UN 38.3 TEST REPORT

UN 38.3 检 测 报 告

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Applicant's name/ 申请商名称..... :	Guangdong Chengrun Lithium Battery Co., Ltd. 广东诚润锂电池有限公司
Address/ 申请商地址.....:	No. 12, West Pai East Road, First Street, He Sheng Village, Shengfeng Community, Xiaolan Town, Zhongshan City, 5th Floor, Unit 1 中山市小榄镇盛丰社区合盛村西排东路一街12号五楼之一
Test Standard/ 检测标准.....:	**UN "Manual of Tests and Criteria"ST/SG/AC.10/11/Rev.8/Subsection 38.3** **联合国《试验和标准手册》（第8版）38.3节**
Testing Laboratory/ 检测实验室...:	Shenzhen Safe Win Testing Technology Co., Ltd. 深圳市赛为检测技术有限公司
Testing location/ 检测地点.....:	Room 106, 401, Building A, Jinfeng Zhihuigu, No. 45 Yonghe Road, Heping Community, Fuhai Street, Bao 'an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区永和路45号金丰智汇谷A栋厂房106、401
Test Conclusion/ 检测结论..... :	**PASS/ 合格**

General disclaimer / 一般声明**:**

The test results presented in this report relate only to the object tested.
本报告中显示的测试结果仅与被测试对象相关。
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Test item information/ 测试项目信息：	
Description/ 产品描述	lithium-ion cell/锂离子电芯
Trademark/商标	N/A
Model/ 型号	INR 18650 2200mAh
Classification/ 类别	Li-ion Cell / 锂离子电芯
Ratings/ 额定参数	3.7V,2200mAh,8.14Wh
Sample Shape/ 样品形状	☐ Prismatic/棱柱形；☒ Cylindrical/圆柱形； ☐ Approximate Cuboid/ 近长方体；☐ Silver button/银色扣式； ☐ Others/其他：Irregular Solid/不规则形状
Sample size/ 样品尺寸	H/高（67.8mm）*D/直径（18.5mm)
Weight/ 样品重量	Approx 44.257g
Appearance color/ 样品外观颜色	Green/ 绿色
Quantity of sample/ 测试样品数量	40cells / 40个电芯
Sample No./ 样品编号	C1#~C40#
Test environment condition/ 检测环境	Ambient temperature: 20°C±5°C, Ambient humidity: 45%-75%Rh 环境温度：20°C±5°C, 环境湿度：45%-75%Rh
Factory/ 生产工厂	Guangdong Chengrun Lithium Battery Co., Ltd. 广东诚润锂电池有限公司
Factory's Address/ 生产工厂地址	No. 12, West Pai East Road, First Street, He Sheng Village, Shengfeng Community, Xiaolan Town, Zhongshan City, 5th Floor, Unit 1 中山市小榄镇盛丰社区合盛村西排东路一街12号五楼之一
Factory's Telephone/ 生产工厂电话	18925340940
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Factory's Web./ 生产工厂网址	N/A

Factory's recommended cell parameters as below / 生产厂推荐的电芯参数如下：

Item / 项目	Cell / 电芯
Model / 型号	INR 18650 2200mAh
Limited charging voltage / 充电限制电压	4.2V
Recommendation charging current / 推荐充电电流	440mA
Maximum continuous charging current / 最大持续充电电流	1100mA
Charging cut-off current / 充电截止电流	44mA
Recommendation discharge current / 推荐放电电流	440mA
Maximum continuous discharging current / 最大持续放电电流	1100mA
End of discharge voltage / 放电终止电压	3.0V

Possible test case verdicts/ 可能的检测情况判定： - test case does not apply to the test object.....: N/A 不适用 检测情况不适用本检测产品 - test object does meet the requirement.....: P (Pass) / 合格 检测样品满足要求 - test object does not meet the requirement.....: F (Fail) / 不合格 检测样品不满足要求
Testing/ 测试: Date of receipt of test item/接样日期.....: 2025-08-08 Date (s) of performance of tests/测试日期.....: 2025-08-08 to 2025-08-20
General remarks/ 一般注解： Throughout this report a point is used as the decimal separator. 在整个报告中，使用点号作为小数分隔符。
Revision notes/修订说明: N/A

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Tests performed/ 测试执行：

The sample's status is good.
样品状况良好。

Name of test 测试项目	Sample number 样品编号	Sample state 样品状态	Test Result 测试结果
T.1, T.2, T.3, T.4, T.5	C1#-C5#	At first cycle, in fully charged states 第1次循环充放电周期，完全充电状态	Pass 合格
T.1, T.2, T.3, T.4, T.5	C6#-C10#	After 25 cycles ending in fully charged states 第25次循环充放电周期后，完全充电状态	Pass 合格
T.6	C11#-C15#	At first cycle at 50% of the design rated capacity states 第1个充放电周期，充电至标称容量的50%状态	Pass 合格
T.6	C16#-C20#	After 25 cycles ending at 50% of the design rated capacity states 第25次循环充放电周期后，充电至标称容量的50%状态	Pass 合格
T.7@	--	--	N/A 不适用
T.8	C21#-C30#	At first cycle, in fully discharged states 第1次循环充放电周期，完全放电状态	Pass 合格
T.8	C31#-C40#	After 25 cycles ending in fully discharged states 第25次循环充放电周期后，完全放电状态	Pass 合格

1. Tests T.1 to T.5 are conducted in sequence on the same cells, tests T.6 and T.8 are conducted using not otherwise tested cells.
试验T.1至T.5必须在同一组电芯上依次进行试验，试验T.6和T.8应使用全新的电芯进行试验。

2. In order to quantify the mass loss, the following procedure is provided:
为了量化质量损失，可用以下公式计算：

$$\text{Mass loss (\%)} = \frac{(M1 - M2)}{M1} \times 100$$

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”。

Table 38.3.1 Mass loss limit

Mass M of cell or battery	Mass loss limit
M <1 g	0.5%
1 g ≤ M ≤ 75 g	0.2%
M > 75 g	0.1%

“@”: Cells not equipped with overcharge protection that are designed for use only as a component in another battery or in equipment, so tests T.7 are not to requirements.
电芯未配备过充保护，其设计目的仅是作为其他电池或设备的组件使用，因此测试项目T.7不适用。

ST/SG/AC.10/11/Rev.8/Subsection 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
38.3.4.1	**Test T.1: Altitude simulation/高度模拟**		P
	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) 电芯和电池在温度为20±5℃、大气压力不大于11.6 kPa的环境中贮存不少于6个小时。		P
	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，电芯和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 mass loss, No leakage, no venting, no disassembly, no rupture and no fire./ 无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table T.1./测试数据见表T.1	P
38.3.4.2	**Test T.2: Thermal test/温度测试**		P
	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). /首先将电芯和电池放在72 ±2°C的环境中放置至少6个小时，然后放在-40±2℃的环境中放置至少6个小时，温度暂缓的最大间隔时间为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。		P
	For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours./对于大电芯和电池，在高温和低温中放置的时间最少为12小时。		N/A
	Cells and batteries meet this requirement if there is no mass loss no leakage, no venting, disassembly, no rupture and no fire and if the open circuit voltage of each cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. /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，电芯和电池测试后的开路电压不低于测试前开路电压的90%。	No mass loss, No leakage, no venting, no disassembly, no rupture and no fire./ 无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table T.2./测试数据见表T.2	P

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ST/SG/AC.10/11/Rev.8/Subsection 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
38.3.4.3	**Test T.3: Vibration/振动**		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./电芯和电池必须牢固的安装在振动台面上。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。		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)./对于质量不大于12kg的样品（电芯和小电池）和质量超过12kg的样品（大电池），对数扫频不同。		P
	For cells and small batteries: from 7 Hz a peak acceleration of 1 g_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 8 g_n occurs (approximately 50 Hz). A peak acceleration of 8 g_n is then maintained until the frequency is increased to 200 Hz. /对于电芯和小电池，对数扫频为：从7Hz开始保持1g_n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8g_n (频率约为50Hz)，将最大加速度保持在8g_n直到频率增加到200Hz。		P
	For large batteries: from 7 Hz a peak acceleration of 1 g_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 2 g_n occurs (approximately 25 Hz). A peak acceleration of 2 g_n is then maintained until the frequency is increased to 200 Hz. /对于大电池，对数扫频为：从7Hz开始保持1g_n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2g_n (频率约为25Hz)，将最大加速度保持在2g_n直到频率增加到200Hz。		N/A

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ST/SG/AC.10/11/Rev.8/Subsection 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
	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，电芯和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 mass loss, No leakage, no venting, no disassembly, no rupture and no fire./ 无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table T.3./测试数据见表T.3	P
38.3.4.4	**Test T.4: Shock/冲击**		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. Each cell or battery shall be subjected to a half-sine shock of peak acceleration of 150 g_n and pulse duration of 6 milliseconds. Each cell or battery 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电芯和电池。对每个电芯和电池以峰值为150g_n的半正弦的加速度撞击，脉冲持续6ms。每个电芯和电池必须在三个互相垂直的电芯和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。		P
	However, large cells and large batteries shall be subjected to a half-sine shock of peak acceleration of 50gn and pulse duration of 11 milliseconds. 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. /大电芯和电池须经受最大加速度50gn和脉冲持续时间11ms的半正弦波冲击。每个电芯和电池必须在三个互相垂直的电芯和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。		N/A

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ST/SG/AC.10/11/Rev.8/Subsection 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
	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，电芯和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 mass loss, No leakage, no venting, no disassembly, no rupture and no fire./ 无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火现象。 The data see table T.4./测试数据见表T.4	P
38.3.4.5	**Test T.5: External short circuit/外部短路**		P
	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. /电芯和电池保持测试环境温度稳定在57±4°C，以便电芯和电池外表温度达到57±4°C，然后将电芯和电池正负极用小于0.1欧姆的总电阻回路进行短路，电芯和电池的外表温度恢复到57±4°C之后保持短路状态1小时以上。		P
	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，电芯和电池外表温度不超过170°C，并且在测试过程中以及之后6个小时内，电芯和电池无分解、无破裂和无着火现象发生。	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./外表温度不超过170°C，并且在测试过程中以及之后6个小时内，无分解、无破裂和无着火现象发生。 The data see table T.5./测试数据见表T.5	P

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ST/SG/AC.10/11/Rev.8/Subsection 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
38.3.4.6	**Test T.6: Impact / Crush /撞击/挤压**		P
	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)。		P
	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 center 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 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. /将样品电芯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±0.1kg的重物从61±2.5 cm的高度几乎无摩擦的垂直滑动轨道或通道，以最小的阻力下落，落向样品，用于引导下落物的垂直轨道或通道应与水平支撑面成90度。		P
	The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8mm±0.1mm diameter curved surface lying across the center 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。		P
	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)。		N/A
	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. /将电芯或组件电芯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。		N/A
	(a) The applied force reaches 13 kN±0.78 kN; /施加力达到13 kN±0.78 kN。		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	(b) The voltage of the cell drops by at least 100 mV; /样品的电压下降至少100mV。		N/A
	(c) The cell is deformed by 50% or more of its original thickness. /电芯变形达原始厚度的50%以上。		N/A
	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。圆柱形电芯应从与纵轴垂直的方向施压。		N/A
	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./每个电芯或组件电芯都是全新样品，并且只经受一次施压。施压结束后样品应静置观察6小时。		N/A
	Cells and component cells 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 this test. /电芯或组件电芯满足要求：在测试过程中，电芯或组件电芯外表温度不超过170°C，并且在测试过程中以及之后6个小时内电芯或组件电芯无分解、无破裂和无着火现象发生。	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 this test. /外表温度不超过170°C，并且在测试过程中以及之后6个小时内无分解、无破裂和无着火现象发生。 The data see table T.6./测试数据见表T.6	P
38.3.4.7	**Test T.7: Overcharge/过度充电**		N/A
	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，电池以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：		N/A

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ST/SG/AC.10/11/Rev.8/Subsection 38.3			
Clause	Requirement + Test	Result - Remark	Verdict
	(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. /如果制造商宣称的电池充电电压不超过18V，本测试的最小充电电压应是制造商宣称的电池最大充电电压的两倍或者是22V之中的较小者。		N/A
	(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. /如果制造商宣称的电池充电电压超18V，本测试的最小充电电压应该是制造商宣称的电池最大充电电压的1.2倍。		N/A
	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，电池无分解和无着火现象。		N/A
38.3.4.8	**Test T.8: Forced discharge/强制放电**		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. /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电芯最大放电电流。 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)。		P
	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，电芯无分解和无着火现象发生	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。 The data see table T.8./测试数据见表T.8	P

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Table T.1: Altitude Simulation/ 表T.1：高度模拟							
Sample No. 样品编号	Weight Before Test 测试前质量（g）	Voltage Before Test 测试前电压（V）	Weight After Test 测试后质量（g）	Voltage After Test 测试后电压（V）	Mass Loss 质量损失 (%)	Residual OCV剩余电压比(%)	Test Result 测试结果
C1#	44.652	4.185	44.648	4.185	0.01%	100.00%	Pass/合格
C2#	44.743	4.185	44.734	4.184	0.02%	99.97%	Pass/合格
C3#	44.465	4.186	44.461	4.185	0.01%	99.98%	Pass/合格
C4#	44.642	4.187	44.633	4.187	0.02%	99.99%	Pass/合格
C5#	44.718	4.183	44.714	4.182	0.01%	99.98%	Pass/合格
C6#	44.709	4.186	44.709	4.186	0.00%	100.00%	Pass/合格
C7#	44.736	4.184	44.727	4.183	0.02%	99.98%	Pass/合格
C8#	44.334	4.186	44.334	4.186	0.00%	99.99%	Pass/合格
C9#	44.641	4.184	44.632	4.183	0.02%	99.97%	Pass/合格
C10#	44.759	4.183	44.750	4.183	0.02%	100.00%	Pass/合格
Notes注释： After the test, there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire, and change ratio is not less than 90%. 测试后，样品无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火，电压比不小于90%。							

Table T.2: Thermal test/ 表T.2：温度试验					
Sample No. 样品编号	Weight After Test 测试后质量（g）	Voltage After Test 测试后电压（V）	Mass Loss 质量损失(%)	Residual OCV 剩余电压比(%)	Test Result 测试结果
C1#	44.616	4.154	0.07%	99.27%	Pass/合格
C2#	44.703	4.148	0.07%	99.15%	Pass/合格
C3#	44.438	4.138	0.05%	98.88%	Pass/合格
C4#	44.611	4.142	0.05%	98.94%	Pass/合格
C5#	44.687	4.151	0.06%	99.26%	Pass/合格
C6#	44.678	4.153	0.07%	99.21%	Pass/合格
C7#	44.696	4.144	0.07%	99.07%	Pass/合格
C8#	44.303	4.153	0.07%	99.21%	Pass/合格
C9#	44.601	4.138	0.07%	98.93%	Pass/合格
C10#	44.728	4.153	0.05%	99.28%	Pass/合格
Notes注释： After the test, there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire, and change ratio is not less than 90%. 测试后，样品无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火，电压比不小于90%。					

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Table T.3: Vibration/ 表T.3：振动					
Sample No. 样品编号	Weight After Test 测试后质量（g）	Voltage After Test 测试后电压（V）	Mass Loss 质量损失(%)	Residual OCV 剩余电压比(%)	Test Result 测试结果
C1#	44.612	4.154	0.01%	100.00%	Pass/合格
C2#	44.698	4.148	0.01%	100.00%	Pass/合格
C3#	44.429	4.137	0.02%	99.98%	Pass/合格
C4#	44.602	4.141	0.02%	99.97%	Pass/合格
C5#	44.687	4.151	0.00%	100.00%	Pass/合格
C6#	44.678	4.152	0.00%	99.97%	Pass/合格
C7#	44.687	4.143	0.02%	99.98%	Pass/合格
C8#	44.294	4.153	0.02%	100.00%	Pass/合格
C9#	44.601	4.137	0.00%	99.97%	Pass/合格
C10#	44.728	4.152	0.00%	99.97%	Pass/合格
Notes注释： After the test, there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire, and change ratio is not less than 90%. 测试后，样品无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火，电压比不小于90%。					

Table T.4: Shock/ 表T.4：冲击					
Sample No. 样品编号	Weight After Test 测试后质量（g）	Voltage After Test 测试后电压（V）	Mass Loss 质量损失(%)	Residual OCV 剩余电压比(%)	Test Result 测试结果
C1#	44.607	4.154	0.01%	99.98%	Pass/合格
C2#	44.698	4.148	0.00%	100.00%	Pass/合格
C3#	44.429	4.137	0.00%	99.99%	Pass/合格
C4#	44.597	4.140	0.01%	99.97%	Pass/合格
C5#	44.678	4.151	0.02%	100.00%	Pass/合格
C6#	44.669	4.151	0.02%	99.98%	Pass/合格
C7#	44.682	4.143	0.01%	99.99%	Pass/合格
C8#	44.294	4.152	0.00%	99.98%	Pass/合格
C9#	44.596	4.136	0.01%	99.99%	Pass/合格
C10#	44.723	4.151	0.01%	99.98%	Pass/合格
Notes注释： After the test, there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire, and change ratio is not less than 90%. 测试后，样品无质量损失、无漏液、无冒烟、无分解、无破裂以及无着火，电压比不小于90%。					

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Table T.5: External Short Circuit/ 表T.5：外部短路										
Sample No. 样品编号	C1#	C2#	C3#	C4#	C5#	C6#	C7#	C8#	C9#	C10#
OCV prior to test 试验前电压 (V)	4.154	4.148	4.137	4.140	4.151	4.151	4.143	4.152	4.136	4.151
Maximum Temperature 最高温度 (°C)	123.1	122.5	121.1	124.2	123.3	121.2	121.5	122.2	123.4	120.5
Test Result 测试结果	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格
Notes注释： Test sample 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. 检测样品表面温度不超过170°C，并且在测试过程中以及之后6小时内无分解、无破裂、无着火。										

Table T.6: Crush or impact/ 表T.6：挤压或撞击										
Sample No. 样品编号	C11#	C12#	C13#	C14#	C15#	C16#	C17#	C18#	C19#	C20#
OCV prior to test 试验前电压 (V)	3.784	3.785	3.785	3.788	3.786	3.788	3.783	3.782	3.782	3.784
Applied force 挤压力值 (kN)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Height 撞击高度 (cm)	61.1	61.1	61.0	61.3	61.2	61.1	61.0	61.2	61.2	61.3
Maximum Temperature 最高温度 (°C)	23.0	23.7	23.9	23.3	23.0	24.0	23.9	23.8	23.9	23.5
Test Result 测试结果	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格
Notes注释： Test sample 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. 检测样品表面温度不超过170°C，并且在测试过程中以及之后6小时内无分解、无破裂、无着火。										

Table 7: Overcharge / 试验T.7：过度充电								
Sample No. 样品编号	--	--	--	--	--	--	--	--
OCV prior to test 试验前电压 (V)	--	--	--	--	--	--	--	--
Test Result 测试结果	--	--	--	--	--	--	--	--
Notes注释：N/A								

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Table T.8: Force discharge / 表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 试验前电压 (V)	3.331	3.331	3.333	3.339	3.336	3.333	3.336	3.340	3.336	3.338
Test Result 测试结果	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格
Sample No. 样品编号	C31#	C32#	C33#	C34#	C35#	C36#	C37#	C38#	C39#	C40#
OCV prior to test 试验前电压 (V)	3.336	3.335	3.338	3.339	3.331	3.331	3.339	3.336	3.331	3.336
Test Result 测试结果	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格	Pass 合格
Notes注释： Test sample is no disassembly and no fire during the test and within seven days after the test. 检测样品在检测中与检测后7天内无解体、无着火。										

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Photo documentation/ 图片文档

Details / 描述： Front view / 正面视图

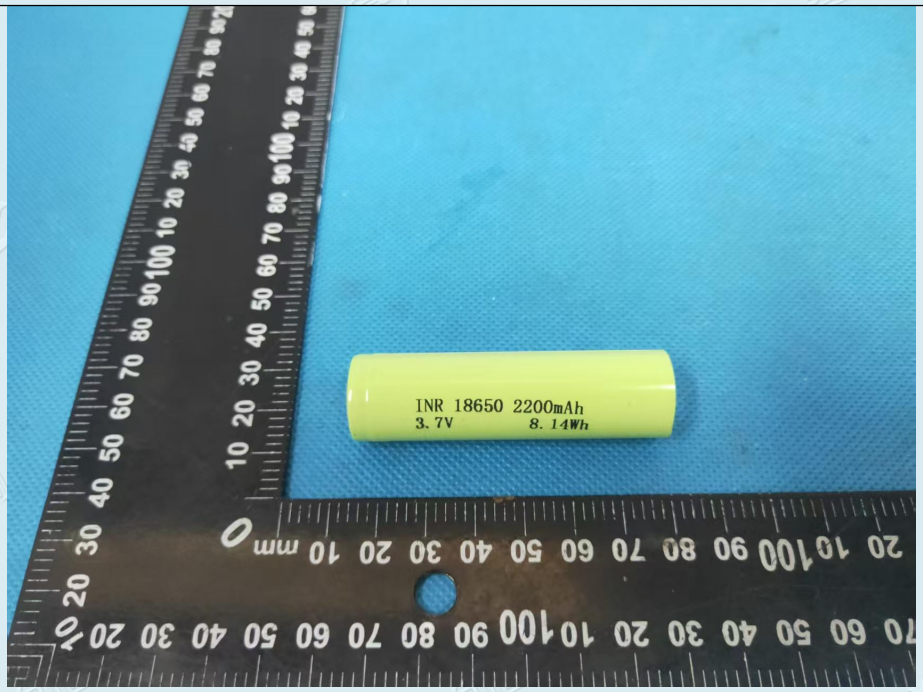


Figure 1 / 视图 1

Details / 描述： Back view / 背面视图

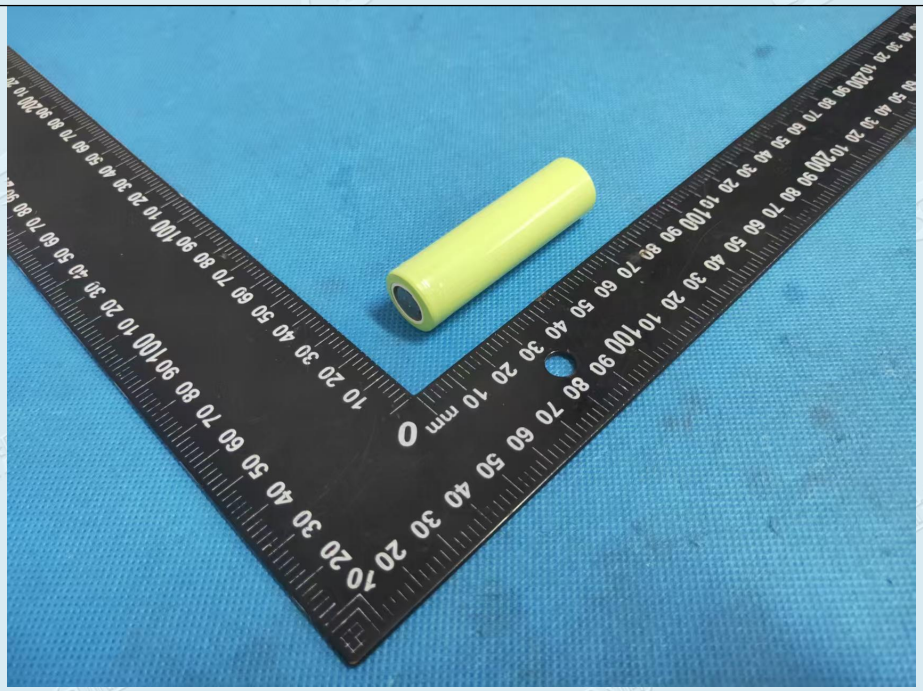


Figure 2 / 视图 2

---------- END OF TEST REPORT ----------

---------- 检测报告结束 ----------

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