UL 2056 TEST REPORT

For

POWER BANK

Model: RPS-016

Prepared for:	Guangdong Roops Intelligent Technology Co., LTD Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province
Prepared by:	Shenzhen NCT Testing Technology Co., Ltd. A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China TEL: +86-755-27790922
Report Number:	NCT23029501XU3-1
Date of Test:	2023-07-14 to 2023-08-15
Date of Issue:	2023-08-15

Tested By:	Reviewed By:	Approved By:
Dylan zhu	Hely Wang	Boris Lin

Seal of NCT:

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TEST REPORT
UL 2056
Outline of Investigation for Safety of Lithium-ion POWER BANKs

Report Number. .....:	NCT23029501XU3-1
Date of issue .....:	2023-08-15
Total number of pages.....:	28 pages
Applicant's name.....:	Guangdong Roops Intelligent Technology Co., LTD
Address .....:	Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province
Test specification:	
Standard.....:	UL 2056: 2020
Test procedure .....:	Test Report
Non-standard test method .....:	N/A
Test item description .....:	POWER BANK
Trade Mark .....:	N/A
Manufacturer.....:	Same as applicant
Address .....:	Same as applicant
Model/Type reference .....:	RPS-016
Ratings .....:	Input Type-C: 5V⎓2A Output DC: 5V⎓2.4A Battery Capacity: 4000mAh, 3.7V, 14.8Wh Rated Capacity: 2400mAh

Testing procedure and testing location:

Testing Laboratory:

Testing location/ address .....: Shenzhen NCT Testing Technology Co., Ltd.
A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

List of Attachments:

Appendix 1: 3 pages of Photo Documentation

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
Test items: cl.6.2 Electrical insulation cl.6.7 Housings; cl.7.2.1 Rated capacity; cl.7.2.2 Specified operating region and temperature tests; cl.7.2.3 Limited power source; cl.7.2.4 Vibration and mechanical shock; cl.7.3.1 External short-circuit and overload; cl.7.3.2 Overcharge.	Shenzhen NCT Testing Technology Co., Ltd. A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Copy of marking plate:

Test item particulars .....:	
Information about the product needed to establish a correct test program, such as product mobility, type of power connections and similar.	(Test item particulars are selected by the TRF Originator base on the requirements in the standard)
Designation ..... :	RPS-016
Trade mark……..……:	N/A
Input rating ..... :	Type-C: 5V⎓2A
Output rating .....:	DC: 5V⎓2.4A
Built-in battery rated capacity ..... :	4000mAh
Output capacity..... :	2400mAh
Work temperature range ..... :	Charge 10~40°C; Discharge 0~50°C
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 .....:	2023-07-14
Date (s) of performance of tests.....:	2023-07-14 to 2023-08-15
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. **Throughout this report a ☐ comma / ☒ point is used as the decimal separator.**	
Name and address of factory (ies)……. :	Same as applicant

General product information:

The product covered in this report is a power bank which is intended to use for mobile powering of low voltage electronic devices.

1). The component cell (Model: 114065) hasn't been approved according to UL1642.

2). The Input and Output can be operated at the same time.

The Power bank mainly composed of:
-Circuit Module
-Li-ion cell (1pc, 1S1P)
-Enclosure plastic
-Input port (Type-C), Output port (DC).

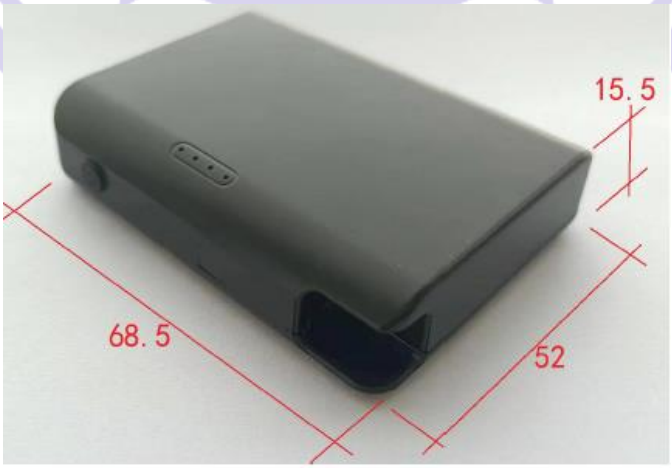
Power bank electrical parameter:

Model	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
RPS-016	4000mAh (Inner battery)	3.7V (Inner battery) Output: 5V	2A	2.4A	2A	2.4A	5V	3V

Built-in cell electrical parameter:

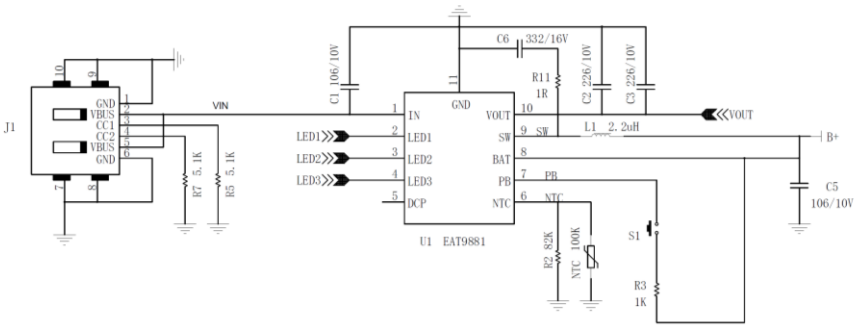
Model	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
114065	4000mAh	3.7V	800mA	800mA	2000mA	2000mA	4.2V	3.0V

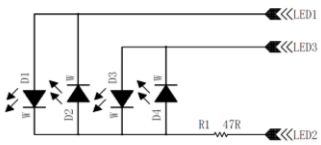
Construction: (Unit: mm)

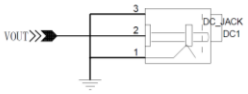


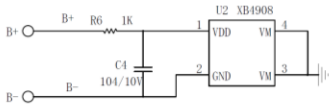
Battery (Unit: mm)

Circuit diagram:









UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
6	**Construction**		**P**
6.1	**General**		**P**
	Power banks shall be so designed and constructed so as to reduce the risk of fire, electric shock or injury hazards. Compliance is checked by the requirements of 6.2 to 6.8.		P
	For removeable power banks integrated into luggage, carrying cases, bags, packs, etc., the power bank shall also be designed and constructed to allow for installation and removal from the luggage, carrying case, bag, pack, etc. without the use of a tool and without damaging the power bank. Appropriate means of securing the power bank shall be provided in the luggage, carrying case, bag, pack, etc. without damaging the power bank or interfering with the safe operation of the power bank.		N/A
6.2	**Electrical insulation**		P
	Electrical insulation shall withstand the electrical stress likely to occur during intended use.		P
	Compliance is checked by the following tests:		P
	The insulation resistance of a power bank electrical housing shall not be less than 5 MΩ when measured 60 s after application of DC voltage of approximately 500 V applied between any terminal and		P
	– Externally accessible metal surfaces of the housing, excluding electrical contact surfaces;		N/A
	– Metal foil which is in contact with accessible surfaces of insulating materials, having the largest area possible on the housing under test without exceeding the housing dimensions.		P
	The insulation shall withstand without breakdown an AC voltage having a frequency of 50 Hz or 60 Hz or DC voltage applied between current carrying parts and accessible parts, non-metallic parts being covered with metal foil. The values of the test voltages are specified in Table 6.1.		P

UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
	The insulation voltage rating of cable(s) supplied with the power bank and of internal wiring shall not be less than 60 V as evidenced by a marking on the insulation or in the cable / wiring manufacturer's specification.		P
	Electrical insulation shall not exceed its marked temperature rating or, if not marked, the Relative Thermal Index (RTI) for the material in question. Compliance is checked by the test of 7.2.2.		P
6.3	**Electrical conductors**		P
	Wires within a power bank housing, or those integral with luggage, carrying cases, etc., and not in a low power circuit shall be protected so that they do not come into contact with burrs or similar edges which may cause damage to their insulation.		P
	A low power circuit is considered to be points closest to the battery or any power input source at which the maximum power delivered to an adjustable resistor, connected between the point to be investigated and the opposite pole of the battery or power input source, does not exceed 15 W at the end of 5 s. The part of the circuit farther from the battery or power input source than a low-power point is considered to be a low-power circuit.		N/A
	Wireways shall be smooth and free from sharp edges		P
	Holes in metal through which insulated wires pass shall have smooth well-rounded surfaces or be provided with bushings.		N/A
	Wiring shall be effectively prevented from coming into contact with moving parts.		N/A
	Bare internal wiring or other current-carrying parts shall be rigid and fixed so that, in normal use, electrical short-circuit is unlikely to occur. Except for integral traces of a printed circuit or terminals forming an integral part of a cell or battery, compliance is checked by the following test:		N/A

UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
	Bare current carrying parts are subjected to a steady force of 10 N ±1 N, applied by the test probe 11 of IEC 61032. Such parts shall not come loose, into contact with each other or accessible conductive parts after application of the force.		N/A
6.4	**Internal electrical connections**		P
	The mechanical integrity of internal electrical connections shall be sufficient to accommodate conditions of intended use.		P
	Solder alone is not considered a reliable means of connection.		P
	Screws used for electrical connections shall screw into metal.		N/A
	Screws and nuts that make a mechanical connection between different parts of a power bank shall be secured against loosening if they also make electrical connections. Compliance is checked by inspection and manual test.		N/A
6.5	**External electrical connections**		P
	External electrical connectors shall comply with the physical specification for one of the types of USB connectors (USB types A, B, micro A, micro B, or C) as described in the IEC 62680 series of standards.		P
6.6	**Terminal contacts and other electrical connections**		P
	Terminal contacts and other electrical connections shall be arranged so as to minimize the risk of short-circuits, such as using keyed connectors. Compliance is checked by inspection, and if necessary, by applying a steady force of 10 ±1 N, by the test probe 11 of IEC 61032.		P
6.7	**Housings**		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The housing of a power bank shall have adequate mechanical strength and be constructed to provide mechanical protection for cells, cell connections and electronic circuits. It shall additionally withstand such rough handling that may be expected in normal use without exposing sharp edges of broken glass or otherwise impairing compliance with the requirements of this outline of investigation.		P
	The housing shall not be capable of being opened by simple tools, such as a screwdriver. It shall be ultrasonically welded, secured by single use or tamper-proof screws, or secured by adhesives complying with the adhesive requirements of UL 746C. Compliance is checked by inspection and the tests of 7.2.4 and as follows.		P
	Each of five fully charged power banks is dropped three times from a height of 1.0 m onto a flat concrete floor or metal floor. The test samples are dropped so as to obtain impacts in random orientations. Each sample is then placed on a flat horizontal surface for a minimum of 1 h.	Tested complied.	P
	If the power bank is still operational, one charge and discharge cycle is conducted on the operational sample in accordance with the method declared by manufacturer.		P
	The power bank housing and any internal compartments for the cells shall be designed to accommodate cell dimensional tolerances during charging and discharging as specified by the cell manufacturer.		P
	The non-metallic housing of a power bank shall be resistant to heat. Compliance is checked by inspection, and for polymeric materials, the following test.	Tested complied.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Fully charged power banks are placed for 7 h in an air circulating oven at a temperature of +70°C ±2°C, according to the procedure in 7.1. After conditioning, the samples are removed from the oven and allowed to return to room temperature when the housings are examined for evidence of distortion, separation of sections or openings that impair compliance with this outline of investigation.		P
	The non-metallic housing of a power bank shall be resistant to fire. Compliance is checked by the 20 mm (3/4 inch) Flame Test in UL 746C.		N/A
	The 20 mm (3/4 inch) Flame Test is not carried out if the housing is comprised of material classified for flammability as minimum V-1 according to UL 94.	V-0 used.	P
6.8	**Temperature/voltage/current management**		P
	Power banks shall be designed to operate such that the temperature, voltage and current limits as specified by cell manufacturer (specified operating region) are not exceeded. See the definition for cell operating region (lithium ion systems) of UL 1642, or the operating region requirements and examples in the Annex for Charging and Discharging Range of Secondary Lithium Ion Cells for Safe Use of UL 62133-2.		P
	Batteries shall have an independent control and protection for current, voltage, temperature and any other parameter required for safety and shall maintain the cells within their operating region.		P
	Batteries designed for the selective discharge of a portion of their series connected cells shall incorporate circuitry to prevent operation of cells outside the limits specified by the cell manufacturer. Compliance is checked by reviewing the protection circuit module (PCM) of the battery and the test of 7.2.2.		N/A
	The voltage of each cell or each cell block, shall not exceed the upper limit of the charging voltage specified by cell manufacturer, excepting the case where the portable electronic devices or similar devices have the equivalent function.	Not exceed the upper limit of the charging voltage 4.25V of cell.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	The protection circuit module shall function, under intended use conditions of charging and discharging, as follows:		P
	-The charging voltage of a cell or cell block shall not exceed the upper limit of the charging voltage specified by cell manufacturer. Charging shall be stopped before the upper limit of the charging voltage is exceeded;		P
	-The cells or cell blocks of batteries shall not be discharged beyond the cell manufacturer's specified final voltage;		P
	– For batteries consisting of series-connected cells or cell blocks, the cells shall have: •closely matched capacities; •the same design; •the same chemistry; and •the same manufacturer.	Single cell power bank.	N/A
	-For the battery consisting of series-connected cells or cell blocks, the battery management system shall incorporate cell balancing circuitry;		N/A
	-For power banks with an integral photovoltaic (PV) feature, charge control shall be incorporated such that battery backfeed to the PV circuit components is prevented. Compliance is checked by reviewing the protection circuit module (PCM) of battery, and by the test of 7.2.2.		N/A
	The power bank shall not exhibit a risk of fire, electric shock or mechanical hazard when subjected to foreseeable misuse conditions. Compliance is checked by the test of 7.3.		P
	Electronic circuits shall be designed and applied so that a fault condition will not render the power bank unsafe with regard to electric shock, fire hazard, or mechanical hazard.		P
	If a thermal cutout functions to interrupt charging or discharging, or if its functioning is necessary for the power bank to comply with the requirements of 7.3, the thermal cutout shall comply with UL 60730-1.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Electronic circuits are checked by evaluation of the fault conditions that are likely to occur and result in electric shock, fire hazard, or mechanical hazard, such as short circuit or open circuit of MOSFET (metal oxide semiconductor field-effect transistor), fuse, thermostat or positive temperature coefficient (PTC) thermistor.		P
7	**Performance**		P
7.1	**General**		P
	Some lithium batteries are capable of exploding when the tests described in this outline of investigation are conducted. It is important that personnel be protected from the flying fragments, explosive force, sudden release of heat, and noise that results from such explosions. The test area shall be well ventilated to protect personnel from possible harmful fumes or gases.		P
	Unless otherwise specified, tests are carried out under the most unfavorable conditions of intended use in an ambient temperature of 20 ±5°C. However, if the manufacturer recommends charging at temperatures outside the range of 10 – 40°C, the ambient temperature for testing is as follows:	Charging temperature 10~40°C declared by manufacturer.	P
	-If the battery is recommended to be charged at a minimum ambient temperature lower than 10°C, the test is also conducted at that minimum temperature +0/-5°C;		N/A
	-If the battery is recommended to be charged at a maximum ambient temperature greater than 40°C, the test is also conducted at that maximum temperature +0/-5°C.		N/A
	Unless otherwise specified, samples of power banks shall be fully discharged and then charged in accordance with the manufacturer's instructions prior to any testing. The sequence shall be repeated at least two hours after the battery was charged.		P
	The charging procedure is the method declared by the manufacturer to charge the battery to the maximum state of charge permitted by the battery management system.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The discharging procedure is to discharge the power bank at a steady rate of current to attain the end of discharge condition specified by the power bank manufacturer.		P
7.2	**Operating conditions**		
7.2.1	Rated capacity		P
	The capacity of power bank shall not be less than 90% or exceed 110% of the marked capacity rating. Compliance is checked by the following test:	See appended table 7.2.1	P
	A sample of a fully charged power bank is stored for not less than 1 h and not more than 4 h.		P
	The power bank is then discharged, at a constant current equal to the rated current of the output port, until its voltage reaches to the end-of-discharge voltage of the output port specified by the manufacturer.		P
	The test may be repeated up to 4 additional times, as necessary to satisfy this requirement.		P
7.2.2	Specified operating region and temperature tests		P
	Power banks shall operate within the specified operating region of the batteries / cells. For each cell:	See appended table 7.2.2 a	P
	-The upper limit of charging voltage:	4.25V declared by cell manufacturer	P
	-The maximum charging current:	2A declared by cell manufacturer	P
	-The surface temperature:		--
	shall not exceed that specified by the cell manufacturer, and the power bank components and materials shall not exceed the temperatures for which they are suitable. Compliance is checked by tests consisting of two full discharge – charge cycles under the following conditions (as applicable):		P
	-Charging and discharging while placed in the most unfavorable stable position on a softwood surface and covered by two plies of loosely draped cheesecloth that overlap the supporting surface by minimum 25 mm in each direction.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	-Charging while placed in associated luggage, carrying case, etc. according to the luggage manufacturer's instructions:		N/A
	•with no electrical load; and		N/A
	•with all electrical loads of the associated luggage connected, or a portion of the electrical loads if such a condition represents a worse case.		N/A
	During charging and discharging, the voltage, the temperature and the charging current are monitored for all individual cells. Currents measured during battery charging shall be the average current over a period of between one and five seconds.		P
	The location of thermocouples for cell temperature measurements shall be on the outer surface, near the terminal of the cell.		P
	For batteries where the cells are configured in series, the test shall be repeated with the charge in one battery deliberately imbalanced. The imbalance is introduced by having all cells with the exception of one cell/cell block discharged from fully charged condition to the specified fully discharged condition. The undischarged cell is discharged to approximately 50% of its specified state of charge (SOC).		N/A
	The measured temperatures shall not exceed the values in Table 7.1.	See appended table 7.2.2 a	P
	External touchable surfaces of power banks shall not present a risk of thermal burn injury. Compliance is checked by determining the temperature rise of touchable surfaces during two full discharge – charge cycles under the following conditions:		P
	-Charging and discharging while placed on a softwood surface.		P
	During charging and discharging, the measured temperatures shall not exceed the values in Table 7.2.	See appended table 7.2.2 a	P
7.2.3	Limited power source		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The output available from any port shall comply with the limits of limited power output as noted in Table 7.3 or Table 7.4. Compliance is checked by the following test:	See appended table 7.2.3	P
	The open circuit output voltage and short-circuit output current from a fully charged power bank shall be measured. If more than one port is provided, the output from each port shall be measured one at a time with the others unloaded.		P
	The output is considered to be limited power source if complying with one of the following:		P
	-The output is inherently limited in compliance with Table 7.3;		N/A
	-A linear or non-linear impedance limits the output in compliance with Table 7.3. If a positive temperature coefficient (PTC) device is relied upon, it shall:		N/A
	•be tested in accordance with UL 60730-1, Manufacturing Deviation and Drift tests of Clause 15, Endurance tests of Clause 17, additional Manufacturing and Deviation tests of Clause J.15, and additional Endurance tests of Clause J.17; or		N/A
	•meet the requirements in UL 60730-1 for a device for Type 2.AL action;		N/A
	-A regulating network or an integrated circuit (IC) current limiter, limits the output in compliance with Table 7.3, both with and without a simulated single fault in the regulating network or the IC current limiter (open circuit or short circuit). A single fault between the input and output is not conducted if the IC current limiter meets a suitable test program as given in the Annex for Integrated Circuit (IC) Current Limiters of UL 60950-1 or the Clause for Integrated Circuit (IC) Current Limiters of UL 62368-1;		P
	-An overcurrent protective device is used and the output is limited in compliance with Table 7.4.		N/A
	Where an overcurrent protective device is used, it shall be a fuse or a non-adjustable, non-auto-reset, electromechanical device.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.2.4	Vibration and mechanical shock		P
	Vibration and mechanical shock encountered during transportation and use shall not cause fire, explosion, rupture, leakage or venting. Compliance is checked by the following tests:	See appended table 7.2.4	P
	Three fully charged power bank samples are firmly secured to the platform of a vibration machine without distorting them in such a manner as to faithfully transmit the vibration. Each sample is then subjected to sinusoidal vibration sweep cycle according to the conditions of Table 7.5. The sweep cycle shall be repeated 11 additional times for each of three mutually perpendicular mounting positions. One of the directions shall be perpendicular to the power bank face with the most ports or where an adjustable control is located.		P
	Three additional fully charged power banks are firmly secured to a shock testing machine by means of a rigid mount of sufficient size and contact area to support the test sample. Each sample is subjected to 3 shocks in each direction of three mutually perpendicular mounting positions of the sample for a total of 18 shocks. For each shock, the parameters given in Table 7.6 shall be applied.		P
	After the aforementioned tests, if the power bank is still operational, one charge and discharge cycle is conducted on each operational sample using the method declared by manufacturer.		P
7.3	**Abnormal operation**		**P**
7.3.1	External short-circuit and overload		P
	Short-circuiting of positive and negative terminals of the power bank shall not cause fire or explosion from the power bank or ignite the external fire indicators. Compliance is checked by the following tests:		P

UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
	Two samples of a fully charged power bank are short-circuited for a period of 24 h by connecting the positive and negative terminals of a port with a total external resistance of 80 ±20 mΩ. If the enclosure temperature of power bank declines by 20% of the maximum temperature rise measured after the manufacturer's recommended charging period or 3 h if no charging period is specified, the test may terminated sooner. However, in case of a rapid decline in the short-circuit current, the power bank shall remain on test for an additional one hour after the current reaches a low-end steady state condition.	See appended table 7.3.1 a	P
	The test is repeated on two additional samples after a fault is introduced in the discharge protection circuit. The faults of 6.8 shall be applied, one at a time and as appropriate.		P
	Two additional samples are placed on a softwood surface covered by a single layer of white tissue paper. Each power output port is then simultaneously loaded to continuously draw a maximum attainable current for at least 1 h. If a protective circuit operates to limit the current from one or more simultaneously loaded ports, the test is repeated on two additional samples after a fault is introduced in the protection circuit. The faults of 6.8 shall be applied, one at a time and as appropriate.	See appended table 7.3.1 b	P
	After the aforementioned tests, if the power bank is still operational, one charge and discharge cycle shall be conducted for each operational sample using the method declared by manufacturer.		P
	For a power bank integrated in luggage, a nominal 1 m length of USB cable, having 0.3211 mm diameter conductors and mating connector, shall be attached to one sample of the power bank port providing the maximum output current. The cable shall have a short circuit made by any convenient means at approximately its mid-point and shall then be placed on a softwood surface that is covered by a single layer of white tissue paper and the cable draped with a single layer of cheesecloth. The test is conducted until ultimate results are observed.		N/A

UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
7.3.2	Overcharge		**P**
	A power bank shall tolerate without fire or explosion an overcharging condition outside the cell manufacturer's specified operating region. Compliance is checked by the following test:	See appended table 7.3.2	P
	Two power bank samples are discharged to fully discharged state. They are then charged at a constant current of 2.0 It A, using a steady supply voltage which is:		P
	-1.4 times the upper limit charging voltage of the cell (but not to exceed 6.0 V), for single cell/cell block construction; or		P
	-1.2 times the upper limit charging voltage per cell, for series connected multi-cell batteries		N/A
	NOTE The DC-DC converter circuitry of power bank will need to be bypassed in order to make it possible to apply the specified overcharge.		P
	The test shall continue until the temperature of the housing reaches steady state or peaks and returns to ambient.		P
	The test is repeated on two additional samples after a fault is introduced in the charge protection circuit. The faults of 6.8 shall be applied, one at a time and as appropriate.		P
	For a power bank with a series configuration battery, an additional sample shall be prepared such that all cells are at approximately 50% charge, except for one which is shorted. The battery is then charged.		N/A
	After the aforementioned tests, if the power bank is still operational, one charge and discharge cycle is conducted on each operational sample using the method declared by manufacturer.		P
8	**Markings**		**P**
8.1	**Electrical rating marking**		**P**
	The following electrical rating shall be permanently and legibly marked on the power bank:	See marking plate.	P
	-Input rating in Vdc or Vac and A for each port;		P

UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
	-Output rating in Vdc and A for each port and a combined ampere rating (if not equal to the summation of all ports);		P
	-Electrical capacity in Ah or mAh of the power bank. A capacity rating shall additionally be specified for each port if it is not equal to the rating of the power bank.		P
8.2	**Identification marking**		**P**
	The following marking shall be permanently and legibly marked on the power bank:	See marking plate.	P
	-Manufacturer's name or trademark or identification mark;		P
	-Manufacturer's model identification or type reference;		P
	-Date of manufacture (which may be in code).		P
8.3	**Cautionary marking**		**P**
	The following or equivalent wording shall be permanently and legibly marked on the power bank: "CAUTION: Risk of Fire and Burns. Do Not Open, Crush, Heat Above (manufacturer's specified maximum temperature) or Incinerate. Follow Manufacturer's Instructions."	See marking plate.	P
	This wording or equivalent shall also be included in the instructions supplied with the power bank.	User manual provided.	P
	For removeable power banks integrated into luggage, carrying cases, bags, packs, etc., the following or equivalent shall be permanently and legibly marked on the power bank and the luggage, carrying cases, bags, packs, etc.: "For use only with _____"		N/A
	Where the underlined space is completed with the manufacturer's name or trademark, catalog number, series identification, or the equivalent, of the power bank or of the luggage, carrying case, bag, pack etc. as applicable.		N/A
8.4	**Other information**		**P**
	Compliance is checked by examination of markings and manufacturer's documentation		**P**
9	**Instructions**		**P**

UL 2056: 2020			
Clause	Requirement + Test	Result - Remark	Verdict

9.1	**General**		**P**
	The following instructions shall be supplied with the power bank in the form of a manual, stuffer sheet or on packaging. The instructions may additionally be repeated via marking provided directly on the power bank. See also Annex A.	User manual provided.	
	-Storage and disposal instructions; and	User manual provided.	P
	-Recommended charging instructions.	User manual provided.	P
	For removeable power banks integrated into luggage, carrying cases, bags, packs, etc., the following instructions shall also be supplied in the form of a manual, stuffer sheet. These instructions may additionally be repeated via marking provided directly on the power bank and/or the luggage, carrying case, bag, pack etc.:		N/A
	-Installation and removal instructions, including when storing the luggage, carrying case, bag, pack, etc. in a cargo area of an airplane;		N/A

Critical Components

Material: e.g. external enclosure, PCB, closed-end connector, sleeves, cord anchorage etc

Components with winding: e.g. motor, transformer, magnetic coil etc.

Other components: e.g. switch, thermostat, heater, plug, internal wire, capacitor, relay, varistor etc.

Object/part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity
Plastic enclosure	SABIC INNOVATIVE PLASTICS B V	CX7240 (GG)	V-0, 90ºC, Min. thickness: 1.5mm	UL 94 UL 746C	UL E45329
PCB	Shenzhen Assunny Precision Circuit Scien-Tech Co., LTD	RD	V-0, 130ºC	UL 796	UL E248037
PCB (Alternative)	Interchangeable	Interchangeable	V-0, 130ºC	UL 796	UL approved
IC (U1)	ETA	ETA9881	V_{IN}: -0.3V~20V V_{OUT}: -0.3V~6V	--	Tested with appliance
IC (U2)	XYSEMI	XB4908AJL	Over charge protection voltage: 4.30±0.05V, Over discharge protection voltage: 2.4±0.1V	--	Tested with appliance
Lead wire	Interchangeable	3239	20AWG, 200°C, 3KV	UL 758	UL approved
Cell	JIANGXI HUAHAO NEW ENERGY CO.,LTD	114065	3.7V, 4000mAh	--	--

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance.

Table 7.2.1	Rated capacity					P
Rated capacity		2400mAh		90%~110% capacity		2160mAh ~2640mAh
Sample No.	Cycle No./ Measured Capacity					Results
	1	2	3	4	5	
B1#	2440mAh	--	--	--	--	P
Supplementary information: The capacity of power bank not be less than 90% or exceed 110% of the marked capacity rating;						

Table 7.2.2 a	Specified operating region and temperature tests (Normal test)					P
POWER BANK Component Temperature Test						
Sample No.	B2# (1st cycle)		B2# (2nd cycle)		Limited T	
Testing Process	Charging	Discharging	Charging	Discharging	Charging	Discharging
PCB near U1	32.8	48.2	32.6	48.5	130+23.4-40=113.4	130+23.3-50=103.3
PCB near U2	31.5	46.8	31.1	45.9	130+23.4-40=113.4	130+23.3-50=103.3
PCB near L1	54.6	61.3	55.0	607	130+23.4-40=113.4	130+23.3-50=103.3
DC	25.8	29.2	26.3	28.7	Ref.	Ref.
Type-C	27.4	28.4	27.7	28.1	Ref.	Ref.
Inner Wire	25.9	27.3	26.2	27.7	200+23.4-40=183.4	200+23.3-50=173.3
Cell body	26.7	26.8	26.4	26.5	Ref.	Ref.
Enclosure Inside	25.3	26.2	25.6	26.4	90+23.4-40=73.4	90+23.3-50=63.3
Ambient	23.4	23.1	23.4	23.1	--	--
Accessible parts:						
Power bank surface	24.5	25.8	24.7	25.5	48	48
Ambient	23.4	23.3	23.4	23.3	--	--
Supplementary information: Charging: 5V, 2A; Discharge: 5 V, 2.4A						
Cell current & voltage Test						
Sample No.	B2# (1st cycle)		B2# (2nd cycle)		Limited T	
Testing Process	Charging	Discharging	Charging	Discharging	Charging	Discharging
Cell voltage (extreme value) (V)	4.18	3.15	4.18	3.18	4.25	3.0

Cell current max (A)	2.17	3.70	2.20	3.68	2	2
Supplementary information: Charging: 5V, 2A; Discharge: 5 V, 2.4A						

Table 7.2.2 b	Specified operating region and temperature tests (Imbalanced test)					N/A
POWER BANK Component Temperature Test						
Sample No.	(1st cycle)		(2nd cycle)		Limited T	
Testing Process	Charging	Discharging	Charging	Discharging	Charging	Discharging
Supplementary information: Charging: V, A; Discharge: V, A						
Cell current & voltage Test						
Sample No.	(1st cycle)		(2nd cycle)		Limited T	
Testing Process	Charging	Discharging	Charging	Discharging	Charging	Discharging
Cell voltage (extreme value) (V)						
Cell current max (A)						
Supplementary information: Charging: V, A; Discharge: V, A						

Table 7.2.3	TABLE: Limited power sources						P
Circuit output tested:							
Note: Measured Uoc (V) with all load circuits disconnected:							
Components	Sample No.	Uoc (V)	I_{sc} (A)		VA		
			Meas.	Limit	Meas.	Limit	
Normal condition	B3#	5.05	2.56	8	12.77	100	
Single fault: (U1)	B4#	4.18	2.81	8	10.68	100	
Single fault: (U2)	B5#	5.05	2.55	8	12.72	100	
Supplementary information: S-C=Short circuit							

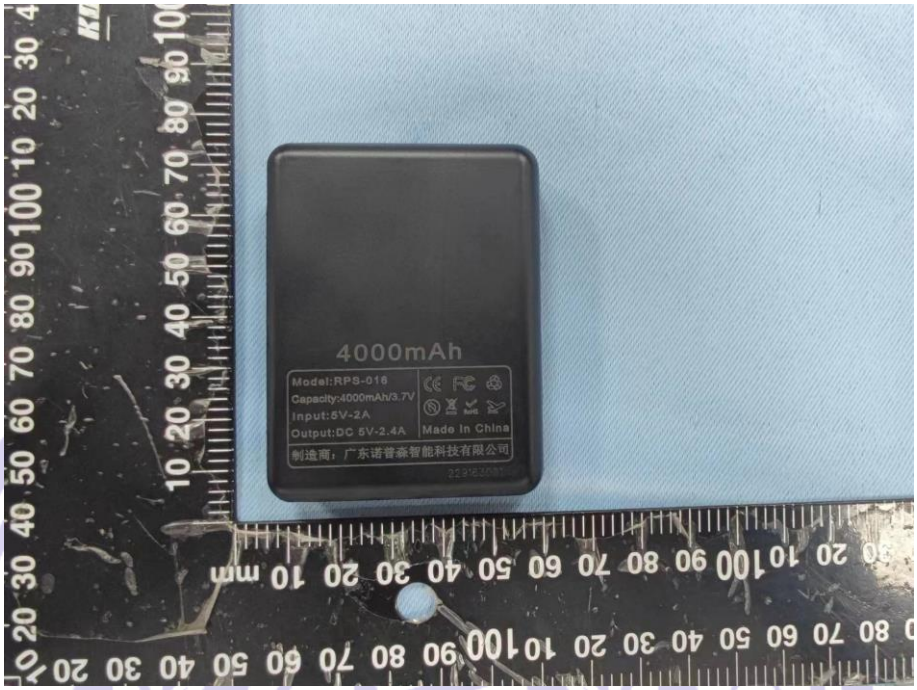
Table 7.2.4	Vibration and mechanical shock		P
Vibration test			
Sample no.	B6#	B7#	B8#
Mass (before test) (g)	81.912	81.346	82.189
Mass (after test) (g)	81.911	81.344	82.188
Mass loss ratio	0.001%	0.003%	0.001%
Shock test			
Sample no.	B9#	B10#	B11#
Mass (before test) (g)	81.428	81.275	80.983
Mass (after test) (g)	81.426	81.274	80.982
Mass loss ratio	0.003%	0.001 %	0.001%
Supplementary information: No fire, explosion, rupture, leakage or venting.			

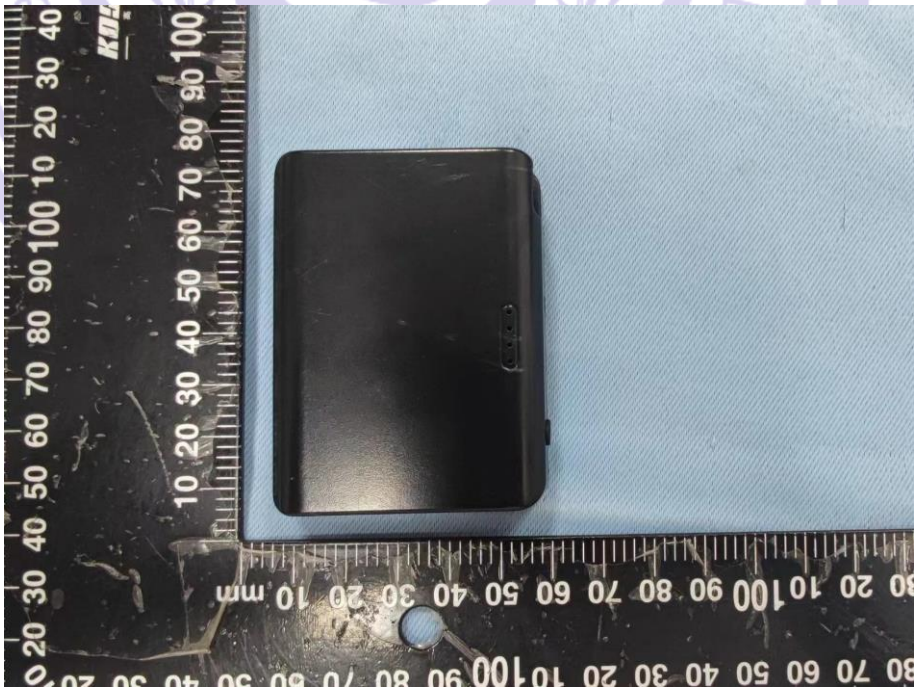
Table 7.3.1 a	External short-circuit					P
Sample No.	Test outport	OCV before test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature (°C)	Component single fault condition	Results
B12#	Type-C	5.05	83.8	23.8	Normal	P
B13#	Type-C	5.04	81.7	23.7	Normal	P
B14#	Type-C	4.18	84.2	23.9	(U1) S-C	P
B15#	Type-C	5.05	82.4	23.8	(U2) S-C	P
Supplementary information: No fire or explosion from the power bank or ignite the external fire indicators.						

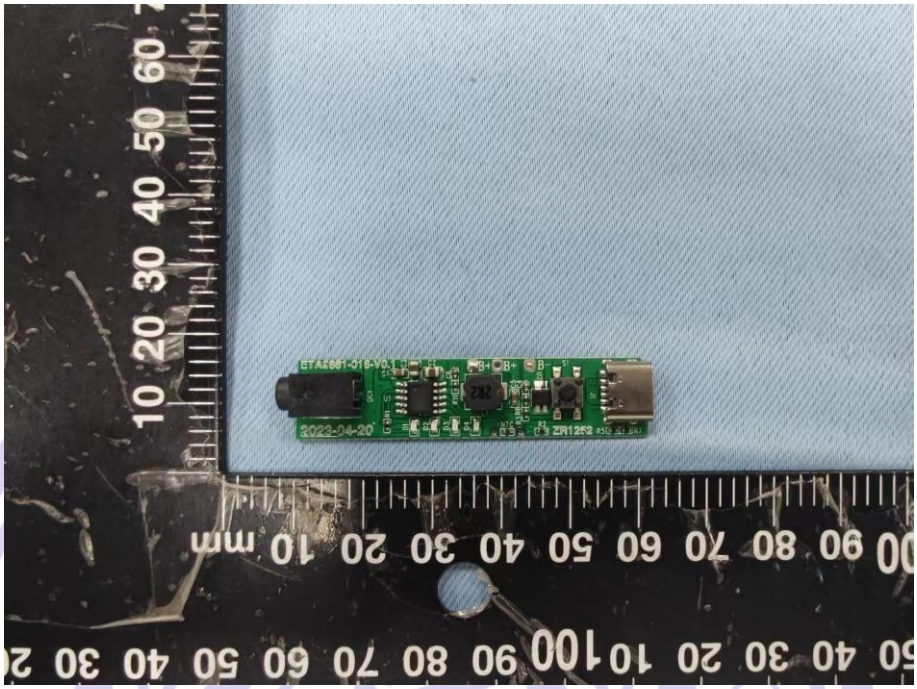
Table 7.3.1 b	Overload test					P
Sample No.	OCV before test (Vdc)	Test time	Current drawn (A)	Maximum case temperature (°C)	Component single fault condition	Results
B16#	5.06	1.02h	2.35	32.4	Normal	P
B17#	5.05	1.01h	2.37	32.9	Normal	P
B18#	4.18	1.53h	2.71	37.4	U1 (S-C)	P
B19#	5.05	1.01h	2.36	33.8	U2 (S-C)	P
Supplementary information: No fire or explosion from the power bank or ignite the external fire indicators.						

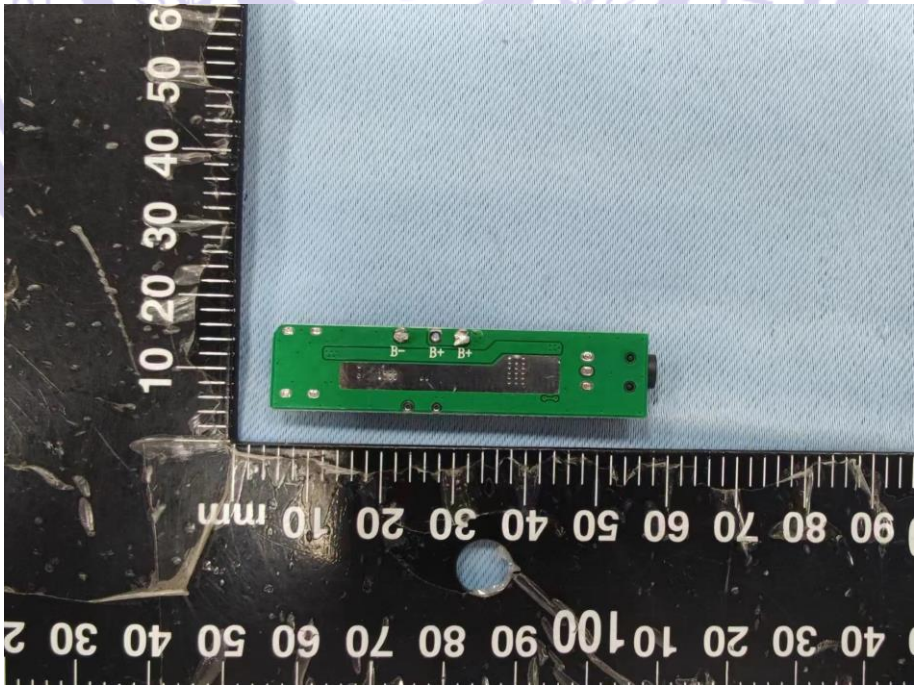
Table 7.3.2	Overcharge			P
Constant charging current (A) .....:		**8.00**		—
Supply voltage (Vdc) .....:		**5.95**		—
Sample no.	OCV before charging (Vdc)	Component single fault condition	Maximum outer case temperature (°C)	Results
B20#	4.18	Normal	31.4	P
B21#	4.18	Normal	30.9	P
B22#	4.19	(U2) S-C	38.8	P
B23#	4.18	(U2) S-C	37.9	P
Supplementary information: The DC-DC converter circuit S-C before test. No Fire or explosion.				

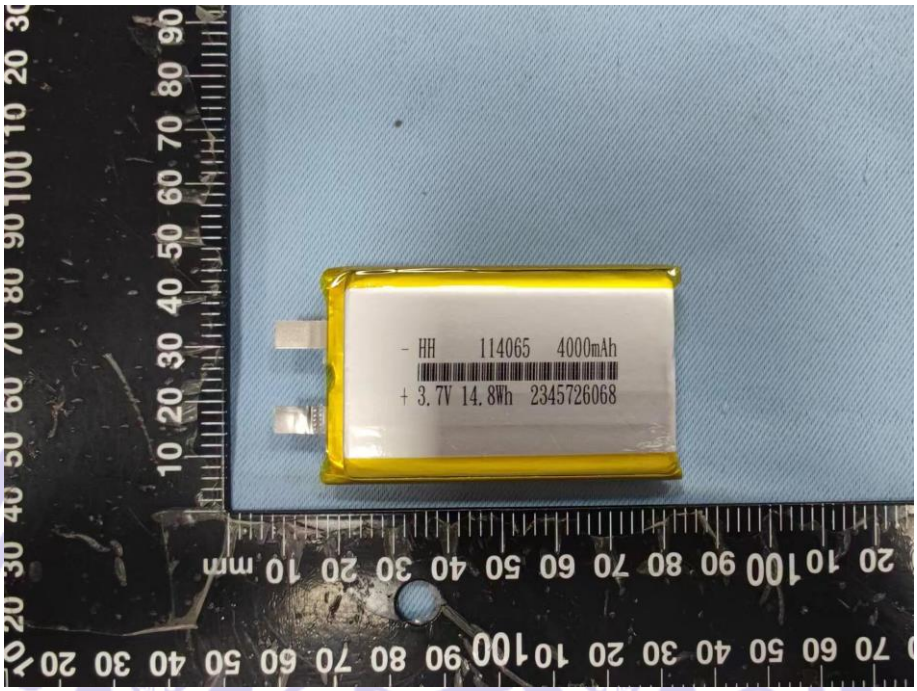
Appendix 1
Photo Documentation

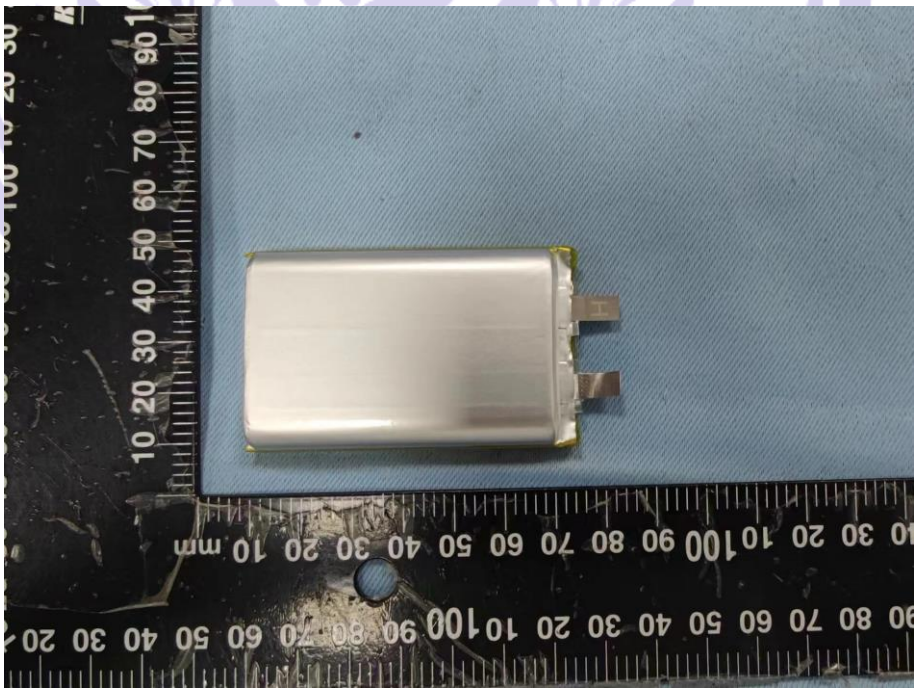
Details of:	Fig.1–Front view of battery RPS-016
	

Details of:	Fig. 2–Back view of battery RPS-016
	

Details of:	Fig.3–Front view of PCM
	

Details of:	Fig.4–Back view of PCM
	

Details of:	Fig.5–Front view of cell 114065
	

Details of:	Fig. 6–Back view of cell 114065
	

---End of Test Report---

Shenzhen NCT Testing Technology Co., Ltd.
A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

NCT Technology

適 合 証 明 書

合格書番号: NCT23029501XC1-1

申込者名 **Applicant:**	**Guangdong Roops Intelligent Technology Co., LTD**
住所 **Address:**	**Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province**
製造事業者 **Manufacturer:**	**Guangdong Roops Intelligent Technology Co., LTD**
住所 **Address:**	**Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province**
電気用品名 **Product:**	**POWER BANK**
型番 **Type:**	**RPS-016**
測定基準 **Standards:**	**Interpretation for METI Ordinance of Technical Requirements Appendix 12, J62133-2(2021) (JIS C 62133-2:2020)**

上記製品のサンプルは、テスト時に引用する基準に適合しており、結果として合格している。

On the basis of the tests undertaken, the samples of the above product have been found to comply with the requirements of the referenced standards and the test results are qualified.

PS E

Issued By: Hely Wang

Approved by: Boris Lin

Date of Issue: 2023-08-14

Seal of NCT:

Shenzhen NCT Testing Technology Co.,Ltd. 2008

1.2M 跌落测试报告

1.2M Drop Test Report

Client **委托方**	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司
Add. of Client **委托方地址**	Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province 广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室
Samples Description **样品名称**	POWER BANK 移动电源
Model/Type **型号规格**	RPS-016
Testing Laboratory **测试机构**	Shenzhen NCT Testing Technology Co., Ltd. 深圳诺测检测技术有限公司 A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China 广东省深圳市宝安区福海街道新田社区富桥六区 B2 一楼 A101, 二楼
Report No. **报告编号**	NCT23029500XB1-2
Issued Date **发行日期**	2023.08.31
Test Conclusion 测试结论: **Shown in the Conclusion of test report. 见检测报告结论页.**	

Tested by主检人: Miller Gao — Miller Gao

Approved by批准人: Boris Lin — Boris Lin

Inspected by 审核人: Hely Wang — Hely Wang

Seal of NCT 报告单位（盖章）

Date of Issue 签发日期: 2023.08.31

Hotline: 400-8868-419 Tel: 86-755-27790922 http://www.ncttesting.cn

Ⅰ、SAMPLE DESCRIPTION 样品描述

Product Name 产品名称	POWER BANK 移动电源		**Sample Model 样品型号**	RPS-016	
Manufacturer 制造商	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司				
Address 地址	Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province 广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室				
Trade Mark 商标	--	**Battery Shape 电池形状**	Prismatic 棱柱形	**Packaging dimensions 包装尺寸 (L×W×T)**	(405×250×175)mm
Nominal Voltage 标称电压	Battery: 3.7V Output: 5V	**Rated Capacity 额定容量**	4000mAh 14.8Wh (内部电芯)	**Battery Number 电池数量**	76/PCS
Gross weight per package 每包装件毛重	7.48kg		**Net weight of batteries per package 每包装件电池的净重**	6.24kg/packing	
Receiving Date 接收日期	2023.08.28		**Completing Date 完成日期**	2023.08.31	

Ⅱ、STANDARD 标准

22 Revised Edition of the《Recommendations on the Transport of Dangerous Goods, Model Regulations》(ST/SG/AC.10/1/Rev.22).
《关于危险货物运输的建议书 规章范本》第 22 版。

Ⅲ、TEST ITEM 测试项目

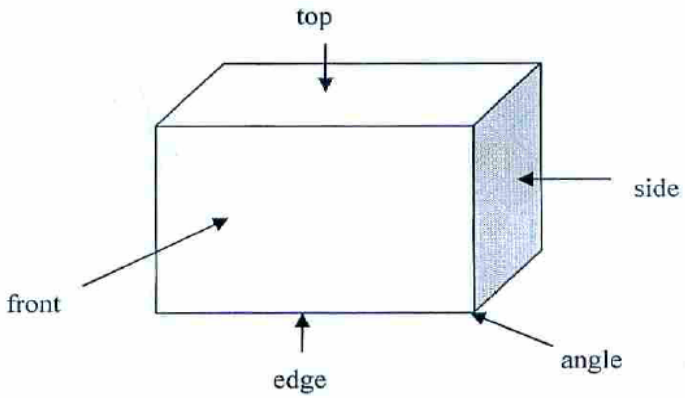
1). Drop test 跌落测试
2). Packing weight test 包装重量测试

Ⅳ、TEST METHOD 测试方法

The package of batteries is dropped from 1.2m, 5times per package. The test floor is concrete floor, each package is capable of withstanding a 1.2 meter drop test in any orientation without damage to cell or batteries contained therein. Without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents.

电池包装件(或含有电池的包装件)从 1.2 米高度进行跌落,每个包装件 5 次.测试底板为混泥土

底板,每一个包装件应能承受在任一方位的 1.2 米跌落测试,并且没有电芯或电池损坏.没有位移导致电池或电芯相互接触,并没有内部物品从箱体内漏出。



Ⅴ、TEST RESULT 测试结果

1) Drop test 跌落测试

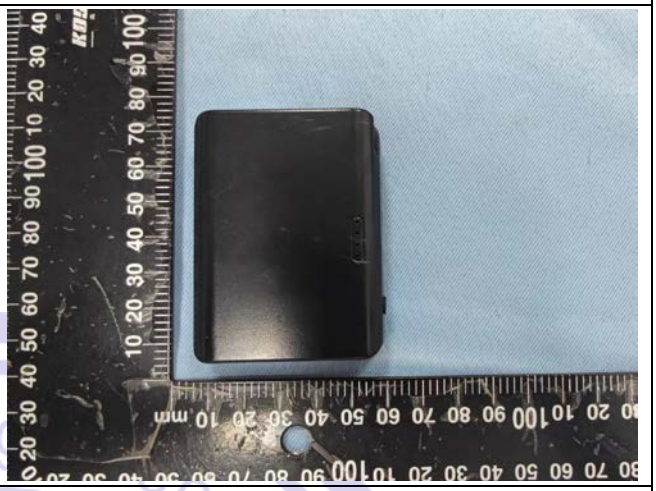
Drop position 跌落位置	Test status 测试情况	Conclusion 结论
Front 前面	Without damage packaging 包装没有损坏	Pass 合格
Edge 边缘	Without damage packaging 包装没有损坏	Pass 合格
Angle 角	Without damage packaging 包装没有损坏	Pass 合格
Side 侧面	Without damage packaging 包装没有损坏	Pass 合格
Top 顶部	Without damage packaging 包装没有损坏	Pass 合格

2) Packing weight test 包装重量测试

No. 编号	Test item 测试项目	Weight 重量 (kg)	Remark 备注
1	Packing weight test 包装重量测试	7.48	---

Photos 照片

Samples 样品：



Package 包装: (空运)

Package 包装: (海运)

注意事项

Important Notice

1. The test report is invalid without the official stamp of NCT.
   本报告书无 NCT 盖章无效.
2. Nobody is allowed to photocopy or partly photocopy this test report without written permission of NCT.
   未经 NCT 书面同意，不得部分地复制本报告书。
3. The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
   本报告书无批准人、审核人、及主检人签名无效。
4. The report is invalid when anything of following happens – illegal transfer, reproduce, embezzlement, imposture, modification or tampering in any media form.
   私自转让、复制、盗用、冒用、涂改、或以任何媒体形式篡改的报告书无效。
5. Objections to the test report must be submitted to NCT within 15 days.
   对报告书若有异议，应于收到报告之日起 15 天内向本公司提出。
6. The test report is valid for the tested samples only.
   本报告仅对测试样品有效。
7. The Chinese contents in this report are only for reference.
   本报告中的中文内容仅供参考。

********End of Report 报告结束********

3m 堆码试验报告

3m Stacking Test Report

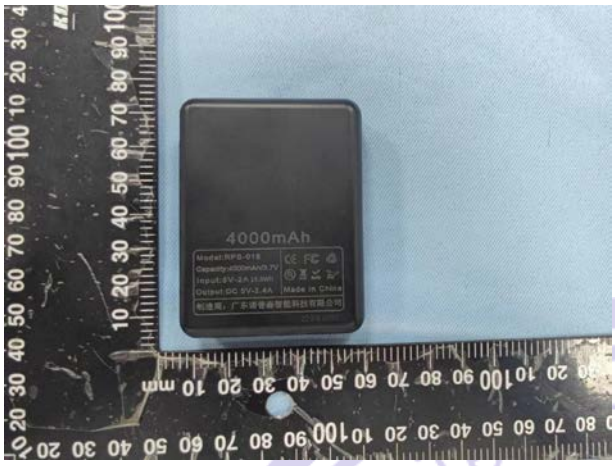
Client **委托方**	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司
Add. of Client **委托方地址**	Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province 广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室
Name of Package **包装件名称**	POWER BANK RPS-016 14.8Wh 移动电源 RPS-016 14.8Wh
Testing Laboratory **测试机构**	Shenzhen NCT Testing Technology Co., Ltd. 深圳诺测检测技术有限公司 A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China 广东省深圳市宝安区福海街道新田社区富桥六区 B2 一楼 A101, 二楼
Report No. **报告编号**	NCT23029500XB1-5
Issued Date **发行日期**	2023.08.31
Test Conclusion 测试结论: **Shown in the Conclusion of test report. 见检测报告结论页.**	

Tested by **主检人**	Miller Gao	**Test Engineer** **测试工程师**	**Shenzhen NCT Testing Technology Co., Ltd.** **深圳诺测检测技术有限公司** **(签发章)**
Inspected by **审核人**	Hely Wang	**Technical Manager** **技术经理**	
Approved by **批准人**	Boris Lin	**Technical Director** **技术总监**	**Date of Issue 签发日期:** **2023.08.31**

Name of Package **包装件名称**	POWER BANK RPS-016 14.8Wh 移动电源 RPS-016 14.8Wh		
Manufacturer of package **包装件生产企业**	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司		
Manufacturer of packaging container **包装容器生产企业**	Shenzhen Risheng Xinda Packaging Products Co., LTD 深圳市日升鑫达包装制品有限公司		
Detailed description of the package **包装件详细说明**	Corrugated carton, Size: 405*250*175mm, Carton thickness: 5mm, Packaging auxiliaries: paper box 瓦楞纸箱，尺寸：405*250*175mm，纸箱厚度：5mm，衬垫材料：纸盒		
Detailed description of the contents **内装物详细说明**	POWER BANK, Model: RPS-016, Basic parameters: 4000mAh, 14.8Wh, Quantity: 76PCS 移动电源，型号：RPS-016， 基本参数：4000mAh, 14.8Wh, 数量：76PCS		
Number of samples **样品数量**	3 packages /3 个包装件		
Gross weight per package **每包装件毛重**	7.48kg		
Total load **加载的载荷**	120.8kg	**Ambient Conditions of sample preparation** **样品预处理环境**	环境温度：23°C±2°C 相对湿度：50%±2%
Test method and criterion **检测方法及判定标准**	22 Revised Edition of the United Nations《Recommendations on the Transport of Dangerous Goods, Model Regulations》(ST/SG/AC.10/1/Rev.22 6.1.5.6). 联合国《关于危险货物运输的建议书 规章范本》第 22 版 6.1.5.6。		
Test Item **检测项目**	3m Stacking Test 3m 堆码试验		
Test Result **检测结果**	After the 24h stacking test, batteries are not damaged, packages are not damaged, no leakage, no deformation. 包装件在经受 24h 堆码试验后，电池未见受损、包装未见破损、未见泄漏、未见变形。		
Conclusion **检测结论**	After testing, the package has passed the stacking test of 22 Revised Edition of the United Nations《Recommendations on the Transport of Dangerous Goods, Model Regulations》(ST/SG/AC.10/1/Rev.22 6.1.5.6). 经检测，该包装件通过了联合国《关于危险货物运输的建议书 规章范本》第 22 版 6.1.5.6 的堆码试验。		
Receiving Date **接收日期**	2023.08.28	**Completing Date** **完成日期**	2023.08.30

Photos 照片

Inner content 内装物：



Package 包装件:

注意事项

Important Notice

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7. The Chinese contents in this report are only for reference.
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******End of Report 报告结束******

MSDS Report

Prepared For : **申请商：**	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司 Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province 广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室
Product Name: **产品名称：**	POWER BANK 移动电源
Model 型号:	RPS-016
Nominal Voltage: **标称电压**	Battery: 3.7V Input: 5V⎓2A Output: 5V⎓2.4A
Typical Capacity: **典型容量:**	4000mAh, 14.8Wh(内部电芯)
Weight 重量:	82.1g
Dimension 尺寸 :	68.5mm X52.0mm X 15.5mm (L×W×T)
Prepared By : **编制单位：**	Shenzhen NCT Testing Technology Co., Ltd. 深圳诺测检测技术有限公司 A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China 广东省深圳市宝安区福海街道新田社区富桥六区 B2 一楼 A101, 二楼
Report No. **报告编号:**	NCT23029500XM1-1

Written by 编写: Miky Ye — Miky Ye

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Seal of NCT 报告单位（盖章）

Date 签发日期: 2023.08.31

Material Safety Data Sheet
化学品安全技术说明书

Section 1- Chemical Product & Company Identification

第一部分 化学品及企业标识

Product Name: POWER BANK

产品名称：移动电源

Manufacture: Guangdong Roops Intelligent Technology Co., LTD

制造商：广东诺普森智能科技有限公司

Address: Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province

地址：广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室

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Emergency Tel* 应急电话*: +86-13925846749

E-mail* 邮箱*: 294515048@qq.com

Item Code* 项目号*: NCT23029500XM1-1

Section 2- Hazards Identification

第二部分 危险性概述

Hazard Description 危险性描述	Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful. 正常使用没有危险，不能拆解、打开或分解电池，里面的材料或成分是有害的。
Primary	Inhalation, Ingestion, Skin contact and Eye contact. 吸入、食入、皮肤接触、眼睛接触。

Route(s) of Exposure 接触途径	
Potential Health Effects 潜在健康影响	**Inhalation:** Vapors or mists from a ruptured battery may cause respiratory irritation. **吸入：** 破裂的电池散发出来的气雾会引起呼吸道刺激。 **Ingestion:** The battery ingredients contained within or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. **食入：** 电池的组成成分或原料可以导致嘴，食道和胃肠道的严重化学烧伤。 **Skin:** Skin contact with contents of an open battery can cause severe irritation or burns to the skin. **皮肤：** 皮肤接触到电池的内部化学材料可能会导致严重的刺激或烧伤皮肤。 **Eye:** Eye contact with contents of an open battery can cause severe irritation or burns to the eye. **眼睛：** 眼睛接触到电池的内部化学材料可能会导致严重的刺激或烧伤眼睛。

Section 3- Composition/Information on Ingredients

第三部分 成分/组成信息

Chemical Name 化学名称	**Concentration or concentration ranges (%) 浓度或浓度范围(%)**	**CAS Number CAS 号（化学文摘索引登记号）**
Lithium Cobalt Oxide 钴酸锂	35-38	12190-79-3
Graphite 石墨	20-22	7782-42-5
Copper 铜	9-10	7440-50-8
Aluminum 铝	5-6	7429-90-5
Ethylene carbonate 碳酸乙烯酯	14-16	96-49-1
Polypropylene 聚丙烯	5-6	9003-07-0
Carbonate, methyl ethyl 碳酸甲乙酯	4-5	623-53-0
Phosphate(1-), hexafluoro-, lithium 六氟磷酸锂	5-6	21324-40-3

Note: CAS number is Chemical Abstract Service Registry Number.

注意：CAS 号是化学文摘服务注册号。

N/A=Not apply.

N/A =不适用。

Section 4- First Aid Measures

第四部分 急救措施

Inhalation **吸入**	Remove source of contamination or move victim to fresh air. Obtain medical advice. 移除污染源或者将受害者移至新鲜空气处。寻求医生建议。
Ingestion **食入**	Please rinse mouth thoroughly with water. Induce vomiting under the guidance of professional personage. Please seek medical treatment in time. 立即用清水漱口，在专业人士的指导下催吐，速就医。
Skin contact **皮肤接触**	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid. 脱下已污染衣服，用大量的水冲洗至少 15 分钟，速就医。
Eye contact **眼睛接触**	Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician. 用流动水冲洗 15 分钟，如刺激持续发生，请求助于医生。

Section 5- Fire Fighting Measures

第五部分 消防措施

Characteristics of Hazard **危险特性**	Toxic fumes, gases or vapors may evolve on burning. 火灾时可释放有害浓烟、气体或者蒸汽。
Hazardous Combustion Products **燃烧产生的危险物品**	Carbon monoxide, carbon dioxide, lithium oxide fumes and so on. 一氧化碳，二氧化碳，锂氧化物烟气等。
Fire-extinguishing Methods and Extinguishing Media **灭火方法及灭火剂**	Please use water, dry sand and other proper fire extinguishing media. 请使用水，干燥沙等合适的灭火介质。
Attention in Fire-extinguishing **灭火注意事项**	The firemen should put on antigas masks and full fire-fighting suits. 消防人员须佩戴防毒面具、穿全身消防服。

Section 6- Accidental Release Measures

第六部分 泄露应急处理

Personal Precautions, protective equipment, and emergency procedures **个人预防措施、防护装备和应急程序**	Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8. 限制区域，直到完成清理工作。请勿触摸泄漏的材料。穿戴适当的个人防护设备，如第 8 部分所示。
Environmental Precautions **环境保护措施**	Prevent material from contaminating soil and from entering sewers or waterways. 防止物质污染土壤和进入下水道或水道。
Methods and materials for Containment **方法和材料控制**	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately. 出于安全，阻止泄漏，可以用干砂或沙土来遏制液体泄露，立即清理泄漏。
Methods and materials for cleaning up **清理的方法和材料**	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal. 用惰性吸收剂(干砂或沙土)吸收溢出的材料。污染物转移到可吸收废物的容器。收集所有受污染的吸收剂和根据第 13 部分的指令处置。用洗涤剂和水清洁污染区域,收集所有受污染的洗涤水进行适当处置。

Section 7- Handling and Storage

第七部分 操作处置与储存

Handling **操作**	Don't handing the batteries in manner that allows terminals to short circuit. Do not open, disassemble, crush or burn battery. 不要以让接头短路的方式对电池进行操作。不要打开，分解，挤压或燃烧电池。
Storage **储存**	If the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically. 如果电池长期存放超过 3 个月，建议定期对电池充电。 Long period more than 1 month: -10℃～35℃, 65±20%R.H. 长期存储超过 1 个月: -10℃～35℃，相对湿度 65±20%R.H. Do not storage the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. 不要将电池随意丢在盒子或抽屉里，以免电池之间或电池与其他金属物质发生短路。 Keep out of reach of children. 储存在小孩接触不到的地方。

	Do not expose the battery to heat or fire. Avoid storage in direct sunlight. 不要将电池暴露在火源和热源附近，避免在阳光直射下存储。 Do not store together with oxidizing and acidic materials. 不要与氧化和酸性物质存储在一起。

Section 8 - Exposure Controls/Personal Protection

第八部分 接触控制和个体防护

Engineering Controls **工程控制**	No engineering controls are required for handling batteries that have not been damaged. Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses. 操作未破损的电池，没有工程控制要求。对于破损的电池，个人防护用品应包括化学品防护手套和安全眼镜。
Personal Protective Equipment **个人防护设备**	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. Not necessary under conditions of normal use. 呼吸保护：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。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. 当电池排气阀打开时，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

第九部分 理化特性

Physical State **物理状态**	Form: Solid 形态：固体
	Color: Black 颜色：黑色
	Odour: Odorless 气味：无气味

Change in condition **变化条件:**	
pH, with indication of the concentration **pH，有浓度指示**	No data is available 无数据可提供
Melting point/freezing point **熔点/凝固点**	No data is available 无数据可提供
Boiling Point, initial boiling point **沸点，初沸点**	No data is available 无数据可提供
Flash Point **闪点**	No data is available 无数据可提供
Upper/lower flammability or explosive limits **上/下燃烧或爆炸限值**	No data is available 无数据可提供
Vapor Pressure **蒸汽压**	No data is available 无数据可提供
Vapor Density: (Air = 1) **蒸汽密度: (空气= 1)**	No data is available 无数据可提供
Density/relative density **密度/相对密度**	No data is available 无数据可提供
Solubility in Water **水溶性**	Insoluble 不能溶解
n-octanol/water partition coefficient **正辛醇/水分配系数**	No data is available 无数据可提供
Auto-ignition temperature **自燃温度**	No data is available 无数据可提供
Decomposition temperature **分解温度**	No data is available 无数据可提供
Odout threshold **溴阈**	No data is available 无数据可提供
Evaporation rate **蒸发速率**	No data is available 无数据可提供
Flammability (soil, gas)	No data is available

易燃性（土壤，气体）	无数据可提供
Viscosity **粘度**	No data is available 无数据可提供

Section 10 – Stability and Reactivity

第十部分 稳定性和反应性

Stability **稳定性**	Stable under normal temperatures and pressures. 常温常压下稳定。
Conditions to Avoid **应避免的条件**	Heat above 70°C or Incinerate, Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions. 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。
Hazardous Decomposition Products **危害分解物**	Toxic Fumes, and may form peroxides. 有毒烟雾，并可能形成过氧化物。
Possibility of Hazardous Reaction **危险反应的可能性**	If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, 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

第十一部分 毒理学信息

Irritation **刺激**	In the event of exposure to internal contents, vapor 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产生刺激性。
Sensitization **致敏**	No data is available 无数据可提供
Reproductive Toxicity **再生毒性**	No data is available 无数据可提供
Toxicologically Synergistic Materials **协同材料毒理学**	No data is available 无数据可提供

Section 12-Ecological Information

第十二部分 生态学信息

General note **通用信息**	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. 不允许未稀释或大量的产品到达地下水、水道或污水系统。
Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity **化学产品在环境/可能的环境预期的行为的一种生态毒性**	No data is available 无数据可提供
Mobility in soil **土壤中移动性**	No data is available 无数据可提供
Persistence and Degradability **持久性和降解性**	No data is available 无数据可提供

Section 13 – Disposal Considerations

第十三部分 废弃处置

Waste Treatment **废弃处置方法**	Recycle or dispose of in accordance with government, state & local regulations. 建议遵照国家和地方法规处置或再利用。
Attention for Waste Treatment **废弃注意事项**	Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling. 废电池不能被当做普通垃圾。不能扔进火中或置于高温下。不能解体，刺穿，破碎或类似的处理。最好的办法是回收利用。

Section 14 – Transport Information

第十四部分 运输信息

The POWER BANK (model: RPS-016) tested according to the requirements of the UNITED NATIONS "Manual of Tests and Criteria" Part III, subsection 38.3;

该移动电源（型号：RPS-016）经过测试符合联合国《实验和标准手册》第三部分，第 38.3 章节的要求。

The POWER BANK was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;
该移动电源做了防短路保护。包括防止与同一封装内的导电材料接触可能导致的短路。

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking.
包装应足以避免在运输，处理和堆放期间的机械损坏。

The package must be handled with care and that a flammability hazard exists if the package is damaged.
包装必须小心处理，如果包装损坏，存在易燃危险。

With regard to transport, the following regulations are cited and considered:
关于运输，引用和考虑了以下法规：
- The International Air transport Association (IATA) Dangerous Goods Regulations.
- 国际航空运输协会（IATA）危险物品规则。

The POWER BANK can be shipped by air in according to Section IB of PACKING INSTRUCTION 965 of the 2023 IATA Dangerous Goods regulations 64th Edition.
该移动电源可以根据 2023 年 IATA 危险物品 规则 第 64 版包装指令 965 第 IB部分。
UN number of lithium battery: UN3480;
锂电池的 UN 编号：UN3480;
UN Proper shipping name/Description (technical name): Lithium ion batteries
UN 合适的运输名称/描述（技术名称）：锂离子电池
UN Classification (Transport hazard class): Class 9
UN 分类（运输危险类别）：9 类危险品
PG Packing Group: N/A
PG 包装等级：不适用

- The International Maritime Dangerous Goods (IMDG) Code.
- 国际海运危险货物（IMDG）规则。

The battery is not restricted according to IMO IMDG Code (inc Amdt 40-20).
海运按照 IMO IMDG Code (inc Amdt 40-20) 该电池不受限制。
UN number of lithium battery: UN3480;
锂电池的 UN 编号：UN3480;
UN Proper shipping name/Description (technical name): Lithium ion batteries
UN 合适的运输名称/描述（技术名称）：锂离子电池
UN Classification (Transport hazard class): N/A
UN 分类（运输危险类别）：不适用
PG Packing Group: N/A
PG 包装等级：不适用
Marine pollutant(Y/N):N
海洋污染物（Y / N）：N
Need to meet the Special Provision: International maritime dangerous goods code (IMDG) 188, 230, 348, 384.
需要符合这些特殊条款：国际海运危险货物规则（IMDG）188, 230, 348, 384.
EmS No.: F-A, S-I
EmS 编号: F-A, S-I

Section 15 – Regulatory Information

第十五部分 法规信息

《Dangerous Goods Regulations》

《危险物品规则》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《危险货物运输的建议模型规定》

《International Maritime Dangerous Goods》

《国际海上危险货物运输》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《危险货物安全运输技术指南》

《Classification and code of dangerous goods 》

《危险货物分类与代码》

《Occupational Safety and Health Act 》(OSHA)

《职业安全与健康法案》(OSHA)

《Toxic Substance Control Act》(TSCA)

《有毒物质控制法》（TSCA）

《Consumer Product Safety Act 》(CPSA)

《消费者产品安全法案》（CPSA）

《Federal Environmental Pollution Control Act》(FEPCA)

《联邦环境污染控制法》（FEPCA）

《The Oil Pollution Act》(OPA)

《石油污染法》（OPA）

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

《超级基金修正案和再授权法案 TitleⅢ(302/311/312/313)》(SARA)

《Resource Conservation and Recovery Act》(RCRA)

《资源保护和恢复法案》（RCRA）

《Safety Drinking Water Act》(CWA)

《安全饮用水法》（CWA）

《California Proposition 65》

《加州 65 号提案》

《Code of Federal Regulations》(CFR) 49 CFR sections 100-185, 49 CFR -173.185

《联邦条例》(CFR) 49 CFR sections 100-185, 49 CFR -173.185

EU Battery Directive (2006/66/EC, 2013/56/EU)

欧盟电池指令(2006/66/EC, 2013/56/EU)

Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

关于化学品的注册、评估、授权和限制(EC)第 1907/2006 号规例

In accordance with all Federal, State and local laws.

符合所有联邦、州和地方法律。

Section 16 – Additional Information

第十六部分 其他信息

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

在我们看来上面的信息是准确的，这是我们目前能提供的最佳的信息。但是，对于这些信息，我们不对商品的性能做任何明示的或者暗示的保证，我们也不对使用这些信息造成的后果担负任何责任。 用户应当自己调查研究后决定这些信息是否适用于他们的特定用途。尽管在该文档里提出了合理的预警，但是这仅仅只是给您做参考，考量和调查。这份化学品安全技术说明书提供了安全处理和使用该产品的指南，但是它没有，也不能对所有可能发生的情景提出建议，所以您需要根据您对该产品的特定使用情况来决定是否需要其他的预防措施。

此处所包含的数据/信息作为普通版本已经审核并批准，但是本文档不包含出口控制信息。

********End of report 报告结束********

Shenzhen NCT Testing Technology Co., Ltd.
A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

By Sea
海运

Identification and Classification Report for Transport of Goods
货物运输条件鉴别报告书

(Not subject to these Regulations)

非限制性

Name of Goods:	POWER BANK RPS-016 14.8Wh
货物名称：	移动电源 RPS-016 14.8Wh
Commission by:	Guangdong Roops Intelligent Technology Co., LTD
委托单位：	广东诺普森智能科技有限公司
Transportation:	Marine
运输方式：	海运

Shenzhen NCT Testing Technology Co., Ltd.
深圳诺测检测技术有限公司

Battery information 电池信息	Product Name 产品名称	POWER BANK 移动电源	Model 型号	RPS-016
	Ratings 额定值	4000mAh	Colour 颜色	Black 黑色
	UN38.3 Test report No. UN38.3 检测报告编号	NCT23029500XB1-1	Size 尺寸	(68.5×52.0×15.5)mm
Package information 包装信息	Package weight 包装件重量	7.48kg	Number of batteries 电池数量	76/PCS
	Number of equipment 设备数量	N/A	Battery net weight 电池净重	6.24kg/packing
	1.2m Test report No. 1.2m 检测报告编号	NCT23029500XB1-2		
Commissioned by 委托单位	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司			
Commissioner address 委托单位地址	Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province 广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室			
Manufacturer 制造商	Guangdong Roops Intelligent Technology Co., LTD 广东诺普森智能科技有限公司			
Manufacturer address 制造商地址	Room 701, Building 1, No.13, Humen South Road, Humen Town, Dongguan City, Guangdong Province 广东省东莞市虎门镇虎门南北路 13 号之一 1 号楼 701 室			
Identification Criteria 鉴定依据	IMDG CODE (Amdt 40-20) Special Provision 188. IMDG CODE (Amdt 40-20) 特殊规定 188			
Conclusion 鉴定结果	(UN No.) UN 编号:	/		
	(PSN) 运输专用名称:	/		
	(Class or Div.) 危险货物类别:	/		
	(PG) 包装等级:	/		
Comment 备注	Not Restricted according to IMDG CODE Special Provision 188. 根据 IMDG CODE 特殊规定 188 不受限制。			
Accepting Date 委托日期	2023.08.31	Issue Date 签发日期	2023.08.31	

Shenzhen NCT Testing Technology Co., Ltd.
A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian,
Fuhai Street, Bao'an District, Shenzhen,
Guangdong, China

Item 鉴别项目名称	Inspection Result 检验结果
Watt-hour rating of the battery is 14.8Wh. 该电池额定瓦特小时数为 14.8Wh。	≤20Wh
Each battery is proved to meet the requirements of each test in the UN MANUAL OF TESTS AND CRITERIA, Part III, sub-section 38.3. 锂电池已通过联合国《试验和标准手册》第 III 部分 38.3 测试。	Conform 符合
Batteries were manufactured under a quality management programme. 电池按照规定的质量管理体系进行制造。	Conform 符合
The lithium batteries don't belong to batteries returned to the manufacturer for safety reasons, are not waste lithium batteries and not lithium batteries being shipped for recycling or disposal. 该锂电池不属于召回电池，不属于废弃和回收电池。	Conform 符合
Each package is capable of withstanding a 1.2m drop test. 通过包装件 1.2 米跌落试验。	Conform 符合
The package must be appropriately marked according to special provision 188. 包装件需要按照特殊规定 188 的要求进行适当标记。	Conform 符合

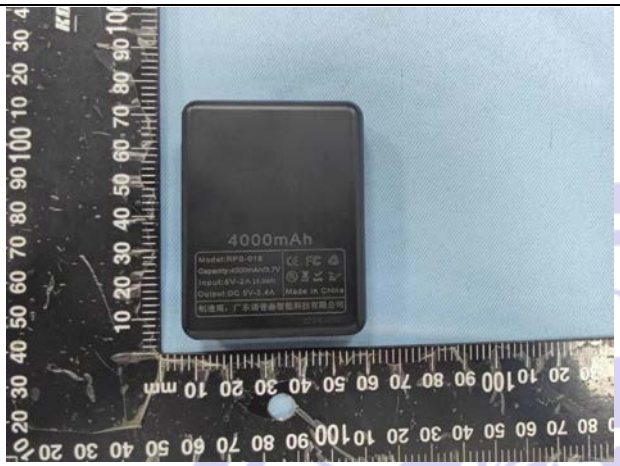
Tested by: Miller Gao　　Reviewed by: Hely Wang　　Approved by: Boris Lin

主检：_____　　审核：_____　　批准：_____

Seal of NCT 报告专用章（盖章）

(Photo) 图片:

Samples 样品:



Package 包装:

Important Notice

注意事项

1. This certification is issued according to “International Maritime Dangerous Goods” and transport information provided by the applicant (shipper or his agent).

   本鉴定书依据《国际海运危险货物规则》，委托人(托运人或代理人)提供的物品及其运输信息出具。

2. The conclusion of this certification is responsible only for the sample provided by the applicant. The applicant should undertake the law responsibility that result from providing untruth sample and untruth information.

   本鉴定书的鉴定结论仅对客户所送样品负责。由于客户提供的样品及其信息不真实而导致的一切后果均由客户负责。

3. This certification takes no account of the state and operator variations.

   本鉴定书不考虑国家及经营人差异。

4. This certification will be effective only after it is signed or stamped by testing engineer, reviewer, approver, and stamped by NCT.

   本鉴定书经主检人、审核人、批准人签字或签章并加盖本公司印章后生效。

5. This certification is invalid when anything of the following happens – illegal transfer, reproduction, embezzlement, imposture, modification or tampering in any media form.

   本鉴定书私自转让、复制、盗用、冒用、涂改或以任何媒体形式篡改的均属无效。

6. This certification is valid from 2023-08-31 to 2023-12-31.

   本鉴定书从 2023 年 08 月 31 日到 2023 年 12 月 31 日有效。

Company: Shenzhen NCT Testing Technology Co., Ltd.
试验单位：深圳诺测检测技术有限公司
Address：A101, 1/F., &2F., B2, Fuqiao 6th Area, Xintian, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
地　址：广东省深圳市宝安区福海街道新田社区富桥六区 B2 一楼 A101, 二楼
Hotline: 400-8868-419
Tel: 86-755-27790922
http://www.ncttesting.cn

CERTIFICATE OF CONFORMITY

Certificate No. : NCT23024373XE1-1

Product Name : Mobile power supply

Model No. : RPS-048
(Other models please see the page 2)

Applicant : Guangdong Roops Intelligent Technology Co., LTD
Address : Room 701, Building 1, No. 13, Humen South Road, Humen Town, Dongguan City, Guangdong Province

Manufacturer : Guangdong Roops Intelligent Technology Co., LTD
Address : Room 701, Building 1, No. 13, Humen South Road, Humen Town, Dongguan City, Guangdong Province

Trademark : N/A

The above products have been tested by us with the listed standards and found in compliance with the EUROPEAN COUNCIL EMC DIRECTIVE 2014/30/EU. It is possible to use CE marking to demonstrate the compliance with this EMCdirective.

Test standards:	Report(s) Number	Issued By	Issued Date
EN 55032:2015/A1:2020 EN 55035:2017/A11:2020 EN IEC 61000-3-2:2019/A1:2021 EN 61000-3-3:2013/A2:2021/AC:2022	NCT23024373XE1-1	NCT	Jun. 20, 2023

This certificate of conformity is not transferable and based on an evaluation of a sample of the above mentioned product.

CE

Date: Jun. 20, 2023

Shenzhen NCT Testing Technology Co., Ltd.
Hotline: 400-8868-419 Http://www.ncttesting.cn/
A101&2FB2, Fuqiao 6thArea, Xintian Community, Fuhai Street, Baoan District, Shenzhen, China

Certificate No. : NCT23024373XE1-1

Product Name : Mobile power supply

Additional Model: : RPS-035, RPS-035L, RPS-045, RPS-045L, RPS-055, RPS-055L, RPS-065, RPS-065L, RPS-075, RPS-075L, RPS-085, RPS-085L, RPS-095, RPS-095L, RPS-009, RPS-009L, RPS-019, RPS-019L, RPS-029, RPS-029L, RPS-039, RPS-039L, RPS-049, RPS-049L, RPS-059, RPS-059L, RPS-069, RPS-069L, RPS-079, RPS-079L, RPS-089, RPS-089L, RPS-099, RPS-099L, RPS-006, RPS-006L, RPS-036, RPS-036L, RPS-046, RPS-046L, RPS-056, RPS-056L, RPS-066, RPS-066L, RPS-076, RPS-076L, RPS-086, RPS-086L, RPS-096, RPS-096L, RPS-048L, RPS-048X, RPS-058, RPS-058L, RPS-058X, RPS-068L, RPS-068X, RPS-088, RPS-088L, RPS-088X, RPS-098, RPS-098L, RPS-098X, RPS-118, RPS-118L, RPS-118X, RPS-128, RPS-128L, RPS-128X, RPS-158, RPS-158L, RPS-158X, RPS-168, RPS-168L, RPS-168X, RPS-188, RPS-188L, RPS-188X, RPS-198, RPS-198L, RPS-198X

Applicant : Guangdong Roops Intelligent Technology Co., LTD

Address : Room 701, Building 1, No. 13, Humen South Road, Humen Town, Dongguan City, Guangdong Province

CE

Shenzhen NCT Testing Technology Co.,Ltd. 2008

Date: Jun. 20, 2023 **Signature:**

Shenzhen NCT Testing Technology Co., Ltd.

Hotline: 400-8868-419 Http://www.ncttesting.cn/

A101&2FB2, Fuqiao 6thArea, Xintian Community, Fuhai Street, Baoan District, Shenzhen, China