Test Report issued under the responsibility of:

SGS

TEST REPORT
IEC 62133
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications

Report Number. .....:	SZES180100012901
Date of issue .....:	2018-02-08
Total number of pages.....	19 Pages

Applicant's name.....:	
Address .....:	

Test specification:	
Standard.....:	IEC 62133: 2012 (Second Edition)
Test procedure .....:	Commission testing
Non-standard test method.....:	N/A

Test Report Form No.....:	IEC62133B
Test Report Form(s) Originator ....:	UL(Demko)
Master TRF.....:	Dated 2013-03

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description .....:	Power Bank
Trade Mark .....:	
Manufacturer.....:	Same as applicant
Model/Type reference .....:	P61
Ratings .....:	DC USB Input: 5 V, 2,1 A; Type-C Input: 5 V, 3,0 A Class III DC USB Output1: 5 V, 2,4 A; USB Output2: 5 V, 1,5 A; Type-C Output: 5 V, 3,0 A (Max. output current 3,0 A (total)) Internal Battery: 3,7 V; 6000 mAh

Testing procedure and testing location:			
☒	**Testing Laboratory:**	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	
Testing location/ address .....:		No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China 518057	
☐	**Associated Testing Laboratory:**	N/A	
Testing location/ address .....:			
Tested by (name + signature) .....:		Sara Wang	
Approved by (name + signature) .....:		Jerry Xiao	
☐	**Testing procedure: TMP**	N/A	
Testing location/ address .....:			
Tested by (name + signature) .....:			
Approved by (name + signature) .....:			
☐	**Testing procedure: WMT**	N/A	
Testing location/ address .....:			
Tested by (name + signature) .....:			
Witnessed by (name + signature) ....:			
Approved by (name + signature) .....:			
☐	**Testing procedure: SMT**	N/A	
Testing location/ address .....:			
Tested by (name + signature) .....:			
Approved by (name + signature) .....:			
Supervised by (name + signature) ..:			

List of Attachments (including a total number of pages in each attachment):

Attachment 1: 3 pages of Photos;

Attachment 2: 1 page of ISO9001 certificate.

Summary of testing:

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Remark:

1. Only battery (power bank) was considered and tested according to standard in this report as the cell (model:906090PL) was separately tested according to IEC 62133: 2012 by SGS-CSTC (Report No.: SZES171000434801);

2. Clause 8.3.8 transport tests was considered, the battery was separately tested according to UN38.3 by SCM (Test Report No.: DCW201802305).

Tests performed (name of test and test clause):

Specific requirements and tests (lithium systems)

☐5.2 Insulation resistance

☐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)

Testing location:

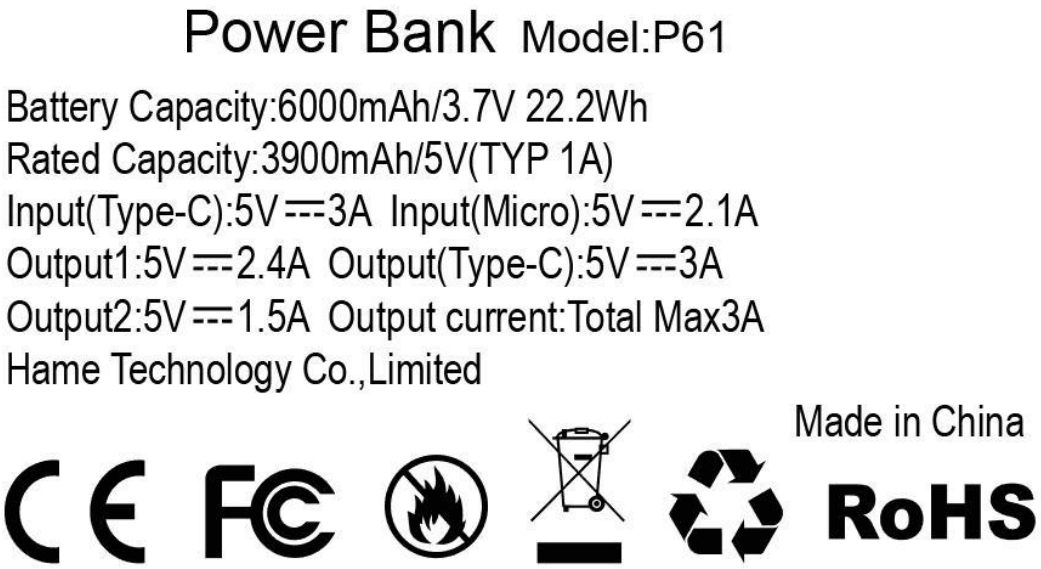
See page 2

Summary of compliance with National Differences

List of countries addressed: none.

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

Copy of marking plate (not checked)



Remark:

1.“ represents trade mark.

2. The height of CE logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm.

Test item particulars.....:	--
Classification of installation and use.....:	--
Supply connection.....:	USB Cable
Recommend charging method declaired by the manufacturer ..... :	Powered by external power source via USB cable
Discharge current (0,2 I_t A) ..... :	DC output: 5 V, max. 3,0 A;
Specified final voltage ..... :	--
Chemistry ..... :	☐ nickel systems ..... ☒ lithium systems
Recommend of charging limit for lithium system	
Upper limit charging voltage per cell.....:	4,2 V
Maximum charging current.....:	3000 mA (power bank)
Charging temperature upper limit.....:	55 °C
Charging temperature lower limit.....:	0 °C
Polymer cell electrolyte type ..... :	☐ gel polymer ☐ solid polymer
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 .....:	2018-01-10
Date (s) of performance of tests.....:	2018-01-10 to 2018-01-25

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 ☒ comma / ☐ point is used as the decimal separator.

Name and address of factory (ies) ..... : Same as applicant

General product information:

Product description:	Power Bank
Model of pack:	P61
Internal battery:	3,7 V; 6000 mAh
Input:	USB:5,0 V d.c., 2,1 A; Type-C: 5,0 V d.c., 3,0 A
Output:	USB Output 1: 5,0 V d.c., 2,4 A; USB Output 2: 5,0 V d.c., 1,5 A; Type-C: 5,0 V d.c., 3,0 A Max. output current 3,0 A (total)
Number of cells in battery pack:	one
Model of cell:	906090PL
Rated voltage of cell:	3,7 V
Rated capacity of cell:	6000 mAh

Remark:
1. Battery packs with keyed external connector which prevents reverse polarity USB connections.

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
4	**Parameter measurement tolerances**		—
	Parameter measurement tolerances		P
5	**General safety considerations**		—
5.1	General		P
5.2	Insulation and wiring		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	No exposed metal surface	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	Metal and plastic enclosure secured by screws, aperture as the venting mechanism of battery.	P
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief	No encapsulation	N/A
5.4	Temperature/voltage/current management		P
	Batteries are designed such that abnormal temperature rise conditions are prevented	Protection circuit was used	P
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer	Protection circuit was used	P
	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	Charge and discharge instructions were provided.	P
5.5	Terminal contacts		P
	Terminals have a clear polarity marking on the external surface of the battery	External USB connector prevents reverse polarity USB connections.	P
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current		P

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance		P
	Terminal contacts are arranged to minimize the risk of short circuits		P
5.6	Assembly of cells into batteries		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	Single battery pack without separate case	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		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.	The upper limit charging voltage are 4,25 V in cell report.	N/A
	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	Single cell in the battery	N/A

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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	Single cell in the battery	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		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	ISO 9001 certificate was submitted. See Attachment 2 for detail.	P
6	**Type test conditions**		—
	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 cell 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)**		—
7.1	Charging procedure for test purposes	Lithium systems	N/A
7.2	Intended use		N/A
7.2.1	Continuous low-rate charging (cells)		N/A
	Results: No fire. No explosion		N/A
7.2.2	Vibration		N/A
	Results: No fire. No explosion. No leakage		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

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
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..... :		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..... :		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 13 kN ± 1 kN has been applied; or		N/A
	- An abrupt voltage drop of one-third of the original voltage has been obtained		N/A
	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..... :		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..... :		N/A

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
7.3.9	Forced discharge		N/A
	Results: No fire. No explosion..... :		N/A
8	**Specific requirements and tests (lithium systems)**		—
8.1	Charging procedures for test purposes		P
8.1.1	First procedure: This charging procedure applied to tests other than those specified in 8.1.2		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		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	The upper charging temperature is 55 °C. Unit was charged at 60 °C by the methods specified in 8.2 to 8.3 The lower charging temperature is 0 °C. Unit was charged at -5 °C by the methods specified in 8.2 to 8.3	P
	A valid rationale was provided to ensure the safety of the cell (see Figure A.1) ..... :	See test result	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	The upper limit charging voltage are 4,25 V 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		P
8.2.1	Continuous charging at constant voltage (cells)	Cell was tested according to IEC 62133: 2012	N/A
	Results: No fire. No explosion..... :		N/A
8.2.2	Moulded case stress at high ambient temperature (battery)		P
	Oven temperature (°C) ..... :	70°C	—
	Results: No physical distortion of the battery casing resulting in exposure if internal components		P
8.3	Reasonably foreseeable misuse		P
8.3.1	External short circuit (cell)	Cell was tested according to IEC 62133: 2012	N/A

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	Results: No fire. No explosion..... :		N/A
8.3.2	External short circuit (battery)		P
	The cells were tested until one of the following occurred: - 24 hours elapsed; or	Protection circuit were used.	P
	- 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		P
	Results: No fire. No explosion..... :	(See Table 8.3.2)	P
8.3.3	Free fall		P
	Results: No fire. No explosion.		P
8.3.4	Thermal abuse (cells)	Cell was tested according to IEC 62133: 2012	N/A
	The cells were held at 130°C ± 2°C for: - 10 minutes; or		N/A
	- 30 minutes for large cells (gross mass of more than 500 g as defined in IEC 62281)		N/A
	Oven temperature (°C)..... :	--	—
	Gross mass of cell (g) ..... :	--	—
	Results: No fire. No explosion.		N/A
8.3.5	Crush (cells)	Cell was tested according to IEC 62133: 2012	N/A
	The crushing force was released upon: - The maximum force of 13 kN ± 1 kN has been applied; or		N/A
	- 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..... :		N/A
8.3.6	Over-charging of battery		P

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
	Test was continued until the temperature of the outer casing: - Reached steady state conditions (less than 10°C change in 30-minute period); or		P
	- Returned to ambient		N/A
	Results: No fire. No explosion..... :	(See Table 8.3.6)	P
8.3.7	Forced discharge (cells)	Cell was tested according to IEC 62133: 2012	N/A
	Results: No fire. No explosion..... :		N/A
8.3.8	Transport tests		P
	Manufacturer's documentation provided to show compliance with UN Recommendations on Transport of Dangerous Goods	EUT was tested according to UN38.3 by SCM (Test Report No.: DCW201802305).	P
8.3.9	Design evaluation – Forced internal short circuit (cells)	Li-polymer Battery	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 ..... :		N/A
9	**Information for safety**		—
	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.		P
	Systems analyses performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product		P
	As appropriate, information relating to hazard avoidance resulting from a system analysis is provided to the end user ..... :	Information for safety mentioned in power bank specifications.	P
10	**Marking**		—
10.1	Cell marking	Cell was tested according to IEC 62133: 2012	N/A
	Cells marked as specified in the applicable cell standards: IEC 61951-1, IEC 61951-2 or IEC 61960.		N/A

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	Storage and disposal instructions marked on or supplied with the battery.	Information for storage and disposal instructions mentioned in manufacturer's specifications.	N/A
	Recommended charging instructions marked on or supplied with the battery.	Information for recommended charging instructions mentioned in manufacturer's specifications.	N/A
11	**Packaging**		—
	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.		N/A
Annex A	**Charging range of secondary lithium ion cells for safe use**		—
A.1	General		N/A
A.2	Safety of lithium-ion secondary battery		N/A
A.3	Consideration on charging voltage		N/A
A.3.1	General		N/A
A.3.2	Upper limit charging voltage		N/A
A.3.2.1	General		N/A
A.3.2.2	Explanation of safety viewpoint		N/A
A.3.2.3	Safety requirements, when different upper limit charging voltage is 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		N/A
A.4.3	High temperature range		N/A
A.4.3.1	General		N/A

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
A.4.4.1	General		N/A
A.4.4.2	Explanation of safety viewpoint		N/A
A.4.4.3	Safety considerations, when specifying charging conditions in low temperature range		N/A
A.4.4.4	Safety considerations when specifying a new lower limit in the low temperature range		N/A
A.4.5	Scope of the application of charging current		N/A
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
	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

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Critical components information				P
Object/part no.	**Manufacturer/ trademark**	**Type/model**	**Technical data**	**Standard**	**Mark(s) of conformity [1)]**
Rechargeable battery Li-polymer cell	Zhongshan Tianmao Battery Co., Ltd.	906090PL	3,7 V; 6000 mAh	IEC 62133: 2012 EN 62133: 2013	SGS-CSTC (Report No.: SZES171000434801)
Plastic enclosure	SABIC JAPAN L L C	C2801(GG)	PC+ABS, V-1, 60 oC, min. thicknes: 1,0 mm	UL94, UL746C	UL (E207780)
Metal enclosure	Interchangeable	Interchangeable	Material: Aluminum Min thickness: 1,2 mm	--	Test with appliance
PWB	Interchangeable	Interchangeable	Min. 130 °C, V-1 or V-0, min. thickness: 0,5 mm	UL796	UL
Protection IC (U001)	Fortune Semiconductor Corporation	DW01-G	Overcharge Detection Voltage: 4,25 ± 0,05 V, Over-discharge Detection Voltage: 2,4 ± 0,1 V, Discharge Current threshold: 6 - 8 A, Operating temperature range: -40 to 85 °C	--	--
Protection FET (U002, U003, U006)	MT-Semiconductor	MT8205	Is: 4 A, Vsd: 20 V	--	--
Charge IC (U004)	INJOINIC Technology	IP5310	VBAT=3,0-4,4 V VOUT=4,75-5,25 V fs=650KHz Load capacity: 3,1 A Encapsulation: QFN32	--	--
NTC	THINKING ELECTRONIC INDUSTRIAL CO LTD	NTS(X)104, TTF-104	Resistance at 25°C: 100 kΩ Tmoa: 100 °C	UL1434	UL (E138827)

Supplementary information:

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

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict
7.2.1	TABLE: Continuous low rate charge (cells)		N/A
7.2.2	TABLE: Vibration		N/A
7.3.1	TABLE: Incorrect installation (cells)		N/A
7.3.2	TABLE: External short circuit		N/A
7.3.6	TABLE: Crush		N/A
7.3.8	TABLE: Overcharge		N/A
7.3.9	TABLE: Forced discharge (cells)		N/A

8.2.1	TABLE: Continuous charging at constant voltage (cells)			N/A
Model	Recommended charging voltage V_c, (Vdc)	Recommended charging current I_{rec}, (A)	OCV at start of test, (Vdc)	Results
--	--	--	--	--
Supplementary information: --				

8.3.1	TABLE: External short circuit (cell)				N/A
Model	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (Ω)	Maximum case temperature rise ΔT, (K)	Results
Samples charged at charging temperature upper limit					
--	--	--	--	--	--
Samples charged at charging temperature lower limit					
--	--	--	--	--	--
Supplementary information: --					

IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.2	TABLE: External short circuit (battery)				P
Model	**Ambient, (°C)**	**OCV at start of test, (Vdc)**	**Resistance of circuit, (Ω)**	**Maximum case temperature rise ΔT, (K)**	**Results**
Samples charged at charging temperature upper limit[1)]					
P61 (#4)	55,6	4,220	0,085	--	Pass
P61 (#5)	55,6	4,216	0,084	--	Pass
P61 (#6)	55,6	4,217	0,086	--	Pass
P61 (#7)	55,6	4,218	0,085	--	Pass
P61 (#8)	55,6	4,216	0,084	--	Pass
Samples charged at charging temperature lower limit[2)]					
P61 (#9)	55,9	4,172	0,086	--	Pass
P61 (#10)	55,9	4,175	0,085	--	Pass
P61 (#11)	55,9	4,176	0,087	--	Pass
P61 (#12)	55,9	4,173	0,084	--	Pass
P61 (#13)	55,9	4,169	0,085	--	Pass

Supplementary information:

- No fire or explosion

- Test location: C014 positive & negative pole (directly after the protection IC for battery cell). Unit shut down immediately and test for 24 hours, no max temperature was noted.

1) Batteries charged at 60°C by using DC USB input;

2) Batteries charged at -5 °C by using DC USB input.

8.3.5	TABLE: Crush				N/A
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					
--	--	--	--	--	--
Samples charged at charging temperature lower limit					
--	--	--	--	--	--

Supplementary information:

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IEC 62133			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.6	TABLE: Over-charging of battery		P
Constant charging current (A) ..... :		2,49	—
Supply voltage (Vdc) ..... :		5,0	—

Model	OCV before charging, (Vdc)	Resistance of circuit, (Ω)	Maximum outer casing temperature, (°C)	Results
P61 (#17)	5,152	--	28,1	Pass
P61 (#18)	5,158	--	30,9	Pass
P61 (#19)	5,153	--	29,5	Pass
P61 (#20)	5,154	--	27,7	Pass
P61 (#21)	5,153	--	29,0	Pass

Supplementary information:

-No fire or explosion

-The ambient temperature is 22,1 °C.

- The max. charging current is 2,49 A at 5V USB port.

8.3.7	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	
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Supplementary information:

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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	
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Supplementary information:

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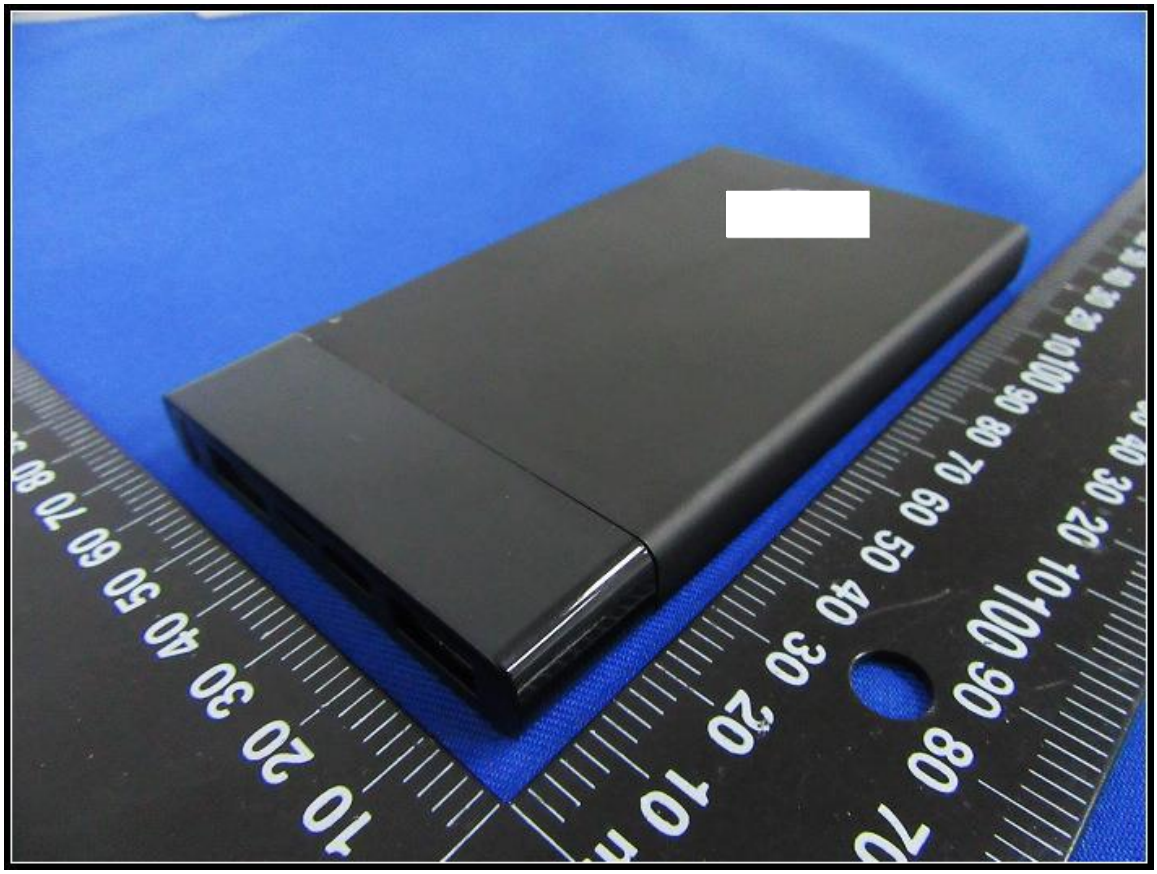
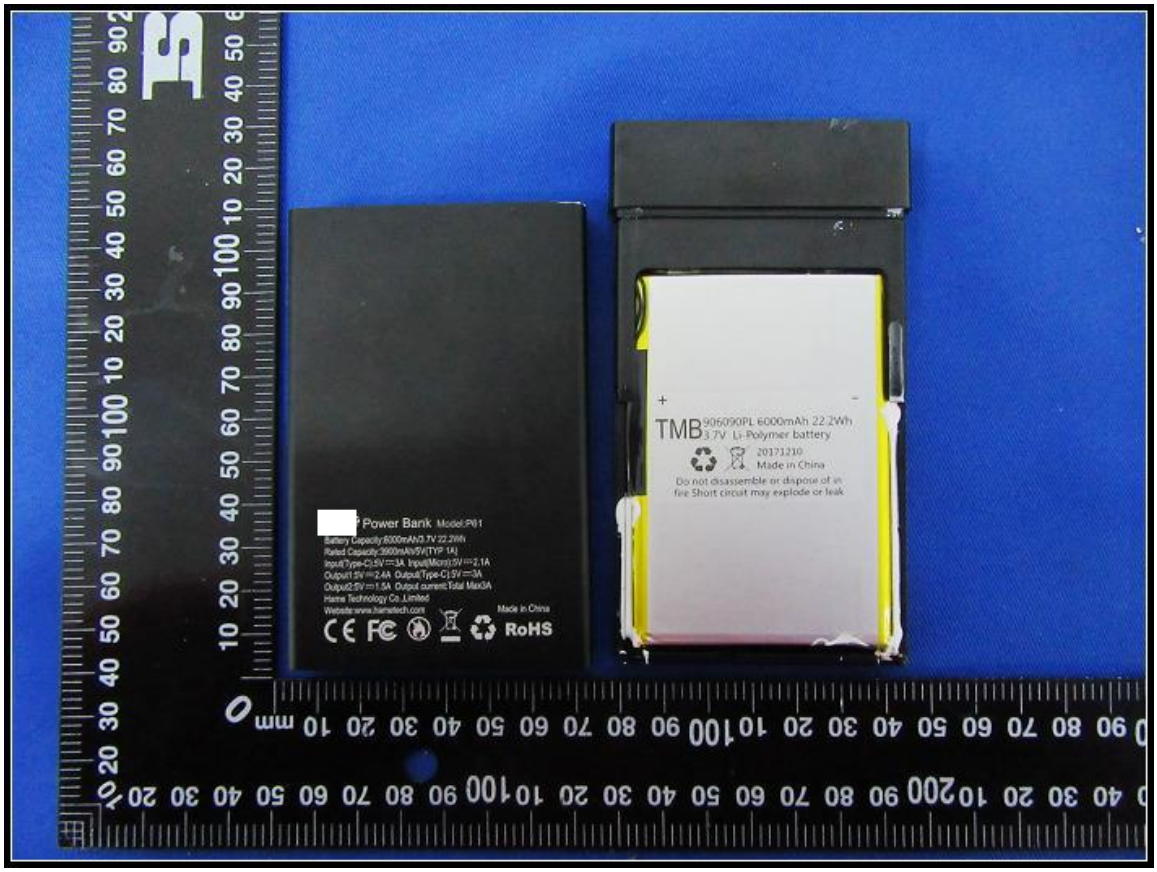
---End report---

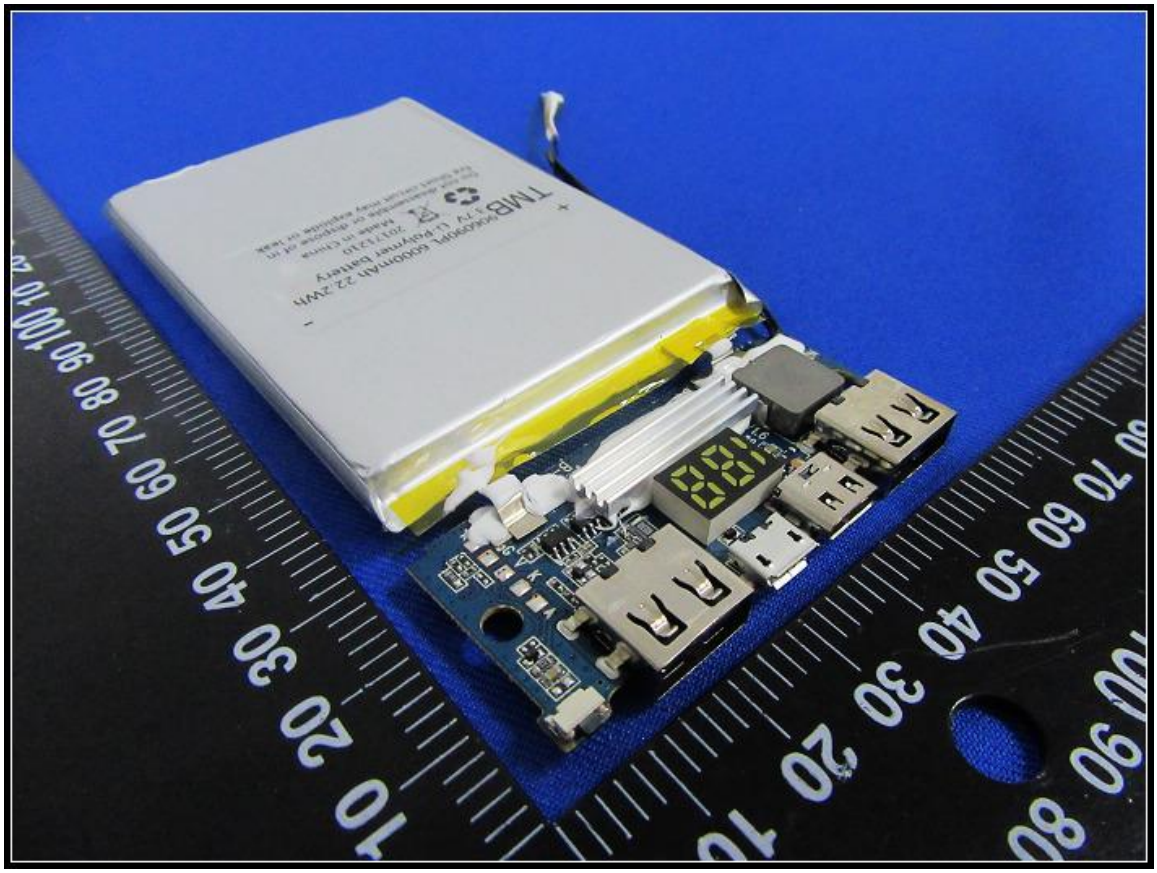
Attachment 1 Photo documentation

Unit



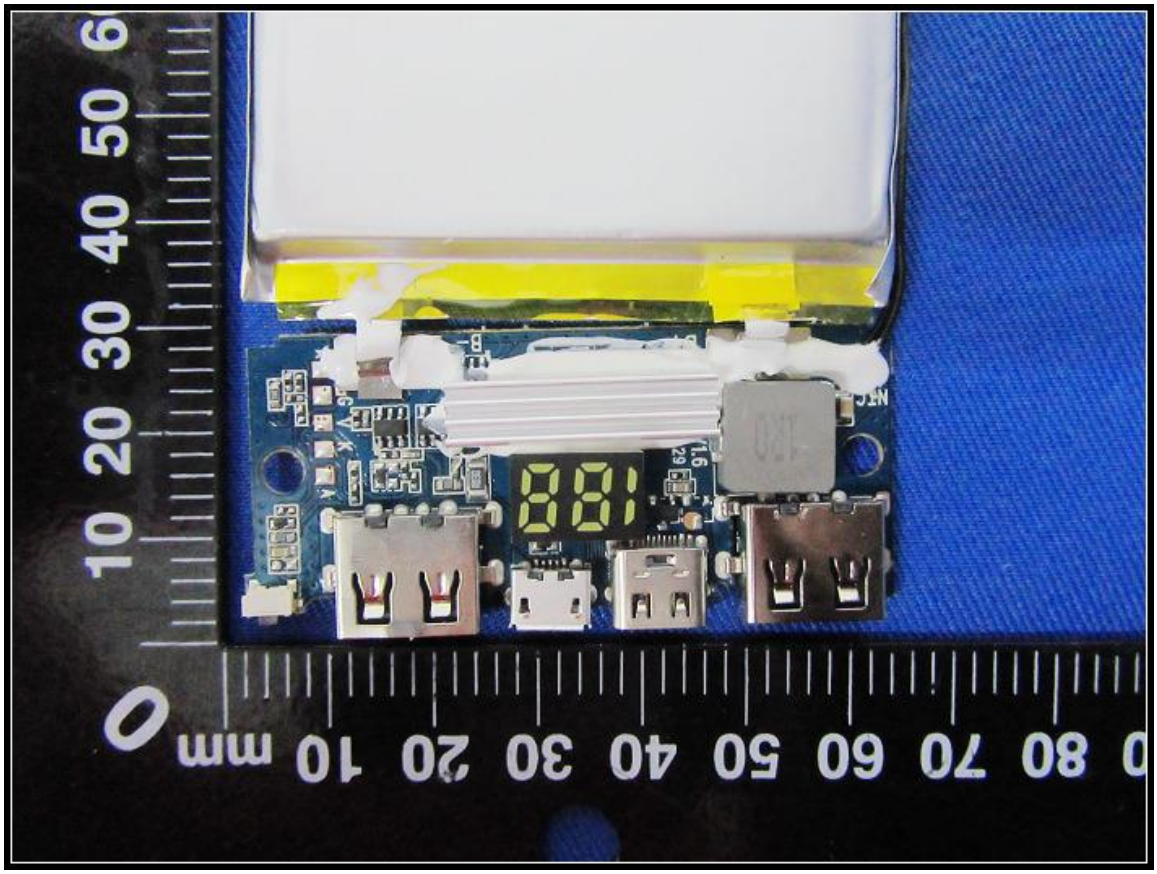
Attachment 1 Photo documentation

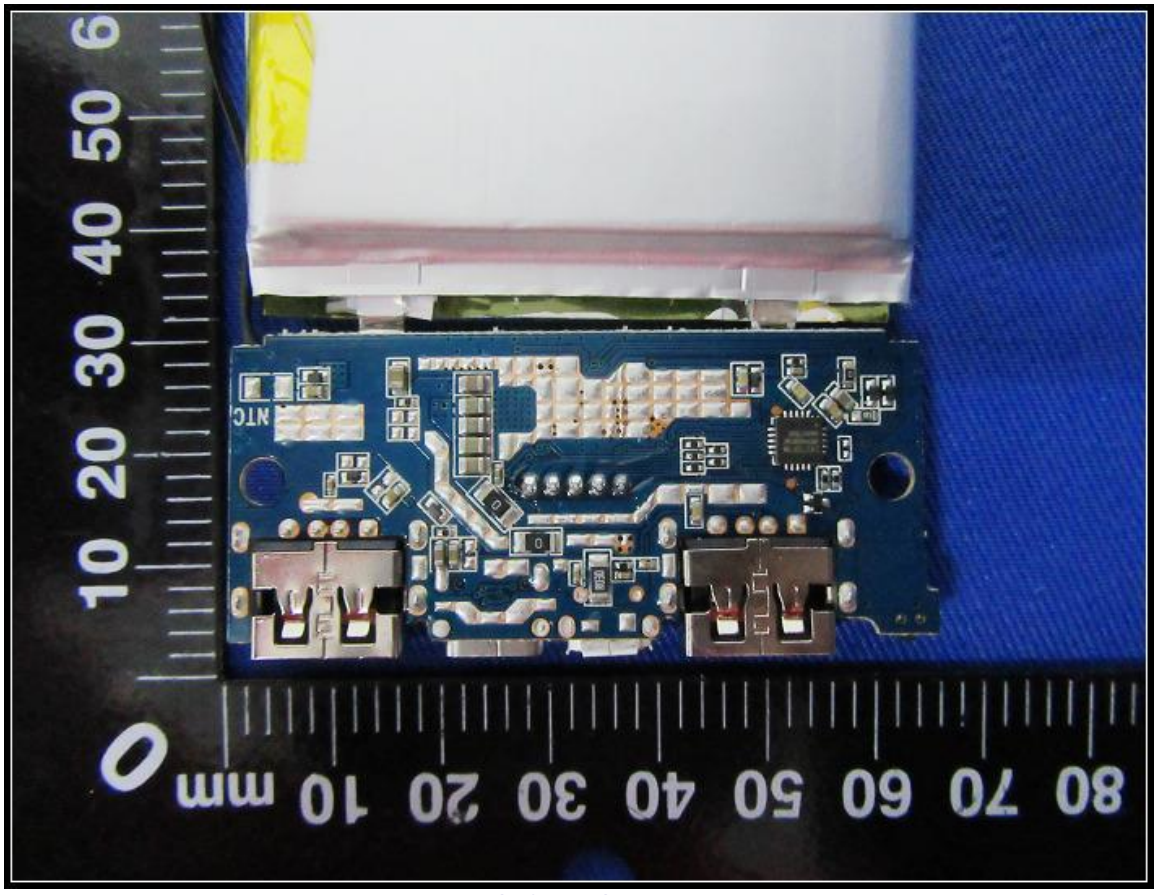




Attachment 1 Photo documentation

Unit





- - - End of Attachment 1 - - -

Attachment 2 ISO 9001 certificate

STANDARD
BEIJING STANDARD CERTIFICATION CENTRE

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Registration No. : 064-17-Q-1344-R2-M

This is to certify that

Unified social credit code：91440300692546097P

Address:1st/2nd/4th Zone, 3F,Plant#1, Huahan Industrial Park, No.16, Jinniu West Rd., Pingshan New District, Shenzhen, 518118

Which is in conformity with

GB/T19001-2016 idt ISO9001:2015

Scope of Certification

Design & Manufacturing related management activities of WiFi Storage、WiFi Router、WiFi Speaker、Power Bank、Smartphone Accessories(Domestic sale products within the scope of certificate of China Compulsory Certification)

Issue date：Jul 28, 2017 Term of validity：Jul 27, 2020

中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C064-M

Director:

NOTE: Before 07-27 of each year for annual review, this certificate will continue to be effective after the review. Please scan the QR code certificate valid state query. Also can query in the center website: www.bjcscc.cn, and the CNCA official website: www.cnca.gov.cn. This certificate is valid for the period of validity of the state regulations and the validity of the administrative license.

Beijing Standard Certification Centre Approval No.:CNCA-R-2002-064
Address: Room 502, Building 2, No.3 building, Huixinli, Chaoyang District, Beijing www.bjcscc.cn office@bjcscc.cn +86-10-64795109

- - - End of Attachment 2 - - -