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国家信息技术设备质量检验检测中心
National Information Technology Equipment Quality Inspection Testing Center
广东省东莞市质量监督检测中心
Guangdong Dongguan Quality Supervision & Testing Center

检验报告
Test Report

防伪码：93508293

№：X21120043

样品名称 Sample Information	样品名称 Sample Description	锂离子聚合物电芯 Li-ion Polymer Cell		商标 Brand	嘉拓®
	型号/规格/颜色 Type, Color, Specification	115570/5000mAh		等级 Grade	合格品 Qualified
	生产单位及地址 Manufacturer and Address	广东嘉拓新能源科技有限公司 Guangdong CVATOP New Energy Technology Co., Ltd. 东莞市石排镇燕窝村永威大厦1、2、3层 1st, 2nd and 3rd floors, Yongwei Building, Yanwo Village, Shipai Town, Dongguan City		生产日期/批号 Produced Date Serial No.	———
委托单位及地址 Applicant and Address		广东嘉拓新能源科技有限公司 Guangdong CVATOP New Energy Technology Co., Ltd. 东莞市石排镇燕窝村永威大厦1、2、3层 1st, 2nd and 3rd floors, Yongwei Building, Yanwo Village, Shipai Town, Dongguan City		检验类别 Test Type	委托检验 Consignment test
样品数量 Sample Quantity		40	单号 Vourch No. A122280	来样方式 Sample Method	送样 Send by applicant
样品状况 Condition		正常 Normal	接样日期 Receiving Date 2021-11-01	验讫日期 Date Tested	2021-12-29
检验依据 Test Standards		《试验和标准手册》第七版修订版第38.3章节 UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7/Subsection 38.3			
判定依据 Judge Standards		《试验和标准手册》第七版修订版第38.3章节 UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7/Subsection 38.3			
检验结论 Conclusion of Test		经检验，所检项目符合《试验和标准手册》第七版修订版第38.3章节 After inspection, the test items accord with UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7/Subsection 38.3 检验检测专用章 Official Seal 签发日期：2021年12月29日 Issue Date: December 29, 2021			
备注 Remarks		———			

批准：Approved By: 黎慧　　审核：Checked By: 李耀权　　编制：Edited By: 李玫烨

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试验环境 Test Environment	温度：（21.0～24.0）℃ 湿度：（52.3～61.5）%RH Temperature :(21.0 ~ 24.0) ℃ Humidity :(52.3～61.5) %RH

检验结果说明 Test Result Description	1.检验地点：松山湖本部 1.Testing Location: Songshan Lake Headquarters
实验室地址 Laboratory Address	松山湖本部：广东省东莞市松山湖科技产业园区工业南路2号 Songshan Lake Headquarters: No.2,Gongye South Road,Songshan Lake Sci-Tech Industrial Park,Dongguan,Guangdong
注意事项 Matters Need Attention	1.报告无编制/主检、审核、批准人签字，或涂改，或未加盖检验检测专用章无效。 2.未经本机构书面批准，不得复制（全文复制除外）检验报告。 3.委托送检的样品，其检测数据、结果仅证明样品所检测项目的符合性情况。未经本机构同意，委托方不得擅自使用检测结果进行宣传。 4.委托送检的样品信息由委托方提供，本机构不对其真实性及完整性负责。 5.委托方自收到报告之日起，在相应期限内没有提出异议的，视为认可该报告结果。（各类报告的异议期：农产品类5日，食品类7日，其它工业产品15日） 1.The test report is invalid when altered, lack of signatures of the testing, reviewing and approving personnel, or lack of official stamp for inspection and testing of testing laboratory. 2.The test report shall only be reproduced in full unless prior written authorization has been attained. 3.The test results and conclusion reflect the status of conformity of the sample (s) tested only. The test result shall not be used for advertisement unless prior written authorization has been attained. 4.The sample information is provided by applicant, and the laboratory shall not be responsible for its authenticity and completeness. 5.If the customer does not raise any objection within the discrepancy period from the date of receipt of the report, the result(s) shall be deemed to be accepted by the customer. (Discrepancy Period for Various Reports: Agricultural Products 5 days, Food 7 days, Other Industrial Products 15 days).

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Tests performed (name of test and test clause):

Test items	Sample Number
T.1: Altitude simulation / 高度模拟	C1# -C10#
T.2: Thermal test / 温度测试	
T.3: Vibration / 振动	
T.4: Shock / 冲击	
T.5: External short circuit / 外接短路	
T.6: Crush / 挤压 or Impact/撞击	C11# - C20#
T.7 Overcharge / 过充电	N/A
T.8: Forced discharge / 强制放电	C21# - C40#

The sample’s status is good.
样品状况良好。

The conditions of the cells of samples No. C1# to C5# are at first cycle, in fully charged states.
样品编号 C1# - C5#为第一次循环充放电周期完全充电状态的电芯。

The conditions of the cells of samples No. C6# to C10# are after 25 cycles ending in fully charged states.
样品编号 C6# - C10#为二十五次循环充放电周期后完全充电状态的电芯。

The conditions of the cells of samples No. C11# to C15# are at first cycle at 50% of the design rated capacity.
样品编号 C11# - C15#为第一次循环充放电周期充电至标称容量的 50%状态的电芯。

The conditions of the cells of samples No. C16# to C20# are after 25 cycles at 50% of the design rated capacity.
样品编号 C16# to C20#为二十五次循环放电周期充电至标称容量的 50%状态的电芯。

The conditions of the cells of samples No. C21# to C30# are at first cycle, in fully discharged states.
样品编号 C21# - C30#为第一次循环充放电周期完全放电状态的电芯。

The conditions of the cells of samples No. C31# to C40# are after 25 cycles ending in fully discharged states.
样品编号 C31# to C40#为二十五次循环充放电周期后完全放电状态的电芯。

The sample submitted by manufacturer is cell only.制造商提供的样品仅仅是电芯。

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Test Procedure:

1. Each battery type is subjected to tests T.1 to T.8. Tests T.1 to T.5 are conducted in sequence on the same battery. Tests 6 and 8 are conducted using not otherwise tested batteries. 每一种类型的电池均应进行 T.1 至 T.8 项试验。电池必须按顺序在相同的一组电池上进行试验 T.1 至 T.5。试验 T.6 和 T.8 应使用未另外试验过的电池。

2. In order to quantify the mass loss, the following procedure is provided:

Mass loss(%)=(M1-M2)/M1×100

为了量化质量损失，可用以下公式计算：质量损失(%)=(M1-M2)/M1×100

Where M1 is the mass before the test and M2 is the mass after the test. When mass loss does not exceed the values in Table below, it is considered as "no mass loss".

式中：M1 是试验前的质量，M2 是试验后的质量。如果质量损失不超过下表所列的数值，应视为“无质量损失”。

Mass M of cell or battery 电芯或电池的质量	Mass loss limit 质量损失限值
M＜1g	0.5%
1g≤M≤75g	0.2%
M＞75g	0.1%

3. In test T.1 to T.4, batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test battery after testing is not less than 90% of its voltage immediately prior to this procedure.

在测试 T.1 至 T.4 中，电池须满足无渗漏、无泄气、无解体、无破裂和无起火，并且每个试验电池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%。

General product information:

一般产品信息:

Product name 电池类型	Li-ion Polymer Cell 锂离子聚合物电芯
Type/model 型号	115570
Nominal voltage 标称电压	3.7V
Rated capacity 额定容量	5000mAh
Recommended charging voltage 最大充电电压	4.2V
Maximum charging current 最大充电电流	5000mA
Maximum discharging current 最大放电电流	5000mA
Discharge cut-off voltage 放电截止电压	3.0V
Dimensions 尺寸	约 67.2mm X 54.3mm X 10.5mm
Weight 质量	约 83.9g
Appearance of Samples 样品外观	银色近长方体

The final evaluation of the battery must be conducted in the end product for which the battery will be used.

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		Clause/ 条款	Requirement + Test /要求-试验		
1	Test T.1: Altitude simulation/高度模拟	38.3.4.1	Test cells and batteries shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20±5°C)/将电芯和电池在温度为20±5°C、大气压力不大于11.6kpa的环境中贮存不少于6个小时	Meet the requirements/符合要求	Pass/合格
			Cells and batteries meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, 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. /电芯和电池符合要求：无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火现象；电芯或电池测试后的开路电压不低于测试前开路电压的90%。此项关于电压方面的要求不适用于完全放电后的电芯和电池。	No leakage, no venting, no disassembly, no rupture and no fire./ 无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table 1. / 测试数据见表1。	Pass/合格
2	Test T.2: Thermal test/温度试验	38.3.4.2	Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72±2°C, followed by storage for at least six hours at a test temperature equal to - 40±2°C. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated 10 times, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20 ±5°C). /首先将样品放在72±2°C的环境中放置至少6个小时，然后放在-40±2°C的环境中放置至少6个小时。温度转换的最大间隔时间为30分钟。如此循环10次，最后将样品放在20±5°C的环境中静置24小时。	Meet the requirements/符合要求	Pass/合格
			For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours. /对于大电芯和大电池，在高温和低温中放置的时间最少12个小时。	Not Applicable/不适用	- -

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		Clause/ 条款	Requirement + Test /要求-试验		
			Cells and batteries meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, 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. /电芯和电池符合要求：无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火现象；电芯或电池测试后的开路电压不低于测试前开路电压的90%。此项关于电压方面的要求不适用于完全放电后的电芯和电池。	No leakage, no venting, no disassembly, no rupture and no fire. / 无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table 1. / 测试数据见表 1。	Pass/合格
3	Test T.3: Vibration /振动	38.3.4.3	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. /样品必须牢固地安装在振动台 台面上。振动以正弦波形式，以 7Hz 增加至 200Hz， 然后减少回到 7Hz 为一个循环，一个循环持续 15 分 钟。对样品从三个互相垂直的方向上循环 12 次，共 3 个小时。其中一个振动方向必须是垂直样品的极性 平面。	Meet the requirements/ 符合要求	Pass/合格

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		Clause/ 条款	Requirement + Test /要求-试验		
			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). /对于质量不大于 12kg 的样品(电芯和小电池)和质量超过 12kg 的电池(大电池)，对数扫频不同。	Meet the requirements/ 符合要求	Pass/合格
			For cells and small batteries: from 7 Hz a peak acceleration of 1 gn 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 8 gn occurs (approximately 50 Hz). A peak acceleration of 8 gn is then maintained until the frequency is increased to 200 Hz. /对于电芯和小电池组，对数扫频为：从 7Hz 开始保持 1gn 的最大加速度直到频率为 18Hz，然后将振幅保持在 0.8mm (总偏移 1.6mm) 并增加频率直到最大加速度达到 8gn (频率约为 50Hz)，将最大加速度保持在 8gn 直到频率增加到 200Hz。	Meet the requirements/ 符合要求	Pass/合格
			For large batteries: from 7 Hz to a peak acceleration of 1 gn 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 2 gn occurs (approximately 25 Hz). A peak acceleration of 2 gn is then maintained until the frequency is increased to 200 Hz. /对于大型电池组，对数扫频为：从 7Hz 开始保持 1gn 的最大加速度直到频率为 18Hz，然后将振幅保持在 0.8mm (总偏移 1.6mm) 并增加频率直到最大加速度达到 2gn (频率约为 25Hz)，将最大加速度保持在 2gn 直到频率增加到 200Hz。	Not Applicable/不适用	--

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		Clause/ 条款	Requirement + Test /要求-试验		
			Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire during the test and after the test and if the open circuit voltage of each test cell or battery directly after testing in its third perpendicular mounting position 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./ 电芯和电池符合要求：无漏液、无冒烟、无分解、无破裂以及无着火现象；电芯或电池测试后的开路电压不低于测试前开路电压的 90%。此项关于电压方面的要求不适用于完全放电后的电芯和电池。	No leakage, no venting, no disassembly, no rupture and no fire. / 无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table 1. / 测试数据见表 1。	Pass/合格
4	Test T.4: Shock/ 冲击	38.3.4.4	Test cells shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test cell. Each cell or battery shall be subjected to a half-sine shock of peak acceleration of 150 gn and pulse duration of 6 milliseconds. Alternatively, large cells may be subjected to a half-sine shock of peak acceleration of 50 gn and pulse duration of 11 milliseconds. Each cell shall be subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks. /以稳固的托架固定住每个样品。对每 个电芯样品以峰值为 150gn 的半正弦的加速度撞击，脉冲持续 6ms，另外，大电芯须经受最大加速度 50gn 和脉冲持续时间 11ms 的半正弦波冲击，每个样品必须在三个互相垂直的电池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。	Meet the requirements/ 符合要求	Pass/合格

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			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 milliseconds for large batteries. 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. The formulas below are provided to calculate the appropriate minimum peak accelerations /每个电池经受冲击峰值加速度取决于电池的质量，小电池的脉冲持续时间为6ms，大电池的脉冲持续时间为11ms，每个样品必须在三个互相垂直的电池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,提供下面的公式来计算合适的最小峰值加速度。	Meet the requirements/ 符合要求	Pass/合格
			Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, 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. / 电芯和电池符合要求：无漏液、无冒烟、无分解、无破裂以及无着火现象；电芯或电池测试后的开路电压不低于测试前开路电压的 90%。 此项关于电压方面的要求不适用于完全放电后的电芯和电池。	No leakage, no venting, no disassembly, no rupture and no fire. / 无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table 1. / 测试数据见表 1。	Pass/合格

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5	Test T.5: External short circuit/ 外部短路	38.3.4.5	The cell or battery to be tested shall be temperature stabilized so that its external case temperature reaches 57±4°C and then the cell or battery shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at 57±4°C. This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 57±4°C. / 保持测试环境温度稳定在 57 ±4°C，以便 样品外表温度达到 57±4°C，然后将样品正负极用小于 0.1 欧姆的总电阻回路进行短路，样品的外表温度恢复到 57±4°C 之后保持短路状态 1 小时以上。对于大电池，电池温度降低至最高温升值的一半时实验结束。	Meet the requirements/ 符合要求	Pass/合格
			Cells and batteries meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire during the test and within six hours after the test./电芯和电池符合要求：在测试过程中以及之后 6 个小时内，外表温度不超过 170°C，并且无分解、无破裂和无着火现象发生。	No disassembly, no rupture and no fire during the test and within six hours after the test./在测试过程中以及之后 6 个小时内，外表温度不超过 170° C，并且无分解、无破裂和无着火现象发生。 The data see table 1. / 测试数据见表 1	Pass/合格
6	Test T.6: Impact / Crush/ 撞击/挤压	38.3.4.6	Test procedure – Impact (applicable to cylindrical cells greater than or equal to 18 mm in diameter) /撞击(适合于直径大于或等于 18mm 的圆柱形电芯)	Not Applicable/不适用 （Prismatic cell/棱柱电芯）	--

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		Clause/条款	Requirement + Test /要求-试验		
			The sample cell or component cell is to be placed on a flat smooth surface. A 15.8 mm±0.1mm diameter, at least 6 cm 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±0.1 kg 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 frictionless, 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. /将样品放在一个平坦的光滑平面上。将一直径为 15.8 mm±0.1mm，长度不小于 6cm 的 316 不锈钢棒横过样品中部放置后，将一质量为 9.1 kg±0.1 kg 的重物从 61±2.5 cm 的高度落向样品	Not Applicable/不适用 （Prismatic cell/棱柱电芯）	--
			The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm±0.1mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact. /接受撞击的样品，纵轴应与平坦的表面平行并与横放在样品中心的直径 15.8 mm±0.1mm 弯曲表面的纵轴垂直。每一个样品只接受一次撞击。	Not Applicable/不适用 （Prismatic cell/棱柱电芯）	--
			Test Procedure – Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells not more than 18 mm in diameter). /挤压 (适用于棱柱形、袋状、硬币/纽扣电芯和直径不超过 18mm 的圆柱形电芯)	Meet the requirements/ 符合要求	Pass/合格

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N0./序号	Inspection items/检验项目	standard requirement/标准要求		Result - Remark/结果-评述	Verdict/ 单项评价
		Clause/条款	Requirement + Test /要求-试验		
			A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached. /将样品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1.5cm/s。挤压持续进行，直到出现以下三种情况之一 (a) The applied force reaches 13 kN±0.78 kN; /施加力达到 13 kN±0.78 kN (b) The voltage of the cell drops by at least 100 mV; /样品的电压下降至少100mV (c) The cell is deformed by 50% or more of its original thickness. /电池变形达原始厚度的 50%以 上。	(a) The applied force reaches 13 kN±0.78 kN 施加力达到 13 kN±0.78 kN	Pass/合格
			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. /棱柱形或袋状电芯应从最宽的一面施压。纽扣/硬币形电芯应从其平坦表面施压。圆柱形应从与纵轴垂直的方向施压	Meet the requirements/ 符合要求	Pass/合格
			Each test cell or component cell is to be subjected to one crush only. The test sample 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./每个样品都是全新样品，并且只经受一次施压。施压结束后样品应静置观察 6 小时。	Meet the requirements/ 符合要求	Pass/合格

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N0./ 序号	Inspection items/ 检验项目	standard requirement/标准要求		Result - Remark/结果-评述	Verdict/ 单项评价
		Clause/ 条款	Requirement + Test /要求-试验		
			Cells and component cells meet this requirement if their external temperature does not exceed 170°C and there is no disassembly and no fire during the test and within six hours after this test. /电芯满足要求：在测试过程中以及之后 6 个小时内，外表温度不超过 170°C，并且无分解和无着火现象发生。	No disassembly and no fire. / 无分解，无着火现象发生。 The data see table 2. / 测试数据见表 2。	Pass/合格
7	Test T.7: Overcharge/ 过充电	38.3.4.7	The charge current shall be twice the manufacturer's recommended maximum continuous charge current. Tests are to be conducted at ambient temperature. The duration of the test shall be 24 hours. The minimum voltage of the test shall be as follows: /在室温下，以 2 倍的制造商宣称的最大持续充电电流对样品充电，测试时间为 24 小时。测试的最小电压如下 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. /如果制造商宣称的充电电压不超过 18V，本测试的最小充电电压应是制造商宣称的最大充电电压的两倍或者是 22V 之中的较小者。 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. /如果制造商宣称的充电电压超过 18V，本测试的最小充电电压应该是制造商宣称的最大充电电压的 1.2 倍。	Not Applicable/不适用	--
			There is no disassembly and no fire during the test and within seven days after the test. /在测试中和测 试完成后 7 天内，样品无分解和无着火现象。	Not Applicable/不适用	--

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N0./序号	Inspection items/检验项目	standard requirement/标准要求		Result - Remark/结果-评述	Verdict/ 单项评价
		Clause/条款	Requirement + Test /要求-试验		
8	Test T.8: Forced discharge /强制放电	38.3.4.8	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. /在室温下，将单个电芯连接在 12V 的直流电源上进行强制放电，此直流电源供给每个电芯初始电流为制造商宣称的最大放电电流。 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). /指定的放电电流通过串联在测试电芯上的合适大小和功率的负载来获得，每个电芯的强制放电时间(小时)为额定容量除以初始电流(安培)。	Meet the requirements/ 符合要求	Pass/合格
			There is no disassembly and no fire during the test and within seven days after the test./在测试中和测 试完成后 7 天内，样品无分解和无着火现象发生	No disassembly and no fire. /无分解和无着火现象发生。 The data see table 3. / 测试数据见表 3	Pass/合格

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Table 1. Test T.1~ Test T.5/ 表 1. 测试 T.1~测试 T.5

Sample No./样品编号	OCM prior to test/ 试验前质量(g)	OCV prior to test/ 试验前电压 (V)	Test T.1 Altitude simulation/试验 1：高度模拟		Test T.2 Thermal test/试验 2：温度试验		Test T.3 Vibration 试验 3：振动		Test T.4 Shock/ 试验 4：冲击		Test T.5 External short circuit/试验 5：外部短路
			Mass loss 质量损失 (%)	Change ratio 电压比 (%)	Mass loss 质量损失 (%)	Change ratio 电压比 (%)	Mass loss 质量损失 (%)	Change ratio 电压比 (%)	Mass loss 质量损失 (%)	Change ratio 电压比 (%)	Maximum Temperature ° C 最高温度（° C）
C1	83.638	4.178	0.002	99.976	0.012	98.899	0.001	99.976	0.001	99.976	105.10
C2	83.842	4.178	0.001	99.976	0.010	98.827	0.001	99.976	0.001	99.976	103.07
C3	83.679	4.179	0.001	99.952	0.013	98.779	0.001	99.976	0.001	99.976	98.17
C4	83.376	4.183	0.001	99.952	0.012	98.756	0.001	99.952	0.001	99.976	102.29
C5	84.788	4.178	0.001	99.976	0.012	98.755	0.001	99.976	0.002	99.976	94.38
C6	83.443	4.178	0.002	99.976	0.013	98.827	0.001	99.976	0.001	99.952	97.61
C7	84.272	4.179	0.001	99.976	0.015	98.851	0.002	99.976	0.001	99.976	100.40
C8	84.101	4.181	0.001	99.976	0.008	98.852	0.001	99.952	0.001	99.976	103.02
C9	83.966	4.179	0.001	99.976	0.013	98.827	0.001	99.952	0.001	99.976	101.51
C10	83.857	4.182	0.001	99.976	0.016	98.804	0.001	99.976	0.001	99.976	96.12

Table 2: Crush or impact/ 表 2：挤压或撞击

Test 6: Crush/测试 T.6:挤压	Sample No./样品编号	C11#	C12#	C13#	C14#	C15#
	OCV prior to test /试验前开路电压(V)	3.696	3.701	3.687	3.712	3.695
	Temp./温度（° C)	23.9	23.8	23.9	24.0	23.9
	Sample No./样品编号	C16#	C17#	C18#	C19#	C20#
	OCV prior to test /试验前开路电压(V)	3.699	3.691	3.692	3.696	3.689
	Temp./温度（° C)	23.8	23.8	23.9	23.7	24.0

Table 3：Forced discharge / 表 3：强制放电

Test 8: Forced discharge/ 测试 T.8 强制放电	Sample No./样品编号	C21#	C22#	C23#	C24#	C25#	C26#	C27#	C28#	C29#	C30#
	OCV prior to test/试验前开路电压 (V)	3.339	3.330	3.341	3.339	3.330	3.329	3.341	3.337	3.339	3.341
	Sample No./样品编号	C31#	C32#	C33#	C34#	C35#	C36#	C37#	C38#	C39#	C40#
	OCV prior to test/试验前开路电压 (V)	3.332	3.339	3.340	3.336	3.334	3.338	3.341	3.335	3.329	3.336

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Photos / 照片

Positive samples 样品正面

Sample appearance 样品外观

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