TEST REPORT

UL 2056
Safety of Lithium-ion Power Banks

Testing Laboratory Name ..... :	Shen Zhen UONE Test Co.,LTD.
Address ..... :	Unit 4B, Building B4, China Merchants Guangming Science Park,Tourist Road 3009, Guangming New District, Shenzhen
Testing location ..... :	Unit 4B, Building B4, China Merchants Guangming Science Park,Tourist Road 3009, Guangming New District, Shenzhen
Testing Laboratory Authorization :	ISO17025 Lab Registraton Number is CNAS L7924
Applicant's Name ..... :	HIGH ACOUSTICS TECHNOLOGY(SHENZHEN)CO.,LTD
Address ..... :	Room 401,Building 8 Zhongwenxing ,Gangzi Industrial Park,Xiangshan Industry Xinqiao Street Bao ’an District Shenzhen
Manufacturer ..... :	HIGH ACOUSTICS TECHNOLOGY(SHENZHEN)CO.,LTD
Address ..... :	Room 401,Building 8 Zhongwenxing ,Gangzi Industrial Park,Xiangshan Industry Xinqiao Street Bao ’an District Shenzhen
Test specification	
Standard..... :	UL 2056
Procedure deviation ..... :	N/A
Non-standard test method ..... :	N/A
Test item description ..... :	Mini Power Bank
TradeMark ..... :	Liboer
Model and/or type reference ..... :	LMO1
Rating(s)..... :	Capacity: 5000mAh/3.7V/18.5W Input: DC 5V3A,12V1.5A Output: DC 5V3A,12V1.5A
Test case verdicts	
Test case does not apply to the test object :	N/A
Test item does meet the requirement:	P(ass)
Test item does not meet the requirement:	F(ail)

Name and address of the testing laboratory : **Shen Zhen UONE Test Co.,LTD.**
Unit 4B, Building B4, China Merchants Guangming Science Park
No.3009 Guanguang Road, Guangming New Area
shenzhen, Guangdong China 518107

Test by : Ruth
Signature/Report writer
Apr. 16, 2024
Date

Review by: Thea
Signature/Report Reviewer
Apr. 16, 2024
Date

Approved by:
Signature/Technical Supervisor
Apr. 16, 2024
Date

Copy of marking plate:

Mini Power Bank
Model: LM01
Rating: Capacity: 5000mAh/3.7V/18.5W
Input: DC 5V3A/12V1.5A
Output: DC 5V3A/12V1.5A
HIGH ACOUSTICS TECHNOLOGY (SHENZHEN)CO.,LTD
Date Code: YYMM
CONFORMS TO UL STD 2056

Remark. YYYYMMDD represents the date of manufacture.YYY means year for the product manufactured. MM means month for the product manufactured.DD means date for the product manufactured.

Summary of testing:

Clause(s)	Test(s)
8	General
8.4	TABLE: Abnormal Charging Test for model (battery)
8.5	TABLE: Abusive Overcharge Test for model (battery)
8.7/8.8	TABLE: Battery Pack Component Temperature Test and Battery Pack Surface Temperature Test
8.9	TABLE: Limited power sources
8.10	Evaluation of voltage limiting components in SELV circuits
9	Power Input Test
10	Overload of Output Ports Test
12	Capacity Verification Test

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Clause	Requirement + Test	Result - Remark	Verdict
	CONSTRUCTION		
7	General	Tested and complied.	P
7.1	the Standard for Household and Commercial the Standard for Household and Commercial Batteries, UL 2054.	USB port used	P
7.2	The input port from external power supply is in general dc jack or USB port, and shall not be of the types described in 1.3.	No such converter circuitry which can generates such high voltage.	P
7.3	If the builtin dc/dc converter circuitry generates voltage exceeding 42.4 Vac or 60 Vdc, this circuity shall comply with the applicable requirements of either the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1 or the Standard for Audio Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, UL 62368-1.	No such converter circuitry Which can generates such high voltage.	N/A
7.4	For Lithium-ion Power Banks with direct plug-in construction, the following shall be met.		P
	a) The Lithium-ion Power Banks and its built-in aclde power supply shall comply with the applicable requirements Equipment-Safety-Part 1: Genera l Requirements,Equipment-Safety-Part 1: General Requirements, UL60950-1 or the Standard for Audio Video,Information and Communication Technology Equipment-Part 1: Safety Requirements, UL 62368-1.		P
	b) A barier shall be provided between the builtin ac/dc power supply and built-in battery pack. The ac/dc power supply and built-in battery pack. The electrical insulation and fire enclosure of either the electrical insulation and fire enclosure of either the Standard for Information Technology Equipment- Safety-Part 1: General Requirements, UL60950-1 or the Standard for Audio Video, Information and Communication Technology Equipment-Part 1: Safety Requirements, UL 62368-1.		P
	PERFORMANCE		P
8	General		P
8.1	Unless otherwise superseded by a requirement in this Outline, Lithium-ion Power Banks shall comply with the Household and Commercial Batteries, UL 2054. Household and Commercial Batteries, UL 2054.	Tested and complied.	P
8.2	For the Abnormal Charging Test and Abusive For the Abnormal Charging Test and Abusive For the Abnormal Charging Test and Abusive followed.		P
8.3	The tests shall be conducted at the input point of battery protecting circuit. Note - This means dc/dc converter circuitry which be bypassed to result in battery overcharging, which is required for the evaluation of protecting circuit.		P
8.4	For the Abnormal Charging Test in the Standard for Household and Commercial Batteries, UL 2054, the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	following shall be taken as maximum current Ic:Rated maximum charging current of the bullt-in battery (rather than the Lithium-ion Power Banks),		
8.5	For the Abusive Overcharge Test in the Standard for Household and Commercial Batteries, UL 2054, the C5 amp rate of the builtin battery (rather than the Lithium-ion Power Banks) shall be taken for the purpose of this test.		P
8.6	For the Battery Pack Component Temperature Test and Battery Pack Surface Temperature Test in the Standard for Household and Commercial Batteries, UL 2054, 8.7 and 8.8 shall be fllowed.		P
8.7	For output loading temperature test, a fully charged Lithium-ion Power Banks shall be discharged. Any load of the output ports that can be operated at the same time shall be considered to result in maximum temperatyre nise.		P
8.8	For input loading temperature test, a fully discharged Lithium-ion Power Banks shall be charged in discharged Lithium-ion Power Banks shall be charged in load of the output ports that can be operated at the same time shall be considered to result in maximum temperature nise.		P
8.9	Each output port shall be a limited power source in accordance with the Standard for Household and Commercial Batteries, UL 2054, the Standard for Information Technology Equipment - Safety-Part1:General Requirements, UL 60950-1, or the Standard for Audio Video, Information and Standard for Audio Video, Information and Safety Requirements, UL 62368-1, or a Class 2 power source in accordance with the Standard for power source in accordance with the Standard for Class 2 Power Units. UL 1310.		N/A
8.10	Each output port shall be a SELV circuit in accordance with the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1 or be an ES1 in accordance with the Standard for Audio/Video, Equipment - Part 1: Safety Requirements, UL62368-1.	SELV circuit, dc output rated less than 60Vdc.	P
9	Power Input Test		P
9.1	The current input to a Lithium-ion Power Banks shall not exceed 110% of the marked input current rating of the Lithium-ion Power Banks, when the Lithium-ion Power Banks is operated under the conditions of maximum normal load.	under the conditions of maximum normal load.	P
9.2	Maximum nomal load shall consist of the maximum current draw while the Lithium-ion Power Banks is operaingin all possible modes. This may include charging the built- in battery, and output ports unloaded or loaded at the rated maximum normal load. Any load that can be operated at the same time shall be considered in order to obtain the maximum normal load.		P
10	Overload of Output Ports Test		P
10.1	Each power output pin of output poftshall be overloaded		P

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Clause	Requirement + Test	Result - Remark	Verdict
	in accordance with10.2- 10.5.		
10.2	In accordance with manufacurer's specifications, fully charge the bilt-in battery of Lithium-ion Power Banks.	3.7V	P
10.3	The Lithium-ion Power Banks is covered with one layer of cheesecloth and placed on a softwood board covered with one layer of tissue paper.		P
10.4	Each power output pin of output port shall then be loaded to draw the maximum current, for at least 1 h.		P
10.5	After this test, the cheesecloth and tissue paper shall remain intact		P
11	Flammability of Photovoltaic Cells Test		N/A
11.1	This test shall be conducted if the Lithium-ion Power Banks is provided with integral photovoltaic cells as a power source.		N/A
11.2	In accordance with manufacturer's speifications, fully charge the builtin battery of the Lithium-ion Power Banks.		N/A
11.3	The Lithium-ion Power Banks is covered with one layer of cheesecloth and placed on a softwood board covered with one layer of tissue paper.		N/A
11.4	The Lithium-ion Power Banks is subjected to single component fault that is likely to occur and which would resultin flammability issue of the photovoltaic cells, such as flammability issue of the photovoltaic cells, such asfor1 h.		N/A
11.5	After this test, the cheesecloth and tsse paper shall remain intact		N/A
12	Capacity Verification Test		P
12.1	The marked electrical capacity of Lithium-ion Power Banks, measured at the power output pin of output port,shall comply with the Standard for Secondary Cells and Batteries Containing Alkaline or Other Non-Acid Electrolytes - Secondary Lithium Cells and Batteries for Portable Applications, IEC 61960, Clause 7.3.1, Discharge Performance at 20 °C (Rated Capacity), and the modifed test method in 12.2.		P
12.2	The Lithium-ion Power Banks is discharged at a constant current equals to rated current of the output port, luntl its voltage is equal to the end-of-discharge voltage of		P
MARKINGS			
13	General		P
13.1	Unless otherwise superseded by a requirement in this Outine, Lithium-ion Power Bankss shall comply with the requirements in the Standard for Household and Commercial Batteries, UL 2054.		P
13.2	For electrical ratings, the fllowing information shall a) Input rating in Vdc and A. If there are more than		P
	a) Input rating in Vdc and A. If there are more than one input ports, the rating of each port shall be provided;	Input rating of port provided.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Output rating in Vdc and A. If there are more than Output rating of port and one output ports, it shall include rating of each port and the combined rating (f it is not equal to the and the combined rating (f it is not equal to the	Output rating of port and combined rating marked.	P
	c) Electrical capacity in Ah or mAh. If there are more than one output ports/output ratings, either the capacity of each port/rating shall be provided, or the minimum capacity of these ports/ratings shall be provided.	Capacity of output marked.	P
14	INSTRUCTIONS		P
14.1	Lithium-ion Power Bankss shall be provided with legible linstructions pertaining to the proper selection and replacement of its power supply or charger.	User manual provided.	P
14.2	Lithium-ion Power Bankss shall be provided with legible instructions pertaining to a risk of fire or injury to persons associated with the use of the product.	User manual provided.	P
14.3	An ilustration is allowed with a required instruction to carify the intent but shall not replace the witen instruction.	User manual provided.	P
15	Instructions Pertaining to Risk of Fire or Injury t Persons		P
15.1	Instructions pertaining to a risk of fire or injuny to persons shall warn the user of reasonably foreseeable nisks and state the precautions to be taken to reduce such nisks. Such instructions shall PERTAINING TO RISK OF FIRE OR INJURY TO PERSONS" or the equivalent	User manual provided.	P
15.2	Unless otherwise indicated, the textof theinstructions in 15.4 shall be in the words specfied or words that are equivalent, clear, and understandable. Substitution ofthe signal word "DANGER" for "WARNING is llowed when the risk associated with the product is such that a situation exists which, if not avoided, wil result in death or serious injury.	User manual provided.	P
15.3	Numbering of the itemsin the listin 15.4 and including other instructions pertaining to a risk of fireor injury to persons that the manufacturer determines to be necessary and that do not confict with the intent of the instructions are acceptable.	User manual provided.	P
15.4	The instructions pertaining to a risk of fire or injury to persons shall include those items in the fllowing list that are applicable to the product The statement "IMPORTANT SAFETY INSTRUCTIONS" or the equivalent shall precede the list, and the statement shall either precede or follow the list. The word "WARNING" shall be entirely in upper case ltters or the text. MPORTANT SAFETY INSTRUCTIONS WARNING - When using this product, basic precautions should always be fllowed, including the following: a) Read all the instructions before using the product. b) To reduce the risk of injury, close supervision is c) Do not put fingers or hands into the product d) Do not expose Lithium-ion Power Banks to rain or	User manual provided.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	snow. e) Use of a power supply or charger not f) Do not use the Lithium-ion Power Banks in excess ofits output rating. Overload outputs above fating may resultina may result in a risk of fire or injury to persons. g) Do not use the Lithium-ion Power Banks in excess ofits output exhibit unpredictable behavior yesulting in fire,explosion or risk of injury h) Do not disassemble the Lithium-ion Power Banks. Take tto a qualifed service person when service or repair is required. Incorrect reassembly may result in a risk of fre or injury to persons. i) Do not expose a power pack to fire or excessive temperature. Exposure to fire or temperature above 100*C can be replaced by the temperature of 212*F. j) Have servicing performed by a qualifed repair person using only identical replacement parts. This will ensure that the safety of the product is maintained. k) Switch off the Lithium-ion Power Banks when not in use. SAVE THESE INSTRUCTIONS		
	APPENDIX A		P
	Standards for Components Standards under which components of the products covered by this outine of investigation are evaluated include the following: Title of Standard - UL Standard Designation Automatic Electrical Controls for Household and Similar Use, Part 1: General Requirements - UL60730-1 Low-Voltage Fuses - Part 1: General Requirements - UL 248-1 Low-Voltage Fuses - Part 14: Supplemental Fuses -UL 248-14 Marking and Labeling Systems - UL 969 Polymeric Materials - Use in Electrical Equipment Evaluations - UL 746C Printed-WMiring Boards - UL 796 Tests for Flammability of Plastic Materials for Parts in Devices and Appliances-UL 94 Thermal-Links - Requirements and Application Guide - UL 60691 Thermistor-Type Devices - UL1434		P

Sample Pictures：

Photo 1 General appearance of the EUT

Photo 2 General appearance of the EUT

Photo 3 General appearance of the EUT

Photo 4 General appearance of the EUT

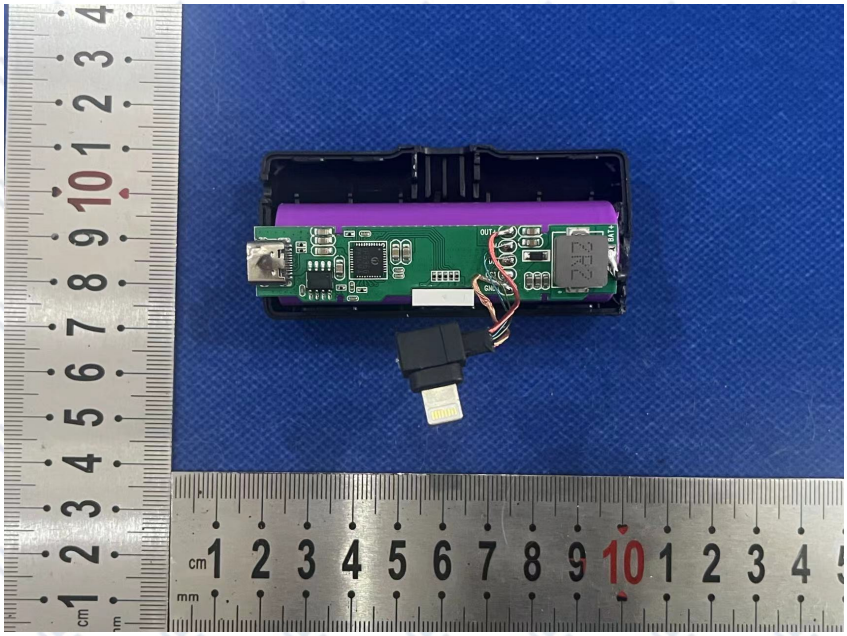

Photo 5 General appearance of the EUT

Photo 6 General appearance of the EUT