中国认可
国际互认
检测
TESTING
CNAS L11969

UN38.3 检测报告
UN38.3 Test Report

Client 委托方	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司
Add. of Client 委托方地址	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao' an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901
Sample Name 样品名称	Li-ion Rechargeable Battery 锂离子可充电电池
Sample Model 样品型号	18650 2000mAh
Testing Laboratory 检测机构	NRCC (Shenzhen) Safety Technology Co., Ltd. 诺诚（深圳）安全科技有限公司 (Testing and Inspection Body affiliated to the National Registration Center for Chemicals, MEM) （应急管理部化学品登记中心旗下检测检验机构） Building A, No. 2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen 深圳市宝安区福永街道腾丰五路 2 号 A 栋 Phone number 电话号码: +86-755-27322216 Email 邮箱: service@nrccsafety.com Website 网址: www.nrccsafety.com
Report No. 报告编号	240440370412-13
Issued Date 签发日期	2024.05.13
Test Conclusion 检测结论: **Shown in the conclusion of test report. 见检测报告结论页。**	

Tested by主检人: Ludao Cai 吕道才

(Engineer 工程师)

Approved by审批人: Duan Pike 段 3.8

(Manager 经理)

检测检验章

Ⅰ、Sample Description 样品描述

Sample Name 样品名称	Li-ion Rechargeable Battery 锂离子可充电电池		**Sample Model** 样品型号	18650 2000mAh	
Manufacturer 制造商	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司				
Address 地址	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao' an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901				
Factory 工厂	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司				
Address 地址	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao' an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901				
Manufacturer's contact information 制造商联系信息	**Phone number** 电话号码		**Email address** 电子邮箱地址	**Website** 网址	
	+86-13631687617		861329582@qq.com	kbtbattery.com	
Trade Mark 商标	--	**Cell Shape** 电芯形状	Cylindrical 圆柱形	**Cell Size** 电芯尺寸 (D×H)	(Φ18.4×65.3)mm
Nominal Voltage 标称电压	3.7V	**Rated Capacity** 额定容量	2000mAh 7.4Wh	**Limited Charge Voltage** 充电限制电压	4.2V
Standard Charge Current 标准充电电流	400mA	**Maximum Continuous Charge Current** 最大持续充电电流	2000mA	**End Charge Current** 结束充电电流	20mA
Cut-off Voltage 放电截止电压	2.8V	**Standard Discharge Current** 标准放电电流	400mA	**Maximum Discharge Current** 最大放电电流	2000mA
Cell Number 组成电芯数量	1PC		**Cell Model** 电芯型号	INR18650 2000mAh	
Sample Mass 样品重量	43.2g		**Sample Physical description** 样品物理形态	Approximate Blue Cylinder 蓝色近圆柱体	
Test Start Date 测试开始日期	2024.04.28		**Test Completion Date** 测试完成日期	2024.05.13	

Ⅱ、Standard 标准

UNITED NATIONS "*Manual of Tests and Criteria*" *(ST/SG/AC.10/11/Rev.8 Section 38.3).*
联合国《试验和标准手册》第八修订版第 38.3 节。

Ⅲ、Test Item 测试项目

T.1. ☒Altitude simulation 高度模拟
T.2. ☒Thermal test 温度试验
T.3. ☒Vibration 振动
T.4. ☒Shock 冲击
T.5. ☒External short circuit 外部短路
T.6. ☒Impact 撞击/ ☐Crush 挤压
T.7. ☒Overcharge 过充电
T.8. ☒Forced discharge 强制放电

Ⅳ、Test Method and Requirement 测试方法和要求

Tests T.1 to T.5 shall be conducted in sequence on the same cells or batteries. Tests T.6 and T.8 shall be conducted using not otherwise tested cells. Test T.7 may be conducted using undamaged batteries previously used in tests T.1 to T.5.

用相同的电芯或电池按照顺序进行试验 T.1 至 T.5。试验 T.6 和 T.8 用没有进行其他试验的电芯。试验 T.7 可以使用原先在试验 T.1 至 T.5 中使用过的未损坏的电池进行。

Single cell batteries of B1#~B5#, B11#~B14# are full charged after one cycle;
Single cell batteries of B6#~B10#, B15#~B18# are full charged after twenty-five cycles;
Rechargeable cells of C1#~C5# are 50% charged after one cycle;
Rechargeable cells of C6#~C10# are 50% charged after twenty-five cycles;
Rechargeable cells of C11#~C20# are full discharged after one cycle;
Rechargeable cells of C21#~C30# are full discharged after twenty-five cycles;
单电芯电池 B1#~B5#, B11#~B14#为 1 次循环满电状态；
单电芯电池 B6#~B10#, B15#~B18#为 25 次循环满电状态；
可充电电芯 C1#~C5#为 1 次循环后 50%充电状态；
可充电电芯 C6#~C10#为 25 次循环后 50%充电状态；
可充电电芯 C11#~C20#为 1 次循环完全放电状态；
可充电电芯 C21#~C30#为 25 次循环完全放电状态；

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

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

质量损失的量化值，可用以下公式计算：

$$\text{质量损失(\%)}=(M1-M2)/M1\times100$$

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 shall be 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%

Leakage means the visible escape of electrolyte or other material from a cell or battery or the loss of material (except battery casing, handling devices or labels) from a cell or battery such that the loss of mass exceeds the values in table above.

渗漏是指可以看到的电解液或者其他物质从电芯或者电池中漏出，或电芯或电池中的物质损失（不包括电池外壳、搬运装置、或标签），失去的质量超过上表所列的数值。

In test T.1 to T.4, 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.

在测试 T.1 至 T.4 中，电芯和电池须满足无渗漏、无泄气、无解体、无破裂和无起火，并且每个试验电芯或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%。有关电压的要求不适用于完全放电状态下的测试电芯和电池。

T.1. Altitude simulation 高度模拟

Test method 测试方法

Test cells and batteries are stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20±5°C).

试验电芯和电池被放置在压力等于或低于 11.6 kPa 和环境温度(20±5°C)下存放至少 6 小时。

Requirement 要求

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.

电芯和电池须无渗漏、无泄气、无解体、无破裂和无起火，并且每个试验电芯或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%。有关电压的要求不适用于完全放电状态下的测试电芯和电池。

T.2. Thermal test 温度试验

Test method 测试方法

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 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°C). For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours.

试验电芯和电池放置在试验温度等于 72±2°C 的条件下存放至少 6 小时，接着再在试验温度等于-40±2°C 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 次循环，接着将所有试验电芯和电池在环境温度(20±5°C)下存放 24 小时。对于大型电芯和电池，暴露于极端试验温度的时间至少应为 12 小时。

Requirement 要求

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.

电芯和电池须无渗漏、无泄气、无解体、无破裂和无起火，并且每个试验电芯或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%。有关电压的要求不适用于完全放电状态下的测试电芯和电池。

T.3. Vibration 振动

Test method 测试方法

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.

电芯和电池紧固于振动台台面，但不得造成电芯变形，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 Hz 和 200 Hz 之间，再回到 7 Hz，跨度为 15 分钟。这一振动过程须对三个互相垂直的电芯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。

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).

作对数式频率扫描，对电芯和总质量不超过 12 千克的电池（电芯和小型电池），和对质量超过 12 千克的电池（大型电池）有所不同。

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.

对电芯和小型电池：从 7 Hz 开始，保持 1 gn 的最大加速度，直到频率达到 18 Hz。然后将振幅保持在 0.8mm（总位移 1.6mm），并增加频率直到峰值加速度达到 8 gn（频率约为 50 Hz）。将峰值加速度保持在 8 gn 直到频率增加到 200 Hz。

For large 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 2 gn occurs (approximately 25 Hz). A peak acceleration of 2 gn is then maintained until the frequency is increased to 200 Hz.

对大型电池：从 7 Hz 开始，保持 1 gn 的最大加速度，直到频率达到 18 Hz。然后将振幅保持在 0.8mm（总位移 1.6mm），并增加频率直到峰值加速度达到 2 gn（频率约为 25Hz）。将峰值加速度保持在 2 gn 直到频率增加到 200 Hz。

Requirement 要求

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.

电芯和电池须无渗漏、无泄气、无解体、无破裂和无起火，并且每个试验电芯或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%。有关电压的要求不适用于完全放电状态下的测试电芯和电池。

T.4. Shock 冲击

Test method 测试方法

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.

试验电芯和电池用刚性支架紧固在试验装置上，支架支撑着每个试验电池的所有安装面。

Each cell 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 subjects to a half-sine shock of peak acceleration of 50 gn and pulse duration of 11 milliseconds.

每个电芯须经受峰值加速度 150 gn 和脉冲持续时间 6 ms 的半正弦波冲击。不过，大型电芯须经受峰值加速度 50 gn 和脉冲持续时间 11 ms 的半正弦波冲击。

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. The formulas below are provided to calculate the appropriate minimum peak accelerations.

每个电池须经受半正弦波冲击，峰值加速度需要根据电池的重量来决定。小型电池的脉冲持续时间为 6 ms，大型电池的脉冲持续时间为 11ms。下面的公式是用来计算合适的最小峰值加速度。

Battery	Minimum peak acceleration	Pulse duration
Small batteries	150 g_n or result of formula $Acceleration(g_n) = \sqrt{\left(\frac{100850}{mass^*}\right)}$ whichever is smaller	6 ms
Large batteries	50 g_n or result of formula $Acceleration(g_n) = \sqrt{\left(\frac{30000}{mass^*}\right)}$ whichever is smaller	11 ms

* Mass is expressed in kilograms.

电池	最小峰值加速度	脉冲持续时间
小型电池	150 gn 或计算结果中取最小的值 加速度（gn）= $\sqrt{(\frac{100850}{mass})}$	6ms
大型电池	50 gn 或计算结果中取最小的值 加速度（gn）= $\sqrt{(\frac{30000}{mass})}$	11 ms

Each cell or battery shall be subjected to three shocks in the positive direction and to three shocks in the negative direction in each of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks.

每个电芯或电池须在三个互相垂直的电芯或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。

Requirement 要求

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.

电芯和电池须无渗漏、无泄气、无解体、无破裂和无起火，并且每个试验电芯或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%。有关电压的要求不适用于完全放电状态下的测试电芯和电池。

T.5. External short circuit 外部短路

Test method 测试方法

The cell or battery to be tested shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of 57±4°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± 4°C shall be subjected to one short circuit condition with a total external resistance of less than 0.1 ohm.

试验电芯或电池需要加热一段时间，以使其外壳温度均匀稳定地达到 57±4°C。加热时间的长短是由电芯或电池的尺寸和设计来决定的，这个加热时间需要评估并记录。如果这个加热时间不好评估的话，对于小电芯和小电池需要在此温度下放置至少 6 个小时，对于大电芯和大电池至少放置 12 个小时。然后使电芯或电池在 57±4°C 下经受总外电阻小于 0.1Ω的短路条件。

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, 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.

短路测试持续到电芯或电池外壳温度回到 57±4°C 后至少持续 1 小时，针对大电池，外壳温度需要下降到测试过程中监控到的最大温度的一半以下。

The short circuit and cooling down phases shall be conducted at least at ambient temperature.

短路测试和冷却阶段至少应该在环境温度下进行。

Requirement 要求

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 test.

电芯和电池外壳温度不超过 170°C，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。

T.6. Impact / Crush 撞击/挤压

Test procedure – Impact (applicable to cylindrical cells not less than 18.0 mm in diameter)

测试步骤 – 撞击（适用于直径大于等于 18.0 毫米以上的圆柱形电芯）

The test 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.

试样电芯或电芯组件放在平坦光滑表面上，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，或电芯最长端的尺度，取二者之长者。将一块 9.1 千克±0.1 千克的重锤从 61±2.5 厘米高度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 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.

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。

Test procedure – Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells less than 18.0 mm in diameter)

测试步骤– 挤压（适用于棱柱形，袋状，硬币/纽扣电芯和圆柱形电芯直径小于 18.0 毫米）

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.

将电芯或电芯组件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 cm/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;

(b) The voltage of the cell drops by at least 100 mV;

(c) The cell is deformed by 50% or more of its original thickness.

(a)施加的力达到 13 kN ± 0.78 kN；

(b)电芯的电压下降至少 100mV；

(c)电芯形变达到原始厚度的 50%或更多。

Once the maximum pressure has been obtained, the voltage drops by 100 mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.

一旦达到最大压力、电压下降 100mV 或更多，或电芯形变至少达到原始厚度的 50%，即可解除压力。

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.

棱柱形或袋装电芯须从最宽的面施压。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。

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.

每个试样电芯或电芯组件只做一次挤压试验。试样须继续观察 6 小时。试验须使用之前未做过其他试验的试样电芯或电芯组件进行。

Requirement 要求

Cell 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 test.

电芯和电芯组件外壳温度不超过 170°C，并且在试验过程中及试验后 6 小时内无解体，无起火。

T.7. Overcharge 过充电

Test method 测试方法

The charge current shall be twice the manufacturer's recommended maximum continuous charge current. The minimum voltage of the test shall be as follows:

充电电流为制造商推荐的最大持续充电电流的两倍。试验的最小电压如下：

(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.

(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.

(a) 制造商推荐的充电电压不大于 18 伏时，试验的最小电压应是电池最大充电电压的两倍或 22 伏两者中的较小者。

(b) 制造商推荐的充电电压大于 18 伏时，试验的最小电压应是电池最大充电电压的 1.2 倍。

Tests are to be conducted at ambient temperature. The duration of the test shall be 24 hours.

试验应在环境温度下进行。进行试验的时间应为 24 小时。

Requirement 要求

Rechargeable batteries meet this requirement if there is no disassembly and no fire during the test and within seven days after the test.

充电电池应在试验过程中和试验后 7 天内无解体，无起火。

T.8. Forced discharge 强制放电

Test method 测试方法

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.

每个电芯在环境温度下与 12V 直流电电源串联在起始电流等于制造商给定的最大放电电流的条件下强制放电。

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 is forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in ampere).

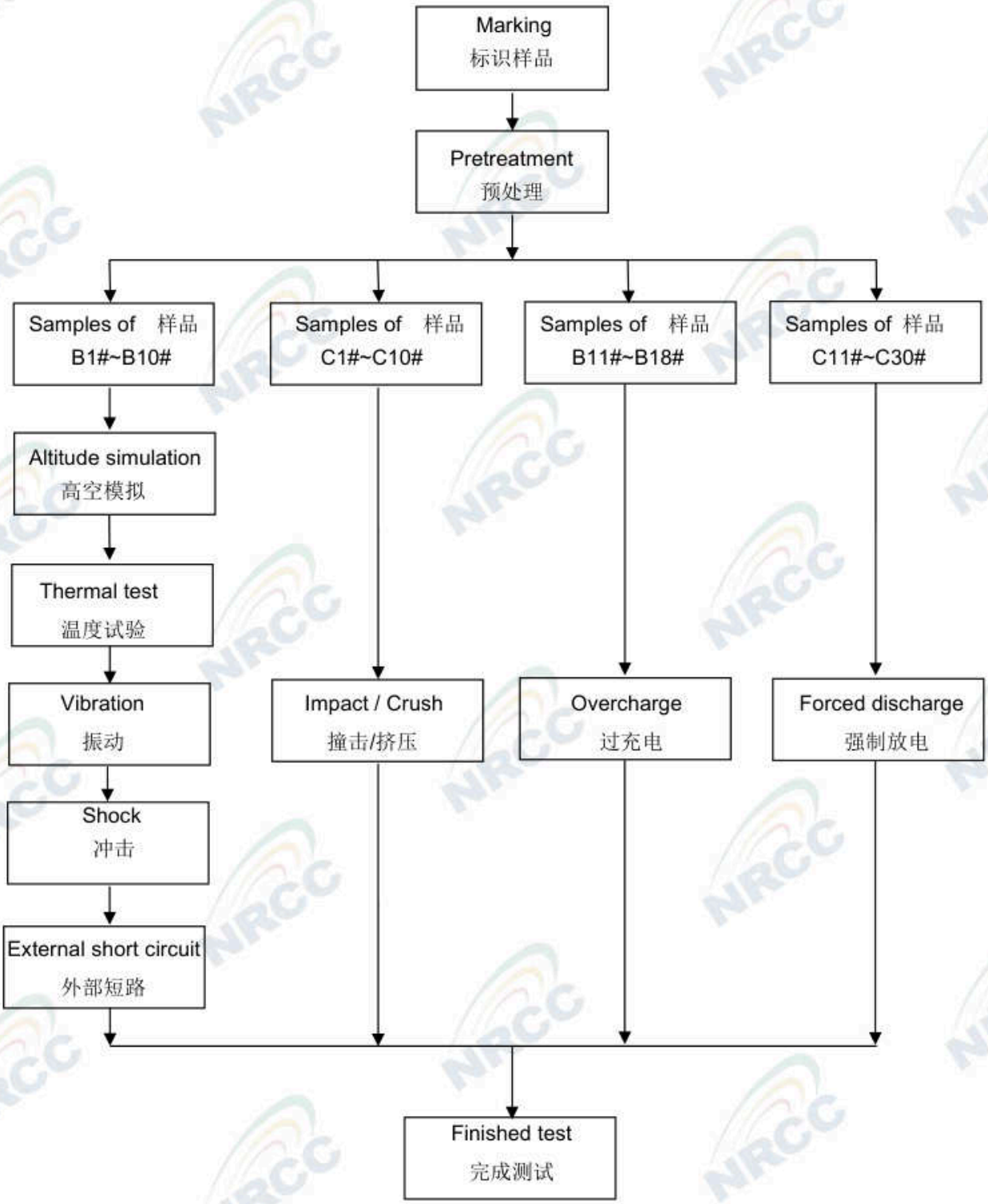
试样电芯与一个适当大小的电阻负载串联以调节到规定大小的放电电流。每个电芯的放电时间（单位为 h）等于电芯的额定容量除以试验初始放电电流（单位 A）。

Requirement 要求

Primary or rechargeable cells meet this requirement if there is no disassembly and no fire during the test and within seven days after the test.

原电芯或充电电芯应在试验过程中和试验后 7 天内无解体，无起火。

Ⅴ、Test Procedure 测试流程



Ⅵ、Test Data 测试数据

T.1. Altitude simulation 高度模拟

The state of cells 样品状态	No. 编号	Pre-test 试验前		After test 试验后		Mass loss 质量损失 (%)	Voltage after test/Voltage pre-test 试验后电压/试验前电压(%)	Status 结果
		Mass 质量 (g)	Voltage 电压 (V)	Mass 质量 (g)	Voltage 电压 (V)			
Full charged after one cycle 1 次循环后满电状态	B1#	43.117	4.182	43.116	4.182	0.002	100.000	Pass 合格
	B2#	43.027	4.181	43.027	4.181	0.000	100.000	Pass 合格
	B3#	43.035	4.183	43.035	4.183	0.000	100.000	Pass 合格
	B4#	43.091	4.183	43.091	4.182	0.000	99.976	Pass 合格
	B5#	43.192	4.184	43.191	4.184	0.002	100.000	Pass 合格
Full charged after twenty-five cycles 25 次循环后满电状态	B6#	43.137	4.181	43.137	4.181	0.000	100.000	Pass 合格
	B7#	43.093	4.184	43.092	4.183	0.002	99.976	Pass 合格
	B8#	43.034	4.182	43.034	4.182	0.000	100.000	Pass 合格
	B9#	43.141	4.182	43.141	4.182	0.000	100.000	Pass 合格
	B10#	43.166	4.185	43.166	4.185	0.000	100.000	Pass 合格

Notes 注释: Atmospheric pressure 大气压强:1.013×10^{5}Pa, Ambient temperature 环境温度: 23.5°C
After the test, there is no leakage, no venting, no disassembly, no rupture and no fire.
测试后，电池未渗漏、未泄气、未解体、未破裂和未起火。

T.2. Thermal test 温度试验

The state of cells 样品状态	No. 编号	Pre-test 试验前		After test 试验后		Mass loss 质量损失 (%)	Voltage after test/Voltage pre-test 试验后电压/试验前电压(%)	Status 结果
		Mass 质量 (g)	Voltage 电压 (V)	Mass 质量 (g)	Voltage 电压 (V)			
Full charged after one cycle 1 次循环后满电状态	B1#	43.116	4.182	43.101	4.147	0.035	99.163	Pass 合格
	B2#	43.027	4.181	43.013	4.149	0.033	99.235	Pass 合格
	B3#	43.035	4.183	43.024	4.145	0.026	99.092	Pass 合格
	B4#	43.091	4.182	43.077	4.144	0.032	99.091	Pass 合格
	B5#	43.191	4.184	43.175	4.147	0.037	99.116	Pass 合格
Full charged after twenty-five cycles 25 次循环后满电状态	B6#	43.137	4.181	43.123	4.145	0.032	99.139	Pass 合格
	B7#	43.092	4.183	43.072	4.148	0.046	99.163	Pass 合格
	B8#	43.034	4.182	43.016	4.149	0.042	99.211	Pass 合格
	B9#	43.141	4.182	43.124	4.147	0.039	99.163	Pass 合格
	B10#	43.166	4.185	43.148	4.146	0.042	99.068	Pass 合格

Notes 注释: Atmospheric pressure 大气压强:1.013×10^{5}Pa, Ambient temperature 环境温度: 23.4°C
After the test, there is no leakage, no venting, no disassembly, no rupture and no fire.
测试后，电池未渗漏、未泄气、未解体、未破裂和未起火。

T.3. Vibration 振动

The state of cells 样品状态	No. 编号	Pre-test 试验前		After test 试验后		Mass loss 质量损失 (%)	Voltage after test/Voltage pre-test 试验后电压/试验前电压(%)	Status 结果
		Mass 质量 (g)	Voltage 电压 (V)	Mass 质量 (g)	Voltage 电压 (V)			
Full charged after one cycle 1 次循环后满电状态	B1#	43.101	4.147	43.101	4.147	0.000	100.000	Pass 合格
	B2#	43.013	4.149	43.013	4.149	0.000	100.000	Pass 合格
	B3#	43.024	4.145	43.023	4.145	0.002	100.000	Pass 合格
	B4#	43.077	4.144	43.077	4.143	0.000	99.976	Pass 合格
	B5#	43.175	4.147	43.175	4.147	0.000	100.000	Pass 合格
Full charged after twenty-five cycles 25 次循环后满电状态	B6#	43.123	4.145	43.122	4.143	0.002	99.952	Pass 合格
	B7#	43.072	4.148	43.072	4.148	0.000	100.000	Pass 合格
	B8#	43.016	4.149	43.015	4.149	0.002	100.000	Pass 合格
	B9#	43.124	4.147	43.124	4.147	0.000	100.000	Pass 合格
	B10#	43.148	4.146	43.148	4.146	0.000	100.000	Pass 合格

Notes 注释: Atmospheric pressure 大气压强:1.013×10^5Pa, Ambient temperature 环境温度: 23.1°C
After the test, there is no leakage, no venting, no disassembly, no rupture and no fire.
测试后，电池未渗漏、未泄气、未解体、未破裂和未起火。

T.4. Shock 冲击

The state of cells 样品状态	No. 编号	Pre-test 试验前		After test 试验后		Mass loss 质量损失 (%)	Voltage after test/Voltage pre-test 试验后电压/试验前电压(%)	Status 结果
		Mass 质量 (g)	Voltage 电压 (V)	Mass 质量 (g)	Voltage 电压 (V)			
Full charged after one cycle 1 次循环后满电状态	B1#	43.101	4.147	43.101	4.147	0.000	100.000	Pass 合格
	B2#	43.013	4.149	43.013	4.149	0.000	100.000	Pass 合格
	B3#	43.023	4.145	43.022	4.145	0.002	100.000	Pass 合格
	B4#	43.077	4.143	43.077	4.143	0.000	100.000	Pass 合格
	B5#	43.175	4.147	43.174	4.146	0.002	99.976	Pass 合格
Full charged after twenty-five cycles 25 次循环后满电状态	B6#	43.122	4.143	43.122	4.143	0.000	100.000	Pass 合格
	B7#	43.072	4.148	43.072	4.148	0.000	100.000	Pass 合格
	B8#	43.015	4.149	43.015	4.148	0.000	99.976	Pass 合格
	B9#	43.124	4.147	43.124	4.147	0.000	100.000	Pass 合格
	B10#	43.148	4.146	43.148	4.146	0.000	100.000	Pass 合格

Notes 注释: Atmospheric pressure 大气压强:1.013×10^5Pa, Ambient temperature 环境温度: 23.1°C
After the test, there is no leakage, no venting, no disassembly, no rupture and no fire.
测试后，电池未渗漏、未泄气、未解体、未破裂和未起火。

T.5. External short circuit 外部短路

The state of cells 样品状态	No. 编号	External Peak temperature(℃) 电池表面最高温度(℃)	Status 结果
Full charged after one cycle 1 次循环后满电状态	B1#	58.3	Pass 合格
	B2#	58.2	Pass 合格
	B3#	58.1	Pass 合格
	B4#	57.9	Pass 合格
	B5#	58.2	Pass 合格
Full charged after twenty-five cycles 25 次循环后满电状态	B6#	57.9	Pass 合格
	B7#	58.0	Pass 合格
	B8#	58.4	Pass 合格
	B9#	58.1	Pass 合格
	B10#	58.2	Pass 合格
Notes 注释: Atmospheric pressure 大气压强:1.013×10^{5}Pa, Ambient temperature 环境温度: 23.3°C There is no disassembly, no rupture and no fire during the test and within six hours after test. 电池在测试中和测试后 6 小时内未解体、未破裂，未起火。			

T.6. Impact 撞击

The state of cells 样品状态	No. 编号	External Peak temperature(℃) 电池表面最高温度(℃)	Status 结果
50% charged after one cycle 1 次循环后 50%充电状态	C1#	118.3	Pass 合格
	C2#	117.2	Pass 合格
	C3#	120.4	Pass 合格
	C4#	117.5	Pass 合格
	C5#	108.9	Pass 合格
50% charged after twenty-five cycles 25 次循环后 50%充电状态	C6#	113.2	Pass 合格
	C7#	110.4	Pass 合格
	C8#	122.5	Pass 合格
	C9#	114.8	Pass 合格
	C10#	117.6	Pass 合格
Notes 注释: Atmospheric pressure 大气压强:1.013×10^{5}Pa, Ambient temperature 环境温度: 23.3°C There is no disassembly and no fire during the test and within six hours after test. 电芯在测试中和测试后 6 小时内未解体、未起火。			

T.7. Overcharge 过充电

The state of cells 样品状态	No. 编号	Status 结果
Full charged after one cycle 1 次循环后满电状态	B11#	Pass 合格
	B12#	Pass 合格
	B13#	Pass 合格
	B14#	Pass 合格
Full charged after twenty-five cycles 25 次循环后满电状态	B15#	Pass 合格
	B16#	Pass 合格
	B17#	Pass 合格
	B18#	Pass 合格
Notes 注释: Atmospheric pressure 大气压强:1.013×10^5Pa, Ambient temperature 环境温度: 23.2°C There is no disassembly and no fire during the test and within seven days after the test. 电池在测试中和测试后 7 天内未解体，未起火。		

T.8. Forced discharge 强制放电

The state of cells 样品状态	No. 编号	Status 结果
Full discharged after one cycle 1 次循环完全放电状态	C11#	Pass 合格
	C12#	Pass 合格
	C13#	Pass 合格
	C14#	Pass 合格
	C15#	Pass 合格
	C16#	Pass 合格
	C17#	Pass 合格
	C18#	Pass 合格
	C19#	Pass 合格
	C20#	Pass 合格
Full discharged after twenty-five cycles 25 次循环完全放电状态	C21#	Pass 合格
	C22#	Pass 合格
	C23#	Pass 合格
	C24#	Pass 合格
	C25#	Pass 合格
	C26#	Pass 合格

	C27#	Pass 合格
	C28#	Pass 合格
	C29#	Pass 合格
	C30#	Pass 合格

Notes 注释: Atmospheric pressure 大气压强:1.013×10^{5}Pa, Ambient temperature 环境温度: 23.3°C
There is no disassembly and no fire during the test and within seven days after the test.
电芯在测试中和测试后 7 天内未解体，未起火。

Ⅶ、Conclusion 结论

No. 编号	Test item 测试项目	Sample number 样品数量	Test reference 测试参考	Conclusion 结论
1	Altitude simulation 高空模拟	B1#~B10#	United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.1 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.1 节	Pass 合格
2	Thermal test 温度试验		United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.2 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.2 节	Pass 合格
3	Vibration 振动		United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.3 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.3 节	Pass 合格
4	Shock 冲击		United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.4 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.4 节	Pass 合格
5	External short circuit 外部短路		United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.5 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.5 节	Pass 合格
6	Impact/Crush 撞击/挤压	C1#~C10#	United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.6 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.6 节	Pass 合格
7	Overcharge 过度充电	B11#~B18#	United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.7 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.7 节	Pass 合格
8	Forced discharge 强制放电	C11#~C30#	United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3.4.8 联合国《试验和标准手册》,第Ⅲ部分,第 38.3.4.8 节	Pass 合格

The submitted samples were complied with the stated requirements of United Nations *Manual of Tests and Criteria*, part Ⅲ, subsection 38.3, the test result is qualified.

经检测，提交的检测样品均符合联合国《试验和标准手册》第Ⅲ部分第 38.3 节的要求，检测结论为合格。

Ⅷ、Photo of The Sample 样品图片

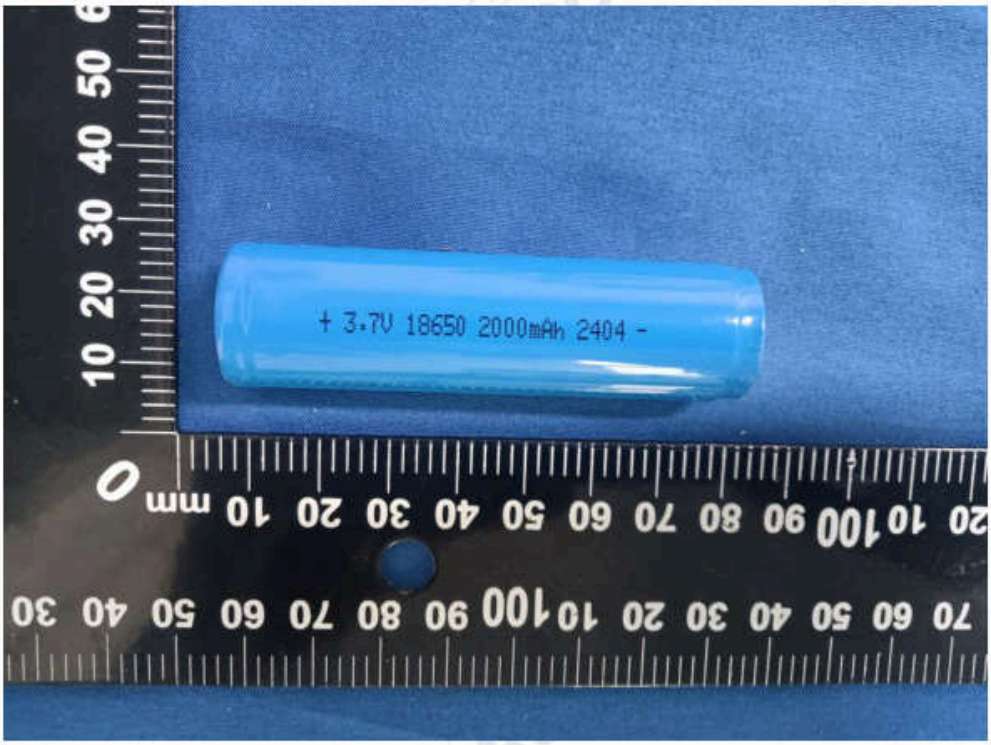


Photo 1 Front 正面

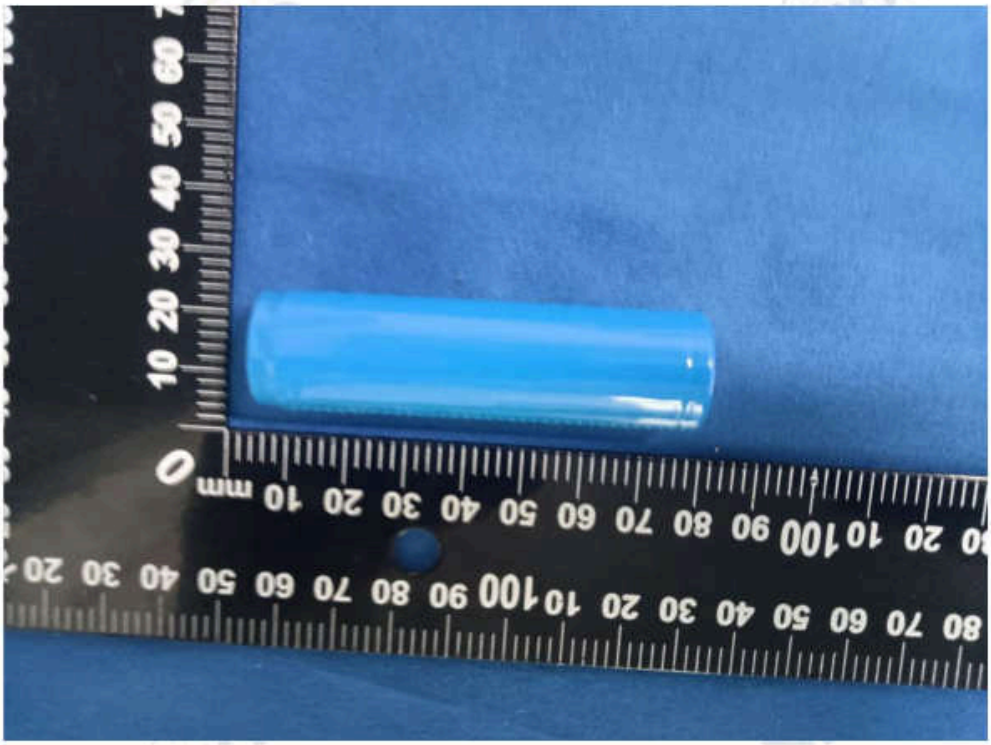


Photo 2 Rear 反面



Photo 3 Internal Cell 内部电芯

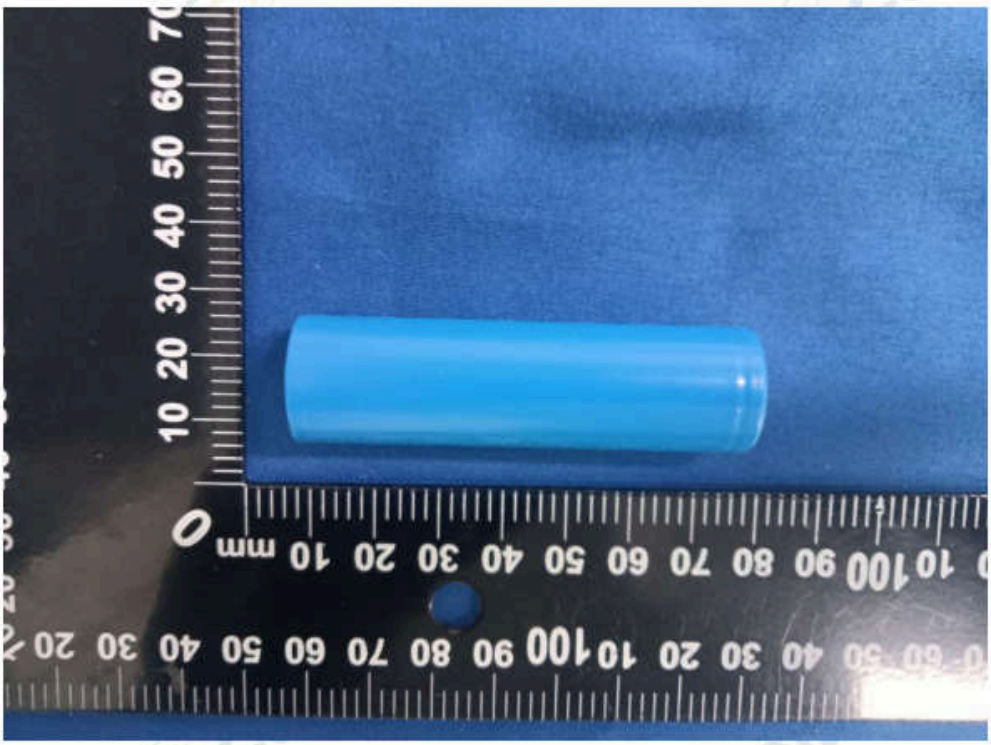


Photo 4 Internal Cell 内部电芯

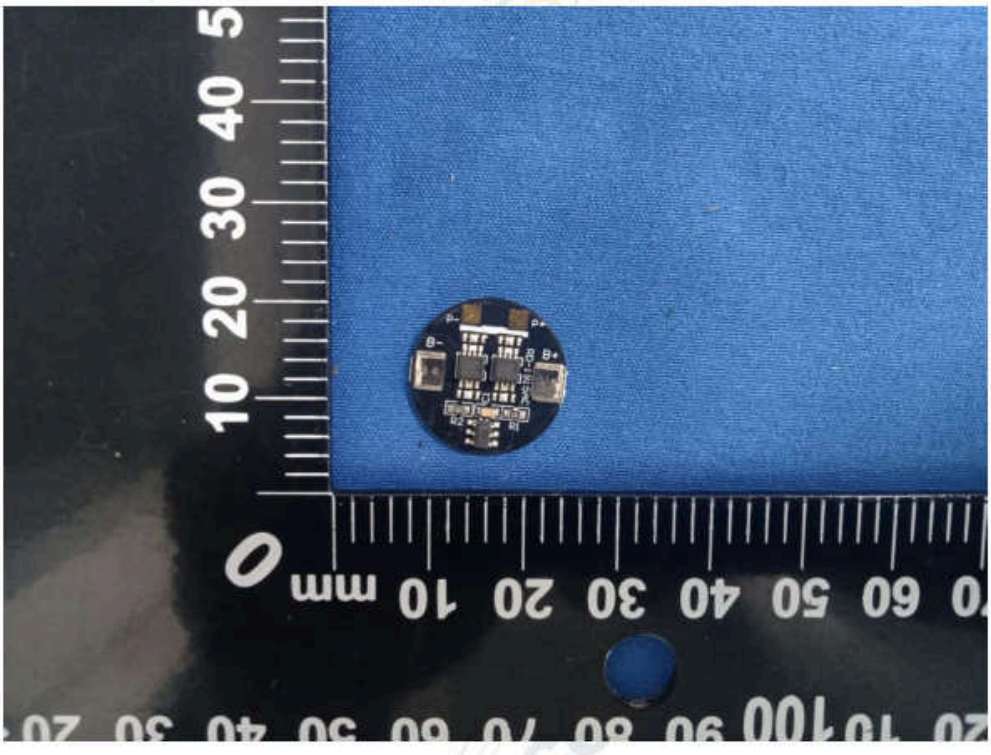


Photo 5 Protection board 保护板

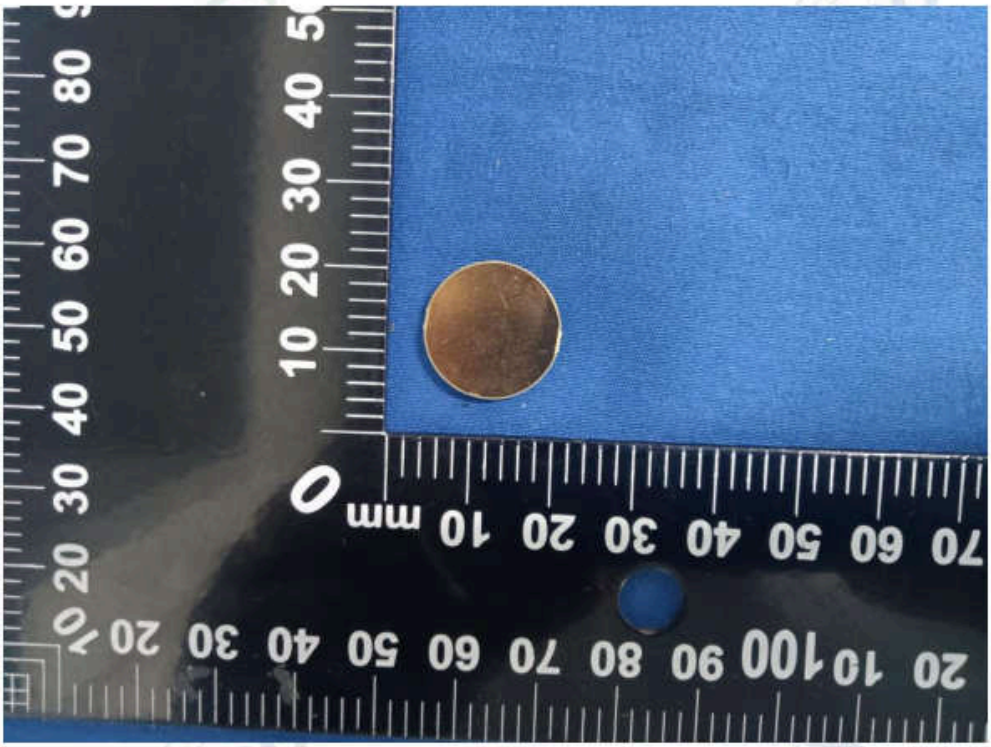


Photo 6 Protection board 保护板

注意事项

Important Notice

1. This report is invalid until signed by the approver and sealed by the NRCC (Shenzhen) Safety Technology Co., Ltd. (Hereinafter referred to as "the Laboratory").

本报告无审批人签字或诺诚（深圳）安全科技有限公司（以下简称“实验室”）签章无效。

2. This report is invalid with any unauthorized altered, forgery, falsification or partial replication.

本报告经伪造、篡改、删除、部分复制均无效。

3. This report is only valid to the test conclusion under the precondition that client submitted real entrusted materials and samples, and the test conclusion result is not relevant with other materials sharing same name or congeners.

本报告的检测结论仅在委托方提交的委托资料和样品真实的情况下有效，检测结论与样品名称及其他同类物质的检测结论无关。

4. When significant changing of manufacturing process, materials, components, or other factors of the battery may change its hazard classification, this battery should be identified again; If relative regulations or standards update, the conclusions may change, and the batteries should be identified again.

如电池的生产工艺、原材料、组分等因素有较大改变，可能使其危险性发生改变时，应重新进行检测；当检测报告所依据的法规、标准发生变化时，其检测结论可能发生变化，应重新进行检测。

5. Objections to the test report must be submitted to the Laboratory within 15 days.

对报告书若有异议，应于收到报告之日起 15 天内向实验室提出。

6. Should there be any inconsistencies between Chinese and English content in this report, the Chinese version shall prevail.

本报告中英文内容出现不一致时，以中文内容为准。

7. Visiting www.nrccsafety.com, or contact us by telephone, email could check report authenticity.

可访问 www.nrccsafety.com，或通过电话、电邮查询报告真伪。

******End of Report 报告结束******

中国认可
国际互认
检测
TESTING
CNAS L11969

1.2M 跌落测试报告

1.2M Drop Test Report

Client 委托方	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司
Add. of Client 委托方地址	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao' an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901
Name of Goods 货物名称	Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh 锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh
Testing Laboratory 检测机构	NRCC (Shenzhen) Safety Technology Co., Ltd. 诺诚（深圳）安全科技有限公司 (Testing and Inspection Body affiliated to the National Registration Center for Chemicals, MEM) （应急管理部化学品登记中心旗下检测检验机构） Building A, No. 2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen 深圳市宝安区福永街道腾丰五路 2 号 A 栋 Phone number 电话号码: +86-755-27322216 Email 邮箱: service@nrccsafety.com Website 网址: www.nrccsafety.com
Report No. 报告编号	240440370412-45
Issued Date 签发日期	2024.05.13
Test Conclusion 检测结论: **Shown in the conclusion of test report. 见检测报告结论页。**	

Tested by主检人: Ludao Cai 吕道才

(Engineer 工程师)

Approved by审批人: Duan Pike 段 3.8

(Manager 经理)

Ⅰ. Sample Description 样品描述

Name of Goods 货物名称	Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh 锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh				
Manufacturer 制造商	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司				
Address 地址	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao′ an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901				
Factory 工厂	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司				
Address 地址	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao′ an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901				
Trade Mark 商标	--	**Sample Physical description 样品物理形态**	Approximate Blue Cylinder 蓝色近圆柱体	**Packaging dimensions 包装尺寸 (L×W×H)**	(410×220×230)mm
Nominal Voltage 标称电压	3.7V	**Rated Capacity 额定容量**	2000mAh, 7.4Wh	**Battery Number 电池数量**	180PCS
Gross weight per package 每包装件毛重		9.10kg	**Net weight of batteries per package 每包装件电池的净重**		7.78kg
Test Start Date 测试开始日期	2024.05.08		**Test Completion Date 测试完成日期**	2024.05.13	

Ⅱ. Standard 标准

"Recommendations on the Transport of Dangerous Goods, Model Regulations" Twenty-third revised edition (ST/SG/AC.10/1/Rev.23 (Vol.I) SP188).

《关于危险货物运输的建议书 规章范本》第二十三修订版 (ST/SG/AC.10/1/Rev.23 (Vol.I) SP188)。

Ⅲ. Test Item 测试项目

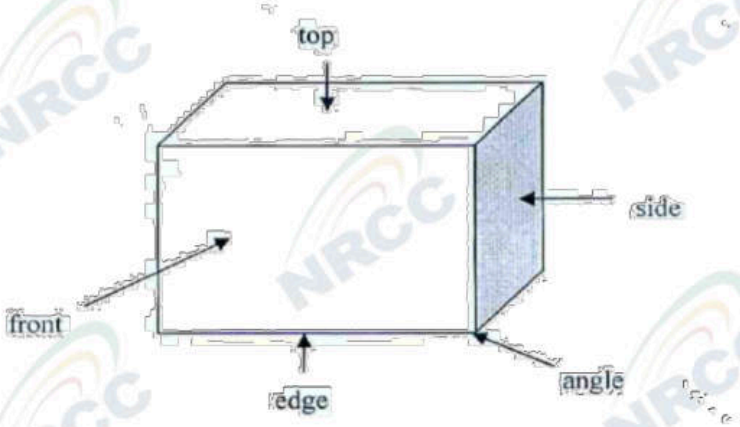
1). Drop test 跌落测试

Ⅳ. Test Method 测试方法

The package of batteries is dropped from 1.2m, 5times per package. The test floor is

concrete floor, each package is capable of withstanding a 1.2 meter drop test in any orientation without damage to cell or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents.

电池包装件（或含有电池的包装件）从 1.2 米高度进行跌落，每个包装件 5 次。测试底板为混泥土底板，每一个包装件应能承受在任一方位的 1.2 米跌落测试，并且没有电芯或电池损坏。没有位移导致电池或电芯相互接触，并没有内部物品从箱体内漏出。



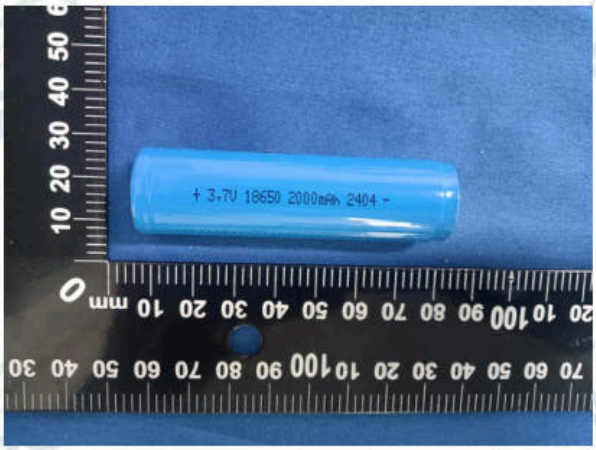
V. Test Result 测试结果

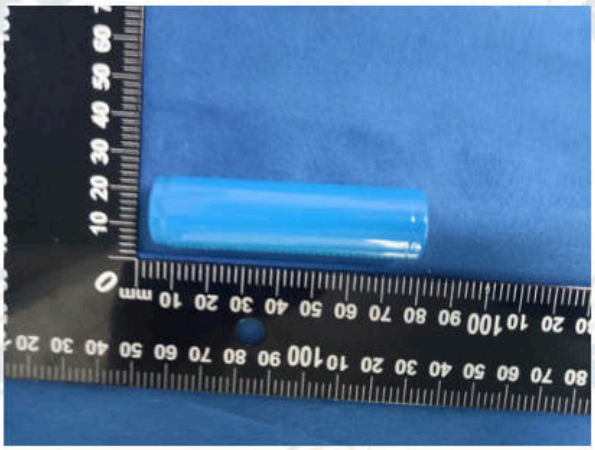
1) Drop test 跌落测试

Drop position 跌落位置	Test status 测试情况	Conclusion 结论
Front 前面	No packaging damaged 包装没有损坏	Pass 合格
Edge 边缘	No packaging damaged 包装没有损坏	Pass 合格
Angle 角	No packaging damaged 包装没有损坏	Pass 合格
Side 侧面	No packaging damaged 包装没有损坏	Pass 合格
Top 顶部	No packaging damaged 包装没有损坏	Pass 合格

VI.Photos 照片

Samples 样品:

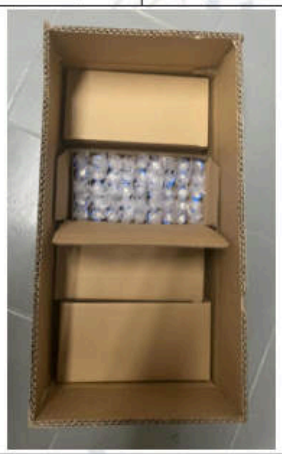




Package 包装:







注意事项
Important Notice

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2. This report is invalid with any unauthorized altered, forgery, falsification or partial replication.

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3. This report is only valid to the test conclusion under the precondition that client submitted real entrusted materials and samples, and the test conclusion result is not relevant with other materials sharing same name or congeners.

本报告的检测结论仅在委托方提交的委托资料和样品真实的情况下有效，检测结论与样品名称及其他同类物质的检测结论无关。

4. When significant changing of manufacturing process, materials, components, or other factors of the battery may change its hazard classification, this battery should be identified again; If relative regulations or standards update, the conclusions may change, and the batteries should be identified again.

如电池的生产工艺、原材料、组分等因素有较大改变，可能使其危险性发生改变时，应重新进行检测；当检测报告所依据的法规、标准发生变化时，其检测结论可能发生变化，应重新进行检测。

5. Objections to the test report must be submitted to the Laboratory within 15 days.

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******End of Report 报告结束******

中国认可
国际互认
检测
TESTING
CNAS L11969

Stacking Test Report
堆码试验报告

Client **委托方**	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司
Add. of Client **委托方地址**	Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao' an District, Shenzhen City, Guangdong Province, China 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901
Name of Goods **货物名称**	Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh 锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh
Testing Laboratory **检测机构**	NRCC (Shenzhen) Safety Technology Co., Ltd. 诺诚（深圳）安全科技有限公司 (Testing and Inspection Body affiliated to the National Registration Center for Chemicals, MEM) （应急管理部化学品登记中心旗下检测检验机构） Building A, No. 2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen 深圳市宝安区福永街道腾丰五路 2 号 A 栋 Phone number 电话号码: +86-755-27322216 Email 邮箱: service@nrccsafety.com Website 网址: www.nrccsafety.com
Report No. **报告编号**	240440370412-48
Issued Date **签发日期**	2024.05.13
Test Conclusion 检测结论: **Shown in the conclusion of test report. 见检测报告结论页。**	

Tested by主检人: Lvdao cai 吕道才

(Engineer 工程师)

Approved by审批人: Duan Pike 段 3801

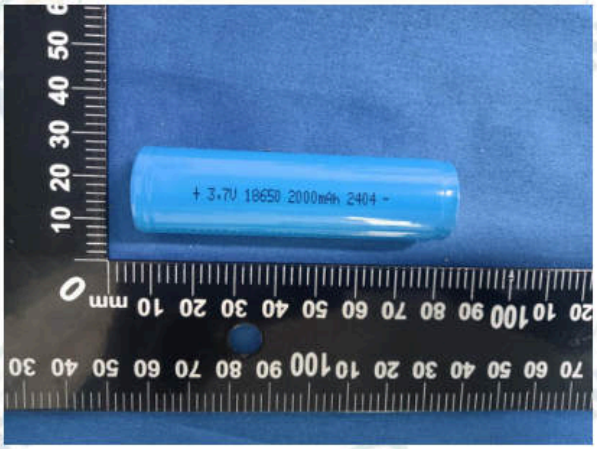
(Manager 经理)

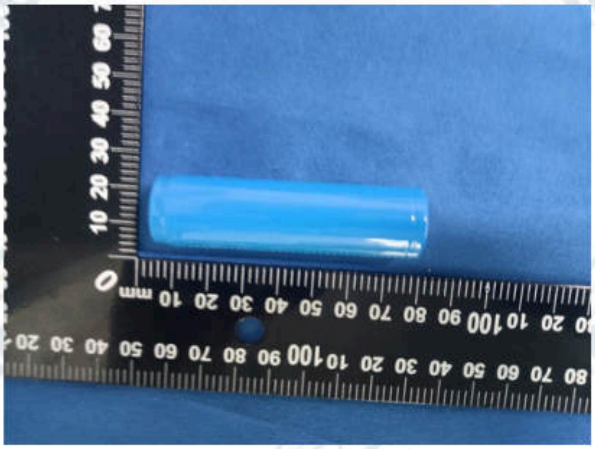
检测检验章

Name of Goods **货物名称**	Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh 锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh		
Manufacturer of package **包装件生产企业**	Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市康贝特电子有限公司		
Manufacturer of packaging container **包装容器生产企业**	Guangzhou Zhongli Paper Products Packaging Co., LTD 广州市众利纸制品包装有限公司		
Detailed description of the package **包装件详细说明**	Corrugated carton, Size: 410*220*230mm, Carton thickness: 6mm, Packaging auxiliaries: Carton box 瓦楞纸箱，尺寸：410*220*230mm，纸箱厚度：6mm，衬垫材料：纸箱		
Detailed description of the contents **内装物详细说明**	Li-ion Rechargeable Battery, Model: 18650 2000mAh, Basic parameters: 3.7V, 7.4Wh, Quantity: 180PCS 锂离子可充电电池，型号：18650 2000mAh， 基本参数：3.7V, 7.4Wh, 数量：180PCS		
Number of samples **样品数量**	3 packages /3 个包装件		
Gross weight per package **每包装件毛重**	9.10kg		
Total load **加载的载荷**	118.3kg	**Ambient Conditions of sample preparation** **样品预处理环境**	环境温度：23°C±2°C 相对湿度：50%±2%
Test Standard **检测标准**	"Recommendations on the Transport of Dangerous Goods, Model Regulations" Twenty-third revised edition (ST/SG/AC.10/1/Rev.23 (Vol.II) 6.1.5.6). 《关于危险货物运输的建议书 规章范本》第二十三修订版 (ST/SG/AC.10/1/Rev.23 (Vol.II) 6.1.5.6)。		
Test Item **检测项目**	3m Stacking Test 3m 堆码试验		
Test Result **检测结果**	After the 24h stacking test, batteries are not damaged, packages are not damaged, no leakage, no deformation. 包装件在经受 24h 堆码试验后，电池未见受损、包装未见破损、未见泄漏、未见变形。		
Test Conclusion **检测结论**	After testing, the package has passed the stacking test of "Recommendations on the Transport of Dangerous Goods, Model Regulations" Twenty-third revised edition (ST/SG/AC.10/1/Rev.23 (Vol.II) 6.1.5.6). 经检测，该包装件通过了《关于危险货物运输的建议书 规章范本》第 23 版 (Vol.II) 6.1.5.6 的堆码试验。		
Test Start Date **测试开始日期**	2024.05.08	**Test Completion Date** **测试完成日期**	2024.05.13

Photos 照片

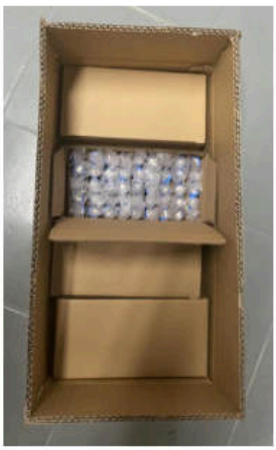
Inner content 内装物:





Package 包装件:





注意事项
Important Notice

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UN38.3 测试概要/ UN38.3 Test Summary

概要编号 Summary No.：240440371412-46

单位信息 Company Information	
委托方 Client	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao’an District, Shenzhen City, Guangdong Province, China 电话/Tel：+86-13631687617，邮箱/Mail：861329582@qq.com，网址/Website: kbtbattery.com
制造商 Manufacturer	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao’an District, Shenzhen City, Guangdong Province, China 电话/Tel：+86-13631687617，邮箱/Mail：861329582@qq.com，网址/Website: kbtbattery.com
工厂 Factory	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao’an District, Shenzhen City, Guangdong Province, China 电话/Tel：+86-13631687617，邮箱/Mail：861329582@qq.com，网址/Website: kbtbattery.com
检测机构 Testing Laboratory	诺诚（深圳）安全科技有限公司 NRCC (Shenzhen) Safety Technology Co., Ltd. 深圳市宝安区福永街道腾丰五路 2 号 A 栋 Building A, No. 2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen 电话/Tel：+86-755-27322216，邮箱/Email：service@nrccsafety.com，网址/Website: www.nrccsafety.com

电池信息 Battery Information			
样品名称 Sample Name	锂离子可充电电池 Li-ion Rechargeable Battery	电池/电芯类别 Battery/Cell Classification	单电芯锂离子电池 Single Cell Li-ion Battery
样品型号 Sample Model	18650 2000mAh	商标 Trademark	/
标称电压 Nominal Voltage	3.7V	额定容量 Rated Capacity	2000mAh
额定能量 Rated Energy	7.4Wh	外观 Appearance	蓝色近圆柱体 Approximate Blue Cylinder
样品重量 Sample Mass	43.2g	锂含量 Li Content	/

测试信息 Test Information					
测试报告编号 Test Report Number	240440370412-13		测试报告签发日期 Issued Date of Test Report	2024.05.13	
测试依据 Test Reference	联合国《试验和标准手册》第八修订版第 38.3 节。 UNITED NATIONS “*Manual of Tests and Criteria” (ST/SG/AC.10/11/Rev.8 Section 38.3).*				
T1: 高度模拟 T1: Altitude simulation	合格 Pass	T2: 温度试验 T2: Thermal test	合格 Pass	T3: 振动 T3: Vibration	合格 Pass
T4: 冲击 T4: Shock	合格 Pass	T5: 外部短路 T5: External short circuit	合格 Pass	T6: 撞击/挤压 T6: Impact/Crush	合格 Pass
T7: 过度充电 T7: Overcharge	合格 Pass	T8: 强制放电 T8: Forced discharge	合格 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 / 检验员 Tested by	吕道才 Lvdaocai		签发日期 Issue Date	2025.06.13 检测检验章	

海运运输危险性鉴别报告

Hazard Identification and Classification Report for Maritime Transport

非限制性 Not subject to these Regulations	
物品名称 **Name of Goods**	锂离子可充电电池 18650 2000mAh 3.7V 7.4wh Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh
报告编号 **SN of Report**	251112210618-22
委托方 **Client**	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd
生效日期 **Effective Date**	2026.01.01
有效期至 **Date of Expire**	2026.12.31

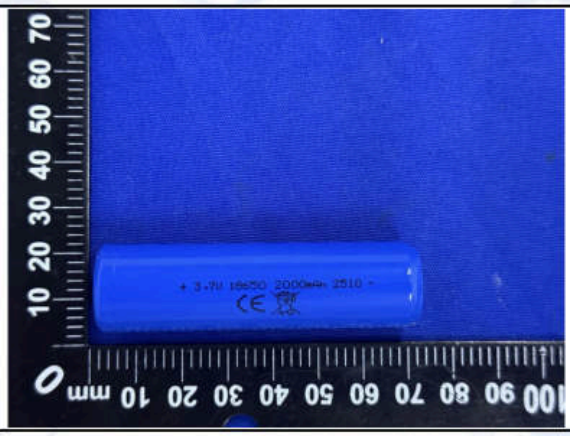
诺诚（深圳）安全科技有限公司

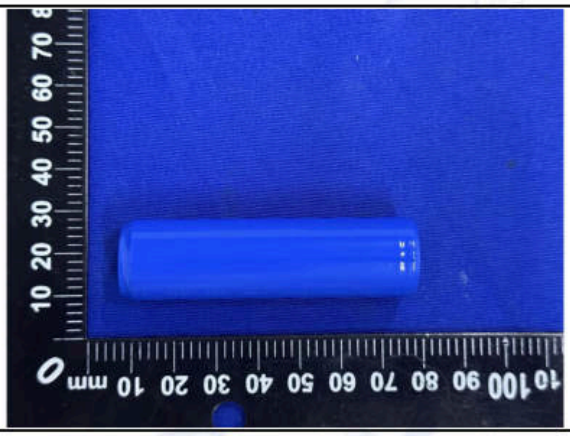
NRCC (Shenzhen) Safety Technology Co., Ltd.

物品名称 /Name of Goods	锂离子可充电电池 18650 2000mAh 3.7V 7.4wh Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh			
委托方 /Client	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd			
制造商 /Manufacturer	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd			
工厂 /Factory	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd			
包装信息 /Package Information	包件内电池数量 /Battery Number inside Each Package	180PCS	包件内电池净重 /Battery Net Weight of Each Package	7.78kg
	包件尺寸 /Size of Package	L*W*H=(410x220x230)mm	包件整箱毛重 /Gross Weight of Each Package	9.10kg
电池信息 /Battery Information	电池类型 /Type of Battery	单电芯锂离子电池 /Single cell lithium ion battery	型号 /Model	18650 2000mAh
	商标 /Trade Mark	N/A	放置方式 /Placement	单独包装 /Single
鉴别依据 /Identification Criteria	《国际海运危险货物规则》（42-24版） /IMDG Code(Amdt 42-24)			
鉴定结论 /Classification Conclusion	UN 编号(UN No.)：	/		
	运输专用名称(PSN):	/		
	危险货物类别(Class or Div.)：	/		
	包装等级(PG):	/		
	签发日期 /Issuing Date	2025年11月11日		
备注 /Comment	根据《国际海运危险货物规则》特殊规定188不受限制。 /Not Restricted As per IMDG Code Special Provision 188.			
审批人 /Approver		主检员 /Appraiser		报告单位（盖章）/Stamp

检验项目名称 /Items of Inspection		检验结果 /Inspection Results
锂电池额定瓦特小时数为7.4Wh. /Watt-hour rating of the battery is 7.4Wh.		≤20Wh
锂电池通过联合国《试验和标准手册》第III部分38.3测试。 /Each battery is of a type proved to meet the requirements of each test in the United Nations Manual of Tests and Criteria, Part III, sub-section 38.3.		符合 /Conform
锂电池包装件通过 1.2 米跌落试验。 /Each package is capable of withstanding a 1.2m drop test.		符合 /Conform
锂电池完全封装在内包装内，位于坚固的外包装中。 /Lithium cells and batteries are packed in inner packages that completely enclose the cell or battery and placed in a strong outer packaging.		符合 /Conform
每个电池和电池芯配备安全排气装置，并采用有效方法装配，以防止逆向电流（例如：二极管、保险丝等）。 /Each cell and battery incorporates a safety venting device, and equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc)		符合 /Conform
电池或电芯加以保护，防止短路，设备必须采取措施防止意外启动。 /The batteries or cells are protected to avoid short circuit, and equipment shall take measures to avoid unintentional start.		符合 /Conform
锂电池按照规定的质量管理体系进行制造。 /Batteries were manufactured under a quality management programme.		符合 /Conform
锂电池不属于召回电池，不属于废弃和回收电池。 /The lithium batteries don't belong to batteries returned to the manufacturer for safety reasons, are not waste or recycled lithium batteries.		符合 /Conform
锂电池每个包装件上均有电池标记。 /Each package is marked with battery mark.		符合 /Conform
备注 /Comment	本鉴定书所述锂电池已通过联合国《试验和标准手册》（第八修订版）第III部分38.3小节相应测试要求。 /Lithium batteries listed in this report are of the types proven to meet the requirements of each applicable test in the United Nations Manual of Tests and Criteria (8th revised edition), Part III, sub-section 38.3.	
	UN38.3报告由诺诚（深圳）安全科技有限公司提供，报告编号为240440370412-13。 /Test report of UN38.3 is supplied by NRCC (Shenzhen) Safety Technology Co., Ltd. and the report number is 240440370412-13.	

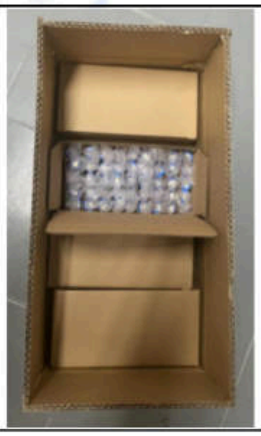
样品Sample:





包装Package:





说 明

NOTE

1. 本鉴定书仅供货运部门确定货物运输条件使用。

This report is only used to confirm the transport condition for carrier.

2. 本报告无审批人签字和诺诚（深圳）安全科技有限公司（以下简称“ 实验室” ）签章无效。

This report is invalid until signed by the approver and sealed by the NRCC (Shenzhen) Safety Technology Co., Ltd. (Hereinafter referred to as "the Laboratory").

3. 本报告经伪造、篡改、删除、部分复制均无效。

This report is invalid with any unauthorized altered, forgery, falsification or partial replication.

4. 必要时需要委托方向实验室提供完成货物运输鉴定相关的附加测试报告（原件）或数据资料，并对其真实性负责；委托方提供的试验数据应按照国家标准或者国际标准规定的试验方法获得。

If necessary, clients' submitting additional testing reports (original copy) or data related to goods transport classification to the laboratory is required, and the client should bear liability for the authenticity of those information; the testing data submitted by client should be obtained by testing methods regulated by national standards or international standards.

5. 为保证鉴定结论符合最新的法规要求，本报告本年度内有效。

Since the latest regulation compliance concerning of the report conclusion, the report is only valid within this year.

6. 本报告的鉴定结论仅在申请委托方提交的委托资料和样品真实的情况下有效，鉴定结论与样品名称及其他同类物质的鉴定结论无关。

This report is only valid to the conclusion under the precondition that client submitted real entrusted materials and samples, and the conclusion result is not relevant with other materials sharing same name or congeners.

7. 如电池的生产工艺、原材料、组分等因素有较大改变，可能使其危险性发生改变时，应重新进行鉴定；当鉴定报告所依据的法规、标准发生变化时，其鉴定结论可能发生变化，应重新进行鉴定。

When significant changing of manufacturing process, materials, components, or other factors of the battery may change its hazard classification, this battery should be identified again; If relative regulations or standards update, the conclusions may change, and the batteries should be identified again.

8. 本报告中英文内容出现不一致时，以中文内容为准。

Should there be any inconsistencies between Chinese and English content in this report, the Chinese version shall prevail.

9. 可访问www.nrccsafety.com, 或通过电话、电邮查询报告真伪。

Visiting www.nrccsafety.com, or contact us by telephone, email could check report authenticity.

**********结束 /End**********

MSDS Report

委托方 **Client**	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd
委托方地址 **Add. of Client**	深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao'an District, Shenzhen City, Guangdong Province, China
样品名称 **Sample Name**	锂离子可充电电池 Li-ion Rechargeable Battery
样品型号 **Sample Model**	18650 2000mAh
标称电压 **Nominal voltage**	3.7V
额定容量 **Rated capacity**	2000mAh，7.4Wh
样品重量**Sample Mass**	43.2g
样品尺寸 **Sample Size**	(φ18.4×65.3)mm(D×H)
编制单位 **Prepared by**	诺诚（深圳）安全科技有限公司 NRCC (Shenzhen) Safety Technology Co., Ltd. 深圳市宝安区福永街道腾丰五路2号A栋 Building A, No. 2, Tengfeng 5th Road, Fuyong, Bao'an District, Shenzhen
报告编号 **Report No.**	251112210618-29
生效日期 **Effective Date**	2026.01.01
签发日期 **Issuing Date**	2025.11.11

编写人**Written by:**
(测试工程师
Test Engineer)

批准人**Approved by:**
(技术负责人
Technical director)

报告单位（盖章）
Seal of

材料安全技术说明书 Material Safety Data Sheet

第一部分 产品及企业标识 Section 1 - Product & Company Identification	
样品名称 Sample Name	锂离子可充电电池 Li-ion Rechargeable Battery
制造商 Manufacturer	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd
地址 Address	深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao'an District, Shenzhen City, Guangdong Province, China
工厂 Factory	深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd
地址 Address	深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao'an District, Shenzhen City, Guangdong Province, China
电话号码 Phone number	+86-13631687617
电子邮箱地址 Email address	861329582@qq.com

第二部分 危险性概述 Section 2 - Hazard Identification	
危险性类别 Classification of Danger	见第十四部分。 See section 14.
浸入途径 Primary Route(s) of Exposure	吸入、食入、皮肤接触、眼睛接触。 Inhalation,Ingestion, Skin contact and Eye contact.
健康危害 Health Hazard	正常使用没有危险，不能拆解、打开或分解电池，里面的材料或成分是有害的。 There is no danger in normal use, the battery cannot be disassembled, opened or decomposed, and the materials or components inside are harmful. 吸入：破裂的电池散发出来的气雾会引起呼吸道刺激。 Inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation. 食入：电池的组成成分或原料可以导致嘴，食道和胃肠道的严重化学烧伤。

	Ingestion: The battery ingredients or raw materials can cause severe chemical burns to the mouth, esophagus and gastrointestinal tract. 皮肤：皮肤接触到电池的内部化学材料可能会导致严重的刺激或烧伤皮肤。 Skin: Skin contact with the battery's internal chemistry can cause severe irritation or burn to the skin. 眼睛：眼睛接触到电池的内部化学材料可能会导致严重的刺激或烧伤眼睛。 Eye: Eye contact with the battery's internal chemistry can cause severe irritation or burn to the eye.

第三部分 成分/组成的信息
Section 3 - Composition/Information on Ingredients

化学名称 Chemical Name	浓度或浓度范围(%) Concentration or concentration ranges (%)	（化学文摘索引登记号） CAS Number/CAS号
镍钴锰酸锂 lithium nickel cobalt manganese oxide	13.55	346417-97-8
锰酸锂 lithium manganese oxide	31.61	12057-17-9
石墨 Graphite	19.86	7782-42-5
聚偏氟乙烯 Polyvinylidene Fluoride (PVDF)	0.84	24937-79-9
铝 Aluminium	5.06	7429-90-5
丁苯橡胶 Styrene Butadiene Rubber (SBR)	1	61789-96-6
羧甲基纤维素 Carboxymethylcellulose	0.34	9000-11-7
铜 Copper	6.8	7440-50-8
镍 Nickel	0.89	7440-02-0
六氟磷酸锂 Lithium Hexafluorophosphate	15.9	21324-40-3
尼龙 Nylon	0	24937-16-4
聚丙烯 Polypropylene	0.86	9003-07-0
隔离膜 Separator	3.15	9002-88-4
胶带	0.14	25038-59-9

第四部分 急救措施
Section 4 - First Aid Measures

吸入 Inhalation	移除污染源或者将受害者移至新鲜空气处。寻求医生建议。 Remove source of contamination or move victim to fresh air. Obtain medical advice.

食入 Ingestion	立即用清水漱口，在专业人士的指导下催吐，速就医。 Please rinse mouth thoroughly with water. Induce vomiting under the guidance of professional personage. Please seek medical treatment in time.
皮肤接触 Skin contact	脱下已污染的衣物，用大量的清水冲洗，若皮肤出现过敏及红肿情况请速就医。 Take off contaminated clothing, rinse with plenty of water, if skin allergies and redness, please seek medical treatment in time.
眼睛接触 Eye contact	用流动水冲洗15分钟，如刺激持续发生，速就医。 Irrigate with flowing water for 15 minutes. If irritation persists, please seek medical treatment in time.

第五部分 消防措施
Section 5 - Fire Fighting Measures

危险特性 Characteristics of Hazard	火灾时可释放有害浓烟、气体或者蒸汽。 Toxic fumes, gases or vapors may evolve on burning.
燃烧产生的危险物品 Hazardous Combustion Products	一氧化碳，二氧化碳，锂氧化物烟气等。 Carbon monoxide, carbon dioxide, oxide fumes and so on.
灭火方法及灭火剂 Fire-extinguishing Methods and Extinguishing Media	对于小型火险，可使用水，干燥沙等合适的灭火介质。 For small fires, can use water, dry sand and other proper fire extinguishing media.
灭火注意事项 Attention in Fire-extinguishing	消防人员须佩戴防毒面具、穿全身消防服。 Firefighting personnel shall wear gas masks and full-body firefighting suits.

第六部分 泄漏应急措施
Section 6 - Accidental Release Measures

个人预防措施、防护装备和应急程序 Personal Precautions, protective equipment, and emergency procedures	万一破裂。注意！腐蚀性物质。避免接触皮肤，眼睛或衣服。确保空气流通。根据需要使用个人防护装备。将人员撤离到安全区域。让人们远离溢出/泄漏处和处于逆风。参考第七部分和第八部分中列出的防护措施。 In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in Sections 7 and 8.
环境保护措施 Environmental Precautions	防止产品污染土壤和进入下水道或水道。 Prevent product from contaminating soil and from entering sewers or waterways.

方法和材料控制 Methods and materials for Containment	出于安全，阻止泄漏，可以用干砂或沙土来遏制液体泄露，立即清理泄漏。 Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
清理的方法和材料 Methods and materials for cleaning up	用惰性吸收剂（干砂或沙土）吸收溢出的材料。污染物转移到可吸收废物的容器。收集所有受污染的吸收剂，根据第13部分的指令处置。用洗涤剂和水清洁污染区域，收集所有受污染的洗涤水进行适当处置。 Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

第七部分 操作处置与储存
Section 7 - Handling and Storage

操作 Handling	禁止拆解、挤压或投入高温环境中，禁止短路或将电池正负极错误的安装在设备中。 Do not disassemble, squeeze, or put the battery into a high temperature environment. Do not short circuit or install with incorrect polarity.
储存 Storage	储藏于阴凉，干燥，通风处，远离接触会发生反应的材料。放在儿童无法接触的地方。 Store in a cool, dry, well-ventilated area away from incompatible substances. Keep out of the reach of children.
其他要注意的防范措施 Other Precautions	按照良好的工业卫生和安全规范进行操作。避免接触皮肤，眼睛或衣服。使用个人防护设备 Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.。

第八部分 接触控制/个人防护
Section 8 - Exposure Controls/Personal Protection

工程控制 Engineering Controls	操作未破损的电池，没有工程控制要求。对于破损的电池，个人防护用品应包括化学品防护手套和安全眼镜。 No engineering controls are required for handling batteries that have not been damaged. Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses.

个人防护设备 Personal Protective Equipment	眼睛和脸部保护：正常使用条件下不必考虑。如果电解液泄露，请佩戴防护眼镜和安全面罩。 Eye and Face Protection: Not to be considered under normal use conditions. If the electrolyte leaks, wear protective glasses and a safety mask. 皮肤和身体防护：正常使用条件下不必考虑。如果电解液泄露，请穿戴防护手套和防护服。 Skin and Body Protection: Not to be considered under normal use conditions. If the electrolyte leaks, wear protective gloves and clothing. 呼吸系统防护：正常使用条件下不必考虑。如果电解液泄露或电池泄气，请佩戴防毒面罩。 Respiratory Protection: Not to be considered under normal use conditions.If the electrolyte leaks or the battery vents, wear a gas mask.

第九部分 理化特性 Section 9 - Physical and Chemical Properties	
物理状态 Physical State	形态：固体 Form: Solid
	颜色：蓝色 Color: Blue
	气味：正常情况下，无气味。 Odour: Normally, no odor.
变化条件 Change in condition	
酸碱度 pH	无数据可提供。 No data is available
闪点 Flash Point	不适用。 Not applicable.
易燃度 Flammability	无数据可提供。 No data is available
相对密度 Relative density	无数据可提供。 No data is available
溶解性（水溶性） Solubility (water)	无数据可提供。 No data is available

第十部分 稳定性和反应性 Section 10 - Stability and Reactivity	
化学稳定性 Chemical Stability	在推荐的储存条件下可以保持稳定。 Stable under recommended storage conditions.
应避免的条件 Conditions to Avoid	加热 70°C 以上或焚烧，长时间暴露在潮湿的条件下。 Heat above 70°C or incinerate,expose over a long period to humid conditions.
不相容材料 Incompatible materials	酸，氧化剂，碱。 Acids, Oxidizing agents, Bases.
危害分解物 Hazardous Decomposition Products	有毒烟雾，并可能形成过氧化物。 Toxic Fumes, and may form peroxides.

第十一部分 毒理学信息 Section 11 - Toxicological Information	
刺激 Irritation	内部物质暴露的情况下，蒸汽烟雾可能对眼睛产生刺激，泄露的电解液可能对皮肤产生刺激。 In the case of internal material exposure, the vapor fumes may cause irritation to the eyes and the leaking electrolyte may cause irritation to the skin.
致敏 Sensitization	无数据可提供。 No data is available
再生毒性 Reproductive Toxicity	无数据可提供。 No data is available
协同材料毒理学 Toxicologically Synergistic Materials	无数据可提供。 No data is available

第十二部分 生态学信息 Section 12 - Ecological Information	
通用信息 General note	不允许未稀释或大量的产品到达地下水、水道或污水系统。 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

化学产品在环境/可能的环境预期的行为的一种生态毒性 Anticipated behavior of a chemical product in environment/possible environmental impact/ecotoxicity	无数据可提供。 No data is available

第十三部分 废弃处置
Section 13 - Disposal Considerations

废弃处置方法 Waste Treatment	建议遵照国家和地方法规处置或再利用。 Recycle or dispose of in accordance with government, state & local regulations.
废弃注意事项 Attention for Waste Treatment	废电池不能被当做普通垃圾。不能扔进火中或置于高温下。不能解体，刺穿，破碎或类似的处理。最好的办法是回收利用。 Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

第十四部分 运输信息
Section 14 - Transport Information

联合国货物编号（UN 编号） UN number	3480 or 3481
运输专用名称 Proper shipping name	锂离子电池（包括锂离子聚合物电池）或： Lithium ion batteries (including lithium ion polymer batteries) or; 锂离子电池与设备包装在一起（包括锂离子聚合物电池）或: Lithium ion batteries packed with equipment (including lithium ion polymer batteries) or; 锂离子电池内置于设备中（包括锂离子聚合物电池）。 Lithium ion batteries contained in equipment (including lithium ion polymer batteries).
危险品规则 DGR	可根据国际民用航空组织(ICAO)或国际航空运输协会(IATA) DGR 67版(2026)包装指令PI965 IB、PI966 II 或PI967 II适当空运。 Can be shipped by air in accordance with International Civil Aviation Organization (ICAO) or International Air Transport Association (IATA) DGR 67 Edition (2026) Packing Instructions Section IB of 965, Section II of 966 or Section II of 967 appropriately. 针对PI965 IB：荷电状态不得超过其额定容量的30%，并粘贴9类电池标签、限货机标签和电池标记。 For PI965 IB: Limited to a maximum of 30% SoC, and paste Class 9—Batteries Label, Cargo Aircraft Only Label and Battery Mark.

	针对PI966 II：超过2.7Wh，荷电状态不得超过其额定容量的30%，粘贴电池标记。 For PI966 II：More than 2.7Wh, limited to a maximum of 30% SoC. Paste Battery Mark. 针对PI967 II：粘贴电池标记。 For PI967 II: Paste Battery Mark. UN分类（运输危险类别）：9类危险品（包装指令965第IB部分）或不适用（包装指令966~967第II部分） UN Classification (Transport hazard class): Class 9 (PI965 Section IB) or N/A (PI966~967 Section II) PG包装等级: 不适用 PG Packing Group: N/A
国际海运危险货物规则 IMDG CODE	根据特殊规定188，该电池不受IMDG Code 2024版(Amdt 42-24)限制。 The batteries are not restricted to IMDG Code 2024 Edition (Amdt 42-24) according to special provision 188. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A 海洋污染物（Y / N）：N Marine pollutant (Y/N): N EmS 编号: F-A, S-I EmS No.: F-A, S-I
危险货物道路运输规则 Regulations concerning road transportation of dangerous goods	根据JT/T 617.3-2018特殊规定188，该电池不受JT/T 617.1-2018~ JT/T 617.7-2018限制。 The batteries are not restricted to JT/T 617.1-2018~JT/T 617.7-2018 according to special provision 188 of JT/T 617.3-2018. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A

危险货物国际道路运输欧洲公约 ADR	根据ADR 2025特殊规定188，该电池不受限制。 The batteries are not restricted according to ADR 2025 special provision 188. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A
国际铁路危险货物运输规则 RID	根据RID 2025特殊规定188，该电池不受限制。 The batteries are not restricted according to RID 2025 special provision 188. 粘贴电池标记。 Paste Battery Mark. UN分类（运输危险类别）：不适用 UN Classification (Transport hazard class): N/A PG包装等级: 不适用 PG Packing Group: N/A

第十五部分 法规信息
Section 15 - Regulatory Information

《关于危险货物运输的建议书 规章范本》
Recommendations on the Transport of Dangerous Goods-Model Regulations
《关于危险货物运输的建议书 试验和标准手册》
Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria
《危险品规则》
Dangerous Goods Regulations
《国际海运危险货物规则》
International Maritime Dangerous Goods Code
《危险货物道路运输规则》
Regulations Concerning Road Transportation of Dangerous Goods
《危险货物国际道路运输欧洲公约》
Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)
《国际铁路危险货物运输规则》
Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)
《危险货物安全运输技术指南》
Technical Instructions for the Safe Transport of Dangerous Goods
《危险货物分类与代码》
Classification and Code of Dangerous Goods

《职业安全与健康法案》(OSHA)
Occupational Safety and Health Act (OSHA)
《有毒物质控制法》(TSCA)
Toxic Substance Control Act (TSCA)
《联邦环境污染控制法》(FEPCA)
Federal Environmental Pollution Control Act (FEPCA)
《资源保护和恢复法案》(RCRA)
Resource Conservation and Recovery Act (RCRA)
《联邦条例》(CFR)
Code of Federal Regulations (CFR)
符合所有联邦、州和地方法律。
In accordance with all Federal, State and local laws.

第十六部分 其他信息
Section 16 - Other Information

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The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

******报告结束******

******End of Report******

中国认可
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2026年12月31日

报告编号：
Issued No.: PEKGZ202511138762GA920001

生效日期：
Effective Date: 2026.01.01

委托单位：深圳市康贝特电子有限公司

Applicant: Shenzhen Keep Better Tech Electronics Co., Ltd.

物品名称：锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh

Name of Goods: Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh

北京迪捷姆空运技术开发有限公司

Beijing DGM Air Transport Technology Development Co.,Ltd.

报 告 书 使 用 约 定

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地址：北京首都国际机场货运北路天竺综合保税区BGS货运楼249室　　邮编：101300

电话：010-69479673　　传真：010-69479621

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项目编号 Item No.		PEKGZ202511138762	签发日期 Issued Date	2025.12.01
鉴别目的 Identification Purpose		是否属于航空运输危险物品 Dangerous Goods or not restricted	鉴别日期 Identification Date	2025.12.01
鉴别依据 Identification Criteria		IATA DGR 67th, 2026		
物品名称 Name of Goods	中文 Chinese	锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh		
	英文 English	Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh		
生产厂家 Manufacturer		深圳市康贝特电子有限公司 Shenzhen Keep Better Tech Electronics Co., Ltd		
件数 Pieces			托运人或托运人代理人声明 本人（本单位）声明：上述运输信息填写真实、准确，鉴别报告已获得委托单位的授权使用，实际运输的货物情况与本鉴别报告一致。如因信息填写错误、实际运输的货物情况与本鉴别报告不一致造成的一切后果，由本人（本单位）承担全部责任，并赔偿对承运人造成的全部损失。 托运人或托运人代理人签字： 盖章：	
运单号 Air waybill No.				
目的港 Destination				
物品信息 Nature of the goods		该样品为蓝色近圆柱体电池。 型号：18650 2000mAh 尺寸：（φ18.4×65.3）mm 每包装件中电池/电芯数量：180 每包装件中电池/电芯净重：7.78kg 该电池属于单芯锂电池。 该电池已经做好防短路措施并装入坚固的外包装内。 该锂电池不属于召回电池，不属于废弃和回收电池，并按照DGR3.9.2.6.1(e)规定的质量体系进行制造 根据委托方所提供的声明：本报告所述锂离子电池（或电芯）交付运输时，其荷电状态不超过设计额定容量的30%。 （注：单块电池重量约为43.2g。） This sample is blue approximate cylinder battery. Model: 18650 2000mAh Size: （φ18.4×65.3）mm Number of batteries / cells per package: 180 Net quantity of batteries/cells per package: 7.78kg The batteries belong to single cell lithium batteries. Batteries have been protected so as to prevent short circuits and packed in strong rigid outer packagings. The lithium batteries don’ t belong to batteries returned to the manufacturer for safety reasons, are not waste lithium batteries and not lithium batteries being shipped for recycling or disposal, are manufactured under a quality management program as described in 3.9.2.6.1(e). Lithium ion cells and batteries must be offered for transport at a state of charge(SoC) not exceeding 30% of their rated design capacity.		

项目编号 Item No.		PEKGZ202511138762
物品名称 Name of Goods	中文 Chinese	锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh
	英文 English	Li-ion Rechargeable Battery 18650 2000mAh 3.7V 7.4Wh
鉴别结论 Conclusions		该物品为锂离子/聚合物电池，单独包装。额定瓦特小时为7.4Wh。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。 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 7.4Wh. 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. According to IATA DGR this substance is classified as dangerous goods Class (or division) 9, UN3480.

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: 唐子华　　审核人 Checked by: 毕亿亿　　批准人 Approved by:

报告单位（盖章）Stamp

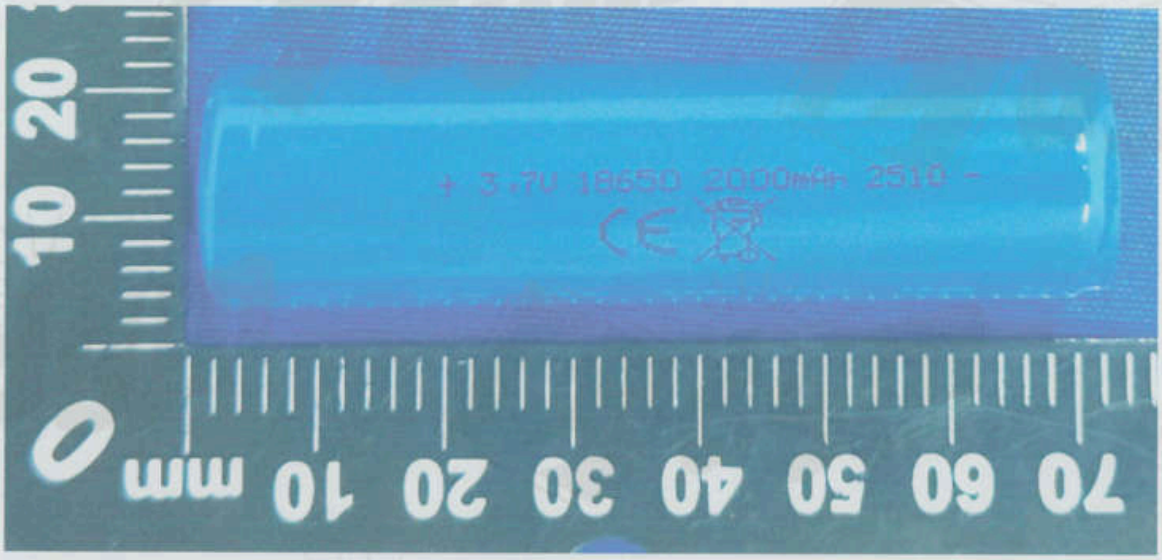
制单：　谢春华

北京迪捷姆空运技术开发有限公司

项目编号：PEKGZ202511138762

物品名称：锂离子可充电电池 18650 2000mAh 3.7V 7.4Wh

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：PEKGZ202511138762

单位信息 Company Information	
委托单位 Consignor	深圳市康贝特电子有限公司/Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 / Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao'an District, Shenzhen City, Guangdong Province, China
生产单位 Manufacturer	深圳市康贝特电子有限公司/Shenzhen Keep Better Tech Electronics Co., Ltd 深圳市宝安区福海街道和平社区骏丰工业区综合楼 B5-1 栋 B 座 901 / Room 901, Block B, Building B5-1, Complex Building, Industrial Zone, Heping Community,Fuhai Sub-district, Bao'an District, Shenzhen City, Guangdong Province, China 电话/Tel：+86-13631687617 邮箱/Mail：861329582@qq.com 网址/Website: kbtbattery.com
测试单位 Test Lab	诺诚（深圳）安全科技有限公司 深圳市宝安区福永街道腾丰五路 2 号 A 栋 电话/Tel：+86-755-27322216 邮箱/Mail：service@nrccsafety.com 网址/Website: www.nrccsafety.com

电池信息 Battery Information			
名称 Name	锂离子可充电电池 Li-ion Rechargeable Battery	电池/电芯类别 Battery/Cell Classification	单电芯锂离子电池 Single Cell Li-ion Battery
型号 Type	18650 2000mAh	商标 Trademark	/
额定电压 Normal Voltage	3.7V	额定容量 Rated Capacity	2000mAh
额定能量 Watt-hour rating	7.4Wh	外观/Appearance	蓝色近圆柱体 Approximate Blue Cylinder
质量/Mass	43.2g	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	240440370412-13		测试报告签发日期 Date of Test Report	2024-05-13	
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《试验和标准手册》第八修订版第 38.3 节 UNITED NATIONS "Manual of Tests and Criteria" (ST/SG/AC.10/11/Rev.8 Section 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	
签名 Signatory 职务 Title	李广华 LiGuangHua 检验员 Inspector：李广华 Li GuangHua		签发日期 Issued Date	2025-11-13	