



TEST REPORT

Report No.: NTS2508262S

Product: Li-ion Polymer Battery

Model No.: 103450, 102050, 102540, 102550, 523450, 603450, 703048,
803040, 803450, 902040, 502040

Applicant: Dongguan Mozhong Technology Co., Ltd.

Address: Room 702, Building 1, No. 118, Shaxin Road, Tangxia Town,
Dongguan City, Guangdong Province

Issued by: NOWD Testing Services Co., Ltd.

Lab 5A, Building 29B, Yintian Industrial Zone, Yantian Community,

Location: Xixiang Street, Bao'an District, Shenzhen, China

Tel: (86)-0755-27830065 Fax (86)-0755-27830095

This test report may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by NTS. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to NTS within 15 days since the date



TEST REPORT UL1642 Standard for safety Lithium Batteries	
Report Number.....	NTS2508262S
Tested by (+ signature)	Alex Hu
Compiled by (+ signature)	Sailor Jiang
Date of issue.....	Aug. 27, 2025
Total number of pages.....	18 pages
Testing laboratory	NOWD Testing Services Co., Ltd.
Address	5A, Building 29B, Yintian Industrial Zone, Yantian Community, Xixiang Street, Bao'an District, Shenzhen, China
Testing location	As above
Applicant's name	Dongguan Mozhong Technology Co., Ltd.
Address.....	Room 702, Building 1, No. 118, Shaxin Road, Tangxia Town, Dongguan City, Guangdong Province
Manufacturer.....	Dongguan Mozhong Technology Co., Ltd.
Address.....	Room 702, Building 1, No. 118, Shaxin Road, Tangxia Town, Dongguan City, Guangdong Province
Test specification:	
Standard.....	UL1642: 2020
Test result.....	Pass
Procedure deviation.....	N/A
Non-standard test.....	N/A
This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of NOWD Testing Services Co., Ltd.	
Test item description	Li-ion Polymer Battery
Trade Mark.....	LUNKE
Model/Type reference.....	103450, 102050, 102540, 102550, 523450, 603450, 703048, 803040, 803450, 902040, 502040
Ratings.....	3.7V
Date of receipt of t.....	Aug. 18, 2025
Date(s)of performance of tests.....	Aug. 18, 2025 to Aug. 27, 2025
Test case verdicts.....	N/A
Test case does not apply to the test object.....	N(/A)
Test item does meet the requirement..:	P(ass)



Alex Hu
Sailor Jiang



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
5	General		P
5.1	Technician-replaceable batteries		P
5.1.1	Technician-replaceable lithium cells or batteries are to be tested as described in Sections 10 -20 Section 12, Forced-Discharge Test, is applicable only to cells intended to be used in series-connected multicell applications such as battery packs. For multicell installations, also see 5.3.1.		P
5.1.2	When a fire or explosion occurs as a result of the Crush Test, Section 13, or the Impact Test, Section 14, or the cell or battery ruptures to the extent that the aluminum test cage is penetrated during the Projectile Test, Section 20; the use of the technician replaceable cell or battery shall be restricted to applications in which it is not exposed to, or is protected from, any conditions shown to cause a fire or explosion.		N/A
5.1.3	Cells and batteries subjected to the Shock Test, Section 15, Vibration Test, Section 16, Temperature Cycling Test, Section 18, and Low Pressure (Altitude Simulation) Test, Section 19, shall also not leak or vent. For these tests, unacceptable leakage is determined to have occurred when the resulting mass loss exceeds the values shown in Table 5.1, venting and leakage mass loss criteria.		N/A
5.2	User-replaceable Batteries		N/A
5.2.1	User-replaceable lithium cells or batteries are to be tested as described in Sections 10-20. Section 12, Forced Discharge Test, is applicable only to cells intended to be used in multicell applications such as battery packs. In addition to complying with the requirements for a technician replaceable cell or battery as specified in 5.1.1, a user-replaceable cell or battery shall not explode or ignite when subjected to the Crush Test, Section 13, or the Impact Test, Section 14.		N/A
5.2.2	Sets of five specimens each are to be used for the Projectile Test, Section 20; see Table 6.1. When only one specimen from a set of five does not comply with the requirements, another set of five specimens is to be tested. All specimens from this second set shall comply with the requirements.		N/A
5.3	Multicell installations		N/A



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.1	A technician-replaceable or user-replaceable cell intended for use in multicell installations or battery packs shall also be tested as described in 10.3 and Section 12. No fire or explosion shall occur as a result of these tests. In addition, batteries subjected to the test described in 10.3 shall meet the requirements as described in 5.1.1 and 5.2.1 for a cell or battery subjected to the Short-Circuit Test. Section 10.		N/A
6	Samples		P
6.1	Fully charged primary cells or batteries and primary cells or batteries that have been conditioned by partial or complete discharge, or both, are to be used for the tests described in Sections 10- 20. The number of samples to be used in each test for a primary cell or battery is shown in Table 6.1. When a group of cells or batteries of different sizes, but similar chemistries is involved, selected sizes representative of the range are to be tested.		P
6.2	Fully charged secondary cells or batteries and secondary cells or batteries that have been conditioned by charge-discharge cycling are to be used for the tests described in Sections 10 - 20. The number of samples to be used in each test for a secondary cell or battery is shown in Table 6.2. When a group of cells or batteries of different sizes, and similar chemistries is involved, selected sizes representative of the range are to be tested.		P
6.3	Prior to conducting the testing in Section 17, the lithium ion cell samples shall be pre-conditioned as outlined in 6.4 and 6.5.		N/A
6.4	For the heating test of Section 17, two sets of five lithium ion cell samples are to be fully discharged (i.e. to the manufacturer's specified end point voltage). The samples are then placed in a test chamber and conditioned for 1 to 4 h (5 samples at the upper temperature limit and 5 samples at the lower temperature limit of the operating region) as outlined in Table 6.3.		N/A



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
6.5	While still in the test chamber set at the temperature limits, the samples are charged (5 samples at the upper temperature limit and 5 samples at lower temperature limit) at the specified maximum charging current and upper limit charging voltage per Table 6.3, using a constant voltage charging method Charging is continued until the charge current is reduced to the specified end of charge conditions (i.e 0.05 times the charge current).		N/A
7	Conditioning of Samples		N/A
7.1	Discharge		N/A
7.1.1	Primary batteries are to be completely discharged by connecting their terminals through resistors that provide the desired level of discharge within 60 days, Batteries are to be discharged at room temperature. Cells with a liquid cathode such as thionyl chloride or sulfur dioxide, shall also be conditioned by one-half discharge.		N/A
7.1.2	For solid electrolyte and other types of primary lithium batteries that cannot be discharged within 60 days because of the small currents they inherently produce, longer discharge times plus discharge at higher temperatures may be used to obtain the desired level of discharge. The manufacturer's recommended discharge procedures are to be followed so as to obtain the required discharge level in the minimum time.		N/A
7.2	Charge-discharge cycling		P
7.2.1	Secondary cells are to be conditioned at 25°C (77° F). Cells are continuously cycled as per the manufacturer's specifications. The specification shall be such that the full rated capacity of the cell is utilized and the number of cycles accumulated shall be at least equal to 25% of the advertised cycle life of the cell or cycled continuously for 90 days, whichever is shorter. Cycling is to be done either individually or in groups. Cells are to be recharged prior to testing as indicated in Table 6.2		P
8	Important Test Considerations		N/A
8.1	Some lithium batteries are capable of exploding when the tests described in Sections 10 - 20 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 protect personnel from possible harmful fumes or gases.		N/A



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
8.2	As an additional precaution, the temperatures on the surface of the battery casings shall be monitored during the tests described in Sections 10, 11, 12, 13, and 14. All personnel involved in the testing of lithium batteries are to be instructed never to approach a lithium battery while the surface temperature exceeds 90°C (194° F) and not to touch the lithium battery while the surface temperature exceeds 45°C(113°F)		N/A
8.3	For protection, the Projectile Test, Section 20 is to be conducted in a room separate from the observer.		N/A
9	Temperature Measurements		P
9.1	Temperatures are to be measured by thermocouples consisting of wires not larger than 24 AWG (0.21 mm') and not smaller than 30 AWG (0.05 mm') and a potentiometer-type instrument.		N/A
9.2	The temperature measurements on the batteries are to be made with the measuring junction of the thermocouple held tightly against the metal casing of the battery.		N/A
10	Short-Circuit Test		P
10.1	Each test sample battery, in turn, is to be short-circuited by connecting the positive and negative terminals of the battery with a circuit load having a resistance load of 80 +20 m Ω . The temperature of the battery case is to be recorded during the test. The battery is to discharge until a fire or explosion is obtained, or until it has reached a completely discharged state of less than 0.2 V and the battery case temperature has returned to +10°C (+18°F) of ambient temperature. The voltage at the end of the test may not reach 0.2 V due to operation of protective devices in the circuit. The return to near ambient of the battery(cell) casing in an indication of ultimate results.		P
10.2	Tests are to be conducted at 20 +5°C (68 +9°F) and at 55 +5°C (131 +9°F). The batteries are to reach equilibrium at 20 +5°C or 55 +5°C, as applicable, before the terminals are connected.		P
10.3	A battery is to be tested individually unless the manufacturer indicates that it is intended for use in series or parallel. For series or parallel use, additional tests on five sets of batteries are to be conducted using the maximum number of batteries to be covered for each configuration		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
10.4	When an overcurrent protective device activates during the test, the test shall be repeated with the battery supply connected to the maximum load that does not cause the protective device to open. Protective devices that are relied upon to meet the compliance criteria for the short circuit test shall comply with 2.3.1.		P
10.5	The samples shall not explode or catch fire.		P
11	Abnormal Charging Test		P
11.1	Primary cells or batteries shall comply with 11.2-11.7		P
11.2	Cells or batteries conditioned in accordance with Table 6.1, as applicable, are to be used for this test. The batteries are to be tested in an ambient temperature of 20 ±5°C (68 ±9°F).		P
11.3	Each test sample battery is to be subjected to a charging current of three times the current I _c specified by the manufacturer by connecting it in opposition to a dc-power supply. The specified charging current is to be obtained by connecting a resistor of the specified size and rating in series with the battery. The test charging time is to be calculated using the formula: $t_c = \frac{2.5C}{3(I_c)}$		P
	In which:		P
	t _c is the charging time in hours; C is the capacity of the cell/battery in ampere-hours; and I _c is the maximum charging current, in amperes, specified by the manufacturer. The minimum charging time is to be 7 h. Exception: At the manufacturer's discretion, test currents greater than the specified three times rated I _c can be applied to expedite the test time frame, with the minimum charging time as 7 h.		P
11.4	When a non-resettable overcurrent or protective device operates during the test, the test is to be repeated at a charge current below the level that the protective device operates. When a resettable protective device operates during the test, the protector is allowed to reset to a total of 10 cycles; or until the appropriate charging time has been completed, but not less than 7 h. Protective devices that are relied upon to meet the compliance criteria for the abnormal charging test shall comply with 2.3.1.		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
11.5	The samples shall not explode or catch fire.		P
11.6	Secondary cells or batteries shall comply with 11.7-11.10		P
11.7	Cells or batteries conditioned in accordance with Table 6.2, as applicable, are to be used for this test. The batteries are to be tested in an ambient temperature of 20 ±5°C (68 ±9°F)		P
11.8	Each test sample battery is to be discharged at a constant current of 0.2 C/1 h, to a manufacturer specified discharge endpoint voltage. The cell or battery is then to be charged with a constant maximum specified output voltage and a current limit of three times the maximum charging current, I _c , specified by the manufacturer. Charging duration is to be 7 h or the time required to reach the manufacturer's specified end-of-charge condition, whichever is greater.		P
11.9	When a non-resettable overcurrent or protective device operates during the test, the test shall be repeated at an overcharging current below the level that the protection device operates, When a resettable protective device operates during the test, the protector is to be allowed to reset to a total of 10 cycles; or until the appropriate charging time has been completed, but not less than 7 h. Protective devices that are relied upon to meet the compliance criteria for the abnormal charging test shall comply with 2.3.1.		P
11.10	The samples shall not explode or catch fire.		P
12	Forced-Discharge Test		P
12.1	This test is intended for cells that are to be used in series-connected, multicell applications, such as battery packs.		P
12.2	A fully discharged cell is to be force-discharged by connecting it in series with fully charged cells of the same kind. The number of fully charged cells to be connected in series with the discharged cell is to equal the maximum number less one of the cells to be covered for series use. Five cells are to be fully discharged, at room temperature.		P
12.3	Once the fully discharged cell is connected in series with the specified number of fully charged cells the resultant battery pack is to be short circuited.		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
12.4	The positive and negative terminals of the sample are to be connected with a resistance load of 80 +20 mΩ . The sample is to discharge until a fire or explosion is obtained, or until it has reached a completely discharged state of less than 0.2 V and the battery case temperature has returned to ±10°C (18°F) of ambient temperature. The voltage at the end of the test may not reach 0.2 V due to operation of protective devices in the circuit. The return to near ambient of the cell casing is an indication of ultimate results.		P
12.5	When an overcurrent protective device operates during the test, the test shall be repeated with the battery supply connected to the maximum load that does not cause the protective device to open. Protective devices that are relied upon to meet the compliance criteria for the forced discharge test shall comply with 2.3.1.		P
12.6	The samples shall not explode or catch fire.		P
13	Crush Test		N/A
13.1	A battery is to be crushed between two flat surfaces. The force for the crushing is to be applied by a hydraulic ram or similar force mechanism, The flat surfaces are to be brought in contact with the cells and the crushing is to be continued until an applied force of 13 +1 kN (3000 +224 lbs) is reached. Once the maximum force has been obtained it is to be released		N/A
13.2	A cylindrical, pouch or prismatic cell is to be crushed with its longitudinal axis parallel to the flat surfaces of the crushing apparatus. A prismatic cell is also to be rotated 90° around its longitudinal axis so that both the wide and narrow sides will be subjected to the crushing force. Each sample is to be subjected to a crushing force in only one direction. Separate samples are to be used for each test.		N/A
13.3	A coin or button battery is to be crushed with the flat surface of the battery parallel with the flat surfaces of the crushing apparatus.		N/A
13.4	The samples shall not explode or catch fire.		N/A
14	Impact Test		N/A



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
14.1	A test sample battery is to be placed on a flat surface. A 15.8 +0.1-mm (5/8 +0.004-in) diameter bar is to be placed across the center of the sample. A 9.1 +0.46-kg (20 +1-lb) weight is to be dropped from a height of 610 +25 mm (24 +1 in) onto the sample. See Figure 14.1.		N/A
14.2	A cylindrical, pouch or prismatic cell is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8-mm (5/8-in) diameter curved surface lying across the center of the test sample. A prismatic cell is also to be rotated 90° around its longitudinal axis so that both the wide and narrow sides are subjected to the impact, Each sample is to be subjected to only a single impact. Separate samples are to be used for each test.		N/A
14.3	A coin or button battery is to be impacted with the flat surface of the test sample parallel to the flat surface and the 15.8-mm (5/8-in) diameter curved surface lying across its center.		N/A
14.4	The samples shall not explode or catch fire.		N/A
15	Shock Test		N/A
15.1	The cell is to be secured to the testing machine by means of a rigid mount which supports all mounting surfaces of the cell. Each cell shall be subjected to a total of three shocks of equal magnitude The shocks are to be applied in each of three mutually perpendicular directions unless it has only two axes of symmetry in which case only two directions shall be tested. Each shock is to be applied in a direction normal to the face of the cell. For each shock the cell is to be accelerated in such a manner that during the initial 3 ms the minimum average acceleration is 75 g (where g is the local acceleration due to gravity) The peak acceleration shall be between 125 and 175 a. Cells shall be tested at a temperature of 20 + 5° (68±9°F).		N/A
15.2	The samples shall not explode or catch fire. in addition, the sample shall not vent or leak as described in 5.1.1.		N/A
16	Vibration Test		P
16.1	A battery is to be subjected to simple harmonic motion with an amplitude of 0.8 mm (0.03 in) [1.6 mm(0.06 in)total maximum excursion.		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
16.2	The frequency is to be varied at the rate of 1 Hz/min between 10 and 55 Hz, and return in not less than 90 nor more than 100 min. The battery is to be tested in three mutually perpendicular directions. For a battery that has only two axes of symmetry, the battery is to be tested perpendicular to each axis.		P
16.3	The samples shall not explode or catch fire. In addition the sample shall not vent or leak as described in 5.1.1.		P
17	Heating Test		N/A
17.1	A battery is to be heated in a gravity convection or circulating air oven with an initial temperature of 20 +5°C (68 +9°F). The temperature of the oven is to be raised at a rate of 5 +2°C (9 +3.6°F) per minute to a temperature of 130 +2°C (266 +3.6°F) and remain for 10 min. The sample shall return to room temperature (20 +5°C) and then be examined. For batteries specified for temperatures above 100°C (212°F), the conditioning temperature shall be increased from 130 +2°C (266 +3.6°F), to 30 ±2°C (86 ±3.6°F) above the manufacturers maximum specified temperature. For a battery of lithium metal chemistry, the conditioning temperature shall be increased to a maximum of 170 +2°C (338 ±3.6°F).		N/A
17.2	The samples shall not explode or catch fire.		N/A
18	Temperature Cycling Test		P
18.1	The batteries are to be placed in a test chamber and subjected to the following cycles: a) Raising the chamber-temperature to 70 +3°C (158 +5°F) within 30 min and maintaining this temperature for 4 h. b) Reducing the chamber temperature to 20 +3°C (68 +5°F) within 30 min and maintaining this temperature for 2 h. c) Reducing the chamber temperature to minus 40 +3°C (minus 40 +5°F) within 30 min and maintaining this temperature for 4 h. d) Raising the chamber temperature to 20 ±3°C (68 ±5°F) within 30 min. e) Repeating the sequence for a further 9 cycles. f) After the 10th cycle, storing the batteries for a minimum of 24 h, at a temperature of 20 +5°C (68 ±9°F) prior to examination.		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
18.2	The samples shall not explode or catch fire. In addition, the samples shall not vent or leak as described in 5.1.1.		P
19	Low Pressure(Altitude Simulation)Test		P
19.1	Sample batteries are to be stored for 6 hours at an absolute pressure of 11.6 kPa (1.68 psi) and a temperature of 20 +3°C(68 +5°F).		P
19.2	The samples shall not explode or catch fire as a result of the Low Pressure (Altitude Simulation Test). In addition, the samples shall not vent or leak as described in 5.1.1.		P
20	Projectile Test		P
20.1	When subjected to the test described in 20.2 - 20.5 no part of an exploding cell or battery shall penetrate the wire screen such that some or all of the cell or battery protrudes through the screen.		P
20.2	Each test sample cell or battery is to be placed on a screen that covers a 102-mm (4-in) diameter hole in the center of a platform table. The screen is to be constructed of steel wire mesh having 20 openings per 25.4 mm (1 in) and a wire diameter of 0.43 mm (0.017 in).		P
20.3	The screen is to be mounted 38 mm (1-1/2 in) above a Meker type burner. The fuel and air flow rates are to be set to provide a bright blue flame that causes the supporting screen to glow a bright red.		P
20.4	An eight-sided covered wire cage, 610-mm (2-ft) across and 305-mm (1-ft) high, made from metal screening is to be placed over the test sample. See Figure 20.1. The metal screening is to be constructed from 0.25-mm (0.010-in) diameter aluminum wire with 16-18 wires per 25.4 mm (1 inch) in each direction.		P
20.5	The sample is to be heated and shall remain on the screen until it explodes or the cell or battery has ignited and burned out. It is not required to secure the sample in place unless it is at risk of falling off the screen before the test is completed. When required, the sample shall be secured to the screen with a single wire tied around the sample.		P
21	General		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>A battery shall be legibly and permanently marked with:</p> <ul style="list-style-type: none">a) The manufacturer's name, trade name, or trademark or other descriptive marking by which the organization responsible for the product may be identified;b) A distinctive ("catalog" or "model") number or the equivalent;c) The date or other dating period of manufacture not exceeding any three consecutive months. <p>Exception No. 1: The manufacturer's identification may be in a traceable code if the product is identified by the brand or trademark owned by a private labeler.</p> <p>Exception No. 2: The date of manufacture may be abbreviated; or may be in a nationally accepted conventional code or in a code affirmed by the manufacturer, provided that the code.</p> <ul style="list-style-type: none">a) Does not repeat in less than 10 years; andb) Does not require reference to the production records of the manufacturer to determine when the product was manufactured.		P
21.2	<p>If a manufacturer produces a battery at more than one factory, each battery package shall have a distinctive marking to identify it as the product of a particular factory.</p>		P
22	Primary Batteries		P
22.1	<p>A primary battery shall be marked with the word "WARNING" and the following or an equivalent statement: "Risk of fire and burns. Do not recharge, open, crush, heat above (the manufacturer's specified temperature rating), or incinerate." If space does not permit marking on the battery, the marking may be on the smallest unit package.</p> <p>Exception No. 1: A cylindrical battery that is smaller in capacity than 300 mA hours and a coin, button, or pin battery is not required to be marked if the tests indicate these risks are not obtained.</p> <p>Exception No. 2: A user-replaceable battery may be marked with the word "CAUTION" in place of "WARNING."</p> <p>Exception No. 3: A cell intended for factory installation into a battery pack is not required to include the warning marking described in 22.1.</p>		P



UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict
22.2	<p>The packaging for a user-replaceable battery shall be marked with the word "CAUTION" and the following or equivalent statements:</p> <p>"Risk of fire and burns. Do not recharge, disassemble, heat above (the manufacturer's specified temperature rating), or incinerate. Keep battery out of reach of children and in original package until ready to use. Dispose of used batteries promptly."</p>		P
22.3	<p>For user replaceable lithium primary coin cells (3.0 V) the packaging shall also include the following or equivalent: "WARNING - Never put batteries in mouth. Swallowing may lead to serious injury or death. If ingested, immediately seek medical attention and have the doctor phone the National Capital Poison Control Center." This marking may be combined with the marking of 22.2, if the signal word "WARNING" is used instead of "CAUTION."</p>		P



NOWD

UL1642: 2020			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: Critical components information						--
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ¹⁾	
-Separator	Korea wscope	Wscope-ZX	PE+PVDF, 916mmx27mm× 0.018mm, shutdown temperature:130°C	UL 1642	Test with equipment	
-Positive lectrode	Shenzhen Jutian kuoTechnology Co.,Ltd (Shenzhen) Co.,Ltd	Al foil	LiCOO2, PVDF, NMP, Conductive Additive, 463mmx23.5mmx 0.112mm	UL 1642	Test with equipment	
-Negative Conductive	Shenzhen Jutian kuoTechnology Co.,Ltd (Shenzhen) Co.,Ltd	Cu foil	Graphite, CMC, SBR. Distilled Water, Conductive Additive,408mm x25mm x 0.117mm	UL 1642	Test with equipment	
Supplementary information:						
¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.						

10	TABLE:Short-Circuit Test					P
Original Cell						
Ambient temperature:24.2°C						
Sample No.	001	002	003	004	005	
Tmax(°C)	42.7	43.0	42.7	42.8	43.1	
Failure Mode	Yes	Yes	Yes	Yes	Yes	
Ambient temperature:55.0°C						
Cycled cell						
Sample No.	005	006	007	008	009	
Tmax(°C)	43.1	43.7	43.3	43.5	43.6	
Failure Mode	Yes	Yes	Yes	Yes	Yes	
Ambient temperature:55.0°C						

UL1642: 2020

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

16	TABLE:Vibration Test		P
-----------	-----------------------------	--	----------

Ambient temperature:23.2°C

Original Cell

Sample No.	061	062	063	064	065
Mass before test (g)	--	--	--	--	--
Mass after test (g)	--	--	--	--	--

Cycled cell

Sample No.	066	067	068	069	070
Mass before test (g)	--	--	--	--	--
Mass after test (g)	--	--	--	--	--

Supplementary information: no explosion or catch fire,in addition the sample did not vent or leak. Max loss less than 0.1%

18	TABLE:Temperature Cycling Test		P
-----------	---------------------------------------	--	----------

Original Cell

Ambient temperature:24.2°C

Sample No.	071	072	073	074	075
Tmax(°C)	--	--	--	--	--
Failure Mode	--	--	--	--	--

Cycled cell

Sample No.	076	077	078	079	080
Mass before test (g)	--	--	--	--	--
Mass after test (g)	--	--	--	--	--

Supplementary information: no explosion or catch fire,in addition the sample did not vent or leak. Max loss less than 0.1%

19	TABLE:Low Pressure(Altitude Simulation) Test		P
-----------	---	--	----------

Ambient temperature:23.8°C

Fully Charged Cell

Sample No.	081	082	083	084	085
Tmax(°C)	--	--	--	--	--
Failure Mode	--	--	--	--	--

UL1642: 2020

Clause	Requirement + Test					Result - Remark	Verdict
Cycled cell							
Sample No.	086	087	088	089	090		
Mass before test (g)	--	--	--	--	--		
Mass after test (g)	--	--	--	--	--		
Supplementary information: no explosion or catch fire, in addition the sample did not vent or leak. Max loss less than 0.1%							



NOWD

Photos

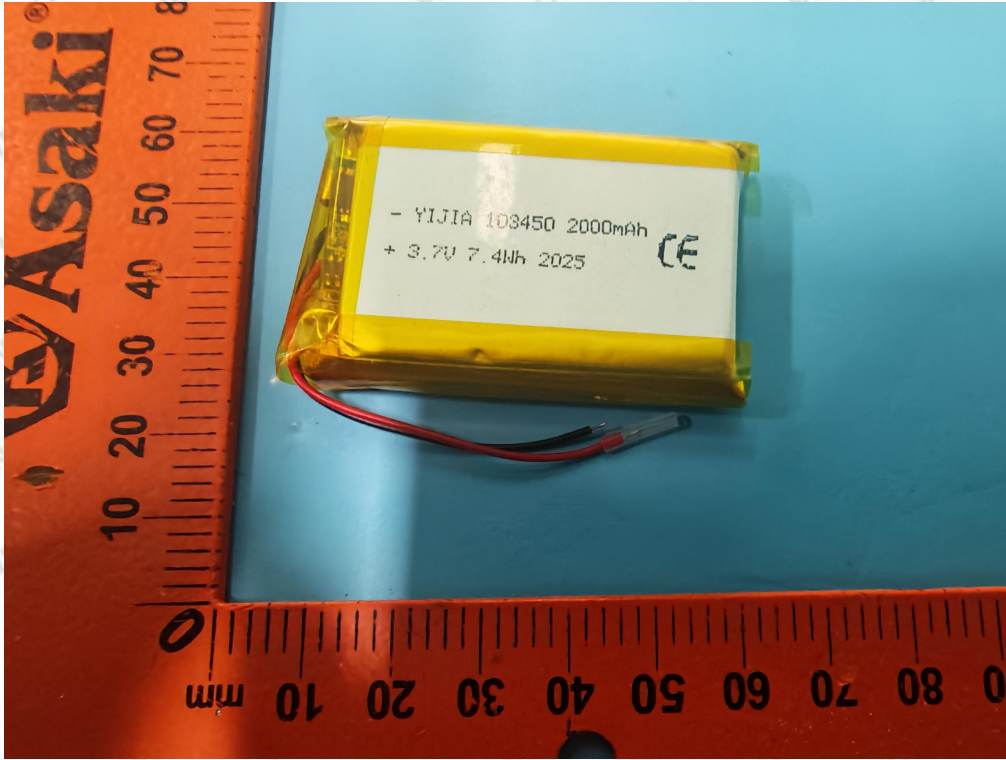


Fig 1. - Overview 1

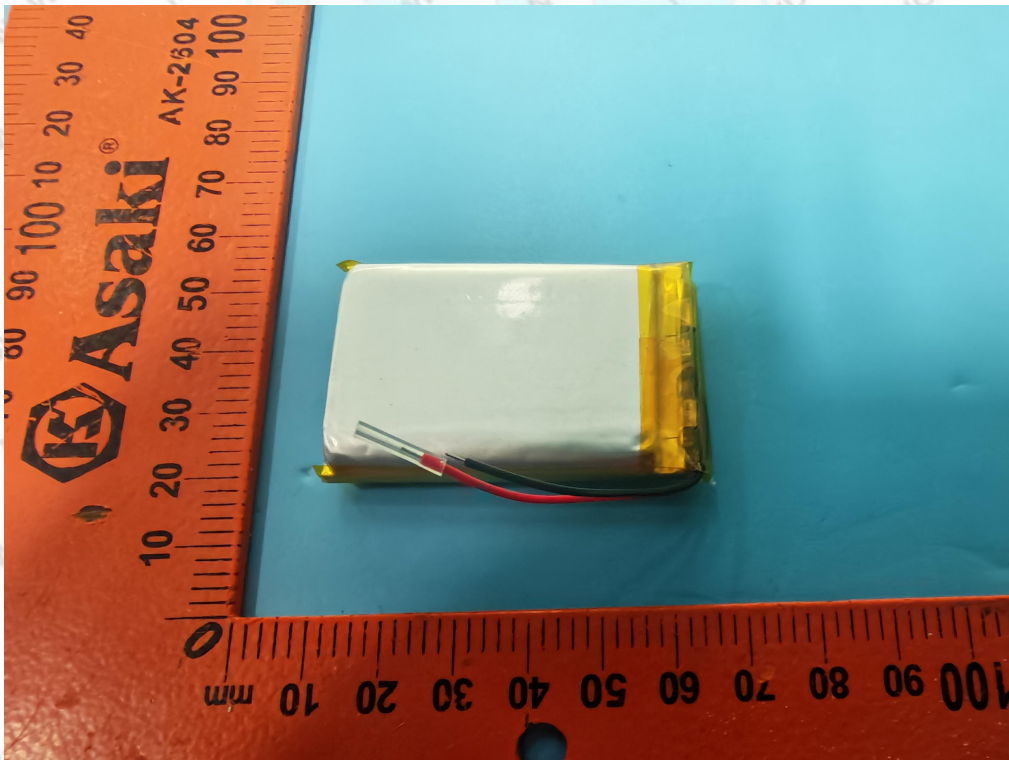


Fig 2. - Overview 2

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