

# 检 验 报 告

## Test report

**NAME OF SAMPLE 产品名** Li-ion Polymer Battery  
**称.....:** 聚合物锂离子电池  
**Type/型号规格.....:** BL0750F5030481S1PCMC  
3.7VDC, 700mAh, 2.59Wh  
**CLIENT/委托单位.....:** GlobTek, Inc.  
186 Veterans Dr. Northvale, NJ 07647, USA  
**Report No./报告编号.....:** ED160607052S-3  
**Total Pages/总页数.....:** 23  
**CLASSIFICATION OF TEST/** Commission Test  
**检验类别.....:** 委托测试

**东莞市信测科技有限公司**

**EMTEK (DONGGUAN) CO., LTD**

# 检验报告

## TEST REPORT

Commissioned by: GlobTek, Inc. 委托单位:--	Name of samples: Li-ion Polymer Battery 样品名称: 聚合物锂离子电池
Commissioner address: 186 Veterans Dr. Northvale, NJ 07647 USA 委托单位地址:--	Type/型号规格: BL0750F5030481S1PCMC 3.7VDC, 700mAh, 2.59Wh
Manufacturer : GlobTek (Suzhou) Co., Ltd. 生产单位 : 环球特科(苏州)电源科技有限公司	Appearance: Blue 样品外观颜色: 蓝色
Manufacturer address : Building 4, No.76, Jinling East Road, Suzhou Industrial Park, Jiangsu 215021, P.R. China 生产单位地址 : 苏州工业园区金陵东路 76 号 4 幢	Trade mark: GlobTek, Inc. 商标: GlobTek, Inc.
Classification of test: commission test 检验类别: 委托测试	Quantity of sample: 16 battery packs, 25 cells 样品数量: 16 个电池组, 25 个电池
Tested according to/测试标准: ST/SG/AC.10/11/Rev.5Section38.3/Amend.1/Amend.2	Sample identification: 样品标识序号: BL0750F_#b1~#b8, KPL503048_#c1~#c25;
Receiving date/接样日期: 2016-06-10	Means of receiving/接样方式: 委托单送样
Completing date/完成日期: 2016-08-16	Test item/测试项目: 8 items/8 项
<p>Test conclusion/检验结论:</p> <p>The <u>Li-ion Polymer Battery</u> submitted by <u>GlobTek, Inc.</u> are tested according to section UN38.3 of the fifth revised edition amendment 1 and amendment 2 of recommendations on the transport of dangerous Goods, manual of test and criteria (ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1/Amend.2)</p> <p>由 <u>GlobTek, Inc.</u> 送检的<u>聚合物锂离子电池</u> , 依据《联合国关于危险货物运输的建议书》第 18 修订版之《试验和标准手册》第 5 修订版第 38.3 节进行检测。</p> <p>Test result: Pass 检验结果: 通过</p> <p style="text-align: center;">Seal 印章</p> <p style="text-align: center;">签发日期/Date of issue: 2016-08-17</p>	

Approved by:

批准:

杨国伟

Reviewed by:

审核:

陈勇

Tested by:

检测:

张丽娜

**Description and illustration of the sample:**

样品说明及描述:

**The sample's status is good**

样品状态良好

The conditions of the batteries of samples No. KPL503048\_#C6 to #C15 are at first cycle, in fully charged state.

样品编号 KPL503048\_#C6-#C15 的状态为第一个交替充电放电周期完全充电状态的电池。

The conditions of component cells of samples No. KPL503048\_#c1 to #c5 are at first cycle at 50% of the design rated capacity.

样品编号 KPL503048\_#c1- #c5 的状态为第一个交替充电放电周期充电到设计额定容量的 50%。

The conditions of the batteries of samples No. BL0750F\_#b1 to #b4 are at first cycle, in fully charged state.

样品编号BL0750F\_#b1到#b4 的状态为第一个交替充电放电周期完全充电状态的单体电池电池组。

The conditions of the batteries of samples No. BL0750F\_#b5 to#b8 are after fifty cycles ending in fully charged state.

样品编号BL0750F\_#b5 到 #b8 的状态为在五十个交替充电放电周期完全充电状态的单体电池电池组。

The conditions of the cells of samples No. KPL503048\_#c16 to #c25 are after first cycle ending in fully discharged state.

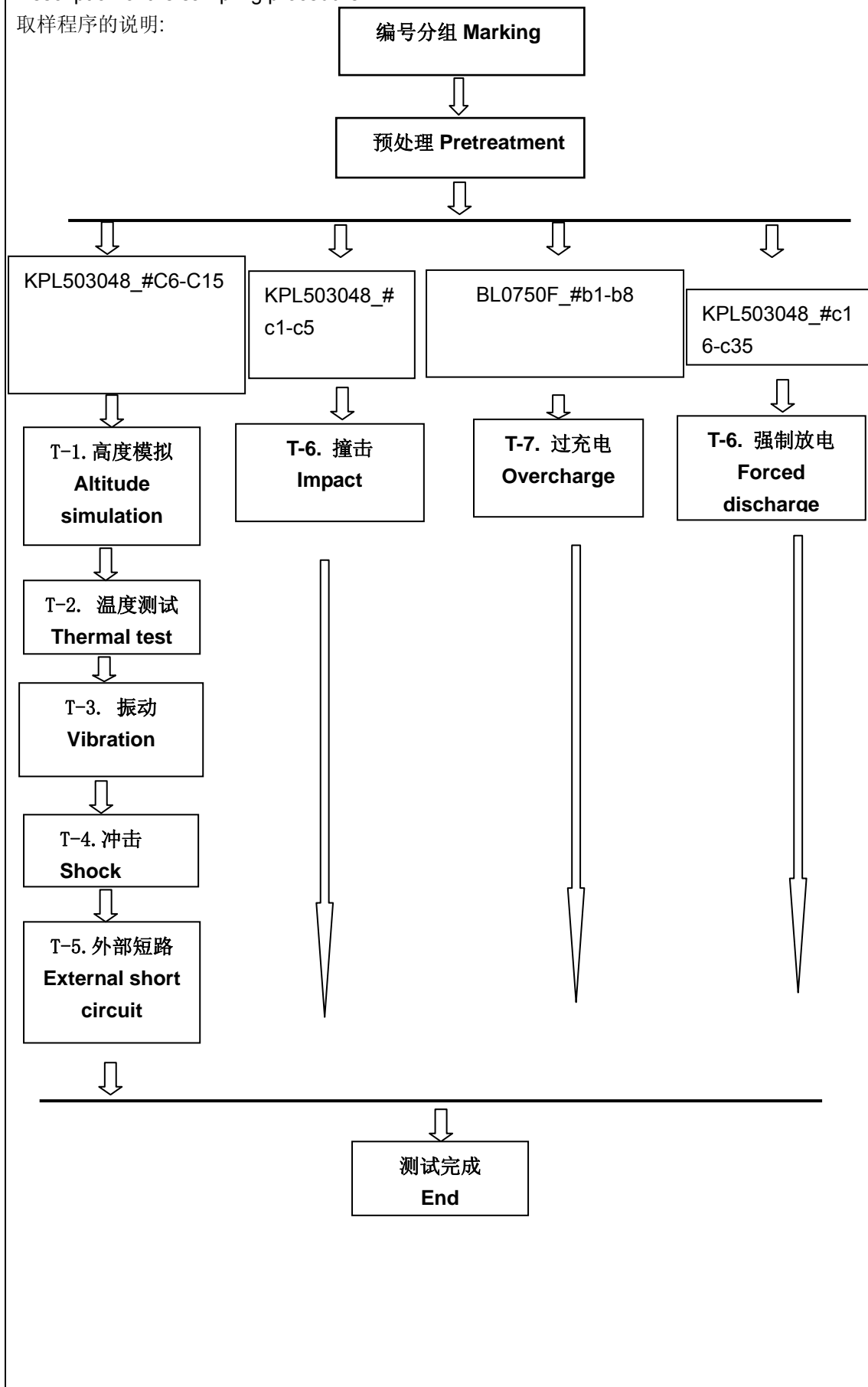
样品编号 KPL503048\_#c16 到 #c25 的状态为在第一个充电放电周期结束后完全放电状态的电池。

The conditions of the cells of samples No. KPL503048\_#c26 to #c35 are after 50 cycles ending in fully discharged state.

样品编号 KPL503048\_#c26 到 #c35 的状态为在 50 个交替充电放电周期结束后完全放电状态的电池。

Description of the sampling procedure:

取样程序的说明:



Description of the deviation from the standard, if any;

测试结果不符合标准项的说明:

/

**Remarks 备注:**TEST METHOD 测试方法

小型电池或电池组必须按顺序进行试验T.1 至T.5。试验T.6 和T.8 应使用未另外试验过的电池或电池组。试验T.7 可以使用原先在试验T.1 至T.5 中使用过的未损坏电池组进行，以便测试交替充电放电过的电池组。

质量损失依照下式计算：

$$\text{质量损失(\%)} = (M_1 - M_2) / M_1 * 100$$

式中M1 是实验前的质量，M2 是试验后的质量。如质量损失不超过下表所列数值，即视为“无质量损失”。

Tests T.1 to T.5 shall be conducted in sequence on the same cell or battery. Tests T.6 and T.8 shall be conducted using not otherwise tested cells or batteries. Test T.7 may be conducted using undamaged batteries previously used in tests T.1 to T.5 for purposes of testing on cycled batteries. In order to quantify the mass loss, the following procedure is provided:

$$\text{Mass loss(\%)} = (M_1 - M_2) / M_1 * 100$$

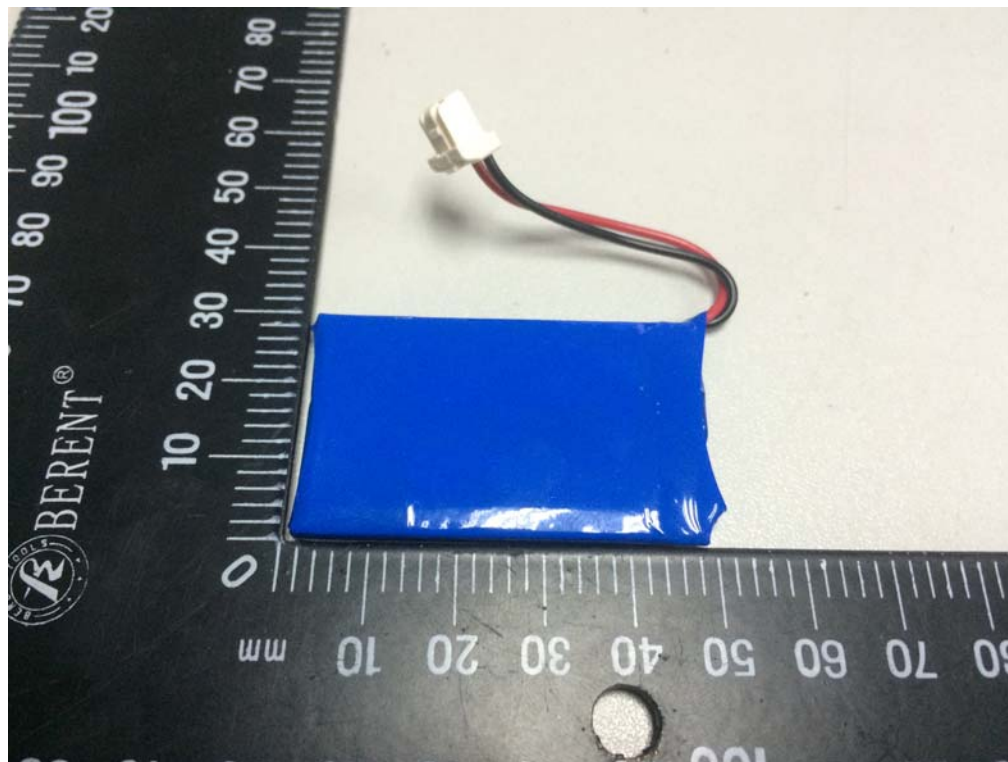
Where M1 is the mass before the test and M2 is the mass after the test. When mass loss does not exceed the values in Table blow, it shall be considered as “no mass loss”.

电池或电池组质量M Mass M of cell or battery	质量损失限值 Mass loss limit
M < 1 克(g)	0.5%
1g ≤ M ≤ 75 克(g)	0.2%
M > 75 克(g)	0.1%

Photos of sample and labels/样品照片及标识

Li-ion Polymer Battery /聚合物锂离子电池

型号 model: BL0750F5030481S1PCMC, 3.7VDC, 700mAh, 2.59Wh

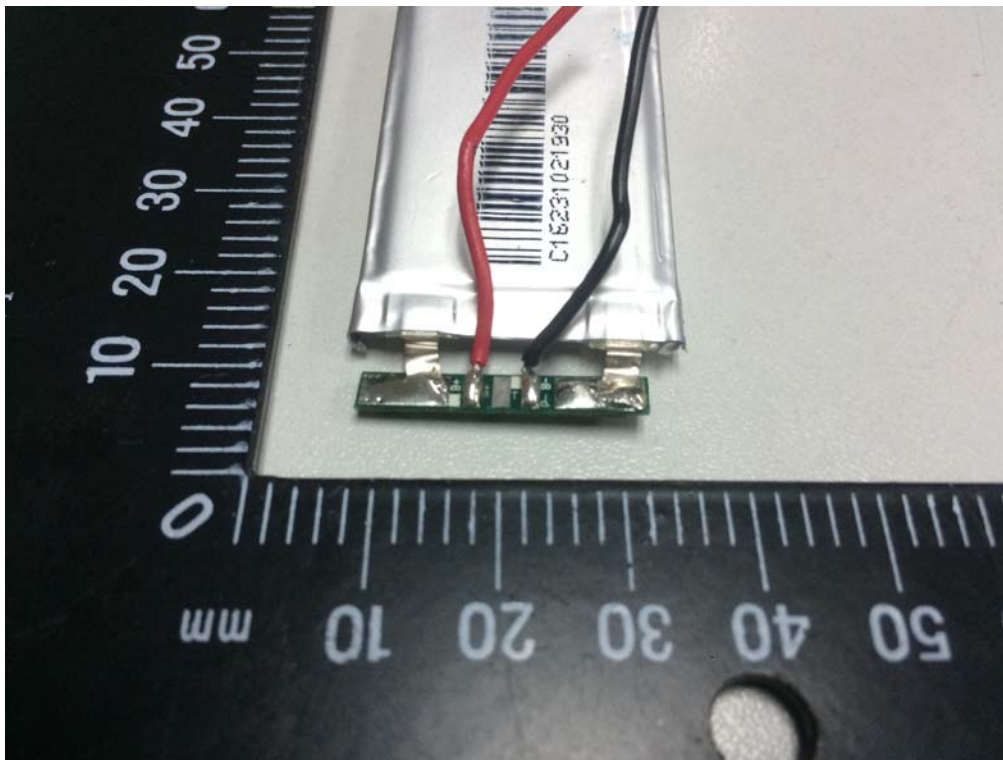




Internal Battery/电池组内部



PCB LAYOUT/PCB 板





Cell/电池

聚合物锂离子电池/Cell model: KLP503048, Type/型号规格: 3.7Vdc, 700mAh



ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4	Procedure/测试步骤		-
38.3.4.1	Test1: Altitude simulation/测试 1： 高度模拟		P
	Test cells and batteries shall be stored at a pressure of 11,6kPa or less for at least six hour at ambient temperature(20±5℃) 将电芯和电池在温度为 20±5℃，大气压力为不大于 11,6kpa 的环境中贮存不少于 6 个小时		
	Requirement/标准要求: 1. Cells and batteries mass loss limit: ≤0,1%/样品质量损失≤0,1% 2. Open circuit voltage not less than 90%, the requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90 %,此要求不适用于完全放完电的电池和电芯。 3. No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无冒烟、无分解、无破裂以及无着火现象的发生	The samples KLP503048_#C6-#C15: No leakage, no venting, no disassembly, no rupture and no fire/ 编号为 KLP503048_#C6-#C15 的样品: 无漏液，无冒烟，无分解，无破裂以及无着火现象 The data see table1/数据见表 1	
	Test equipment 测试设备	ESD-267	

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4.2	Test 2: Thermal test/测试 2: 热冲击		P
	Test cells and batteries are to be stored for 电池存储条件如下: 1.One temperature cycle: 72±2℃(6h) —40±2℃(6h) 一次温度循环为 72±2℃(6h) —40±2℃(6h) 2.The maximum time interval between test temperature extremes is 30 minutes 温度转换最大间隔时间为 30min 3.This procedure is to be repeated 10 times 重复 10 次循环 4.After which all test cells and batteries are to be stored for 24 hours at ambient temperature(20±5℃)循环结束后, 电池在 20±5℃的条件下搁置 24 小时.		
	Requirement/标准要求: 1. Cells and batteries mass loss limit: ≤0,1%/样品质量损失≤0,1% 2. Open circuit voltage not less than 90%, the requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90 %,此要求不适用于完全放完电的电池和电芯。 3. No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无冒烟、无分解、无破裂以及无着火现象的发生	The samples KLP503048_#C6-#C15: No leakage, no venting, no disassembly, no rupture and no fire/ 编号为: KLP503048_#C6-#C15 的样品: 无漏液, 无冒烟, 无分解, 无破裂以及无着火现象 The data see table2/数据见表 2	
	Test equipment 测试设备	ELD0004	

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4.3	Test3: Vibration 测试 3: 振动		P
	1. Cells and batteries are firmly secured to the platform of the vibration machine 电芯和电池牢固地安装在振动台（的台面）上 2. The vibration: A sinusoidal waveform with a logarithmic sweep between 7Hz and 200Hz and back to 7Hz traversed in 15 minutes 振动以正弦波形式，以 7Hz 增加至 200Hz，然后在减少回到 7Hz 为一个循环，一个循环持续 15 分钟的对数前移传送。 3. The logarithmic frequency sweep is as follows: from 7Hz a peak acceleration of 1gn is maintained until 18Hz 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 50Hz), A peak acceleration of 8gn is then maintained until the frequency is increased to 200Hz 对数扫频为:从 7 赫兹开始保持 1gn 的最大加速度直到频率为 18 赫兹，然后将振幅保持在 0,8 毫米（总偏移 1,6 毫米）并增加频率直到最大加速度达到 8gn（频率约为 50 赫兹），将最大加速度保持在 8gn 直到频率增加到 200 赫兹。 4.This cycle repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting position of the cell 以振动的其中一个方向必须是垂直样品极性，对每个电芯从三个互相垂直的方向上循环 12 次，共 3 个小时。		
	Requirement/标准要求: 1. Cells and batteries mass loss limit: ≤0,1%/样品质量损失≤0,1% 2. Open circuit voltage not less than 90%, the requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90 %,此要求不适用于完全放完电的电池和电芯。 3. No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无冒烟、无分解、无破裂以及无着火现象的发生	The samples KLP503048_#C6-#C15: No leakage, no venting, no disassembly, no rupture and no fire 编号为: KLP503048_#C6-#C15 的样品: 无漏液，无冒烟，无分解，无破裂以及无着火现象 The data see table3/数据见表 3	
	Test equipment 测试设备	ER-018	

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4.4	Test 4: Shock/测试 4: 冲击		P
	1. The cells and batteries shall be secured to the testing machine 以稳固的托架固定住每个电芯和电池样品的全部配件表面。 2. Shock: a half-sine shock of peak acceleration of 150 gn and pulse duration of 6 milliseconds, large cells and large batteries shall be subjected to a half-sine or peak acceleration of 50 gn an dpulse duration of 11 milliseconds 对每个电芯或电池以峰值为 150gn 的半正弦的加速度撞击，脉冲持续 6 毫秒，大型电池和大型电池组须经受最大加速度 50gn 和脉冲持续时间 11 毫秒的半正弦波冲击。 3. 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 每个电池或电池组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。		
	Requirement/标准要求: 1. Cells and batteries mass loss limit: ≤0,1%/样品质量损失≤0,1% 2. Open circuit voltage not less than 90%, the requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90 % ,此要求不适用于完全放完电的电池和电芯。 3. No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无冒烟、无分解、无破裂以及无着火现象的发生	The samples KLP503048_#C6-#C15: No leakage, no venting, no disassembly, no rupture and no fire/ 编号为: KLP503048_#C6-#C15 的样品： 无漏液，无冒烟，无分解，无破裂以及无着火现象 The data see table4/ 数据见表 4	
	Test equipment 测试设备	ER-021	



ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4.5	Test: external short circuit/测试 5 外接短路		P
	1. The cell or battery to be tested shall be temperature stabilized so that its external case temperature reaches55±2℃/保持试验环境温度稳定在 55±2℃，以使电芯或电池样品外表温度达到 55±2℃ 2. The cell or battery shall be subjected to a short circuit condition with a total external resistance of less than0,1 ohm at 55±2℃, this short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 55±2℃在将样品正负极用小于 0.1Ω 的总电阻回路进行短路，样品的外表温度恢复到 55±2℃之后保持短路状态 1 小时以上。 3. The cell or battery must be observed for a further six hour for the test to be concluded/对电芯或电池必须进一步观察 6 个小时才能下结论。		
	Requirements/标准要求: During the test and within six hours after test, the cells or batteries/在测试过程中以及之后 6 个小时内，电芯或电池样品 1. External temperature not exceed 170℃外表温度不超过 170℃ 2. No disassembly, no rupture and no fire. 无分解、无破裂和无着火现象发生	The samples The samples: KLP503048_#C6-#C15: No leakage, no venting, no disassembly, no rupture and no fire/编号为: KLP503048_#C6-#C15 的样品: 无漏液，无冒烟，无分解，无破裂以及无着火现象 The data see table5/数据见表 5	
	Test equipment 测试设备	ESD-174	
38.3.4.6	Test 6: Impact/crush/测试 6: 撞击/挤压		P
	Impact(applicable to cylindrical cells not less than 18mm in diameter)/撞击（适用于直径不小于 18 毫米的圆柱形电池）		
	1.This test sample cell or component cell is to be placed on a flat smooth surface/将试验样品用的电芯或聚合物电芯放在一个平坦光滑的平面上 2. A15,8 mm diameter bar is to be placed across the center of the sample, A 9,1 kg mass is to be dropped from a height of ±2,5cm onto the sample./将一直径为 15,8mm 的横木横过电池中部放置后，将一质量为 9,1kg 的物体从 61±2,5cm 的高度落向样品。 3. The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis the		

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
	15,8mm±0,1mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact/接受撞击的试样，纵轴应与平坦的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。每一个试样只经受一次撞击。		
	Requirements/标准要求: 1. Cells external temperature not exceed 170℃. 电芯或电池的最高表面温度应不超过 170℃ 2. No disassembly, no rupture and no fire within six hours of this test 试验结束后 6 个小时之内，电芯和聚合物电芯应无分解和无着火现象发生。	The samples KLP503048_#c1 to KLP503048_#c5: No leakage, no venting, no disassembly, no rupture and no fire/ 编号为 KLP503048_#c1 到 KLP503048_#c5 的样 品: 无漏液, 无冒烟, 无分解, 无破裂以及无 着火现象 The data see table6/ 数据见表 6	
	Test equipment 测试设备	ESD-176	
	Crush(applicable to prismatic, pouch, coin/button cells and cylindrical cells Less than 18mm in diameter)/挤压（适用于棱柱形、袋装、硬币/纽扣电池和直径不超过 18 毫米的圆柱形电池）		N/A
	1. 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/将电池或元件电池放在两个平面之间挤压，挤压力度逐渐加大，在第一个接触点上的速度大约为 1,5 厘米/秒。挤压持续进行，直到出现以下三种情况之一： (a) The applied force reaches 13kN±0,78kN 施加的力达到 13 千牛±0,78 千牛 (b) The voltage of the cell drops by at least 100mV/电池的电压下降至少 100 毫伏 (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。 2. 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/棱柱形或袋装电池应从最宽的一面施压。纽扣/硬币形电池应从其平坦表面施压。圆柱形应从与纵轴垂直的方向施压。		

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
	Requirements/标准要求: 1. Cell external temperature not exceed 170℃. 电芯或电池的最高表面温度应不超过 170℃ 2. No disassembly, no rupture and no fire within six hours of this test 试验结束后 6 个小时之内, 电芯和聚合物电芯应无分解和无着火现象发生	--	
	Test equipment 测试设备	--	

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4.7	Test 7: Overcharge/测试 7: 过充电		P
	1. The charge current shall be twice the manufacturer's recommended maximum continuous charge current/以 2 倍制造厂推荐的最大持续充电电流对样品充电		
	2. The minimum voltage of the test shall be as follows/本测试最小电压为:		
	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/如果厂家推荐的充电电压不超过 18V, 本测试的最小充电电压应是厂家标定最大充电电压的两倍或者是 22V 的较小者。	测试的电压为 8.4V, 电流为 0.44A	
	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/ 如果厂家推荐的充电电压超过 18V, 本测试的最小充电电压应是厂家标定最大充电电压的 1,2 倍。 3 20±5℃的环境温度下, 试验持续 24 小时。		
	Requirements/标准要求: No disassembly and no fire within seven days of this test 试验样品在试验中和试验后 7 天内, 应无分解和无着火现象发生。	The sample BL0750F _#b1 to #b8: /编号为 BL0750F_#b1 到 #b8 的样品: For voltage data before test, see table 7. /试验前电压见表 7 No disassembly, no rupture and no fire 无分解, 无着火现象	
	Test equipment 测试设备	ESD-261 ESD-155	

ST/SG/AC.10/11/Rev.5Section 38.3/Amend.1 /Amend.2			
Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定
38.3.4.8	Test8: Forced discharge/测试 8: 强制放电		P
	Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12 V D. C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer 20±5℃的环境温度下，将单个电芯连接在 12V 的直流电源上进行强制放电，此直流电源提供给每个电芯初始电流为制造厂指定的最大放电电流。		
	The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the 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）。		
	Requirements/标准要求: No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内，应无分解和无着火现象发生。	The sample KLP503048_#c16 to #c35: 编号为 KLP503048_#c16 to #c35 的样品: For voltage data before test, see table 8. /试验前电压见表 8 No disassembly and no fire/ 无分解,无着火现象	
	Test equipment 测试设备	ESD-155	



Table1: T-1 Altitude simulation 高度模拟

Sample No.样品号	Mass prior to test/ 试验前质量(g)	OCV prior to test/ 试验前电压(V)	Mass prior to test/ 试验后质量(g)	OCV prior to test/ 试验后电压(V)	Mass loss(% ) 质量损失 (%)	电压亏损 Voltage loss (%)	有无渗漏, 排气, 解体, 破裂和起火 (是/否) Whether leakage, venting, disassembly, rupture, fire (Y/N)
KPL503048_#C6	10.824	4.181	10.818	4.181	0.06	0.00	N
KPL503048_#C7	10.801	4.178	10.799	4.173	0.02	0.12	N
KPL503048_#C8	10.823	4.182	10.821	4.179	0.02	0.07	N
KPL503048_#C9	10.901	4.177	10.896	4.177	0.05	0.00	N
KPL503048_#C10	10.796	4.172	10.796	4.172	0.00	0.00	N
KPL503048_#C11	10.912	4.191	10.912	4.191	0.00	0.00	N
KPL503048_#C12	10.798	4.171	10.796	4.168	0.02	0.07	N
KPL503048_#C13	10.745	4.182	10.740	4.18	0.05	0.05	N
KPL503048_#C14	10.902	4.191	10.900	4.188	0.02	0.07	N
KPL503048_#C15	10.837	4.169	10.83	4.166	0.06	0.07	N
结论: 通过							
CONCLUSION: Pass							

Table2: T-2: thermal test/热冲击测试

Sample No.样品号	Mass prior to test/ 试验前质量(g)	OCV prior to test/ 试验前电压(V)	Mass prior to test/ 试验后质量(g)	OCV prior to test/ 试验后电压(V)	Mass loss(% ) 质量损失 (%)	电压亏损 Voltage loss (%)	有无渗漏, 排气, 解体, 破裂和起火 (是/否) Whether leakage, venting, disassembly, rupture, fire (Y/N)
KPL503048_#C6	10.818	4.181	10.81	4.179	0.07	0.05	N
KPL503048_#C7	10.799	4.173	10.794	4.171	0.05	0.05	N
KPL503048_#C8	10.821	4.179	10.819	4.173	0.02	0.14	N
KPL503048_#C9	10.896	4.177	10.891	4.174	0.05	0.07	N
KPL503048_#C10	10.796	4.172	10.793	4.17	0.03	0.05	N
KPL503048_#C11	10.912	4.191	10.91	4.189	0.02	0.05	N
KPL503048_#C12	10.796	4.168	10.787	4.165	0.08	0.07	N

KPL503048_# C13	10.740	4.18	10.734	4.179	0.06	0.02	N
KPL503048_# C14	10.900	4.188	10.891	4.186	0.08	0.05	N
KPL503048_# C15	10.830	4.166	10.823	4.165	0.06	0.02	N
结论： 通过							
CONCLUSION: Pass							
Table3: T-3: Vibration test/振动测试							
Sample No.样品号	Mass prior to test/ 试验前质量(g)	OCV prior to test/ 试验前电压(V)	Mass prior to test/ 试验后质量(g)	OCV prior to test/ 试验后电压(V)	Mass loss(%) 质量损失(%)	电压亏损 Voltage loss (%)	有无渗漏, 排气, 解体, 破裂和起火 (是/否) Whether leakage, venting, disassembly, rupture, fire (Y/N)
KPL503048_# C6	10.810	4.179	10.810	4.179	0.00	0.00	N
KPL503048_# C7	10.794	4.171	10.793	4.171	0.01	0.00	N
KPL503048_# C8	10.819	4.173	10.817	4.172	0.02	0.02	N
KPL503048_# C9	10.891	4.174	10.890	4.174	0.01	0.00	N
KPL503048_# C10	10.793	4.17	10.791	4.169	0.02	0.02	N
KPL503048_# C11	10.910	4.189	10.908	4.188	0.02	0.02	N
KPL503048_# C12	10.787	4.165	10.787	4.164	0.00	0.02	N
KPL503048_# C13	10.734	4.179	10.731	4.179	0.03	0.00	N
KPL503048_# C14	10.891	4.186	10.889	4.186	0.02	0.00	N
KPL503048_# C15	10.823	4.165	10.823	4.164	0.00	0.02	N
结论： 通过							
CONCLUSION: Pass							

Table4: T-4: Shock/冲击							
Sample No.样品号	Mass prior to test/ 试验前质量(g)	OCV prior to test/ 试验前电压(V)	Mass prior to test/ 试验后质量(g)	OCV prior to test/ 试验后电压(V)	Mass loss(%) 质量损失(%)	电压亏损 Voltage loss (%)	有无渗漏, 排气, 解体, 破裂和起火 (是/否) Whether leakage, venting, disassembly, rupture, fire (Y/N)
KPL503048_# C6	10.810	4.179	10.809	4.178	0.01	0.02	N
KPL503048_# C7	10.793	4.171	10.792	4.17	0.01	0.02	N
KPL503048_# C8	10.817	4.172	10.817	4.172	0.00	0.00	N

KPL503048_#C9	10.890	4.174	10.889	4.172	0.01	0.05	N
KPL503048_#C10	10.791	4.169	10.791	4.169	0.00	0.00	N
KPL503048_#C11	10.908	4.188	10.907	4.187	0.01	0.02	N
KPL503048_#C12	10.787	4.164	10.787	4.164	0.00	0.00	N
KPL503048_#C13	10.731	4.179	10.731	4.178	0.00	0.02	N
KPL503048_#C14	10.889	4.186	10.888	4.186	0.01	0.00	N
KPL503048_#C15	10.823	4.164	10.823	4.164	0.00	0.00	N

结论： 通过

CONCLUSION: Pass

Table5: T-5: external short circuit/外接短路

Sample No.样品号	Peak temperature (°C) 最高温度	有无渗漏, 排气, 解体, 破裂和起火 (是/否) Whether leakage, venting, disassembly, rupture, fire (Y/N)
KPL503048_#C6	103.2	N
KPL503048_#C7	115.1	N
KPL503048_#C8	112.0	N
KPL503048_#C9	114.4	N
KPL503048_#C10	113.8	N
KPL503048_#C11	105.7	N
KPL503048_#C12	112.4	N
KPL503048_#C13	110.3	N
KPL503048_#C14	108.1	N
KPL503048_#C15	110.0	N

结论： 通过

CONCLUSION: Pass

Table 6 T-6:Crush/表 6:撞击

Test 6: crush/测试 6: 撞击	Sample No. 样品号	SL502025_#c1	SL502025_#c2	SL502025_#c3	SL502025_#c4	SL502025_#c5
	OCV prior to test/试验前电压 (V)	3.94	3.88	3.91	3.89	3.92
	Temperature(°C) 温度 (°C)	103.4	98.7	104.1	110.5	106.3

	有无解体，起火（是/否） Whether disassembly, fire (Y/N)	N
	结论： 通过	
	CONCLUSION: Pass	

Table 7 T-7: overcharge/测试 7: 过充电					
Test 7: overcharge/ 测试 7: 过充电	Sample No 样品号	BL0750F _#b5	BL0750F _#b6	BL0750F _#b7	BL0750F _#b8
	OCV prior to test/ 试验前电压 (V)	4.17	4.17	4.19	4.18
	Sample No 样品号	BL0750F _#b1	BL0750F _#b2	BL0750F _#b3	BL0750F _#b4
	OCV prior to test/ 试验前电压 (V)	4.17	4.18	4.18	4.19
	有无解体，起火（是/否） Whether disassembly, fire (Y/N)			N	
	结论： 通过 CONCLUSION: Pass				

Table8 T-8: Forced discharge/表 8. 强制放电						
Test 8: Forced discharge/ 测试 8: 强 制放电	Sample No 样品号	KPL503048_ #c6	KPL503048_ #c7	KPL503048_ #c8	KPL503048_ #c9	KPL503048_ #c10
	OCV prior to test 试验前电压(V)	3.26	3.25	3.24	3.27	3.29
	Sample No 样品号	KPL503048_ #c11	KPL503048_ #c12	KPL503048_ #c13	KPL503048_ #c14	KPL503048_ #c15
	OCV prior to test 试验前电压(V)	3.24	3.30	3.28	3.24	3.27
	Sample No 样品号	KPL503048_ #c16	KPL503048_ #c17	KPL503048_ #c18	KPL503048_ #c19	KPL503048_ #c20
	OCV prior to test 试验前电压(V)	3.27	3.30	3.26	3.29	3.24
	Sample No 样品号	KPL503048_ #c21	KPL503048_ #c22	KPL503048_ #c23	KPL503048_ #c24	KPL503048_ #c25
	OCV prior to test 试验前电压(V)	3.27	3.25	3.29	3.24	3.27
	有无解体，起火（是/否） Whether disassembly, fire (Y/N)				N	
	结论： 通过 CONCLUSION: Pass					

## 注意事项 Important

1. 本报告无检验单位印章无效。  
**The test report is invalid without the official stamp of EMTEK.**
2. 未经本试验室书面同意，不得部分地复制本报告。  
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4. 本报告涂改无效。  
**The test report is invalid if altered**
5. 对检验报告若有异议，应于收到报告之日起十五天内向检验单位提出。  
**Objections to the test report must be submitted to EMTEK within 15days**
6. 本报告仅对送检样品负责。  
**The test report is valid for the tested samples only**
7. 判定栏中“-”表示“不需要判定”，“P”表示“通过”，“F”表示“不通过”，“N/A”表示“不适用”。  
**As for the verdict, “-” means “no need for judgement”, “P” means “pass”, “F” means “fail” and “N/A” means “not applicable”.**

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