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Pony Testing International Group

报告编号(Report ID): MPIBM4IC757677U1



空运 By Air

中国认可
检验
INSPECTION
CNAS IB0279

货物运输条件鉴定书

Certification for Safe Transport of Goods

危险品

Dangerous Goods

样品名称及型号
(Sample Name &
Model)Rechargeable Li-ion Battery 型号: H18650CH
Rechargeable Li-ion Battery Model: H18650CH
3.6V 2600mAh 9.36Wh委托单位
(Applicant)长虹格兰博科技股份有限公司
ChangHong Grand-Pro Tech Co., Ltd.生产单位
(Manufacturer)长虹格兰博科技股份有限公司
ChangHong Grand-Pro Tech Co., Ltd.PONY 谱尼测试
Pony Testing International Group
www.ponytest.comNo.: MPIBM4IC757677U1
Code: ed4sphnrt

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This report shall become effective as soon as it reviewed by the checker and signed by the approver and stamped.
5. 委托方对报告数据如有异议, 请于报告完成之日起十五日内向本单位书面提出复测申请, 同时附上报告原件并预付复测费。
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The transport means of goods should be as the same as that declared in the report, as in case of different transport means of goods the results may be different.

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- (4) 报告所盖防伪骑缝章中的一部分加盖于本单位的留底报告上, 报告与本单位留底报告的骑缝章应拼合完整无缺。



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货物运输条件鉴定书

Certification for Safe Transport of Goods

样品名称及型号 Sample Name & Model	Rechargeable Li-ion Battery 型号: H18650CH 3.6V 2600mAh 9.36Wh			
	Rechargeable Li-ion Battery Model: H18650CH 3.6V 2600mAh 9.36Wh			
委托单位 Applicant	长虹格兰博科技股份有限公司			
	ChangHong Grand-Pro Tech Co., Ltd.			
生产单位 Manufacturer	长虹格兰博科技股份有限公司			
	ChangHong Grand-Pro Tech Co., Ltd.			
检验方法、程序 Inspection method and procedure	国际航空运输协会《危险品规则》(62版); IATA Dangerous Goods Regulations (DGR) 62 nd Edition			
电池信息 Battery information	电池种类/Battery type	锂离子电池芯 Lithium ion cell battery		
	型号规格/Model	H18650CH 3.6V 2600mAh 9.36Wh		
	外观/Appearance	蓝色/Blue 69.5mm×19.0mm		
包装件信息 Package information	尺寸/Size	390mm(L)×310mm(W)×290mm(H)		
	电池净重/Battery net weight	4.92kg		
	电池个数/Battery number	100pcs		
	放置方式/ Placement	只有电池/Battery only		
鉴定结果 Identification conclusion	<p>1. 危险性识别 (Hazard identification) 杂项。Miscellaneous.</p> <p>2. 按照国际航空运输协会《危险品规则》办理类项 (Suggestion according to IATA DGR) Shipping name: Lithium ion batteries Class or division: 9 UN Number: UN3480 该物品满足包装说明 965 第 IB 部分。 The goods are in compliance with the packaging instruction 965 section IB.</p> <p>3. 包装要求 (Packaging requirements) 根据包装说明 965 第 IB 部分办理。 The goods are packaged according to the packaging instruction 965 section IB. 仅限货机。Cargo Aircraft Only.</p>			
检验日期 Inspection date	2021-04-25 ~ 2021-04-27		签发日期 Issue Date	2021-04-27
备注 Comment	本报告有效期至 2021 年 12 月 31 日。 The report is valid until December 31, 2021.			

 主检人 :
 (Appraiser)

 审核人 :
 (Checker)

 批准人 :
 (Approver)



货物运输条件鉴定书

Certification for Safe Transport of Goods

序号 No.	检验结果及其他事项 Inspection results and other things
1	<p>客户声明 Consignor announcement:</p> <p>a. 本报告所述锂电池不属于因安全原因被制造商召回的锂电池, 或运输前不能预先判断为损坏或有缺陷的锂电池。 Lithium cells and batteries listed in this report are not the defective cells or batteries returned to the manufacture for safety reasons or cannot be diagnosed as damaged or defective prior to transport.</p> <p>b. 本报告所述锂电池不进行以回收或处置为目的的航空运输, 不属于废弃锂电池。 Lithium cells and batteries listed in this report are not waste lithium cells and batteries, and they will not be shipped for recycling or disposal.</p> <p>c. 本报告所述锂电池按照《危险品规则》3.9.2.6.1(e)规定的质量管理体系进行制造。 Lithium cells and batteries listed in this report were manufactured under the quality management programme as described in DGR 3.9.2.6.1(e).</p> <p>d. 提交运输的锂离子电池芯和电池荷电状态(SoC)不超过其额定容量的 30%。 Lithium ion cells and batteries must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated capacity.</p>
2	<p>a. 本报告所述锂电池已通过联合国《试验和标准手册》第 III 部分 38.3 小节相应测试要求。(报告编号: MPI0IVQC630747U5) Lithium cells and batteries listed in this report are of the types proved to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3. (Report No.: MPI0IVQC630747U5)</p> <p>b. 电池或电池组的制造商和代理商已提供《试验和标准手册》第三部分第 38.3 小节第 38.3.5 段规定的测试概要。见(报告编号: MPI0IVQC630757U4) Manufacturers and subsequent distributors of cells or batteries have provided the test summary as specified in the UN Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5. see (Report No.: MPI0IVQC630757U4)</p> <p>c. 包装件能够承受 1.2 米跌落试验。(报告编号: MPIBM4IC757667U6) The package has passed the 1.2m drop test. (Report No.: MPIBM4IC757667U6)</p>
3	<p>a. 电池具有适当的防短路措施。这包括在同一包装件内防止与导电材料接触而导致短路。 Cells and batteries are properly protected to prevent short circuits. This includes protection against contact with electrically conductive materials within the same packaging that could lead to a short circuit.</p>



货物运输条件鉴定书

Certification for Safe Transport of Goods

序号 No.	检验结果及其他事项 Inspection results and other things
4	<p>a. 电池芯和电池必须包装在完全封闭的内包装中, 然后放入符合 5.0.2.4, 5.0.2.6.1 和 5.0.2.12.1 的坚固的刚性外包装中。 Cells and batteries must be packed in inner packagings that completely enclose the cell or battery and placed in a strong rigid outer packaging which conform to the provisions of 5.0.2.4, 5.0.2.6.1 and 5.0.2.12.1.</p> <p>b. 电池芯和电池禁止与第 1 类 (除 1.4S)、2.1 项、第 3 类、4.1 项或 5.1 项危险品放入同一外包装。 Cells and batteries must not be packed in the same outer packaging with other dangerous goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.</p> <p>c. 电池芯和电池包装件禁止与第 1 类 (除 1.4S)、2.1 项、第 3 类、4.1 项或 5.1 项危险品放入同一集合包装。 Packages containing cells or batteries must not be placed in an overpack with packages containing dangerous goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.</p>
5	<p>a. 按本规则 IB 部分托运的电池必须根据第 8 部分规定在托运人申报单中描述; 并且当使用航空货运单时, 货运单必须包含 8.2.1 和 8.2.2 中相关适用要求。 Cells or batteries shipped under the provisions of Section IB must be described on a Shipper's Declaration as set out in Section 8 and the air waybill, when used, must contain the applicable information required by 8.2.1 and 8.2.2.</p>
6	<p>a. 每个包装件除应贴有第 9 类锂电池危险性标签 (图 7.3.X) 和仅限货机标签 (图 7.4.B) 外, 还必须按 DGR 7.1.5.5 要求耐久和清晰地作锂电池标记 (图 7.1.C)。每个包装件必须依据 7.1.4.1(a) 和 (b) 的要求标记, 此外当需要时, 根据 7.1.4.1(c) 的要求将净重标注在包装件上。 Each package must be durably and legibly marked with the lithium battery mark (Figure 7.1.C) as required by DGR 7.1.5.5 in addition to the Class 9- Lithium Battery hazard label (Figure 7.3.X) and the cargo aircraft only label (Figure 7.4.B). Each package must be marked in accordance with the requirements of 7.1.4.1(a). and (b) and in addition the net weight when required by 7.1.4.1 (c) must be marked on the package.</p>
7	<p>a. 锂电池指南文件可在以下链接获得- https://www.iata.org/lithiumbatteries。 A lithium battery guidance document is available at the following link - https://www.iata.org/lithiumbatteries</p>

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样品图片 (Photo of the Sample):

电池 Battery

样品编号 / Sample No.: C757677U1



包装件 Package



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海运 By Sea

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INSPECTION
CNAS IB0279

货物运输条件鉴定书

Certification for Safe Transport of Goods

非限制性货物

Non-restricted Goods

样品名称及型号
(Sample Name &
Model)

Rechargeable Li-ion Battery 型号: H18650CH

Rechargeable Li-ion Battery Model: H18650CH

3.6V 2600mAh 9.36Wh

委托单位

长虹格兰博科技股份有限公司

(Applicant)

ChangHong Grand-Pro Tech Co., Ltd.

生产单位

长虹格兰博科技股份有限公司

(Manufacturer)

ChangHong Grand-Pro Tech Co., Ltd.

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货物运输条件鉴定书

Certification for Safe Transport of Goods

样品名称及型号 Sample Name & Model	Rechargeable Li-ion Battery 型号: H18650CH 3.6V 2600mAh 9.36Wh		
	Rechargeable Li-ion Battery Model: H18650CH 3.6V 2600mAh 9.36Wh		
委托单位 Applicant	长虹格兰博科技股份有限公司		
	ChangHong Grand-Pro Tech Co., Ltd.		
生产单位 Manufacturer	长虹格兰博科技股份有限公司		
	ChangHong Grand-Pro Tech Co., Ltd.		
检验方法、程序 Inspection method and procedure	国际海事组织《国际海运危险货物规则》(2018版)(Amendment 39-18) IMO International Maritime Dangerous Goods Code (2018 Edition) (Amendment 39-18)		
电池信息 Battery information	电池种类/Battery type	锂离子电池芯 Lithium ion cell battery	
	型号规格/Model	H18650CH 3.6V 2600mAh 9.36Wh	
	外观/Appearance	蓝色/Blue 69.5mm×19.0mm	
包装件信息 Package information	尺寸/Size	390mm(L)×310mm(W)×290mm(H)	
	毛重/Gross weight	6.50kg	
	电池个数/Battery number	100pcs	
	放置方式/Placement	只有电池/Battery only	
鉴定结果 Identification conclusion	<p>1. 危险性识别 (Hazard identification) 锂离子电池芯。 Lithium ion cell.</p> <p>2. 按照国际海事组织《国际海运危险货物规则》办理类项 (Suggestion according to IMO IMDG Code) 根据特殊规定 188, 该物品不受 IMO IMDG Code 其他规定限制。 The goods are not subject to other provisions of IMO IMDG Code according to special provision 188.</p> <p>3. 包装要求 (Packaging requirements) 普通包装。 Not restricted in IMO IMDG Code.</p>		
检验日期 Inspection date	2021-04-25 ~ 2021-04-27	签发日期 Issue Date	2021-04-27
备注 Comment	本报告有效期至 2021 年 12 月 31 日。 The report is valid until December 31, 2021.		

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Certification for Safe Transport of Goods

序号 No.	检验结果及其他事项 Inspection results and other things
1	<p>客户声明 Consignor announcement:</p> <p>a. 本报告所述锂电池不属于损坏或有缺陷的锂电池。 Lithium cells and batteries listed in this report are not identified as being damaged or defective.</p> <p>b. 本报告所述锂电池不属于以处置或回收为目的的运输。 Lithium cells and batteries listed in this report are not be transported for disposal or recycling.</p> <p>c. 本报告所述锂电池按照《国际海运危险货物规则》2.9.4.5 规定的质量管理体系进行制造。 Lithium cells and batteries listed in this report were manufactured under the quality management programme as described in IMDG Code 2.9.4.5.</p>
2	<p>a. 本报告所述锂电池已通过联合国《试验和标准手册》第 III 部分 38.3 小节相应测试要求。(报告编号: MPI0IVQC630747U5) Lithium cells and batteries listed in this report are of the types proved to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3. (Report No.: MPI0IVQC630747U5)</p> <p>b. 电池或电池组的制造商和代理商已提供《试验和标准手册》第三部分第 38.3 小节第 38.3.5 段规定的测试概要。见(报告编号: MPI0IVQC630757U4) Manufacturers and subsequent distributors of cells or batteries have provided the test summary as specified in the UN Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5. see (Report No.: MPI0IVQC630757U4)</p> <p>c. 包装件能够承受 1.2 米跌落试验。(报告编号: MPIBM4IC757667U6) The package has passed the 1.2m drop test. (Report No.: MPIBM4IC757667U6)</p>
3	<p>a. 锂电池芯或电池组装在完全封闭的内包装中, 再装入坚固的外包装。外包装需符合 4.1.1.1、4.1.1.2 和 4.1.1.5 规定。 Lithium cells and batteries are packed in inner packagings that completely enclose the cell or battery and placed in strong outer packagings which conform to the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.5.</p>



货物运输条件鉴定书

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序号 No.	检验结果及其他事项 Inspection results and other things
4	a. 电池具有适当的防短路措施。这包括在同一包装件内防止与导电材料接触而导致短路。 Cells and batteries are properly protected to prevent short circuits. This includes protection against contact with electrically conductive materials within the same packaging that could lead to a short circuit.
5	a. 每个包装件应贴锂电池标记, 见 5.2.1.10。 Each package shall be marked with the appropriate lithium battery mark, see 5.2.1.10.
6	a. 每个包装件毛重不得超过 30 千克。 Each package shall not exceed 30 kg gross mass.

本页以下空白 (The page below is blank)



样品图片 (Photo of the Sample):
 电池 Battery

样品编号 / Sample No.: C757687U1



包装件 Package



仅对原报告照片中的样品负责

Authenticate the photo on original report only

***报告结束 End of report ***



Pony Testing International Group

报告编号 Report ID: MPI0IVQC630757U4 Page 1 of 2

锂电池或锂电池组 UN38.3 试验概要

Lithium Cell or Battery UN38.3 Test Summary

单位信息 Company information

委托单位 Applicant:	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.		
生产商 Manufacturer	名称 Name	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.	
	地址 Address	中国湖南省郴州市苏仙区白露塘镇石虎大道与林经二路交汇处 Intersection of Shihu Ave.and Linjing 2nd Rd.SuXian District, Chenzhou, Hunan, China.	
	电话 Tel.	0735-2668188	
	邮箱 E-mail	zhoujiazhen@grand-pro.cn	
	网址 Website	---	
测试单位 Test Lab.	名称 Name	谱尼测试集团深圳有限公司 Pony Testing Group Shenzhen Co., Ltd.	
	地址 Address	深圳市宝安区福海街道桥头社区永和路鑫豪盛工业园 1 栋、2 栋 3 层 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China	
	电话 Tel.	86-755-26050909	
	邮箱 E-mail	cst@ponytest.com	
	网址 Website	www.ponytest.com	

样品信息 Sample information:

样品名称 Sample name	Rechargeable Li-ion Battery	样品型号 Sample model	H18650CH
原始测试型号 Original tested type	/	产品参数 Sample parameter	3.6V 2600mAh
样品质量 Sample mass	49.24g	额定瓦时 Watt-hour rating	9.36Wh
电池或电池组类型 cell or battery type	单电芯锂离子电池 Single cell lithium ion battery	物理形状 Physical description:	蓝色圆柱形 Blue Cylindrical
原 UN38.3 报告编号 Original UN38.3 report No.	/	测试报告日期 Test report date	/
UN38.3 报告编号 UN38.3 Report No.	MPI0IVQC630747U5	报告日期 Report date	2021-04-27



No.: MPI0IVQC630757U4

Code: gy3dx2gfxs

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测试方法 Test method:

《试验和标准手册》第七修订版第III部分 38.3 章节
 Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.7 Part III sub-section 38.3)

测试项目及结论 Test item & conclusion:

测试项目 Test item	结论 Conclusion	测试项目 Test item	结论 Conclusion
T1: 高度模拟 Altitude Simulation	通过 Pass	T5: 外部短路 External short circuit	通过 Pass
T2: 温度试验 Thermal test	通过 Pass	T6: 撞击 Impact	通过 Pass
T3: 振动 Vibration	通过 Pass	T7: 过度充电 Overcharge	通过 Pass
T4: 冲击 Shock	通过 Pass	T8: 强制放电 Forced discharge	通过 Pass
38.3.3 (f)	不适用 Not Applicable	38.3.3 (g)	不适用 Not Applicable
样品图片 Sample Picture			
测试结论 Test Conclusion	测试样品符合《试验和标准手册》第七修订版第III部分 38.3 章节要求。 The tested samples meet the requirements of test items of the Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Part III sub-section 38.3.		
备注 Remark	/		
签名 Signature	 刘伟 技术经理 Technical Manager	签发日期 Issue date	2021-04-27

**PONY**

Pony Testing International Group

报告编号(Report ID): MPI0IVQC630747U5

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CNAS L3192

UN38.3 测试报告

UN38.3 Test Report

样品名称及型号

Rechargeable Li-ion Battery 型号: H18650CH

Sample Name &

Rechargeable Li-ion Battery Model: H18650CH

Model

(3.6V 2600mAh 9.36Wh)

委托单位

长虹格兰博科技股份有限公司

Applicant

ChangHong Grand-Pro Tech Co., Ltd.

生产单位

长虹格兰博科技股份有限公司

Manufacturer

ChangHong Grand-Pro Tech Co., Ltd.

P O N Y 谱尼测试
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I、样品描述 Sample Description

样品名称 Sample name	Rechargeable Li-ion Battery	样品型号 Sample model	H18650CH
委托单位 Applicant	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.		
生产商 Manufacturer	名称 Name	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.	
	地址 Address	中国湖南省郴州市苏仙区白露塘镇石虎大道与林经二路交汇处 Intersection of Shihu Ave. and Linjing 2nd Rd. SuXian District, Chenzhou, Hunan, China.	
	电话 Tel.	0735-2668188	
	邮箱 E-mail	zhoujiazhen@grand-pro.cn	
	网址 Website	---	
标称电压 Nominal voltage	3.6V	额定容量 Rated capacity	2600mAh
充电电流 Charge current	520mA	最大连续充电电流 Maximum continuous charge current	2600mA
充电限制电压 Limited charge voltage	4.2V	充电截止电流 End charge current	26mA
放电终止电压 Discharge Cut-off voltage	2.75V	最大放电电流 Maximum discharge current	2600mA
放电电流 Discharge current	520mA	质量 Mass	49.24g
电池芯生产厂家 Manufacturer of cell	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.		
电池芯型号 Cell model	H18650CH	电池芯个数 Cell number	1PCS
电池芯标称电压 Cell nominal voltage	3.6V	电池芯额定容量 Cell rated capacity	2600mAh
委托日期 Entrust date	2021-04-13	完成日期 Finished date	2021-04-27

II、测试标准 Test Standard

《试验和标准手册》第七修订版第III部分 38.3 章节

Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.7 Part III sub-section 38.3)



III、测试项目及结论 Test Item & Conclusion

测试项目 Item	测试样品编号 Sample Number	结论 Conclusion
T.1 高度模拟 Altitude simulation	N1~N5 C1~C5	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 Impact	N6~N10 C6~C10	通过 PASS
T.7 过度充电 Overcharge	N11~N14 C11~C14	通过 PASS
T.8 强制放电 Forced discharge	N15~N24 C15~C24	通过 PASS

经测试, 该样品符合《试验和标准手册》(ST/SG/AC.10/11/Rev.7), 第 III 部分 38.3 章节要求。
 The Samples has passed the test items of Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.7), Part III sub-section 38.3.

说明 Notes

- N1~N5, N11~N14 为第一个充放电周期完全充电状态的单电芯电池
 Single cell batteries at first cycle in fully charged states
- N6~N10 为第一个充放电周期 50%设计额定容量状态的电池芯
 Cells at first cycle at 50% of the design rated capacity
- N15~N24 为第一个充放电周期完全放电状态的电池芯
 Cells at first cycle in fully discharged states
- C1~C5, C11~C14 为 25 个充放电周期后完全充电状态的单电芯电池
 Single cell batteries after 25 cycles ending in fully charged states
- C6~C10 为 25 个充放电周期 50%设计额定容量状态的电池芯
 Cells after 25 cycles at 50% of the design rated capacity
- C15~C24 为 25 个充放电周期后完全放电状态的电池芯
 Cells after 25 cycles ending in fully discharged states

主检

Tested by:

审核

Checker by:

批准

Approver by:

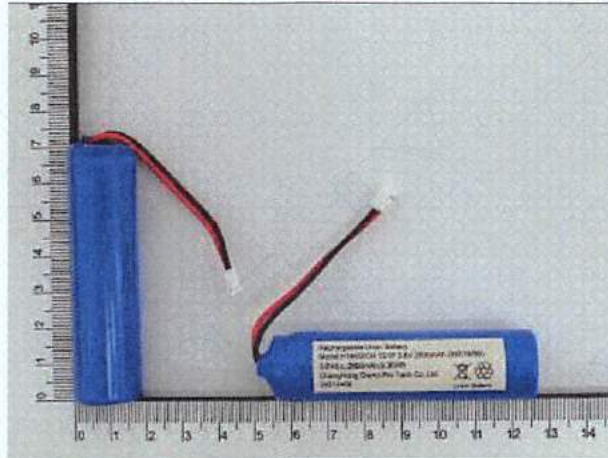
技术经理 Technical Manager

签发日期 Issue date 2021-04-27



IV、样品照片 Photo of The Sample

样品编号/Sample No.: C630747U5



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V、测试方法 Test Method

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.

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, 以便测试经过充放电的电池组。

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

质量损失依照下式计算:

Mass loss 质量损失 (%) = $(M_1 - M_2) / M_1 \times 100$

Where M_1 is the mass before the test and M_2 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 M_1 是试验前的质量, M_2 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”。

Mass M of cell or battery 电池或电池组质量 M	Mass loss limit 质量损失限值
$M < 1g$	0.5%
$1g \leq M \leq 75g$	0.2%
$M > 75g$	0.1%

T.1 Altitude simulation 高度模拟

Test cells and batteries shall be stored at a pressure of 11.6kPa or less for at least six hours at ambient temperature ($20^\circ\text{C} \pm 5^\circ\text{C}$).

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.

试验电池和电池组应在压力等于或低于 11.6 千帕和环境温度 ($20^\circ\text{C} \pm 5^\circ\text{C}$) 下存放至少 6 小时。

要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火, 并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。



T.2 Thermal test 温度试验

Test cells and batteries are to be stored for at least six hours at a test temperature equal to $72^{\circ}\text{C} \pm 2^{\circ}\text{C}$, followed by storage for at least six hours at a test temperature equal to $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$. 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 ($20^{\circ}\text{C} \pm 5^{\circ}\text{C}$). For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours.

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.

试验电池和电池组应先在试验温度等于 $72^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 的条件下存放至少 6 小时, 接着再在试验温度等于 $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 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, 接着将所有试验电池和电池组在环境温度 ($20^{\circ}\text{C} \pm 5^{\circ}\text{C}$) 下存放 24 小时。对于大型电池和电池组, 暴露于极端试验温度的时间至少应为 12 小时。

要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火, 并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。

T.3 Vibration 振动

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 7Hz and 200Hz and back to 7Hz 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.

The logarithmic frequency sweep shall differ for cells and batteries with a gross mass of not more than 12kg (cells and small batteries), and for batteries with a gross mass of more than 12kg (large batteries).

For cells and small batteries: from 7Hz a peak acceleration of $1g_n$ is maintained until 18Hz is reached. The amplitude is then maintained at 0.8mm (1.6mm total excursion) and the frequency increased until a peak acceleration of $8g_n$ occurs (approximately 50Hz). A peak acceleration of $8g_n$ is then maintained until the frequency is increased to 200Hz.

For large batteries: from 7Hz to a peak acceleration of $1g_n$ is maintained until 18Hz is reached. The amplitude is then maintained at 0.8mm (1.6mm total excursion) and the frequency increased until a peak acceleration of $2g_n$ occurs (approximately 25Hz). A peak acceleration of $2g_n$ is then maintained until the frequency is increased to 200Hz.



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 after testing in its 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.

电池和电池组紧固于振动机平台, 但不得造成电池变形, 并能准确可靠地传播振动。振动应是正弦波形, 对数扫描频率在 7 赫兹和 200 赫兹之间, 再回到 7 赫兹, 跨度为 15 分钟。这一振动过程须对三个互相垂直的电池安装方位的每一方向重复进行 12 次, 总共为时 3 小时。其中一个振动方向必须与端面垂直。

作对数式频率扫描, 对总质量不足 12 千克的电池和电池组 (电池和小型电池组), 和对 12 千克及更大的电池组 (大型电池组) 有所不同。

对电池和小型电池组: 从 7 赫兹开始, 保持 $1g_n$ 的最大加速度, 直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米 (总偏移 1.6 毫米), 并增加频率直到最大加速度达到 $8g_n$ (频率约为 50 赫兹)。将最大加速度保持在 $8g_n$ 直到频率增加到 200 赫兹。

对大型电池组: 从 7 赫兹开始, 保持 $1g_n$ 的最大加速度, 直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米 (总偏移 1.6 毫米), 并增加频率直到最大加速度达到 $2g_n$ (频率约为 25 赫兹)。将最大加速度保持在 $2g_n$ 直到频率增加到 200 赫兹。

要求电池和电池组试验中和试验后无渗漏、无排气、无解体、无破裂和无起火, 并且每个试验电池或电池组在第三个垂直安装方位上的试验后测得的开路电压不小于在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。

T.4 Shock 冲击

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 shall be subjected to a half-sine shock of peak acceleration of $150g_n$ and pulse duration of 6 milliseconds. Alternatively, large cells may be subjected to a half-sine shock of peak acceleration of $50g_n$ and pulse duration of 11 milliseconds.

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.

试验电池和电池组用坚硬支架紧固在试验装置上, 支架支撑着每个试验电池组的所有安装面。

每个小型电池必须经受峰值加速度 $150g_n$ 和脉冲持续时间 6 毫秒的半正弦波冲击。针对大型电池必须经受最大加速度 $50g_n$ 和脉冲持续时间 11 毫秒的半正弦波冲击。

每个电池须经受的正弦波冲击的最低限度最大加速度依照下式计算。对于小型电池组的脉冲持续时间应为 6 毫秒, 对于大型电池组的脉冲持续时间应为 11 毫秒。



Battery 电池组	Minimum peak acceleration 最小峰值加速度	Pulse duration 脉冲持续时间
Small batteries 小型电池组	150g _n or result of formula 150g _n 或公式计算结果 $\text{Acceleration 加速度 (g}_n\text{)} = \sqrt{\left(\frac{100850}{\text{mass / 质量}^*}\right)}$ Whichever is smaller 中的较小值	6ms
Large batteries 大型电池组	150g _n or result of formula 50g _n 或公式计算结果 $\text{Acceleration 加速度 (g}_n\text{)} = \sqrt{\left(\frac{30000}{\text{mass / 质量}^*}\right)}$ Whichever is smaller 中的较小值	11ms

* Mass is expressed in kilograms /质量单位用千克计算

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.

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.

每个电池或电池组须在三个互相垂直的安装方位的正方向经受三次冲击, 接着在反方向经受三次冲击, 总共经受 18 次冲击。

要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火, 并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。

T.5 External short circuit 外部短路

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



external resistance of less than 0.1 ohm. This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to $57^{\circ}\text{C} \pm 4^{\circ}\text{C}$, or in the case of the large batteries, has decreased by half of the maximum temperature increase observed during the test and remains below that value. The short circuit and cooling down phases shall be conducted at least at ambient temperature.

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.

待测试的电池或电池组应加热一段必要时间,以从外壳测量的温度达到均匀稳定的 $57^{\circ}\text{C} \pm 4^{\circ}\text{C}$ 的温度,应对加热持续时间进行评估和记录;如果这种评估不可行,对于小型电池和小型电池组至少在 $57 \pm 4^{\circ}\text{C}$ 的环境下存放 6 小时,对于大型电池和大型电池组至少在 $57^{\circ}\text{C} \pm 4^{\circ}\text{C}$ 的环境下存放 12 小时。然后,电池或电池组在 $57^{\circ}\text{C} \pm 4^{\circ}\text{C}$ 的环境中,应接受一个外部总电阻小于 0.1 欧姆的短路条件。这一短路条件应在电池或电池组外壳温度回到 $57^{\circ}\text{C} \pm 4^{\circ}\text{C}$ 后继续至少 1 小时,或对于大型电池组其外壳温度降幅达试验中观察到最高温升幅的二分之一,并保持低于该值。进行短路和降温阶段试验的温度至少相当于环境温度。

要求电池和电池组外壳温度不超过 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 撞击

Impact (applicable to cylindrical cells not less than 18 mm in diameter)

The test sample cell or component cell is to be placed on a flat smooth surface. A $15.8 \pm 0.1\text{mm}$ 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 $9.1\text{kg} \pm 0.1\text{kg}$ mass is to be dropped from a height of $61 \pm 2.5\text{cm}$ 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.

The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the $15.8 \text{ mm} \pm 0.1\text{mm}$ diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact.

撞击 (适用于直径不小于 18 毫米的圆柱形电池)

试样电池或元件电池放在平坦光滑的表面上,一根 316 型不锈钢棒横放在试样中心,钢棒直径 15.8 毫米 ± 0.1 毫米,长度至少 6 厘米,或电池最长端的尺度,取二者之长者。将一块 9.1 千克 ± 0.1 千克的重锤从 61 厘米 ± 2.5 厘米高处跌落到钢棒和试样交叉处,使用一个几乎没有摩擦的、对落体重锤阻力最小的垂直轨道或管道加以控制。垂直轨道或管道用于引导落锤沿与水平支撑表面呈 90 度落下。

接受撞击的试样,纵轴应与平坦表面平行并与横放在试样中心的直径 15.8 ± 0.1 毫米弯曲表面的纵轴垂直。每一试样只经受一次撞击。



T.7 Overcharge 过度充电

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

(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.

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

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

充电电流必须是制造商建议的最大持续充电电流的两倍。试验的最小电压如下:

(a) 制造商建议的充电电压不大于 18 伏时, 试验的最小电压应是电池组最大充电电压的两倍或 22 伏两者中的较小者;

(b) 制造商建议的充电电压大于 18 伏时, 试验的最小电压应为最大充电电压的 1.2 倍。

试验应在环境温度下进行, 进行试验的时间应为 24 小时。

要求充电电池组在试验过程中和试验后 7 天内无解体, 无起火。

T.8 Forced discharge 强制放电

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.

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).

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.

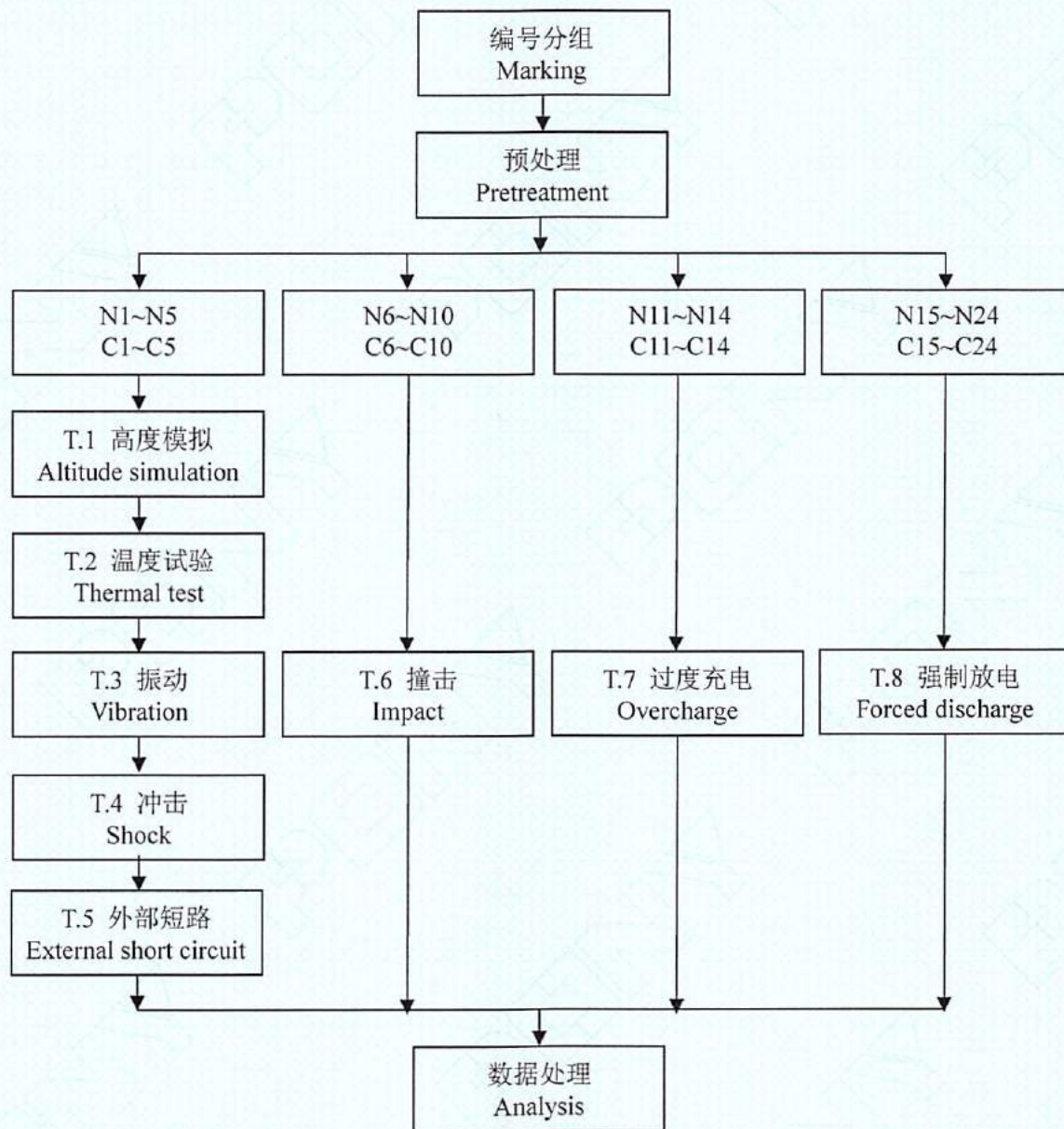
每个电池应在环境温度下与 12 伏直流电电源串联在起始电流等于制造商给定的最大放电电流的条件下强制放电。

将适当大小和额定值的电阻负荷与试验电池串联, 计算得出给定的放电电流。对每个电池进行强制放电, 放电时间 (小时) 应等于其额定容量除以初始试验电流 (安培)。

要求原电池或充电电池在试验过程中和试验后 7 天内无解体, 无起火。



VI、测试程序 Test Procedure





Pony Testing International Group

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VII、测试设备 Test Apparatus

IE-0121	高精度电池测试系统	High precision battery test system
IE-0434	真空干燥箱	Vacuum drying oven
IE-0090	万用表	Multimeter
IE-0824	高原空盒气压表	Tableland air pressure gauge
IE-0259	电子天平	Electronic balance
IE-0219	快速温变箱	Rapid temperature change test chamber
IE-0128	电动振动试验系统	Electric vibration test system
IE-0664	气动垂直冲击试验台	Pneumatic vertical impact testing platform
IE-0281	温控短路试验机	Temperature controlled short circuit testing machine
IE-0185	数字温度表(电热偶)	The digital thermometer (TC)
IE-0568	多功能数字式毫欧计	Multi-function digital milliohmeter
IE-0833	电池重物冲击试验机	Battery heavy shock testing machine
IE-0511	可编程直流电源	Programmable DC power source



VIII、测试数据 Test Data

T.1 高度模拟 Altitude simulation

编号 No.	测试前 Pre-test		测试后 After test		质量亏损 Mass loss (%)	电压亏损 Voltage loss (%)	有无泄露, 排气, 解体, 破裂和起火 Whether leakage, venting, disassembly, rupture, fire (Yes/No)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
N1	48.958	4.195	48.957	4.194	0.002	0.024	无 (No)
N2	48.932	4.195	48.931	4.195	0.002	0.000	无 (No)
N3	48.955	4.195	48.955	4.195	0.000	0.000	无 (No)
N4	48.701	4.196	48.700	4.195	0.002	0.024	无 (No)
N5	48.644	4.195	48.644	4.194	0.000	0.024	无 (No)
C1	48.917	4.194	48.917	4.193	0.000	0.024	无 (No)
C2	48.865	4.196	48.864	4.195	0.002	0.024	无 (No)
C3	48.843	4.196	48.843	4.195	0.000	0.024	无 (No)
C4	49.035	4.196	49.033	4.195	0.004	0.024	无 (No)
C5	48.855	4.196	48.855	4.195	0.000	0.024	无 (No)

T.2 温度试验 Thermal test

编号 No.	测试前 Pre-test		测试后 After test		质量亏损 Mass loss (%)	电压亏损 Voltage loss (%)	有无泄露, 排气, 解体, 破裂和起火 Whether leakage, venting, disassembly, rupture, fire (Yes/No)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
N1	48.957	4.194	48.946	4.146	0.022	1.144	无 (No)
N2	48.931	4.195	48.920	4.146	0.022	1.168	无 (No)
N3	48.955	4.195	48.944	4.144	0.022	1.216	无 (No)
N4	48.700	4.195	48.689	4.149	0.023	1.097	无 (No)
N5	48.644	4.194	48.632	4.144	0.025	1.192	无 (No)
C1	48.917	4.193	48.905	4.146	0.025	1.121	无 (No)
C2	48.864	4.195	48.852	4.145	0.025	1.192	无 (No)
C3	48.843	4.195	48.832	4.147	0.023	1.144	无 (No)
C4	49.033	4.195	49.022	4.147	0.022	1.144	无 (No)
C5	48.855	4.195	48.843	4.148	0.025	1.120	无 (No)



T.3 振动 Vibration

编号 No.	测试前 Pre-test		测试后 After test		质量亏损 Mass loss (%)	电压亏损 Voltage loss (%)	有无泄露, 排气, 解体, 破裂和起火 Whether leakage, venting, disassembly, rupture, fire (Yes/No)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
N1	48.946	4.146	48.945	4.146	0.002	0.000	无 (No)
N2	48.920	4.146	48.919	4.145	0.002	0.024	无 (No)
N3	48.944	4.144	48.943	4.143	0.002	0.024	无 (No)
N4	48.689	4.149	48.688	4.148	0.002	0.024	无 (No)
N5	48.632	4.144	48.631	4.144	0.002	0.000	无 (No)
C1	48.905	4.146	48.905	4.146	0.000	0.000	无 (No)
C2	48.852	4.145	48.851	4.145	0.002	0.000	无 (No)
C3	48.832	4.147	48.832	4.146	0.000	0.024	无 (No)
C4	49.022	4.147	49.021	4.145	0.002	0.048	无 (No)
C5	48.843	4.148	48.843	4.146	0.000	0.048	无 (No)

T.4 冲击 Shock

编号 No.	测试前 Pre-test		测试后 After test		质量亏损 Mass loss (%)	电压亏损 Voltage loss (%)	有无泄露, 排气, 解体, 破裂和起火 Whether leakage, venting, disassembly, rupture, fire (Yes/No)
	质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
N1	48.945	4.146	48.945	4.146	0.000	0.000	无 (No)
N2	48.919	4.145	48.918	4.145	0.002	0.000	无 (No)
N3	48.943	4.143	48.943	4.143	0.000	0.000	无 (No)
N4	48.688	4.148	48.688	4.148	0.000	0.000	无 (No)
N5	48.631	4.144	48.630	4.144	0.002	0.000	无 (No)
C1	48.905	4.146	48.904	4.146	0.002	0.000	无 (No)
C2	48.851	4.145	48.851	4.145	0.000	0.000	无 (No)
C3	48.832	4.146	48.832	4.146	0.000	0.000	无 (No)
C4	49.021	4.145	49.021	4.144	0.000	0.024	无 (No)
C5	48.843	4.146	48.843	4.146	0.000	0.000	无 (No)



T.5 外部短路 External short circuit

编号 No.	最高温度 Peak temperature (°C)	有无解体, 破裂, 起火 Whether disassembly, rupture, fire (Yes/No)
N1	57.2	无 (No)
N2	57.6	无 (No)
N3	57.3	无 (No)
N4	57.6	无 (No)
N5	57.2	无 (No)
C1	57.8	无 (No)
C2	57.2	无 (No)
C3	57.8	无 (No)
C4	57.4	无 (No)
C5	57.6	无 (No)

T.6 撞击 Impact

编号 No.	测试前电压 Pre-test Voltage (V)	最高温度 Peak temperature (°C)	有无解体, 起火 Whether disassembly, fire (Yes/No)
N6	3.677	122.6	无 (No)
N7	3.677	124.0	无 (No)
N8	3.679	123.5	无 (No)
N9	3.680	121.8	无 (No)
N10	3.678	124.1	无 (No)
C6	3.680	122.3	无 (No)
C7	3.680	123.5	无 (No)
C8	3.679	121.6	无 (No)
C9	3.678	124.6	无 (No)
C10	3.678	121.3	无 (No)



T.7 过度充电 Overcharge

编号 No.	测试前电压 Pre-test Voltage (V)	有无解体, 起火 Whether disassembly, fire (Yes/No)
N11	4.195	无 (No)
N12	4.196	无 (No)
N13	4.196	无 (No)
N14	4.194	无 (No)
C11	4.196	无 (No)
C12	4.196	无 (No)
C13	4.196	无 (No)
C14	4.195	无 (No)

T.8 强制放电 Forced discharge

编号 No.	测试前电压 Pre-test Voltage (V)	有无解体, 起火 Whether disassembly, fire (Yes/No)
N15	3.457	无 (No)
N16	3.452	无 (No)
N17	3.457	无 (No)
N18	3.457	无 (No)
N19	3.457	无 (No)
N20	3.447	无 (No)
N21	3.449	无 (No)
N22	3.452	无 (No)
N23	3.457	无 (No)
N24	3.453	无 (No)
C15	3.453	无 (No)
C16	3.456	无 (No)
C17	3.449	无 (No)
C18	3.453	无 (No)
C19	3.457	无 (No)
C20	3.457	无 (No)
C21	3.456	无 (No)
C22	3.457	无 (No)
C23	3.449	无 (No)
C24	3.453	无 (No)

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报告编号(Report ID): MPIBM4IC757667U6



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CNAS L3192

1.2 米 跌落测试报告

1.2m Drop Test Report

样品名称及型号
Sample Name &
Model

Rechargeable Li-ion Battery 型号: H18650CH
Rechargeable Li-ion Battery Model: H18650CH

委托单位
Applicant

长虹格兰博科技股份有限公司
ChangHong Grand-Pro Tech Co., Ltd.

生产单位
Manufacturer

长虹格兰博科技股份有限公司
ChangHong Grand-Pro Tech Co., Ltd.

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I、样品描述 Sample Description

样品名称 Sample name	Rechargeable Li-ion Battery	样品型号 Sample model	H18650CH
委托单位 Applicant	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.		
生产单位 Manufacturer	长虹格兰博科技股份有限公司 ChangHong Grand-Pro Tech Co., Ltd.		
标称电压 Nominal voltage	3.6V	额定容量 Rated capacity	2600mAh
外包装 Outer package	牛卡纸 Craft paper	内包装 Inner package	塑料袋、隔条、纸盒 Plastic bags, strips, cartons
包装尺寸 Dimensions	390×310×290mm	衬垫材料 Cushion	珍珠棉 EPE
整箱重量 Gross weight	6.50kg	电池数量 Battery number	100 个/箱(Pcs/packing)
委托日期 Entrust date	2021-04-25	完成日期 Finished date	2021-04-27
包装方式 Packaging type	包装箱内含锂电池 Package including lithium batteries		

II、测试标准 Test Standard

联合国《关于危险货物运输的建议书 规章范本》(ST/SG/AC.10/1/Rev.21), 6.1.5.3 章节和 3.3 章特殊规定 188 条款

UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Model Regulations (ST/SG/AC.10/1/Rev.21), sub-section 6.1.5.3 and Chapter 3.3 special provisions 188

III、测试项目及结论 Test Item & Conclusion

测试项目 Item	结论 Conclusion
1.2 米跌落试验 1.2m Drop test	合格 PASS

主检

Tested by:

林艳

审核

Checker by:

孙旭

批准

Approver by:

邱知松

签发日期 Issue date 2021-04-27

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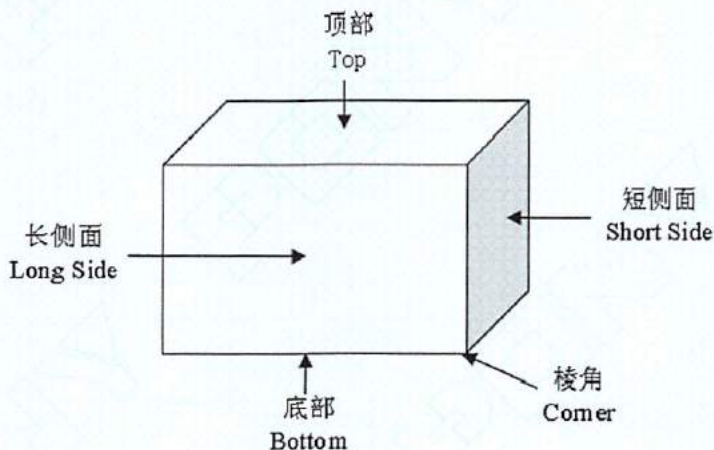
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IV、测试方法 Test Method

该包装件能够承受 1.2 米跌落试验, 其内装的电池没有受损, 没有造成内装物移动, 以致电池与电池互相接触, 并且没有内装物释出。

This package is capable of withstanding a 1.2m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery contact and without release of contents.



V、测试设备 Test Apparatus

IE-0279 跌落试验机

Drop test machine

IE-0178 CNS·TC 系列电子计数秤

CNS·TC series electronic counting scales

IE-0766 钢卷尺

Steel tapeline

VI、测试数据 Test Data

1.2 米跌落 1.2m Drop test	顶部 Top	底部 Bottom	长侧面 Long Side	短侧面 Short Side	棱角 Corner
测试结果 Test Result	1. 包装件内的电池没有破损或泄漏 Without damage to cells or batteries contained therein 2. 内装物没有移动, 并且没有导致电池与电池 (或电池芯与电池芯) 相互接触 Without shifting of the contents so as to allow battery to battery (or cell to cell) contact 3. 内装物没有泄漏 Without release of contents				
本项结论 Conclusion	被测试包装件能够承受 1.2 米跌落试验 The test package is capable of withstanding a 1.2m drop test in any orientation.				

包装件毛重 Gross Weight	6.50kg
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七、样品照片 Photo of The Sample
电池 Battery

样品编号/Sample No.: C757667U6



包装件 Package



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