场所安全使用化学品规定》第14条 没有危险化学品安全标签，在紧急情况下员工不能获得有效的信息，从而存在健康安全的风险。 工厂表示会尽快做出整改。 尚未采取纠正措施（2019年12月13日）： 审核员发现生产楼3楼移印车间使用的油墨和清洁剂，装配车间使用的清洁剂只张贴了内容标签，没有张贴安全标签。 根据《工作场所安全使用化学品规定》第14条 工厂建立了化学品管理程序，并且有对使用化学品的员工提供安全培训。工厂现场有张贴了MSDS. 工厂表示会尽快做出整改。

7.11 - Previous finding on December 19, 2018: It was noted that the height of handrail for stairs installed in 1 out of 1 injection molding machine in injection department was 0.5 meter, which cannot prevent employees from falling down. This violated Article 7.2.3 of Safety of machinery – Permanent means of access to machines and industrial plants – Part 3. Safety training was provided to employees by the factory regularly. Factory management represented that they would take corrective action as soon as possible. Corrective Action Taken (December 13, 2019): During the audit, the stair of the handrail installed in the injection molding machine in the injection molding workshop was high enough to prevent employees from falling down.

前次问题点（2018年12月19日）： 审核员发现工厂注塑车间的1台注塑机的楼梯扶手高度为0.5米，不能预防人员坠落。 根据《机械安全 进入机器和工业设备的固定设施 第三部分：楼梯、阶梯和护栏GB17888.3，2008》第7.2.3条 工厂有定期提供安全培训给员工。 工厂表示会尽快做出整改。 已经采取纠正措施（2019年12月13日）： 本次审核，工厂在注塑车间的注塑机的楼梯扶安装了足够高的扶手以防止人员坠落。

7.23 - Remark: No transportation was provided by the auditee.
备注：被审核方没有提供交通给员工。

7.24 - Remark: No dormitory was provided by the auditee.
备注：被审核方没有提供宿舍给员工。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: B Deadline date:18/12/2019

Good practices

None

Areas of improvement

The auditee had established right occupational health and safety policy and procedure. Trainings and drills were conducted to all workers and management to enforce their awareness. Fire evacuation drill was conducted twice. Per factory tour, the auditee had taken certain measure to protect employees' health and safety. Sufficient firefighting equipment such as emergency light, exit sign, fire extinguishers, fire hydrants, fire alarm, evacuation plan, and etc. were set in this factory, and regular inspection were conducted monthly. Per testing, firefighting equipment such as fire hydrant, emergency light and fire alarm worked normally on the audit day. Further, first aid kit, drinking water, toilets and etc. were set for employees. However, gaps were still noted.
被审核方制定了相对健全的职业健康安全的方针政策及程序文件，且通过定期培训和和演习的方式来提高管理人员和员工的意识，进行了两次消防疏散演习。通过现场巡查发现被审核方采取了一定的措施来保护员工的健康安全。被审核方现场消防设施如：应急灯、安全出口标志、灭火器、消防栓、消防警铃、平面图配备充足，且进行每月定期检查。经测试，审核当天消防栓、应急灯和消防警铃等消防设施均能正常运行。并员工配备了药箱、饮水、厕所等设施。但仍然存在一些差距。

7.4 - No evidence was provided to prove that workers or their representatives were actively involved the risk assessment, the development and implementation of the OHS systems with factory management. BSCI Code of Conduct: There is active cooperation between management and workers (and/or their representatives) when developing and implementing systems towards ensuring OHS. The factory could not identify employees' working area's hidden danger effectively without workers or their representatives involving the OHS systems. Factory management represented that they would take corrective action as soon as possible.
没有证据显示员工或其代表有积极参与到健康安全的风险评估以及建设健康安全体系中。 BSCI行为守则：管理层和工人（和/或其代表）之间就开发和执行确保职业健康与安全的体系展开积极合作。 没有员工或者其代表参与建设健康安全体系，工厂不能有效识别员工作业场所的安全隐患。 工厂表示会尽快做出整改。

7.5 - It was noted that the occupational health checks were not provided to employees who were in contact with hazardous materials in workshops before they took or left the posts. This violated Article 35 Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases. Factory management represented that they would take corrective action step by step.
审核员发现厂方没有组织在车间接触有毒有害物质的员工在上岗前或者离岗前进行职业病体检。 根据《中华人民共和国职业病防治法》第35条 工厂表示会逐步改善。

7.6 - It was noted that 10 out of 10 tin soldering workers were wearing surgical marks instead of dust proof marks. This violated Article 37 of Law of the People's Republic of China on Production Safety. Workers didn't wear proper PPE, which would hurt their body health. Factory management represented that they would take corrective action as soon as possible.
工厂10/10名焊锡员工佩戴的口罩是医用口罩，而不是防尘口罩。 根据《中华人民共和国安全生产法》第37条。 工人没有佩戴合适的PPE，会对工人的身体健康造成伤害。 工厂表示会尽快做出整改。

7.7 - It was noted that all cleaner containers being used in the tempo printing workshop on the 3rd floor of production building were not posted with a safety label. This Violated Article 14 of the Regulation For Chemical Usage Safety in Work Place: Without safety label, thus, employees could not obtain some useful information in case of emergency. Risk of health and safety was existing. Factory management represented that they would take corrective action as soon as possible.
审核员发现生产楼3楼移印车间所有正在使用的盛清洁剂的容器没有张贴安全标签。 根据《工作场所安全使用化学品规定》第14条 没有危险化学品安全标签，在紧急情况下员工不能获得有效的信息，从而存在健康安全的风险。 工厂表示会尽快做出整改。

7.11 - It was noted that the height of handrail for stairs installed in 1 out of 1 injection molding machine in injection department was 0.5 meter, which cannot prevent employees from falling down. This violated Article 7.2.3 of Safety of machinery – Permanent means of access to machines and industrial plants – Part 3. Safety training was provided to employees by the factory regularly. Factory management represented that they would take corrective action as soon as possible.
审核员发现工厂注塑车间的1台注塑机的楼梯扶手高度为0.5米，不能预防人员坠落。 根据《机械安全 进入机器和工业设备的固定设施 第三部分：楼梯、阶梯和护栏GB17888.3，2008》第7.2.3条 工厂有定期提供安全培训给员工。 工厂表示会尽快做出整改。

Remarks from Auditee

Performance Area 8 : No Child Labour

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:
No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A Deadline date:

Good practices

None

Areas of improvement

The factory established its child labor forbidden policy. It was noted that the HR related clerk had to check the ID and age during the hiring process. Through management interview, worker representative interview and employee interview, all knew the child labor forbidden policy and confirmed no child labor in the factory.
工厂建立了禁止童工政策。负责招聘的相关HR人员知道他们必须严格核实新近员工的年龄。通过员工、员工代表和管理层访谈都证实清楚的知晓禁止童工政策并且确定工厂没有童工。

Remarks from Auditee

Performance Area 9 : Special protection for young workers

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:
No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A Deadline date:

Good practices

None

Areas of improvement

There were no young workers in this factory. Further, the factory had established related policies to ensure young workers didn't work overtime and didn't contact with hazardous materials. Worker representative stated that the factory held training and meetings to pay attention to young workers issues.
审核发现工厂没有未成年工。同时工厂建立了完整的未成年工保护政策，包括禁止未成年工加班和禁止未成年工接触有毒化学品等等。员工代表还表示，会举行定期的会议，来提醒未成年工问题。

Remarks from Auditee

Performance Area 10 : No Precarious Employment

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A — Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:
No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:

Good practices

None

Areas of improvement

The factory had established clear recruit policies to respect local law requirements. Confirmed through employee and employee representative interview, they need to sign standard labor contracts with factory and they kept one labor contract.
工厂建立了清楚地招聘程序来遵守当地的法规要求。通过员工和员工代表面谈，确认所有员工进厂时必须签标准的劳动合同，并且他们自己都留有一份合同。

Remarks from Auditee

Performance Area 11 : No Bonded Labour

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A — Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:
No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:

Good practices

None

Areas of improvement

The factory established policies to forbid bonded labour. Confirmed through employee and employee representative interview, no physical or verbal abuse was noted with the factory.
工厂建立了禁止强迫劳工政策。通过员工和员工代表面谈，确认工厂不存在体罚和口头侮辱。

Remarks from Auditee

Performance Area 12 : Protection of the Environment

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: B — Deadline date:12/02/2020

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

The main auditee partially respects this principle because: The auditee had established written environmental protection procedure and designated a specific person to collect and update environmental laws to respect law requirements. Environmental Impact Assessment Report and the approval document were provided for review. During plant tour, it was found waste was not dumped in natural environments, or burned on open fires. No obvious pollution was found in this factory. The hazardous waste was disposed by a qualified contractor. The auditee did not receive any fines from local environment bureau ever since. However, gaps have been identified in implementation.
被审核方部分尊重BSCI的本条原则，原因是： 被审核方建立了相关的环境方针政策，并且有指定专人进行环境法律法规收集和更新，来保证遵守当地的法律要求。被审核方提供环评报告和批复。现场参观未发现废弃物直接倾倒入自然环境中或者明火燃烧。现场未发现明显污染现象。被审核方的危险废弃物交由有资质的回收商处理。被审核方从来没有收到过当地环保部门的处罚。但是，在实践过程中会有欠缺。

12.3 - Previous finding on December 19, 2018: It was noted that factory management was unable to provide the approval document for on-site inspection and acceptance of completed environmental protection facilities for review. This violated Article 17 of the Regulations on Environmental Protection Check and Acceptance for Completed Construction Project. The onsite environmental protection facilities were working well. Factory management stated that they would take improvement as soon as possible. Corrective Action Not Taken (December 13, 2019): It was noted that factory management was unable to provide the approval document for on-site inspection and acceptance of completed environmental protection facilities for review. This violated Article 17 of the Regulations on Environmental Protection Check and Acceptance for Completed Construction Project. The onsite environmental protection facilities were working well. Factory management represented that they would take corrective action as soon as possible.
前次问题点（2018年12月19日）： 工厂未能提供建设项目竣工环境保护验收文件。 根据《建设项目竣工环境保护验收管理办法》第17条 现场的环保设施运行良好。 工厂管理层表示尽快改善。 尚未采取纠正措施（2019年12月13日）： 工厂未能提供建设项目竣工环境保护验收文件。 根据《建设项目竣工环境保护验收管理办法》第17条 现场的环保设施运行良好。 工厂表示会尽快做出整改。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: B — Deadline date:18/12/2019

Good practices

None

Areas of improvement

The factory established related environmental policies to respect local law requirements. Further, the factory obtained most environment protective documents required by the government. However, gap was still noted.
工厂建立了相关的环境方针政策来保证遵守当地的法律要求。而且，工厂有得到政府要求的大部分环保文件。但仍然存在一些差距。

12.3 - It was noted that factory management was unable to provide the approval document for on-site inspection and acceptance of completed environmental protection facilities for review. This violated Article 17 of the Regulations on Environmental Protection Check and Acceptance for Completed Construction Project. The onsite environmental protection facilities were working well. Factory management stated that they would take improvement as soon as possible.
工厂未能提供建设项目竣工环境保护验收文件。 根据《建设项目竣工环境保护验收管理办法》第17条 现场的环保设施运行良好。 工厂管理层表示尽快改善。

Remarks from Auditee

Performance Area 13 : Ethical Business Behaviour

1- Followup Audit [Audit Id - [redacted]] Audit Date: 13/12/2019 PA Score: A — Deadline date:

GOOD PRACTICES:
None

AREAS OF IMPROVEMENT:

No any non-compliance was raised in the previous audit, so this PA was not included in this follow-up audit scope. The rating in this PA remained unchanged just as it was in the previous audit.
前次审核中该执行领域未发现问题点。此次跟进审核未评审该执行领域。该执行领域等级保持不变。

Remarks from Auditee:
None

Full Audit [Audit Id - 140685] Audit Date: 19/12/2018 PA Score: A — Deadline date:

Good practices

None

Areas of improvement

The factory had established its ethic policy. Training and meeting were regularly held, especially for the business and sourcing departments.
工厂制定了相关的廉政政策。工厂举办定期的会议和培训给相关的人员，尤其重点是业务和采购部门。

Remarks from Auditee

Summary

Audit Type	Date	Audit Id	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PA8	PA9	PA10	PA11	PA12	PA13	Overall Rating
Follow-up Audit	13/12/2019	[redacted]	C	A	A	A	B	D	B	A	A	A	A	B	A	C
Full Audit	19/12/2018	140685	C	A	A	A	A	D	B	A	A	A	A	B	A	C

Producer Photos

External photo(s) of the production unit(s)
7-6 Tin-soldering worker was provided with active carbon mask rather than smoke-proofed mask.JPG

External photo(s) of the production unit(s)
7-7 Chemical container was posted with content label rather than safety label.JPG

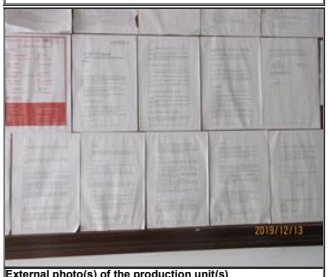
External photo(s) of the production unit(s)
NO-1 Factory gate.JPG

External photo(s) of the production unit(s)
NO-10 Warehouse.JPG

External photo(s) of the production unit(s)
NO-11 Canteen.JPG

External photo(s) of the production unit(s)
NO-12 Attendance recording system.JPG

External photo(s) of the production unit(s)
NO-13 Suggestion box.JPG



External photo(s) of the production unit(s)
NO-14 BSCI COC posted.JPG

External photo(s) of the production unit(s)
NO-15 Toilet with door.JPG

External photo(s) of the production unit(s)
NO-16 Drinking water.JPG

External photo(s) of the production unit(s)
NO-17 First aid kit.JPG

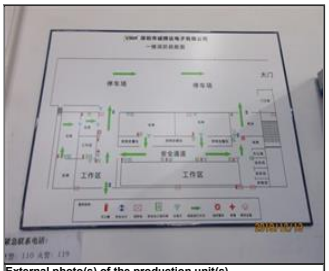
External photo(s) of the production unit(s)
NO-18 Electricity box.JPG

External photo(s) of the production unit(s)
NO-19 Explosive-proofed chemical storage box.JPG

External photo(s) of the production unit(s)
NO-2 Factory name.JPG

External photo(s) of the production unit(s)
NO-20 MSDS posted.JPG

External photo(s) of the production unit(s)
NO-21 Eye washing facility.JPG



External photo(s) of the production unit(s)
NO-22 Evacuation floor plan.JPG

External photo(s) of the production unit(s)
NO-23 Exit sign and emergency light and fire alarm.JPG

External photo(s) of the production unit(s)
NO-24 Evacuation sign and fire extinguishers.JPG

External photo(s) of the production unit(s)
NO-25 Emergency light testing.JPG

External photo(s) of the production unit(s)
NO-26 Fire alarm testing.JPG

External photo(s) of the production unit(s)
NO-27 Fire hydrant.JPG

External photo(s) of the production unit(s)
NO-28 Fire hydrant testing.JPG

External photo(s) of the production unit(s)
NO-29 Stair with appropriate handrail.JPG

External photo(s) of the production unit(s)
NO-3 Production building.JPG

External photo(s) of the production unit(s)
NO-4 Injection molding workshop.JPG

External photo(s) of the production unit(s)
NO-5 SMT workshop.JPG

External photo(s) of the production unit(s)
NO-6 Tin soldering workshop.JPG

External photo(s) of the production unit(s)
NO-7 Assembling workshop.JPG

External photo(s) of the production unit(s)
NO-8 Tempo printing workshop.JPG

External photo(s) of the production unit(s)
NO-9 Packing workshop.JPG

Report No. : CESMSDS191203012

Material Safety Data Sheet

材料安全数据表

Name of Sample: Li-ion Polymer Battery

产品名称 ： 锂离子聚合物电池

Model Specification:

产品型号： 7565121

Client:

委托单位 ：

国家轻工业电池及储能材料质量监督检测中心
先进储能材料国家工程研究中心有限责任公司检测中心
National Light Industry Quality Supervision and Testing Center of Battery Energy Storage Materials
Test Center of National Engineering Research Center of Advanced Energy Storage Materials Co., Ltd.

说　明
Marking

1. 报告无“报告专用章”无效。

   The test report is invalid without “Special seal for report”.

2. 报告无批准人、审核人和编制人签名无效。

   The test report is invalid without the signatures of Approver, Reviewer and Testing engineer.

3. 报告涂改无效。

   The test report is invalid if altered.

4. 对检测报告若有异议，应于收到报告之日起十五天内向检测单位提出。

   Objections to the test report must be submitted to Test Center within15 days.

5. 报告仅对送检样品负责。

   The test report is Valid for the tested samples only.

检测单位地址：广东省深圳市宝安区新安街道宝石路29号蓝坤集团大厦B栋一楼B102
Lab Address：No.B102, 1/F., Lankun Group Building B, No.29, Baoshi Road, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China
电话(TEL)：86-755-22678313
传真(FAX)：0755-22678299
邮政编码(Post Code)：518101
网址(Website)：www.cescert.com
E-mail：service@cescert.com

Material Safety Data Sheet

材料安全数据表

Section 1——Chemical Product and Company Identification 化学品及企业标识			
Product Name: 产品名称：	Li-ion Polymer Battery 锂离子聚合物电池		
Type/Mode: 样品型号：	7565121 (3.7V 8000mAh 29.6Wh)		
Commissioned by: 委托单位：			
Commissioner address: 委托单位地址：			
Manufacturer: 生产单位：			
Inspection according to: 鉴定依据：	EEC Directive 93/112/EC UN "Recommendations on the TRANSPORT OF DANGEROUS GOODS" 联合国《关于危险品货物运输的建议书》		
Emergency telephone call: 应急电话：	0769-82296333		
Receiving Date: 接样日期：	2019-12-03	Date of issue: 签发日期：	2020-01-02

Approved by： Reviewed by： Written by：

Section 2. Composition/information on Ingredient
成分/组成信息

Chemical Name 化学品名称	**Chemical Formula 化学式**	**CAS No. CAS 号**	**Composition 成份 (in % by weight) (重量百分比)**
三元材料 /Lithium-nickel-cobalt-manganese oxides	$Li(NiCoMn)O_2$	113066-89-0	25~35
碳/Graphite	C	7782-42-5	15~20
铝/Aluminum	Al	7429-90-5	21~23
铜/Copper	Cu	7440-50-8	10~11
电解液/Electrolyte	$LiPF_6$+carbonate	623-53-0/ 21324-40-3	10~15
聚偏氟乙烯/Polyvinylidene Fluoride	$(CH_2-CF_2)n$	24937-79-9	1~5
乙炔黑/Acetylene Black	C	1333-86-4	0.5~3

Section 3.Hazards Identification
危险性概述

Explosive risk 爆炸危险性	This article does not belong to the explosion dangerous goods 该物品不属于爆炸危险品
Flammable risk 易燃危险性	This article does not belong to the flammable material 该物品不属于易燃危险品
Oxidation risk 氧化危险性	This article does not belong to the oxidation of dangerous goods 该物品不属于氧化危险品
Toxic risk 毒害危险性	This article does not belong to the toxic dangerous goods 该物品不属于毒害危险品
Radioactive risk 放射危险性	This article does not belong to the radiation of dangerous goods 该物品不属于放射危险品
Mordant risk 腐蚀危险性	This article does not belong to the corrosion of dangerous goods 该物品不属于腐蚀危险品
Other risk 其他危险性	This article is Li-ion Polymer Battery Watt hour rate 29.6Wh, which belong to the Lithium ion batteries. 该物品为锂离子聚合物电池，瓦时率29.6Wh，属于锂离子电池。

Section 4. First aid measures
急救措施

Eye: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

眼睛：万一接触，立即用大量的清水冲洗至少 15 分钟，翻起上下眼睑，直到化学的残留物消失为止，

迅速就医。

Skin: Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

皮肤：万一接触，用大量水冲洗至少 15 分钟，同时除去污染的衣物和鞋子，迅速就医。

Inhalation: Remove from exposure and move to fresh air immediately. Use oxygen if available.

吸入：立即从暴露处移至空气清新处，如果呼吸困难给予输氧，立即就医。

Ingestion: Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician

食入：饮用两杯牛奶或水。如果当事人仍然清晰可以采取催吐的方法，并且立即就医。

Section 5. Fire-fighting measures
消防措施

Flash Point: N/A.

燃点：不适用

Auto-Ignition Temperature: N/A.

自燃温度：不适用

Extinguishing Media: Water, CO2.

灭火介质：大量水（降温），二氧化碳

Special Fire-Fighting Procedures: Self-contained breathing apparatus.

特殊灭火程序：自给式呼吸器

Unusual Fire and Explosion Hazards: Cell may vent when subjected to excessive heat-exposing battery contents.

异常火灾或爆炸：当电芯暴露于过热的环境中时，安全阀可能会打开。

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes.

燃烧产生的危险物品：一氧化碳，二氧化碳，锂氧化物烟气

Section 6. Accidental release measures
泄露应急处理

Steps to be taken in case Material is Released or Spilled If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

为防止电池材料泄露或释放采取的措施如果电池内部材料泄露，试验人员应立刻撤离试验区直到烟气消散。将通风设备打开吹散危险性气体。用抹布擦净试验区，清除溢出的液体，将泄露电池放进塑料袋中，然后放进钢制容器。避免皮肤和眼睛接触或吸入有害气体。

Waste Disposal Method: It is recommended to discharge the battery to the end, to use up the metal

lithium inside the battery, and to bury the discharged battery in soil..

废弃物处置方法： 建议将电池完全放电，消耗电池内部的锂金属，并且深埋于土壤中。

Section 7. Handling and storage
操作处置和储存

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

禁止打开、毁坏或焚烧电池，因为电池有可能在这些处理过程中发生爆炸、破裂或泄露等事故。禁止将电池短路、过充、强制放电或扔入火中。禁止挤压刺穿电池或将电池浸入溶液中。

Precautions to be taken in handling and storing Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

操作处置和储存中的防范措施禁止物理或电滥用，禁止高温储存，最好将电池储存在阴凉、干燥、通风及温度变化较小的环境中。禁止将电池接触加热设备或将电池直接暴露与阳光中。

Other Precautions The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity

其他要注意的防范措施拆解、挤压、直接放入火中或高温条件下，电池可能发生爆炸和燃烧。禁止短接或将电池正负极错误的安装在设备中。

Section 8. **Exposure controls/personal protection**
接触控制/个人防护

Respiratory Protection In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use.

呼吸防护 当电池排气阀打开时，应尽量使通风设备开至最大，避免将打开排气阀的电芯局限在某一狭窄空间内。正常操作条件下，呼吸保护是不必要的。

Ventilation Not necessary under conditions of normal use.

通风条件 正常使用条件下不必考虑。

Protective Gloves Not necessary under conditions of normal use.

防护手套 正常使用条件下不必考虑。

Other Protective Clothing or Equipment Not necessary under conditions of normal use.

其他防护服装或设备 正常使用条件下不必考虑。

Personal Protection is recommended for venting battery Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

电池开阀试验时应做好个人防护呼吸防护，防护手套，防护服装和有护边的安全玻璃罩都是要准备的。

Section 9. **Physical and chemical properties**
物理和化学特性

Appearance: Prismatic

外形：棱柱形

Ref, No.: CESUN190102015

认证编号：CESUN190102015

Odour: If leaking, smells of medical ether

气味： 泄漏时，有刺激性气味。

pH: Not applicable as supplied.

酸碱度：不适用

Flash Point: Not applicable unless individual components exposed.

闪点：针对单个组分暴露情况，其他不适用。

Flammability: Not applicable unless individual components exposed.

易燃度：针对单个组分暴露情况，其他不适用。

Relative density: Not applicable unless individual components exposed.

相对密度：针对单个组分暴露情况，其他不适用。

Solubility (water): Not applicable unless individual components exposed

溶解性（水溶性）：针对单个组分暴露情况，其他不适用。

Solubility (other): Not applicable unless individual components exposed.

溶解性（其他）：针对单个组分暴露情况，其他不适用

Section 10. **Stability and reactivity**
稳定性和反应活性

Stability: Product is stable under conditions described in Section 7.

稳定性：产品在第 7 节所述的条件下稳定。

Conditions to Avoid : Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.

应避免的条件：加热 70°C 以上或焚烧、变形、毁坏、粉碎、拆卸、过充电、短路，长时间暴露在潮湿的条件下。

Materials to avoid: Oxidising agents, alkalis, water.

应避免的材料：氧化剂，碱，水。

Hazardous Decomposition Products : Toxic Fumes, and may form peroxides.

危险分解物：有毒烟雾，并可能形成过氧化物。

Hazardous Polymerization : N/A.

聚合危害：不适用

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

如果发生泄露，避免与强氧化剂，无机酸，强碱，卤代烃接触。

Section 11. **Toxicological information**
毒理学资料

Signs & symptoms: None, unless battery ruptures.

标志及症状：无，除非电池破裂。

In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.

内部物质暴露的情况下，蒸汽烟雾可能对眼睛和皮肤的刺激性。

Inhalation: Lung irritant.

吸入：对肺有刺激性。

Skin contact: Skin irritant.

皮肤接触：对皮肤刺激性。

Eye contact: Eye irritant

眼睛接触：对眼睛有刺激性。

Ingestion: Poisoning if swallowed.

食入：吞下中毒。

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to server irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

下列情况下会危险人员身体健康：如果与电池内部材料直接接触，皮肤可能会出现干燥、灼烧等轻微或严重的刺激，并且损坏靶器官的神经，肝脏和肾脏。

Section 12. **Ecological information**
生态学资料

Mammalian effects: None known at present.

对哺乳动物的影响：目前未知。

Eco-toxicity: None known at present.

生态毒性：目前未知。

Bioaccumulation potential: Slowly Bio-degradable

生物体内积累：慢慢地生物降解。

Environmental fate: None known environmental hazards at present.

环境危害：目前没有已知的环境危害。

Section 13. **Disposal consideration**
废弃处置

Do not incinerate, or subject cells to temperature in excess of 70°C, Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

禁止焚烧，或使电池温度超过70°C，这种滥用可导致泄漏和/或电池爆炸。应按照相应的地方性法规处理。

Section 14. **Transport information**
运输信息

Label for conveyance: Lithium Battery Class 9 Hazard Label, or Cargo Aircraft Only Label.

运输标签：锂电池九类危险品标签，或仅限货机标签

UN Number: 3480

UN 编号：3480

Packaging Group: Class II

包装等级：II 类

Marine pollutant: No

海洋污染物：无

Proper Shipping name: Lithium Ion Batteries(Including Lithium Polymer Batteries)

正确的装运名称：锂离子电池(包括锂聚合物电池)

Transport information: Lithium ion battery is of a type proved to meet the Requirements of each test in the UN MANUALOF TESTS AND CRITERIA, Part Ⅲ, sub-section 38.3(Report No. : CESUN190102015)

The lithium-ion battery with a watt-hour rating exceeding 100Wh or the cell with the watt-hour rating is exceeding 20Wh, The lithium-ion battery according to Section IA of PACKING INSTRUCTION 965 of the IATA Dangerous Goods Regulations 61th Edition may be transported.

The goods shall be compiled with the Packing Instruction P903 of IMDG CODE(Amdt.39-18)2018 Edition.

运输信息: 锂离子电池已通过联合国《试验和标准手册》第Ⅲ部分 38.3 小节相应测试要求，（报告编号：CESUN190102015）。

锂离子电池瓦时额定值超过 100Wh 或者锂离子电芯瓦时额定值超过 20Wh，根据第 61 版 IATA DGR 手册 965 第 IA 节可以运输。

货物运输应遵守 IMDG CODE(Amdt.39-18)2018 版包装导则 P903 的要求

Section 15 **Regulation information**
法规信息

Law information

法律信息

《Dangerous Goods Regulations》

《危险物品规则》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《对危险货物运输的有关规定的建议》

《International Maritime Dangerous Goods》

《国际海运危险货物规则》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《危险品安全运输技术指令》

《Classification and code of dangerous goods》

《危险货物分类和品名编号》

《Occupational Safety and Health Act》(OSHA)

《职业安全卫生法》

《Toxic Substance Control Act》(TSCA)

《有毒物质控制法》

《Consumer Product Safety Act》(CPSA)

《消费产品安全法》

《Federal Environmental Pollution Control Act》(FEPCA)

《联邦环境污染控制法》

《The Oil Pollution Act》(OPA)

《石油污染法案》

《Superfund Amendments and Reauthorization Act TitleⅢ (302/311/312/313)》(SARA)

《超级基金修正案和再授权法案Ⅲ(302/311/312/313)》

《Resource Conservation and Recovery Act》(RCRA)

《资源保护及恢复法案》

《Safety Drinking Water Act》(CWA)

《安全饮用水法》

《California Proposition 65》

《加州 65 提案》

《Code of Federal Regulations》(CFR)

《美国联邦法规》

In accordance with all Federal, State and local laws

根据所有联邦、州和地方法律。

Section 16 **Other information**

其他信息

This file is only effective to the Battery (model 7565121) provided by commissioner (Guangdong CVATOP New Energy Technology Co., Ltd.) which manufactured by Guangdong CVATOP New Energy Technology Co., Ltd. The commissioner provides the composition information of batteries, and promises its integrity and accuracy. Users should read this file carefully, and use the batteries in correct method. Test Center of National Engineering Research Center of Advanced Energy Storage Materials Co., Ltd. doesn't assume responsibility for any damage or loss because of misuse of batteries.

本文件仅对由委托方（广东嘉拓新能源科技有限公司）提供的，并由广东嘉拓新能源科技有限公司生产的电池（7565121 型号）有效。该电池的成分信息由委托方提供并承诺其完整性和准确性。用户应仔细阅读此文件，并按照正确的方法使用电池，如因电池使用不当造成的损害或损失，先进储能材料国家工程研究中心有限责任公司检测中心（CES）不承担任何责任。

-- End of Report --