

锂电池 UN38.3 试验概要
Lithium Battery Test Summary

报告编号: LA2024B1616001UNZY

单位信息 Company Information



委托单位 Consignor	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD. 深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen 电话/Tel: 13686445115 邮箱/Mail: 770146010@qq.com
生产单位 Manufacturer	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD. 深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen 电话/Tel: 13686445115 邮箱/Mail: 770146010@qq.com
测试单位 Test Lab	深圳市莱恩瑞斯科技有限公司 Shenzhen Lionaces Technology Co., Ltd. 广东省深圳市宝安区福海街道和平社区永和路骏丰工业区 B6 栋 301 301, Building B6, Junfeng Industrial Zone, Yonghe Road, Heping Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China 电话/Tel: 0755-28280690 邮箱/Mail: service@lionaces.com 网址/Website: www.lionaces.com

电池信息 Battery Information

名称 Name	可充电锂离子电池 Rechargeable Li-ion Battery	电池/电芯类别 Battery/Cell Classification	锂离子电池 Li-ion Battery
型号 Type	YG162040	商标 Trademark	/
额定电压 Normal Voltage	3.7V	额定容量 Rated Capacity	1300mAh
额定能量 Watt-hour rating	4.81Wh	外观/Appearance	蓝色近长方体 Approximate Blue Cuboid
质量/Mass	23.5g	锂含量/Li Content	不适用 N/A

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测试信息 Test Information

测试信息 Test Information					
测试报告编号 Test Report Number	LA2024B1616001U		测试报告签发日期 Date of Test Report		2024-11-22
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《试验和标准手册》（第 8 版）38.3 节 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3				
T.1: 高度模拟 Altitude Simulation	通过 Pass	T.2: 温度试验 Thermal Test	通过 Pass	T.3: 振动 Vibration	通过 Pass
T.4: 冲击 Shock	通过 Pass	T.5: 外部短路 External Short Circuit	通过 Pass	T.6: 撞击/挤压 Impact/Crush	通过 Pass
T.7: 过度充电 Overcharge	通过 Pass	T.8: 强制放电 Forced Discharge	通过 Pass	/	
UN38.3.3(f)	不适用 N/A		UN38.3.3(g)		不适用 N/A
签名 Signatory 职务 Title	 测试工程师		签发日期 Issued Date	 2024-11-22	



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锂电池 UN38.3 测试报告 Lithium Battery UN38.3 Test Report

报告编号:
Report No.: LA2024B1616001U

样品名称
Sample 可充电锂离子电池
Rechargeable Li-ion Battery

样品型号
Model YG162040

委托单位
Applicant 深圳市优格新能源科技有限公司
Shenzhen Youge New Energy Technology Co., LTD.

签发日期
Issue Date 2024-11-22

深圳市莱恩瑞斯科技有限公司
Shenzhen Lionaces Technology Co., Ltd.

报告专用章

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Shenzhen Lionaces Technology Co., Ltd.

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声 明

Statement

- 1、 本报告无本单位报告专用章和批准人签章无效。

This report is invalid without the special seal for report of Lionaces and the signatures of approver.

- 2、 本报告涂改和删除无效。

This report is invalid if it is blotted out and deleted.

- 3、 委托单位对检测结果有异议，应于收到报告之日起十五日内向我司提出。

If the applicant has any questions about results, shall submit to Lionaces within 15 days.

- 4、 本报告仅对客户所送样品负责。

This report is responsible for the sample provided by the client only.

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- 6、 委托单位必须如实提供样品和资料，有关报告中的产品信息、参数、图纸、关键元器件清单等所有产品信息均由委托单位提供，否则本单位不承担任何相关责任。

The applicant must provide samples and materials truthfully. All of information such as product information, parameters, drawings, components, etc. are provided by the applicant. Otherwise we will not take on any relevant responsibilities for this report.

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1. 样品描述 Sample Description

样品名称 Sample Name	可充电锂离子电池 Rechargeable Li-ion Battery	样品型号 Model Name	YG162040
电池规格 Battery specification	3.7V, 1300mAh, 4.81Wh	商标 Trade mark	N/A
组成方式 Composing mode	1S2P	电池重量 Mass of battery	23.5g
电池外观 Battery appearance	蓝色近长方体 Approximate Blue Cuboid	电池尺寸 Battery Size	42.0mm*20.1mm*15.8mm
电池类型 Battery Type	可充电锂离子电池组 Rechargeable Lithium-ion Battery Pack		
测试实验室 Testing laboratory	深圳市莱恩瑞斯科技有限公司 Shenzhen Lionaces Technology Co., Ltd.		
测试地址 Testing Address	广东省深圳市宝安区福海街道和平社区永和路骏丰工业区 B6 栋 301 301, Building B6, Junfeng Industrial Zone, Yonghe Road, Heping Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China		
电话 Telephone	0755-28280690	邮箱 Email	service@lionaces.com
网址 website	www.lionaces.com		
委托单位 Applicant	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD.		
委托单位地址 Applicant address	深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen		
生产单位 Manufacturer	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD.		
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电话 Telephone	13686445115	邮箱 Email	770146010@qq.com
网址 website	N/A		

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2、测试标准 Standard

联合国《试验和标准手册》(第 8 版)38.3 节
UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3

3、测试项目及结论 Test Item And Conclusion


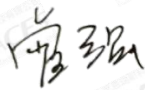
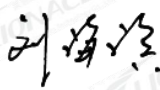
测试项目 Item	测试样品编号 Samples Number	结论 Conclusion
38.3.4.1 高度模拟 Altitude simulation	Z1~Z4, X1~X4	通过 Pass
38.3.4.2 温度试验 Thermal test		通过 Pass
38.3.4.3 振动 Vibration		通过 Pass
38.3.4.4 冲击 Shock		通过 Pass
38.3.4.5 外部短路 External Short Circuit		通过 Pass
38.3.4.6 挤压 Crush	Z5~Z9, X5~X9	通过 Pass
38.3.4.7 过度充电 Overcharge	Z10~Z13, X10~X13	通过 Pass
38.3.4.8 强制放电 Forced discharge	Z14~Z23, X14~X23	通过 Pass

参考组装电池测试要求, 如果适用(38.3.3(f)和 38.3.3(g)): 不适用
Reference to assembled battery testing requirements, if applicable (i.e., 38.3.3(f) and 38.3.3(g)): Not applicable

说明 Notes: P--Pass; N/A--不适用 not applicable; Y--Yes; N--No;
Z1~Z4, Z10~Z13: 第一个充放电周期完全充电状态的电池; Batteries at first cycle in fully charged states;
Z5~Z9: 第一个充放电周期 50%设计额定容量状态的电池芯; Cells at first cycle at 50% of the design rated capacity;
Z14~Z23: 第一个充放电周期完全放电状态的电池芯; Cells at first cycle in fully discharged states;
X1~X4 X10~X13: 25 个充放电周期后完全充电状态的电池; Batteries after 25 cycles ending in fully charged states;
X5~X9: 25 个充放电周期 50%设计额定容量状态的电池芯; Cells after 25 cycles at 50% of the design rated capacity;
X14~X23: 25 个充放电周期后完全放电状态的电池芯; Cells after 25 cycles ending in fully discharged states.

送检样品符合《联合国关于危险货物运输的建议书: 试验和标准手册》38.3 章的要求。
The submitted samples complied with UN Manual of Tests and Criteria, Part III, sub-section 38.3.

版本号: V1.0

收样日期 Receiving Date	2024-11-08	测试日期 Test Date	2024-11-08 to 2024-11-22	签发日期 Issue Date	2024-11-22
主检人: Prepared by		审核人: Checked by		批准人: Approved by	

吴君扬 Wu JunYang: 测试工程师 Quality Testing Engineer
曾 强 Allen Zeng: 实验室经理 Lab Manager
刘海滨 Liu haibin: 授权签字人 Authorized Signatory

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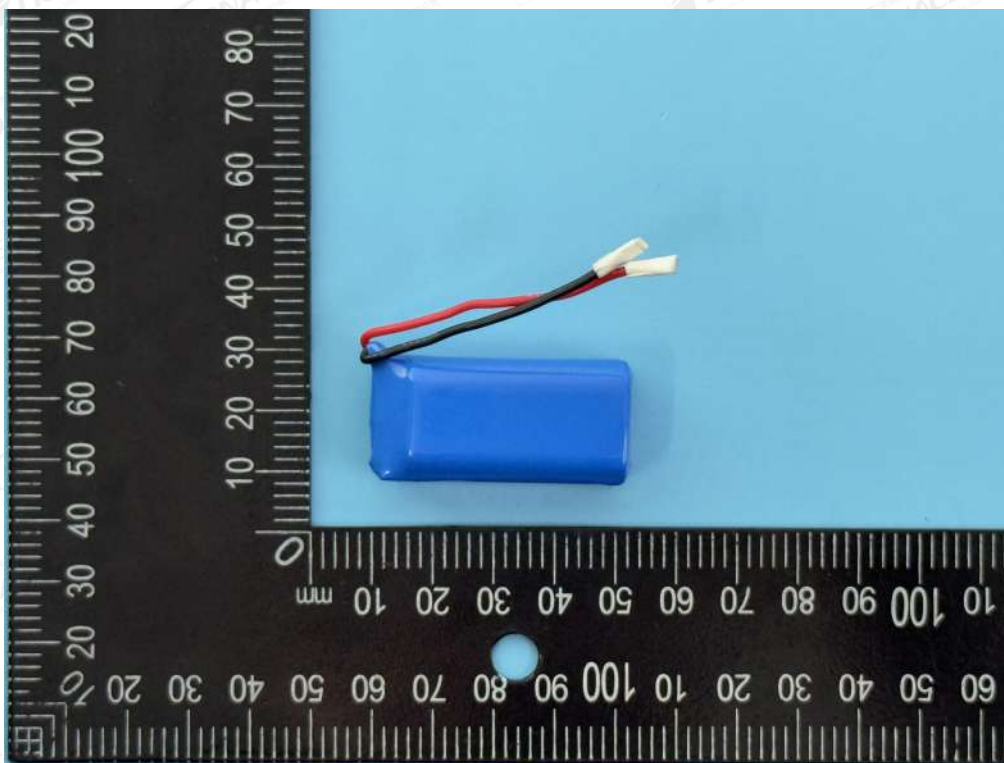
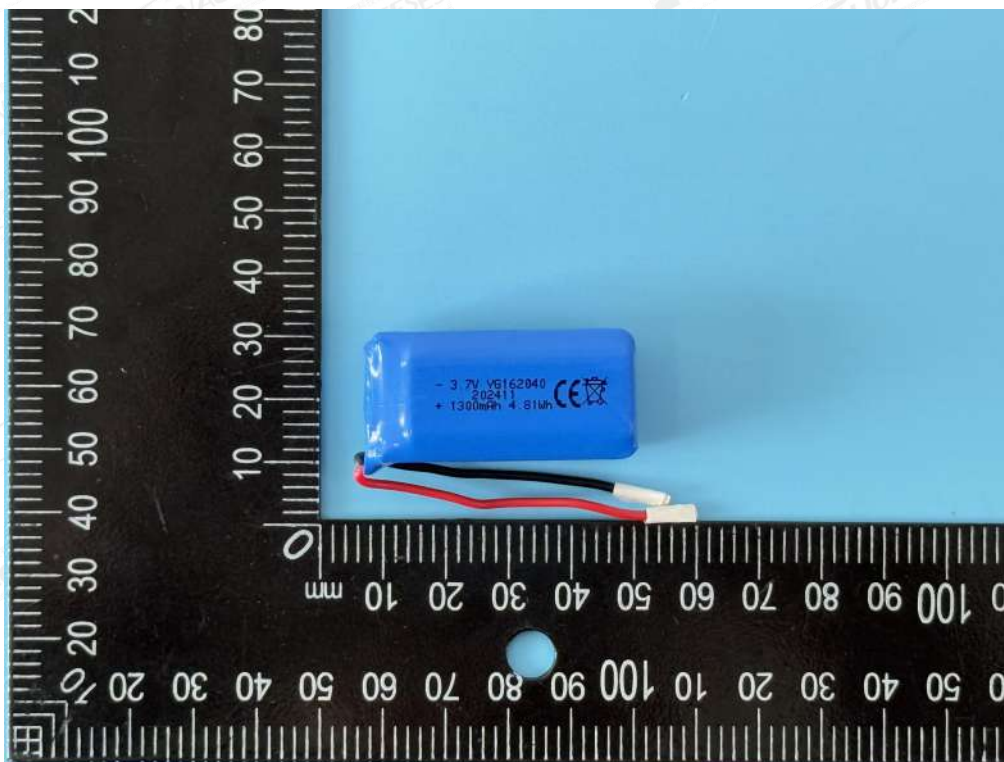
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4、样品图片 Sample Photos

电池/Battery (YG162040

3.7V, 1300mAh, 4.81Wh)



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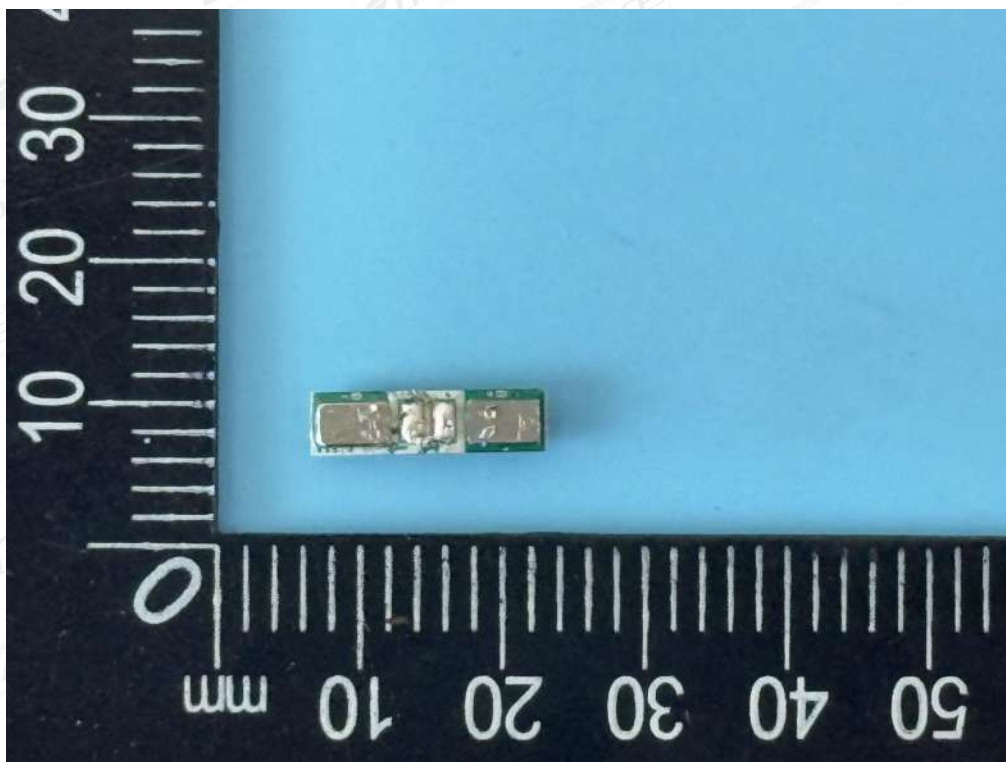
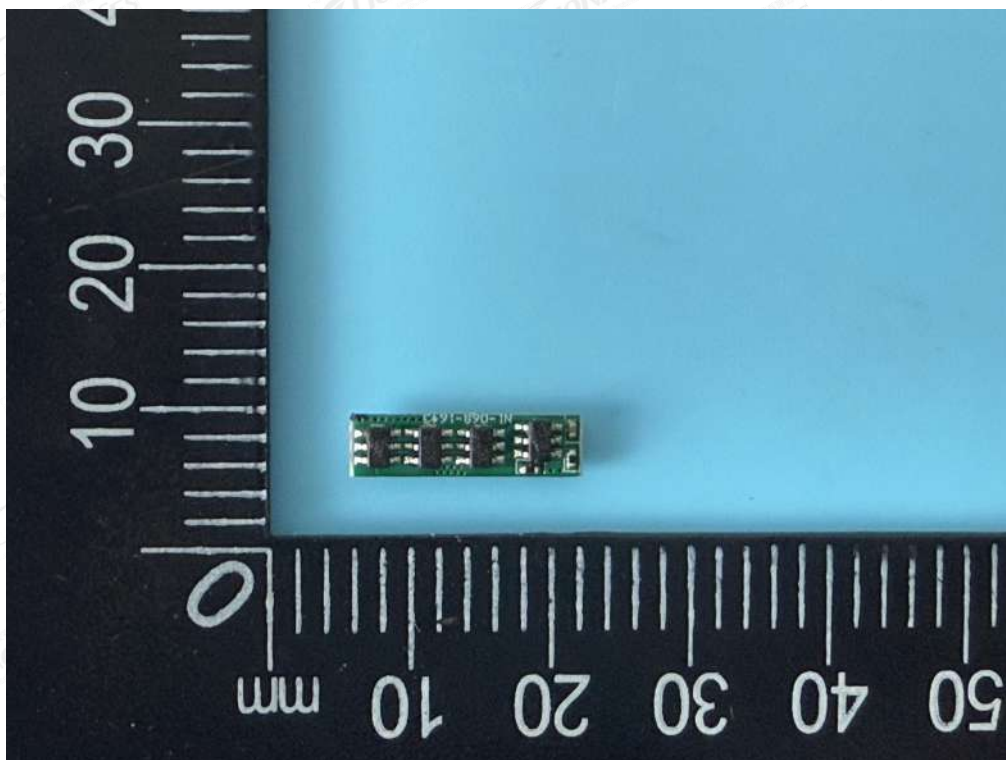
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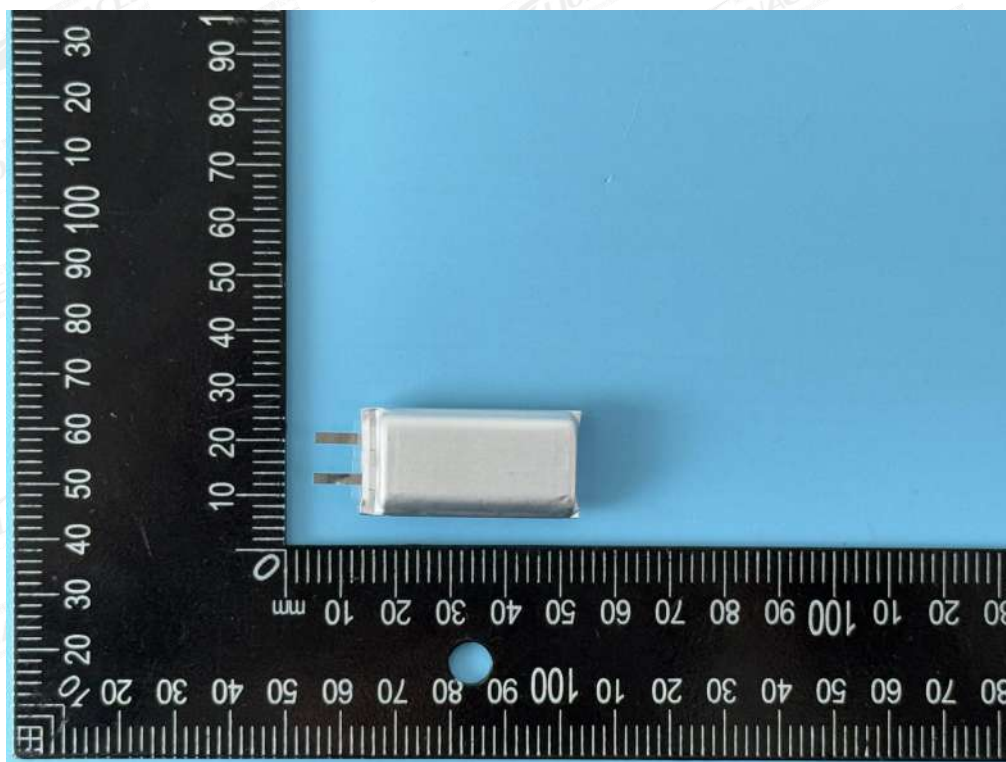
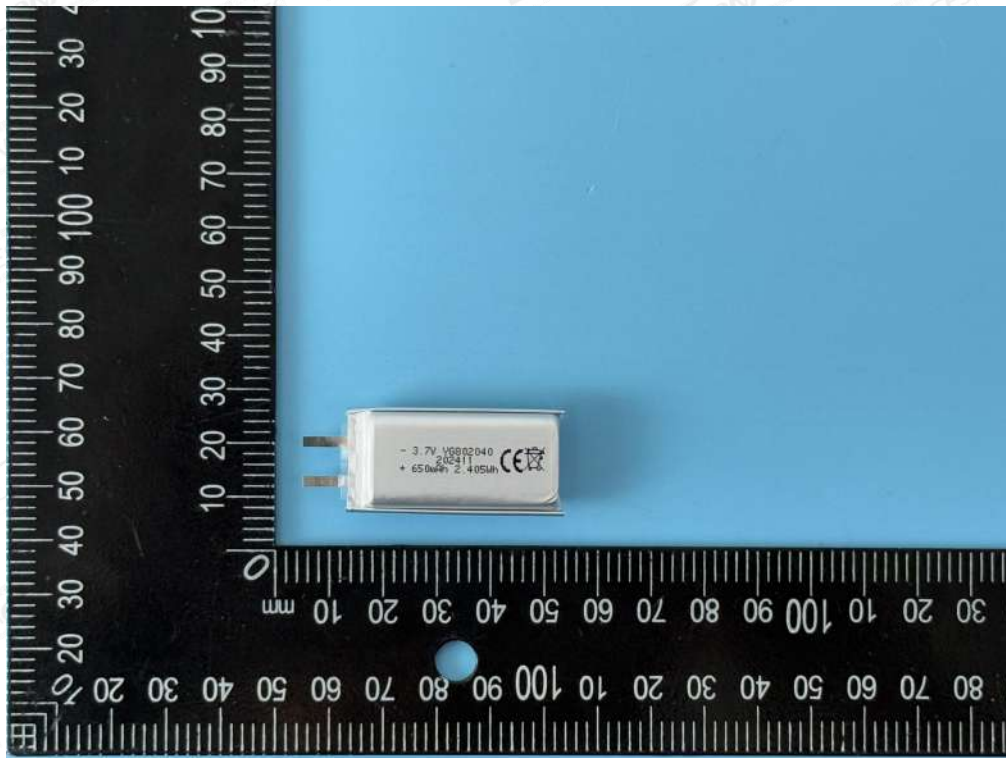
Website: www.lionaces.com

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Tel: (86-755)-28280690

电芯/Cell (YG802040

3.7V, 650mAh, 2.405Wh)



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5、测试方法及判定 Test Method And Verdict

章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict
38.3.4.1	测试 1: 高度模拟 Test 1: Altitude simulation	见表 1 See Table 1	P
	<p>试验电池和电池组应压力不大于11.6kpa和环境温度为20±5℃的条件下贮存不少于6个小时。</p> <p>Test cells and batteries shall be stored at a pressure of 11.6kPa or less for at least six hour at ambient temperature (20±5℃)</p> <p>要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火,并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。</p> <p>Cells and batteries meet this requirement if there is no leakage, no venting, no disassemble, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.</p>	<p>无渗漏, 无排气, 无解体, 无破裂和无起火。</p> <p>No leakage, no venting, no disassemble, no rupture and no fire.</p>	P
38.3.4.2	测试 2: 温度试验 Test 2: Thermal test	见表 2 See Table 2	P
	<p>试验电池和电池组先在试验温度等于72℃±2℃的条件下存放至少6小时,接着再在试验温度等于-40℃±2℃的条件下存放至少6小时。两个极端试验温度之间的最大时间间隔为30分钟。此程序重复进行,共完成10次,接着将所有试验电池和电池组在环境温度(20℃±5℃)下存放24小时。对于大型电池和电池组,暴露于极端试验温度的时间至少应为12小时。</p> <p>Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72±2℃, followed by storage for at least six hours at a test temperature equal to -40±2℃. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20 ± 5℃). For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours.</p> <p>要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火,并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。</p> <p>Cells and batteries meet this requirement if there is no leakage, no venting, no disassemble, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.</p>	<p>无渗漏, 无排气, 无解体, 无破裂和无起火。</p> <p>No leakage, no venting, no disassemble, no rupture and no fire.</p>	P

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章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict
38.3.4.3	<p>测试3: 振动 Test 3: Vibration</p> <p>电池和电池组紧固于振动机平台, 但不得造成电池变形, 并能准确可靠地传播振动。振动应是正弦波形, 对数扫描频率在 7 赫兹和 200 赫兹之间, 再回到 7 赫兹, 跨度为 15 分钟。这一振动过程须对三个互相垂直的电池安装方位的每一方向重复进行 12 次, 总共为时 3 小时。其中一个振动方向必须与端面垂直。</p> <p>Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face.</p> <p>作对数式频率扫描, 对总质量不足 12 千克的电池和电池组 (电池和小型电池组), 和对 12 千克及更大的电池组 (大型电池组) 有所不同。</p> <p>The logarithmic frequency sweep shall differ for cells and batteries with a gross mass of not more than 12 kg (cells and small batteries), and for batteries with a gross mass of more than 12 kg (large batteries).</p> <p>对电池和小型电池组: 从 7 赫兹开始, 保持 $1g_n$ 的最大加速度, 直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米 (总偏移 1.6 毫米), 并增加频率直到最大加速度达到 $8g_n$ (频率约为 50 赫兹)。将最大加速度保持在 $8g_n$ 直到频率增加到 200 赫兹。</p> <p>For cells and small batteries: from 7 Hz a peak acceleration of $1g_n$ is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of $8g_n$ occurs (approximately 50 Hz). A peak acceleration of $8g_n$ is then maintained until the frequency is increased to 200 Hz.</p> <p>对大型电池组: 从 7 赫兹开始, 保持 $1g_n$ 的最大加速度, 直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米 (总偏移 1.6 毫米), 并增加频率直到最大加速度达到 $2g_n$ (频率约为 25 赫兹)。将最大加速度保持在 $2g_n$ 直到频率增加到 200 赫兹。</p> <p>For large batteries: from 7 Hz to a peak acceleration of $1g_n$ is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of $2g_n$ occurs (approximately 25 Hz). A peak acceleration of $2g_n$ is then maintained until the frequency is increased to 200 Hz.</p> <p>要求电池和电池组试验中和试验后无渗漏、无排气、无解体、无破裂和无起火, 并且每个试验电池或电池组在第三个垂直安装方位上的试验后立即测得的开路电压不小于在进行这一试验前电压的</p>	<p>见表 3 See Table 3</p> <p>无渗漏, 无排气, 无解体, 无破裂和无起火。 No leakage, no venting, no disassemble, no rupture and no fire.</p>	<p>P</p> <p>P</p>

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章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict									
	90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。 Cells and batteries meet this requirement if there is no leakage, no venting, no disassemble, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.											
38.3.4.4	测试4：冲击 Test 4: Shock	见表 4 See Table 4	P									
	<p>试验电池和电池组用坚硬支架紧固在试验装置上，支架支撑着每个试验电池组的所有安装面。</p> <p>Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery.</p> <p>每个电池需经受最大加速度$150g_n$和脉冲持续时间6毫秒的半正弦波冲击。针对大型电池需经受最大加速度$50g_n$和脉冲持续时间11毫秒的半正弦波冲击。</p> <p>Each cell shall be subjected to a half-sine shock of peak acceleration of $150g_n$ and pulse duration of 6 milliseconds. Alternatively, large cells may be subjected to a half-sine shock of peak acceleration of $50g_n$ and pulse duration of 11 milliseconds.</p> <p>每个电池组应根据电池组的质量而受到峰值加速度的半正弦波冲击。对于小型电池组的脉冲持续时间应6毫秒，对于大型电池组的脉冲持续时间应为11毫秒，下面的公式用于计算适当的最小峰值加速度。</p> <table><tr><th>电池 Battery</th><th>最小峰值加速度 Minimum peak acceleration</th><th>脉冲持续时间 Pulse duration</th></tr><tr><td>小型电池 Small batteries</td><td>$150g_n$ 或公式结果中的较小值 $150g_n$ or result of formula $\text{Acceleration } (g_n)=\sqrt{\left(\frac{100850}{\text{mass}^*}\right)}$ whichever is smaller</td><td>6毫秒 6ms</td></tr><tr><td>大型电池 Large batteries</td><td>$50g_n$ 或公式结果中的较小值 $50g_n$ or result of formula $\text{Acceleration } (g_n)=\sqrt{\left(\frac{3000}{\text{mass}^*}\right)}$ whichever is smaller</td><td>11毫秒 11ms</td></tr></table> <p>* 质量单位用千克计算 Mass is expressed in kilograms.</p> <p>Each battery shall be subjected to a half-sine shock of peak acceleration depending on the mass of the battery. The pulse duration shall be 6 milliseconds for small batteries and 11</p>	电池 Battery	最小峰值加速度 Minimum peak acceleration	脉冲持续时间 Pulse duration	小型电池 Small batteries	$150g_n$ 或公式结果中的较小值 $150g_n$ or result of formula $\text{Acceleration } (g_n)=\sqrt{\left(\frac{100850}{\text{mass}^*}\right)}$ whichever is smaller	6毫秒 6ms	大型电池 Large batteries	$50g_n$ 或公式结果中的较小值 $50g_n$ or result of formula $\text{Acceleration } (g_n)=\sqrt{\left(\frac{3000}{\text{mass}^*}\right)}$ whichever is smaller	11毫秒 11ms	<p>无渗漏， 无排气，无解体，无破裂和无起火。</p> <p>No leakage, no venting, no disassemble, no rupture and no fire.</p>	P
电池 Battery	最小峰值加速度 Minimum peak acceleration	脉冲持续时间 Pulse duration										
小型电池 Small batteries	$150g_n$ 或公式结果中的较小值 $150g_n$ or result of formula $\text{Acceleration } (g_n)=\sqrt{\left(\frac{100850}{\text{mass}^*}\right)}$ whichever is smaller	6毫秒 6ms										
大型电池 Large batteries	$50g_n$ 或公式结果中的较小值 $50g_n$ or result of formula $\text{Acceleration } (g_n)=\sqrt{\left(\frac{3000}{\text{mass}^*}\right)}$ whichever is smaller	11毫秒 11ms										

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章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict
	<p>milliseconds for large batteries. The formulas below are provided to calculate the appropriate minimum peak accelerations.</p> <p>每个电池或电池组需在三个互相垂直的安装方位的正方向经受三次冲击，接着在反方向经受三次冲击，总共经受18次冲击。</p> <p>Each cell or battery is subjected to three shocks in the positive direction followed by three shocks in the negative direction of each of three mutually perpendicular mounting positions of the cell for a total of 18 shocks.</p>		
	<p>要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火，并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。</p> <p>Cells and batteries meet this requirement if there is no leakage, no venting, no disassemble, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.</p>		
38.3.4.5	<p>测试 5：外部短路 Test 5: External Short Circuit</p>	<p>见表 5 See Table 5</p>	P
	<p>待测试的电池或电池组应加热一段时间，以使其外表面温度达到均匀稳定的 $57\pm4^{\circ}\text{C}$ 的温度。加热时间取决于电池或电池组的大小和设计，并应进行评估和记录。如果这种评估是不可行的，对于小型电池和小型电池组至少在 $57\pm4^{\circ}\text{C}$ 的环境下存放 6 小时，对于大型电池和大型电池组至少在 $57\pm4^{\circ}\text{C}$ 的环境下存放 12 小时。然后电池或电池组在 $57\pm4^{\circ}\text{C}$ 的环境中，应接受一个外部总阻值小于 0.1 欧姆的短路条件。</p> <p>The cell or battery to be tested shall be shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of $57\pm4^{\circ}\text{C}$, measured on the external case. This period of time depends on the size and design of the cell or battery and should be assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries. Then the cell or battery at $57\pm4^{\circ}\text{C}$ shall be subjected to one short circuit condition with a total external resistance of less than 0.1 ohm.</p> <p>这一短路条件应在电池或电池组的外壳温度回到 $57\pm4^{\circ}\text{C}$ 后继续短路 1 小时，或对于大型电池组其外壳温度已下降了一半的最大升温，并保持低于该值。短路和冷却过程至少在环境温度中进行。</p> <p>This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to $57 \pm 4^{\circ}\text{C}$, or in the case of the large batteries, has decreased by half of the maximum temperature increase observed during the test and remains below that value. The short circuit and cooling down</p>	<p>无解体， 无破裂，无起火。No disassemble , no rupture and no fire.</p>	P

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章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict
	phases shall be conducted at least at ambient temperature. 要求电池和电池组外壳温度不超过 170℃，并且在试验过程中及试验后 6 小时内无解体，无破裂，无起火。 Cells and batteries meet this requirement if their external temperature does not exceed 170℃ and there is no disassemble, no rupture and no fire within six hours of this test.		
38.3.4.6	测试 6: 撞击/挤压 Test 6: Impact / Crush	见表 6 See Table 6	P
	撞击 （适用于直径大于等于 18 毫米的圆柱形电池） Impact (applicable to cylindrical cells not less than 18mm in diameter) 试样电池或元件电池放在平坦光滑的表面上，一根 316 型不锈钢棒横放在试样中心，钢棒直径 15.8 毫米±0.1 毫米，长度至少 6 厘米，或电池最长端的尺度，取二者之长者。将一块 9.1 千克±0.1 千克的重锤从 61±2.5 厘米高处跌落到钢棒和试样交叉处，使用一个几乎没有摩擦的、对落体重锤阻力最小的垂直轨道或管道加以控制。垂直轨道或管道用于引导落锤沿与水平支撑表面呈 90 度落下。 The test sample cell or component cell is to be placed on a flat smooth surface. A 15.8mm±0.1mm diameter, at least 6cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the centre of the sample. A 9.1 kg ± 0.1kg mass is to be dropped from a height of 61 ± 2.5 cm at the intersection of the bar and sample in a controlled manner using a near friction less, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass shall be oriented 90 degrees from the horizontal supporting surface. 接受撞击的试样，纵轴应与平坦表面平行并与横放在试样中心的直径 15.8±0.1 毫米弯曲表面的纵轴垂直。每一试样只经受一次撞击。 The test samples is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8mm±0.1mm diameter curved surface lying across the centre of the test samples. Each sample is to be subjected to only a single impact.	N/A	N/A
	要求电池和电池组外壳温度不超过 170℃，并且在试验过程中及试验后 6 小时内无解体，无起火。 Cells and component cells meet this requirement if their external temperature does not exceed 170℃ and there is no disassemble and no fire during the test and within six hours after this test.		

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章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict
	<p>挤压（适用于棱柱形、袋装、硬币/纽扣电池和直径小于 18 毫米的圆柱形电池）</p> <p>Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells less than 18mm in diameter)</p> <p>将电池或元件电池放在两个平面之间挤压，挤压力度逐渐加大，在第一个接触点上的速度大约为1.5厘米/秒。挤压持续进行，直到出现以下三种情况之一：</p> <p>(a) 施加的力量达到13千牛±0.78千牛；</p> <p>(b) 电池的电压下降至少100毫伏；或</p> <p>(c) 电池变形达原始厚度的50%或以上。</p> <p>A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached.</p> <p>(a) The applied force reaches 13kN±0.78kN;</p> <p>(b) The voltage of the cell drops by at least 100mV; or</p> <p>(c) The cell is deformed by 50% or more of its original thickness.</p> <p>一旦达到最大压力、电压下降 100 毫伏或更多，或电池变形至少达原厚度的 50%，即可解除压力。</p> <p>Once the maximum pressure has been obtained, the voltage drops by 100mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.</p> <p>棱柱形或袋装电池应从最宽的一面施压。纽扣/硬币形电池应从其平坦表面施压。圆柱形电池应从与纵轴垂直的方向施压。</p> <p>A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis.</p> <p>每个试样电池或元件电池只做一次挤压试验。试样应继续观察 6 小时。试验应使用之前未做过其他试验的电池或元件电池进行。</p> <p>Each test cell or component cell is to be subjected to one crush only. The test Samples shall be observed for a further 6 h. The test shall be conducted using test cells or component cells that have not previously been subjected to other tests.</p> <p>要求电池和电池组外壳温度不超过170℃，并且在试验过程中及试验后6小时内无解体，无起火。</p> <p>Cells and component cells meet this requirement if their external temperature does not exceed 170℃ and there is no disassemble and no fire during the test and within six hours after this test.</p>	<p>无解体， 无破裂，无起火。No disassemble , no rupture and no fire.</p>	<p>P</p>
38.3.4.7	<p>测试 7：过充电</p> <p>Test 7: Overcharge</p>	<p>见表 7 See Table 7</p>	<p>P</p>

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章节 Clause	标准要求 Requirements	测试结果 Result	判定 Verdict
	<p>充电电流必须是制造商建议的最大持续充电电流的两倍。试验的最小电压如下:</p> <p>(a) 制造商建议的充电电压不大于18伏时, 试验的最小电压应是电池组最大充电电压的两倍或22伏两者中的较小者;</p> <p>(b) 制造商建议的充电电压大于18伏时, 试验的最小电压应为最大充电电压的1.2倍。</p> <p>试验应在环境温度下进行, 进行试验的时间应为 24 小时。</p> <p>The charge current shall be twice the manufacturer's recommended maximum continuous charge current. The minimum voltage of the test shall be as follows:</p> <p>(a) When the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V.</p> <p>(b) When the manufacturer's recommended charge voltage is more than 18V, the minimum voltage of the test shall be 1.2 times the maximum charge voltage.</p> <p>Tests are to be conducted at ambient temperature; the duration of the test shall be 24 hours.</p>	无分解, 无起火。No disassemble and no fire.	P
	<p>要求充电电池组在试验过程中和试验后 7 天内无解体, 无起火。</p> <p>Rechargeable batteries meet this requirement if there is no disassemble and no fire during the test and within seven days after the test.</p>		
38.3.4.8	<p>测试 8: 强制放电</p> <p>Test 8: Forced discharge</p>	见表 8 See Table 8	P
	<p>每个电池应在环境温度下与 12V 直流电源上进行强制放电, 此直流电源串联在起始电流等于制造商给定的最大放电电流条件下强制放电。</p> <p>Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer.</p> <p>将适当大小和额定值的电阻负荷与试验电池串联, 计算得出给定的放电电流。对每个电池进行强制放电, 放电时间 (小时) 应等于其额定容量除以初始试验电流 (安培)。</p> <p>The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in ampere).</p>	无分解, 无起火。No disassemble and no fire.	P
	<p>要求原电池或充电电池在试验过程中和试验后 7 天内无解体, 无起火。Primary or rechargeable cells meet this requirement if there is no disassemble and no fire during the test and within seven days after the test.</p>		

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6、测试数据 Test Data

表 1 Table 1	高度模拟 Altitude simulation						P
样品 编号 Sample No.	测试前 Before test		测试后 After test		质量损失 Mass loss (%)	剩余电压 Remaining voltage (%)	有无渗漏，排气， 解体，破裂和起火 Whether leakage, venting, disassemble, rupture, fire (Y/N)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
Z1	23.500	4.18	23.489	4.16	0.05	99.52	N
Z2	23.491	4.18	23.488	4.17	0.01	99.76	N
Z3	23.481	4.18	23.478	4.17	0.01	99.76	N
Z4	23.427	4.18	23.425	4.17	0.01	99.76	N
X1	23.491	4.18	23.478	4.18	0.06	100.00	N
X2	23.465	4.18	23.449	4.16	0.07	99.52	N
X3	23.408	4.18	23.398	4.18	0.04	100.00	N
X4	23.487	4.19	23.473	4.17	0.06	99.52	N

表 2 Table 2	温度试验 Thermal test						P
样品 编号 Sample No.	测试前 Before test		测试后 After test		质量损失 Mass loss (%)	剩余电压 Remaining voltage (%)	有无渗漏，排气， 解体，破裂和起火 Whether leakage, venting, disassemble, rupture, fire (Y/N)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
Z1	23.489	4.16	23.480	4.11	0.04	98.80	N
Z2	23.488	4.17	23.481	4.11	0.03	98.56	N
Z3	23.478	4.17	23.466	4.10	0.05	98.32	N
Z4	23.425	4.17	23.405	4.11	0.09	98.56	N
X1	23.478	4.18	23.475	4.11	0.01	98.33	N
X2	23.449	4.16	23.429	4.10	0.09	98.56	N
X3	23.398	4.18	23.387	4.11	0.05	98.33	N
X4	23.473	4.17	23.463	4.11	0.04	98.56	N

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表 3 Table 3	振动 Vibration						P
样品 编号 Sample No.	测试前 Before test		测试后 After test		质量损失 Mass loss (%)	剩余电压 Remaining voltage (%)	有无渗漏，排气， 解体，破裂和起火 Whether leakage, venting, disassemble, rupture, fire (Y/N)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
Z1	23.480	4.11	23.470	4.09	0.04	99.51	N
Z2	23.481	4.11	23.480	4.10	0.00	99.76	N
Z3	23.466	4.10	23.456	4.08	0.04	99.51	N
Z4	23.405	4.11	23.393	4.10	0.05	99.76	N
X1	23.475	4.11	23.465	4.10	0.04	99.76	N
X2	23.429	4.10	23.427	4.09	0.01	99.76	N
X3	23.387	4.11	23.385	4.10	0.01	99.76	N
X4	23.463	4.11	23.453	4.10	0.04	99.76	N

表 4 Table 4	冲击 Shock						P
样品 编号 Sample No.	测试前 Before test		测试后 After test		质量损失 Mass loss (%)	剩余电压 Remaining voltage (%)	有无渗漏，排气， 解体，破裂和起火 Whether leakage, venting, disassemble, rupture, fire (Y/N)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
Z1	23.470	4.09	23.452	4.09	0.08	100.00	N
Z2	23.480	4.10	23.475	4.08	0.02	99.51	N
Z3	23.456	4.08	23.444	4.08	0.05	100.00	N
Z4	23.393	4.10	23.385	4.08	0.03	99.51	N
X1	23.465	4.10	23.447	4.09	0.08	99.76	N
X2	23.427	4.09	23.414	4.09	0.06	100.00	N
X3	23.385	4.10	23.383	4.08	0.01	99.51	N
X4	23.453	4.10	23.442	4.09	0.05	99.76	N

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表 5 Table 5	外短路 External short circuit	P
样品编号 Sample No.	最高温度 Peak temperature (°C)	有无解体, 破裂, 起火 Whether disassemble, rupture, fire (Y/N)
Z1	57.8	N
Z2	58.2	N
Z3	57.9	N
Z4	57.9	N
X1	58.6	N
X2	58.5	N
X3	57.7	N
X4	57.8	N

表 6 Table 6	挤压 Crush	P
样品编号 Sample No.	最高温度 Peak temperature (°C)	有无解体, 起火 Whether disassemble, fire (Y/N)
Z5	23.9	N
Z6	24.3	N
Z7	23.7	N
Z8	23.9	N
Z9	23.8	N
X5	24.7	N
X6	24.8	N
X7	24.6	N
X8	24.1	N
X9	24.3	N

表 7 Table 7	过度充电 Overcharge	P
样品编号 Sample No.	有无解体, 起火 Whether disassemble, fire (Y/N)	
Z10	N	
Z11	N	
Z12	N	

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Z13	N
X10	N
X11	N
X12	N
X13	N

表 8 Table 8	强制放电 Forced discharge	P
样品编号 Sample No.	有无解体, 起火 Whether disassemble, fire (Y/N)	
Z14	N	
Z15	N	
Z16	N	
Z17	N	
Z18	N	
Z19	N	
Z20	N	
Z21	N	
Z22	N	
Z23	N	
X14	N	
X15	N	
X16	N	
X17	N	
X18	N	
X19	N	
X20	N	
X21	N	
X22	N	
X23	N	

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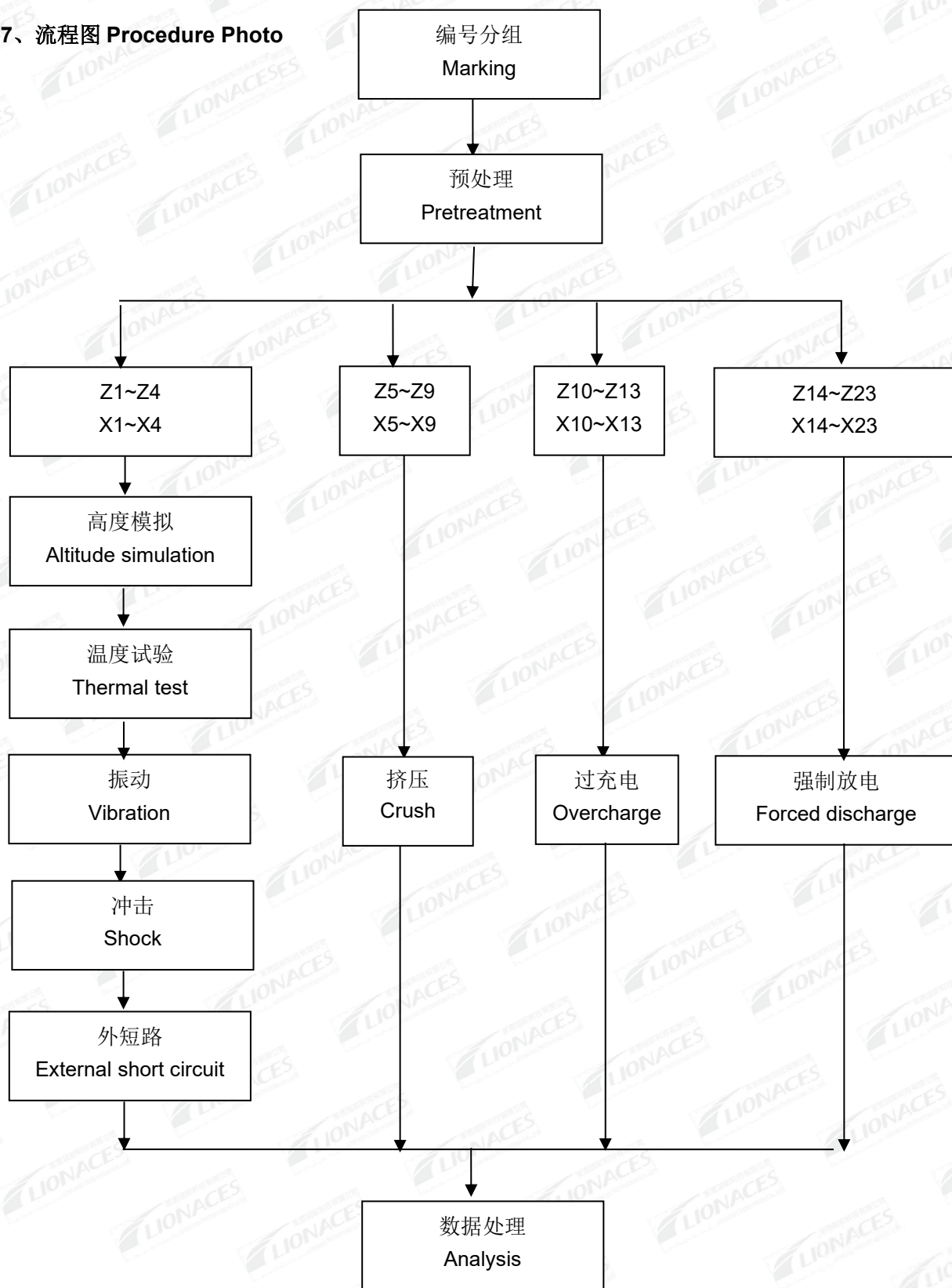
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Shenzhen Lionaces Technology Co., Ltd.

Tel: (86-755)-28280690

7、流程图 Procedure Photo



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8、测试设备 Test equipment

LA-BT-E068	电子天平秤 Electronic balance
LA-BT-E024	万用表 Multimeter
LA-BT-E004	电池低气压高空模拟试验箱 Battery pressure simulation test tank
LA-BT-E014	高低温(交变)湿热试验箱 High and low temperature (alternating) hot and heat test box
LA-BT-E013	电磁式振动试验机 Electromagnetic vibration testing machine
LA-BT-E086	机械式冲击试验机 Mechanical impact tester
LA-BT-E096	数字式温度记录仪 Digital temperature recorder
LA-BT-E097	电池短路实验机 Battery short circuit tester
LA-BT-E084	电池挤压试验机 Battery crush test instrument
LA-BT-E079 LA-BT-E080 LA-BT-E081 LA-BT-E082 LA-BT-E083	直流稳压电源 DC power supply
LA-BT-E091 LA-BT-E092 LA-BT-E093 LA-BT-E094	直流稳压电源 DC power supply

----报告结束----
----End of report----

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锂电池跌落测试报告

Lithium Battery Drop Test Report

报告编号: LA2025B0247001D
Report No.:

样品名称
Samples 可充电锂离子电池
Rechargeable Li-ion Battery

样品型号
Model YG162040

委托单位
Applicant 深圳市优格新能源科技有限公司
Shenzhen Youge New Energy Technology Co., LTD.

签发日期
Issue Date 2025-02-11

深圳市莱恩瑞斯科技有限公司
Shenzhen Lionaces Technology Co., Ltd.

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1. 样品描述 Sample Description

电池描述 Battery Description			
电池名称 Sample Name	可充电锂离子电池 Rechargeable Li-ion Battery		
样品型号 Sample Model	YG162040	电池规格 Battery specification	3.7V, 1300mAh, 4.81Wh
实验室 Laboratory	深圳市莱恩瑞斯科技有限公司 Shenzhen Lionaces Technology Co., Ltd.		
实验地址 Testing Address	广东省深圳市宝安区福海街道和平社区永和路骏丰工业区 B6 栋 301 301, Building B6, Junfeng Industrial Zone, Yonghe Road, Heping Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China		
委托单位 Applicant	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD.		
委托单位地址 Applicant Address	深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen		
生产单位 Manufacturer	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD.		
生产单位地址 Manufacturer Address	深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen		
包装件描述 Packaging Description			
外包装 Outer package	瓦楞纸箱 Corrugated carton	内包装 Inner package	吸塑盘 Blister disc
衬垫材料 Cushion	吸塑盘 Blister disc	包装件尺寸 Dimension	313mm*288mm*240mm
包装件毛重 Gross weight	10Kg	电池尺寸 Battery dimension	42.0mm*20.1mm*15.8mm
包装件电池净重 Net weight	9.4Kg	电池数量 Battery number	400Pcs
收样日期 Receiving Date	2025-02-05	完成日期 Completing Date	2025-02-07
包装方式 Packaging type	包装箱内含锂电池。 Package including lithium batteries .		
主检人: Prepared by		审核人: Checked by	
		批准人: Approved by	

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2. 参考方法 Reference Method

(ST/SG/AC.10/1/Rev.23) 《联合国关于危险品运输建议书——规章范本》
《Recommendations On The Transport Of Dangerous Goods-Model Regulations》

3. 测试项目 Test Item

1.2 米跌落试验、包装件毛重测试
1.2m Drop test、Gross Weight Measure

4. 测试方法 Test Method

每个装有电池的包装件需要做 5 次 1.2m 自由跌落。
The package of batteries is dropped from 1.2m, 5 times per package.

5. 测试设备 Test equipment

LA-BT-E011 包装跌落试验机 Packing drop tester
LA-BT-E102 电子天平秤 Electronic balance

6. 实验室环境条件 Test Environment Condition

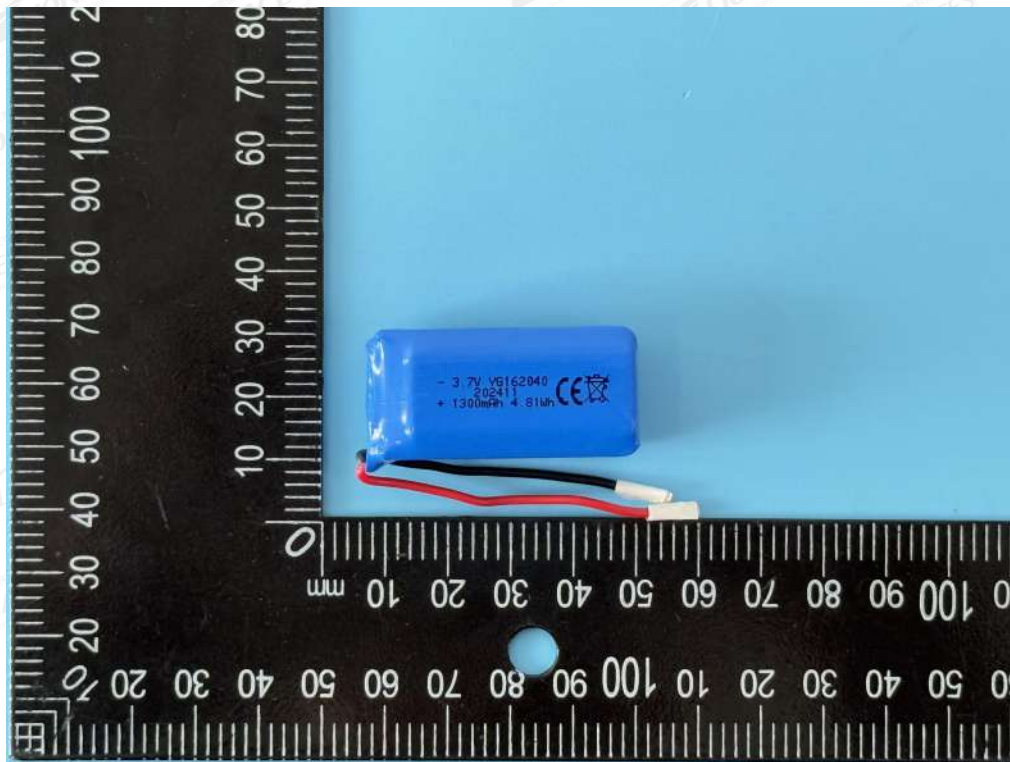
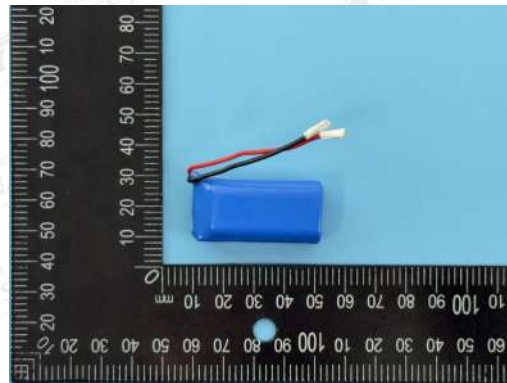
温度 Ambient temperature: 20~25 (°C)
相对湿度 Ambient humidity: 50~60 (%)

7. 测试结果 Test Data

测试项目 Test Item	测试结果 Test Result	结论 Conclusion
1.2m (面、棱、点跌落) (Side\Edge\Angle)	1、包装件内的电池没有破损或泄漏 2、内装物没有移动, 并且没有导致电池与电池(或 电池芯与电池芯)相互接触 3、内装物没有泄漏 1, Without damage to cells or batteries contained therein; 2, Without shifting of the contents so as to allow battery to battery (or cell to cell) contact; 3, Without release of contents.	被测试包装件能够承受 1.2 米跌落试验 The test package is capable of withstanding a 1.2m drop test in any orientation.
包装件毛重测试 Gross Weight Measure	10Kg	合格 Pass

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8. 样品图片 Sample Photo



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All of information such as product information, parameters, drawings, components, etc. are provided by the applicant. The applicant must provide samples and materials truthfully. Otherwise we will not take on any relevant responsibilities for this report.

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堆码试验报告 Stacking Test Report

报告编号: LA2025B0247001S
Report No.:

样品名称
Samples 可充电锂离子电池
Rechargeable Li-ion Battery

样品型号
Model YG162040

委托单位
Applicant 深圳市优格新能源科技有限公司
Shenzhen Youge New Energy Technology Co., LTD.

签发日期
Issue Date 2025-02-11

深圳市莱恩瑞斯科技有限公司
Shenzhen Lionaces Technology Co., Ltd.

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1. 样品描述 Sample Description

电池描述 Battery Description			
电池名称 Sample name	可充电锂离子电池 Rechargeable Li-ion Battery		
样品型号 Sample model	YG162040	电池规格 Battery specification	3.7V, 1300mAh, 4.81Wh
实验室 Laboratory	深圳市莱恩瑞斯科技有限公司 Shenzhen Lionaces Technology Co., Ltd.		
实验地址 Testing address	广东省深圳市宝安区福海街道和平社区永和路骏丰工业区 B6 栋 301 301, Building B6, Junfeng Industrial Zone, Yonghe Road, Heping Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China		
委托单位 Applicant	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD.		
委托单位地址 Applicant address	深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen		
包装件生产企业 Packaging parts manufacturer	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD.		
包装容器生产企业 Packing receptacle manufacturer	东莞市海洋纸品有限公司 Dongguan Haiyang Paper Co., Ltd		
包装件描述 Packaging Description			
外包装 Outer package	瓦楞纸箱 Corrugated carton	内包装 Inner package	吸塑盘 Blister disc
衬垫材料 Cushion	吸塑盘 Blister disc	包装件尺寸 Dimension	313mm*288mm*240mm
包装件毛重 Gross weight	10Kg	电池尺寸 Battery dimension	42.0mm*20.1mm*15.8mm
包装件电池净重 Net weight	9.4Kg	电池数量 Battery number	400Pcs
收样日期 Receiving Date	2025-02-05	完成日期 Completing Date	2025-02-07
包装方式 Packaging type	包装箱内含锂电池。 Package including lithium batteries.		
主检人: Prepared by		审核人: Checked by	
		批准人: Approved by	

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2. 参考方法 Reference Method

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《Recommendations On The Transport Of Dangerous Goods-Model Regulations》

3. 测试项目 Test Item

堆码试验 Stacking test

4. 测试方法及标准要求 Test methods and standard requirements

4.1 试验样品数量:每种设计类型和每个制造厂家 3 个试验样品。

Number of test samples: three test samples per design type and manufacturer.

4.2 试验方法:在试验样品的顶部表面施加一力量,此力相当于运输时可能堆叠在它上面的同样数量包装件的总重量。如果试验样品内装的液体相对密度与待运液体的不同,则该力应按后者计算。包括试验样品在内的最小堆码高度应是 3 米。试验时间为 24 小时,但拟装液体的塑料桶、罐和复合包装 6HH1 和 6HH2,应在不低于 40°C 的温度下经受 28 天的堆码试验。

Test method: the test sample shall be subjected to a force applied to the top surface of the test sample equivalent to the total weight of identical packages which might be stacked on it during transport; where the contents of the test sample are liquids with relative density different from that of the liquid to be transported, the force shall be calculated in relation to the latter. The minimum height of the stack including the test sample shall be 3 meters. The duration of the test shall be 24 hours except that plastics drums, jerricans, and composite packagings 6HH1 and 6HH2 intended for liquids shall be subjected to the stacking test for a period of 28 days at a temperature of not less than 40°C.

4.3 通过试验的标准:试验样品不得泄漏。对复合或组合包装而言,不得有所装的物质从内贮器和内包装中漏出。试验样品不得显出可能对运输安全有不利影响的损坏,或者可能降低其强度或造成包装件堆码不稳定的变形。在进行评估之前,塑料包装应冷却至环境温度。

Criterion for passing the test: no test sample may leak. In composite packagings or combination packagings, there shall be no leakage of the filling substance from the inner receptacle or inner packaging. No test sample may show any deterioration which could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in stacks of packages. Plastics packagings shall be cooled to ambient temperature before the assessment.

5. 测试设备 Test equipment

LA-BT-E109 电池纸箱堆码试验机 Battery carton stacking test machine

LA-BT-E112 电池纸箱堆码试验机 Battery carton stacking test machine

LA-BT-E113 电池纸箱堆码试验机 Battery carton stacking test machine

6. 实验室环境条件 Test Environment Condition

温度 Ambient temperature: 23±2 (°C)

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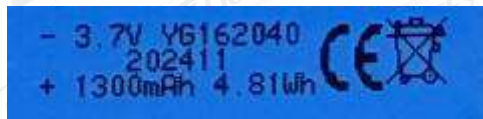
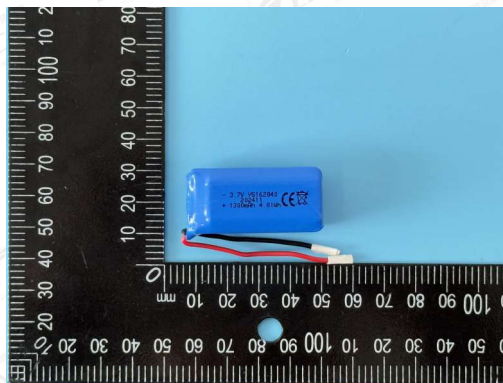
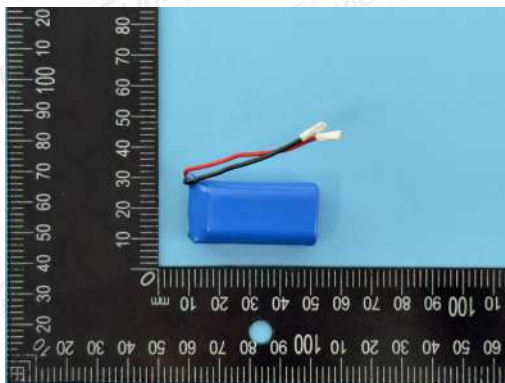
相对湿度 Ambient humidity: 50 ± 2 (%)

7. 测试结果 Test Data

编号 No.	单个包装高度 Height of individual packages h(M)	单个包装件质量 Quality of individual packages m(Kg)	加载的载荷 Loaded load (N)	试验时间 Testing time (h)	结论 Conclusion
1#	0.24	10	1176.0	24	Pass
2#	0.24	10	1176.0	24	Pass
3#	0.24	10	1176.0	24	Pass

被测试包装件能够承受堆码试验。
The test package is capable of withstanding a Stacking test in any orientation.

8. 样品图片 Sample Photo



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Website: www.lionaces.com

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- 3、委托单位对检测结果有异议，应于收到报告之日起十五日内向我司提出。

If the applicant has any questions about results, shall submit to Lionaces within 15 days.

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All of information such as product information, parameters, drawings, components, etc. are provided by the applicant. The applicant must provide samples and materials truthfully. Otherwise we will not take on any relevant responsibilities for this report.

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----End of report----

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检验
INSPECTION
CNAS IB0078

危险物品
DANGEROUS GOODS

航空运输危险性鉴别报告

Identification and Classification Report for Air Transport of Goods

此报告本年度有效
有效期至2025年12月31日

报告编号: PEKGZ202502125742YY200001

Issued No.:

生效日期: 2025. 02. 12

Effective Date:

委托单位: 深圳市优格新能源科技有限公司

Applicant: Shenzhen Youge New Energy Technology Co., Ltd

物品名称: 可充电锂离子电池 YG162040 3.7V 1300mAh 4.81Wh

Name of Goods: Rechargeable Li-ion Battery YG162040 3.7V 1300mAh 4.81Wh

北京迪捷姆空运技术开发有限公司

Beijing DGM Air Transport Technology Development Co.,Ltd.



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2. 依据鉴别的需要，本公司要求委托人提供真实、完整的样品及资料。

According to the demand of identification and classification, DGM China requires the applicant to provide true and exact sample and data of the goods.

3. 委托人保证申报的物品和/或提供的样品与交运的货物是同一种物质。

The applicant guarantees that the declared goods and/or the sample who provides should be identical with the contents of cargo that is to be transported.

4. 本公司仅对委托方所提供样品的鉴别结果负责。

DGM China is only responsible for the identification and classification of the sample provided by the applicant.

5. 本报告书经主检员、审核人和批准人签字并加盖本公司印章后生效。

This report will be effective only after it is signed by the inspector, checker and approver, and stamped by DGM China.

6. 未经本公司书面批准，不得复制本报告书。

The duplicating of this report is prohibited without the written approval of DGM China.

7. 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。

The report is invalid when anything of the following happens - illegal transfer, reproduce, embezzlement, imposture, modification or tampering in any media form.

8. 为适应国际航协《危险品规则》的年度变化，报告书仅在本年度内有效。

This report is only valid within the year in which the IATA *Dangerous Goods Regulations* is effective.

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项目编号 Item No.		PEKGZ202502125742			
物品名称 Name of Goods	中文 Chinese	可充电锂离子电池 YG162040 3.7V 1300mAh 4.81Wh			
	英文 English	Rechargeable Li-ion Battery YG162040 3.7V 1300mAh 4.81Wh			
鉴别结论 Conclusions		<p>该物品为锂离子/聚合物电池，单独包装。额定瓦特小时为4.81Wh。已通过 UN38.3 测试，已通过包装件1.2米跌落试验，包装件通过3米堆码试验，每个包装件上均有电池标记。</p> <p>参考有关资料，根据DGR有关规定，该物质分类识别为第9类（或项）危险品，UN3480。 This goods is lithium ion/polymer battery,packed individually.Watt-hour rating is 4.81Wh.Each battery is of a type proved to meet the Requirements of each test in the UN MANUAL OF TESTS AND CRITERIA, Part III, sub-section 38.3,Each package is capable of withstanding a 1.2m drop test in any orientation without damage to the cells contained therein, without shifting of the contents so as to allow cell to cell contact and without release of contents,The package is capable of withstanding the 3m stack test,Each package is marked with battery mark.</p> <p>According to IATA DGR this substance is classified as dangerous goods Class (or division) 9,UN3480.</p>			
运输危险性 建议 Suggestion for Transport	UN/ID 编号 UN/ID No.	运输专用名称 Proper Shipping Name		类或项 Class or Div. (次要危险性) (Subsidiary Risk)	包装等级 Packing Group
	UN3480	Lithium ion batteries		9	/
	包装说明 Packing Inst.	客货机 Passenger and Cargo Aircraft	Forbidden		
		仅限货机 Cargo Aircraft only	965, IB		
	注意事项 Remarks	本物品仅限货机运输。 The goods can be transported on cargo aircraft only.			
主检员 Prepared by:		审核人 Checked by:		批准人 Approved by:	
报告单位（盖章） Stamp					

制单： 李彦颖

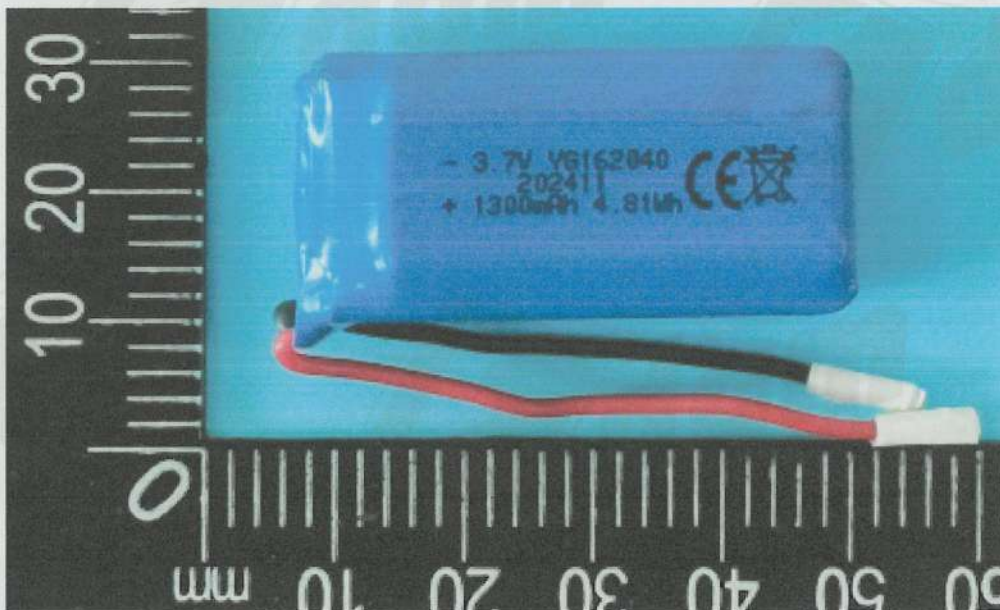


北京迪捷姆空运技术开发有限公司

项目编号: PEKGZ202502125742

物品名称: 可充电锂离子电池 YG162040 3.7V 1300mAh 4.81Wh

电池/电芯 Battery / Cell:



包装件 Package:



锂电池/钠离子电池 UN38.3 试验概要 Test Summary

项目编号: PEKGZ202502125742

单位信息 Company Information					
委托单位 Consignor	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD. 深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen 电话/Tel: 13686445115 邮箱/Mail: 770146010@qq.com				
生产单位 Manufacturer	深圳市优格新能源科技有限公司 Shenzhen Youge New Energy Technology Co., LTD. 深圳市龙华区大浪街道陶元社区云峰路 35 号 B 栋厂房 4 层 4th Floor, Building B, No. 35 Yunfeng Road, Taoyuan Community, Dalang Street, Longhua District, Shenzhen 电话/Tel: 13686445115 邮箱/Mail: 770146010@qq.com				
测试单位 Test Lab	深圳市莱恩瑞斯科技有限公司 / Shenzhen Lionaces Technology Co., Ltd. 广东省深圳市宝安区福海街道和平社区永和路骏丰工业区 B6 栋 301 301, Building B6, Junfeng Industrial Zone, Yonghe Road, Heping Community, Fuhai Street, Baoan District, Shenzhen, Guangdong, China 电话/Tel: 0755-28280690 邮箱/Mail: service@lionaces.com 网址/Website: www.lionaces.com				
电池信息 Battery Information					
名称 Name	可充电锂离子电池 Rechargeable Li-ion Battery	电池/电芯类别 Battery/Cell Classification		锂离子电池 Li-ion Battery	
型号 Type	YG162040	商标 Trademark			
额定电压 Normal Voltage	3.7V	额定容量 Rated Capacity		1300mAh	
额定能量 Watt-hour rating	4.81Wh	外观 Appearance		蓝色近长方体 Approximate Blue Cuboid	
质量/Mass	23.5g	锂含量/Li Content		不适用 N/A	
测试信息 Test Information					
测试报告编号 Test Report Number	LA2024B1616001U	测试报告签发日期 Date of Test Report		2024-11-22	
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《试验和标准手册》(第 8 版) 38.3 节 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3				
T.1: 高度模拟 Altitude Simulation	通过 Pass	T.2: 温度试验 Thermal Test	通过 Pass	T.3: 振动 Vibration	通过 Pass
T.4: 冲击 Shock	通过 Pass	T.5: 外部短路 External Short Circuit	通过 Pass	T.6: 撞击/挤压 Impact/Crush	通过 Pass
T.7: 过度充电 Overcharge	通过 Pass	T.8: 强制放电 Forced Discharge	通过 Pass	/	
UN38.3.3.1(f) 或/or UN38.3.3.2(d)	不适用 N/A		UN38.3.3.1(g) 或/or UN38.3.3.2(e) 不适用 N/A		
备注 Note	/				
签名 Signatory	刘桂雄 Liu GuiXiong		签发日期 Issued Date	2025-02-12	
职务 Title	检验员 Inspector: 刘桂雄 Liu GuiXiong				