



Test Report

Report No.: ZKS220400952-1

Date: May 06, 2022

Page 1 of 3

Applicant : Shenzhen TNT New Energy Technology Co., Ltd.
Address : Area A, 2 nd Floor, Office Building, Haogu Industrial Park, Guangming District, Shenzhen

Manufacturer : HUI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
Address : NO.2 Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.

Sample Name : Polymer Li-ion Battery
Sample Model : 103040
Add Model : 102540, 802540, 802040, 902040, 803030, 801350, 803048, 102050, 103450, 603040, 603030, 602040, 523450, 502030, 602535, 803450, 103443, 103665.

Receiving Date : Apr 25, 2022
Testing Period : Apr 25, 2022 to May 06, 2022
Test Requested : To determine Lead (Pb), Cadmium (Cd), Mercury (Hg) content in accordance with the 2006/66/EC and amendment 2013/56/EU Directives.
Test Methods : With reference to IEC 62321-4:2013/AMD 1:2017 and IEC 62321-5:2013, analysis was performed by ICP-OES.
Test Results : Please refer to next page(s)

Conclusion :	2006/66/EC and amendment 2013/56/EU Directives on batteries and accumulators on heavy metal content.	PASS
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Edited by: Lyndee Ai Reviewed by: Morgan Li Approved by: Terry Cao

Dongguan ZRLK Testing Technology Co., Ltd.

Address: Building 2, No. 1, Technology 10th Road, Songshan Lake Park, Dongguan City, Guangdong Province.

Telephone: +86-0769-26621775-8002 Email: terry@zrlklab.com Website: www.zrlklab.com





Test Report

Report No.: ZKS220400952-1

Date: May 06, 2022

Page 2 of 3

Test Results

Test Items	Results (%)	MDL (%)	Limit (%)
Lead (Pb)	ND	0.0002	0.0040
Cadmium (Cd)	ND	0.0002	0.0020
Mercury (Hg)	ND	0.0002	0.0005

Note :

1. MDL = Method detection limit.
2. ND = Not detected (lower than MDL).
3. The whole battery was tested together.
4. All batteries , accumulators and battery packs shall be marked with forked pulley dustbin.
5. If batteries, accumulators and button cells containing more than 0.0005% Mercury, or more than 0.0020% Cadmium, or more than 0.0040% Lead, the chemical conformity of metal that should exceed the limit under the marking of forked pulley dustbin is Hg, Cd and Pb, and the chemical conformity occupies at least one fourth of the area of the marking of forked pulley dustbin. If batteries or accumulators contain more than one of the above metals, the corresponding chemical conformity should be added separately.

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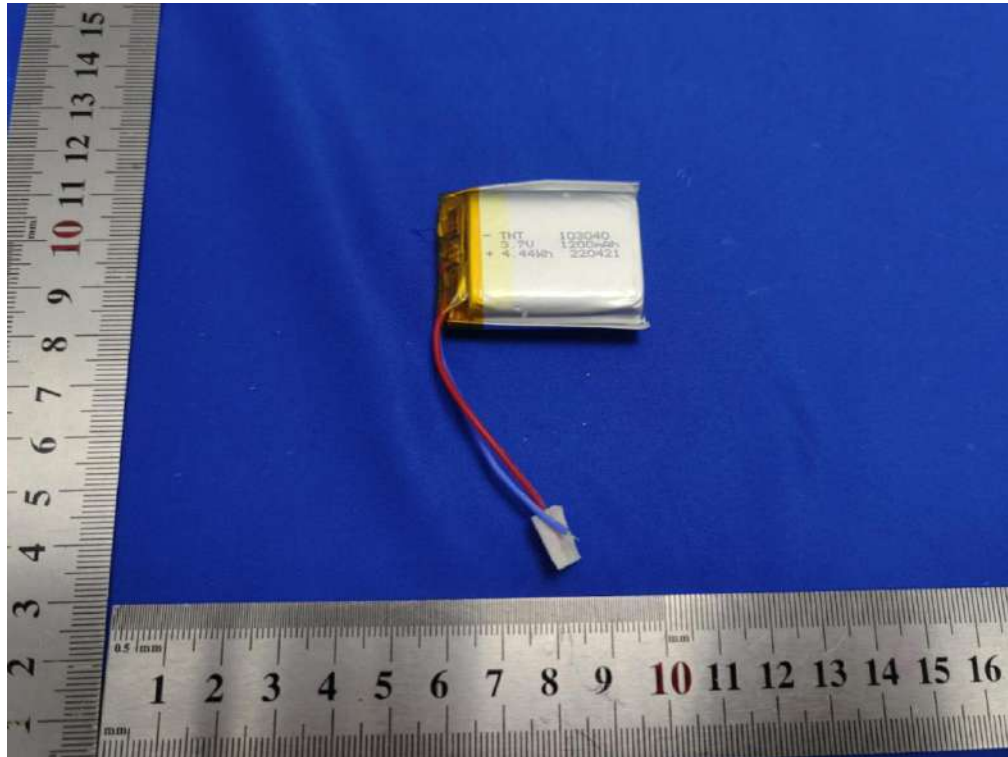
Test Report

Report No.: ZKS220400952-1

Date: May 06, 2022

Page 3 of 3

Sample Photo(s)



Statement

1. Report is invalid without the editor, the reviewer or the approver signature, or altered, or additions and deletions, or not stamped with a special seal.
2. This test report is only responsible for the sample of this acceptance.
3. If the applicant does not raise any objection within 15 working days after receiving the report, it shall be deemed to approve the report result.
4. If you want to check the report, please scan the QR code.

* * * End of report * * *

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中国认可
检验
INSPECTION
CNAS IB0078

危险物品
DANGEROUS GOODS

仅限货机运输

航空运输条件鉴别报告书

Identification and Classification Report for Air Transport of Goods

报告编号: PEKSZ202202088694FL490001

Issued No.:

生效日期: 2022. 02. 11

Effective Date:

此报告本年度有效
有效期至2022年12月31日

委托单位: 深圳市天能通科技有限公司

Applicant: Shenzhen TNT New Energy Technology Co., Ltd.

物品名称: 聚合物锂离子电芯 TN 502030 3.7V 250mAh 0.925Wh

Name of Goods: Polymer lithium ion Cell TN 502030 3.7V 250mAh 0.925Wh

北京迪捷姆空运技术开发有限公司

Beijing DGM Air Transport Technology Development Co., Ltd.



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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

网址：www.dgmchina.com.cn

E-mail: test@dgmchina.com.cn



项目编号 Item No.	PEKSZ202202088694	签发日期 Issued Date	2022. 02. 11
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	2022. 02. 10
鉴别依据 Identification Criteria	IATA DGR 63rd, 2022		
物品名称 Name of Goods	中文 Chinese	聚合物锂离子电池 芯 TN 502030 3.7V 250mAh 0.925Wh	
	英文 English	Polymer lithium ion Cell TN 502030 3.7V 250mAh 0.925Wh	
生产厂家 Manufacturer	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.		
件数 Pieces		注：本栏内容为托运人或其代理人在使用本报告书时候填写的运输信息，不属于鉴定内容。运输信息与报告书的关联性以及实际运输货物与报告书的一致性由托运人或其代理人保证，如发生任何不一致由托运人或其代理人承担全部责任。 (请认真填写本栏内容，并盖章) 负责人： 联系方式：	
运单号 Air waybill No.			
目的港 Destination			
物品信息 Nature of the goods	该样品为银色长方体电芯。 型号：TN 502030 尺寸：30.0×20.0×5.0mm 每包装件中电池/电芯数量：420 每包装件中电池/电芯净重：2.21kg 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：该锂电芯不属于召回的锂电芯且按照DGR3.9.2.6 (e)规定的质量体系进行制造。同时，该电芯已经做好防短路措施并装入坚固的包装内，电芯已固定且不能位移。单块电芯的重量约为5.25g。该电芯的UN38.3报告由东莞市中认联科检测技术有限公司出具，报告编号：ZKS210100028-1，1.2米跌落测试报告由东莞市中认联科检测技术有限公司出具，报告编号：ZKS210100028-3。该电芯由塑料袋单独包装，以防止短路。) 该电芯的UN38.3试验概要由北京迪捷姆公司出具，详见附页。 This sample is silver cuboid cell. Model: TN 502030 Size: 30.0×20.0×5.0mm Number of batteries / cells per package: 420 Net quantity of batteries/cells per package: 2.21kg 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.		PEKSZ202202088694			
物品名称 Name of Goods	中文 Chinese	聚合物锂离子电池 TN 502030 3.7V 250mAh 0.925Wh			
	英文 English	Polymer lithium ion Cell TN 502030 3.7V 250mAh 0.925Wh			
鉴别结论 Conclusions		该货物为锂离子/聚合物电芯，单独包装。额定瓦特小时为0.925Wh。已通过 UN38.3 测试，已通过包装件1.2米跌落试验，每个包装件上均有锂电池标记。 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 cell,packed individually.Watt-hour rating is 0.925Wh.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,Each package is marked with lithium battery mark. According to IATA DGR this substance is classified as dangerous goods Class (or division)9,UN3480.			
建议运输条件 Suggestion for Transport Condition	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		每一单电芯必须做好防短路措施，并装入坚固外包装内。 each single cell must be packed in such a way as to prevent short circuits under the normal conditions and packed in strong outer packing.			
主检员 Prepared by:		审核人 Checked by:		批准人 Approved by:	
冯柳		宋明		报告单位（盖章） Stamp	

制单： 冯柳



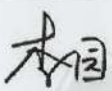
聚合物锂离子电池 TN 502030 3.7V 250mAh 0.925Wh

PEKSZ202202088694



锂电池 UN38.3 试验概要 Lithium Battery Test Summary

项目编号: PEKSZ202202088694

单位信息 Company Information					
委托单位 Consignor	深圳市天能通科技有限公司/Shenzhen TNT New Energy Technology Co.,Ltd. 深圳市光明区浩谷工业园办公大楼二楼 A 区/Area A, 2nd Floor, Office Building, Haogu Industrial Park, Guangming District, Shenzhen 电话/Tel: 18606619371 邮箱/Mail: 1162842272@qq.com 网址/Website: http://59419586.czvv.com/				
生产单位 Manufacturer	淮北天能通新能源科技有限公司/HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd. 安徽省淮北经济开发区新区一期创业园 2 号厂房/NO.2Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province. 电话/Tel: 18606619371 邮箱/Mail: 3456924117@qq.com 网址/Website: http://59419586.czvv.com/				
测试单位 Test Lab	东莞市中认联科检测技术有限公司/Dongguan ZRLK Testing Technology Co., Ltd. 广东省东莞市松山湖高新技术产业开发区工业西路 18 号锦裕源大厦 2 号楼 D 栋/ Building D, No.2, Jinyuyuan Mansion, No.18, Industrial West Road, Songshan Lake High-tech Industrial Development Zone, Dongguan, Guangdong, China 电话/Tel: +86-769-26621775 邮箱/Mail: Marketing@zrlklab.com 网址/Website: www.zrlklab.com				
电池信息 Battery Information					
名称 Name	聚合物锂离子电芯 Polymer lithium ion Cell	电池/电芯类别 Battery/Cell Classification		锂离子电芯 Li-ion Cell	
型号 Type	TN 502030	商标 Trademark		/	
额定电压(V) Normal Voltage(V)	3.7V	额定容量(mAh) Rated Capacity(mAh)		250mAh	
额定能量(Wh) Watt-hour rating (Wh)	0.925Wh	外观/Appearance		银色长方体 Silver Cuboid	
质量(g)/Mass(g)	5.249g	锂含量(g)/Li Content(g)		不适用 N/A	
测试信息 Test Information					
测试报告编号 Test Report Number	ZKS210100028-1	测试报告签发日期 Date of Test Report		2021-01-05	
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《关于危险货物运输的建议书-试验和标准手册》(第 6 版修订 1) 38.3 节 UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend 1/Subsection 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	不适用 N/A	T.8: 强制放电 Forced Discharge	通过 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		签发日期 Issued Date 2022.02.08		

此有效

此有效



货物运输条件鉴定报告书 Report for Safe Transport of Goods

货物名称: 聚合物锂离子电池 TN 502030
Name of Goods: Polymer lithium ion Cell TN 502030
委托单位: 深圳市天能通科技有限公司
Commission by: Shenzhen TNT New Energy Technology Co.,Ltd.
运输方式: 海运
Transportation: Marine



东莞市中认联科检测技术有限公司
Dongguan ZRLK Testing Technology Co., Ltd.





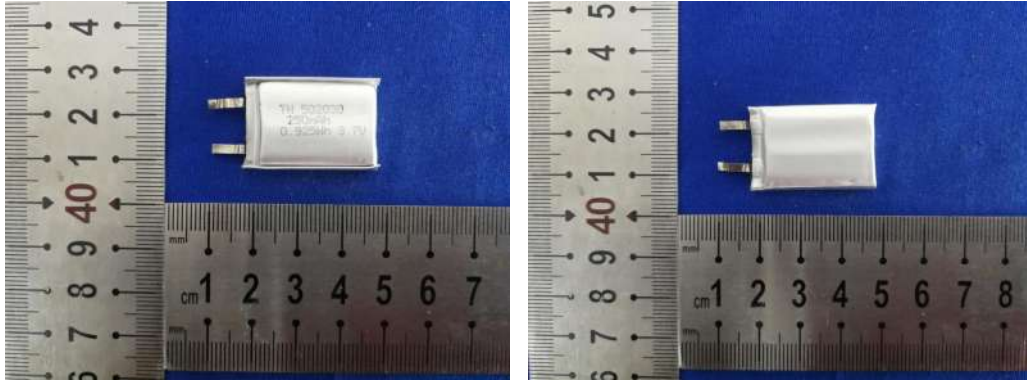
货物运输条件鉴定报告书
Report for Safe Transport of Goods

样品名称 Name of Goods	聚合物锂离子电芯 TN 502030 Polymer lithium ion Cell TN 502030
电池型号 Battery Mode	TN 502030
委托单位 Commissioned by	深圳市天能通科技有限公司 Shenzhen TNT New Energy Technology Co.,Ltd.
委托单位地址 Commissioner address	深圳市光明区浩谷工业园办公大楼二楼 A 区 Area A, 2nd Floor, Office Building, Haogu Industrial Park, Guangming District, Shenzhen
制造商 Manufacturer	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
制造商地址 Manufacturer address	安徽省淮北经济开发区新区一期创业园 2 号厂房 NO.2Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.
生产厂 Factory	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
生产厂地址 Factory Address	安徽省淮北经济开发区新区一期创业园 2 号厂房 NO.2Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.
鉴定依据 Inspection according to	国际海运危险货物规则 International Maritime Dangerous Goods Code 2020 Edition (Amdt.40-20)



鉴定结论 Certification		1. 危险品识别(Hazards identification) 无 None 2. 海运按照 IMO IMDG Code 办理的类项(Suggestion according to IMO IMDG Code) 可按非限制性货物条件办理。 The substance is not restricted to IMO IMDG Code according to special provision 188. 3. 包装要求(Packaging requirements) 无 None 4. 这种电池须牢固在内包装中, 以有效防止短路和防止可导致短路的移动; Such batteries must be packed in inner Packaging in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. 5. 本鉴定书依据的检测报告信息 Reference test reports for this certificate report. 锂电池 UN38.3 检测报告号: ZKS210100028-1 Lithium ion battery UN38.3 Test Report number: ZKS210100028-1 包装件 1.2m 跌落试验检测报告号: ZKS210100028-3 Package 1.2m Drop Test Report number: ZKS210100028-3 接样日期: 2022-01-26 签发日期: 2022-01-26			
编制 Compiler:	李镇宗 Henry Li	审核 Checker:	李思琪 Halley Li	批准 Approver:	马孝琴 Ailis Ma

图片 (Photos):
电池 Battery



包装件 Package





注意事项

Important Notice

1. 本鉴定书依据本年度《国际海运危险货物规则》，委托人(托运人或代理人)提供的物品及其运输信息出具。

This certification is issued according to 《International Maritime Dangerous Goods》 published in the current year, the information of the goods and its shipment provided by the applicant (shipper or his agent).

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The conclusion of this certification is responsible only for the sample provided by the applicant. The applicant should undertake the law responsibility that result from providing untruth sample and untruth information.

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The certification takes no account of the state and operator variations.

4. 本鉴定报告书涂改无效。

This report is invalid if altered.

5. 本鉴定报告书无负责人、审核人签名无效。

This report is invalid without the signatures of Approved and testing engineer.

6. 本鉴定报告仅在本年度内有效；

This report is only valid within this year;

单位：东莞市中认联科检测技术有限公司

Company: Dongguan ZRLK Testing Technology Co., Ltd.

地址：广东省东莞市松山湖高新技术产业开发区工业西路 18 号锦裕源大厦 2 号楼 D 栋

Address: Building D, No.2, Jinyuyuan Mansion, No.18, Industrial West Road, Songshan Lake High-tech Industrial Development Zone, Dongguan, Guangdong, China



化学品安全技术说明书 (MSDS)

委托方 Client	深圳市天能通科技有限公司 Shenzhen TNT New Energy Technology Co., Ltd.
委托方地址 Add. of Client	深圳市光明区浩谷工业园办公大楼二楼 A 区 Area A, 2nd Floor, Office Building, Haogu Industrial Park, Guangming District, Shenzhen
样品名称 Description	聚合物锂离子电芯 Polymer lithium ion cell
型号规格 Model/Type	TN 502030
标称电压 Nominal Voltage	3.7V
额定容量 Rated Capacity	250mAh
额定能量 Rated Energy	0.925Wh
制造厂 Manufacturer	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
制造厂地址 Add. Of Manufacturer	安徽省淮北经济开发区新区一期创业园 2 号厂房 No.2 Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.
技术依据 Reference documents	ISO 11014:2009 化学品安全技术说明书—内容和项目顺序 ISO 11014:2009 Safety data sheet for chemical products-Content and order of sections GB/T 16483-2008 化学品安全技术说明书 内容和项目顺序 GB/T 16483-2008 Safety data sheet for chemical products-Content and order of sections 国际航空运输协会《危险品规则》(第 63 版) IATA Dangerous Goods Regulation (63 rd) 国际海事组织《国际海运危险货物规则》(第 40-20 版) IMO International Maritime Dangerous Goods Code (40-20 edition)

出版日期 Issue Date	2022 年 01 月 26 号
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编写:



审核:



一. 样品信息 Sample information

样品名称 Sample Name	聚合物锂离子电芯 Polymer lithium ion cell	样品型号 Type	TN 502030
标称电压 Nominal voltage	3.7V	额定容量 Rated capacity	250mAh
样品外观 Shape	棱形 Prismatic		

二. 内容与说明 Content and instructions

1. 化学品及企业标识 Chemical product and company identification

化学品的名称 Name of chemical product		聚合物锂离子电芯 Polymer lithium ion cell
制造商 Manufacturer	名称 Name	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
	地址 Address	安徽省淮北经济开发区新区一期创业园 2 号厂房 No.2 Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.
	电话号码 Telephone number	+86-18606619371
	应急咨询电话 Emergency telephone number	+86-18606619371
	电子邮件 E-mail address	3456924117@qq.com

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This MSDS was prepared by Dongguan ZRLK Testing Technology Co., Ltd.



2. 危险性概述 Hazards identification

1) 主要的物理及化学危险性 Important Physical and chemical hazards

在强压变形、拆解、短路时有起火爆炸与化学烧伤等危险，在高温环境或放置于火焰环境中、超负荷使用时有起火爆炸危险。

When the battery is in extreme pressure deformation, high-temperature environment, overload, short-circuit condition, or disassemble the battery, an explosion of fire and chemical burn hazards may occur.

2) 对人体健康影响 Effects of the human health.

眼睛 Eyes

正常使用下无危害性，但在拆解、弯曲、短路可能会引起电池起火爆炸伤害眼睛。破损时挥发出气体会对眼睛产生刺激。

In normal condition, contact between the battery and eyes will not cause any harms. However, the gas Volatilize from a damaged battery may be harmful to eyes.

皮肤 Skin

正常情况下接触无对皮肤危害性。在电池破损情况下接触有可能引起化学烧伤或皮肤过敏发炎症状。

In normal condition, contact between the battery and skin will not cause any harms. Contact with a damaged battery may cause skin allergies or chemical burns.

吸入 Inhalation

完好电池并无挥发出可供吸入气体情况。破损时会挥发出微量气体会刺激呼吸道，严重者可能引起过敏反应。

A battery volatilizes no gas unless it was damaged. Damaged battery will volatilize little gas that may stimulate the respiratory tract or cause an anaphylaxis in serious condition.

食入 Ingestion

食入会对呼吸道产生伤害、对肠胃产生烧伤，严重会造成永久性损害

Swallowing battery will be damaged to the respiratory tract and cause chemical burns to the stomach; in serious conditions it will cause Permanent damage.

3. 成分/组成信息 Composition/information on ingredients

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
钴酸锂 Lithium Cobalt Oxide (LiCoO ₂)	35.5	12190-79-3
铝 Aluminum Foil (Al)	9	7429-90-5
聚偏氟乙烯树脂 1,1-Difluoroethylene polymer	1	24937-79-9
石墨 Graphite (C)	18	7782-42-5



铜 Copper Foil (Cu)	15	7440-50-8
丁苯橡胶 Styrene-Butadiene polymer	1.5	9003-55-8
六氟磷酸锂 /Lithium hexafluorophosphate	2.8	21324-40-3
碳酸乙烯酯 Ethylene carbonate	5	96-49-1
碳酸二甲酯 Dimelene carbonate	5	616-38-6
碳酸甲乙酯 Carbonate, methyl ethyl	5	623-53-0
镍/Nickel	2.2	7440-02-0

4. 急救措施 First-aid measures

眼睛 Eyes

如有接触损坏电池, 立即用清水清洗眼睛 15 分钟以上直至刺痛/刺激感消失为止, 并及时去就医。

If your eyes contact with a damaged battery, flush with copious amount of water for at least 15 minutes until the stinging and irritation subside, and Seek immediate medical attention.

皮肤 Skin

如有接触, 立即脱下被污染衣服并用大量清水冲洗皮肤或淋浴, 如灼伤感持续立刻去就医。

If your skin contact with a damaged battery, immediately take off contaminated clothing and flush your skin with copious amount of water or have a shower. Seek immediate medical attention if burning sensation continues.

吸入 Inhalation

立刻转移到空气新鲜环境下呼吸新鲜空气, 休息。如出现呼吸困难或头晕头痛等症状立刻请人陪同去就医。

Remove to fresh air immediately and have a rest, If you feel dyspnea, dizziness or headache, seek immediate medical attention.

食入 Ingestion

如果食入电池, 不要催吐且不要再吃下食物或喝饮料, 立刻就医

If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

5. 消防措施 Fire-fighting measures

此产品在强压弯曲或短路等情况下容易起火并冒出大量烟雾, 应正确使用并置于阴凉环境下, 避免放置在高温、日光照射及受重压的地方。如发生起火, 戴上防毒面具在条件允许情况下洒水或用灭火器让毗邻的未起火电池降温避免火势蔓延并用工具把起火电池和其他电池分离, 让其自然熄灭; 或用大量的水灭火, 但起火电池一般都会在内部化学物质反应完后火才熄灭下来。如果有电池起火火势较大, 立刻报火警并疏散人员到安全地方。

This battery can get fire easily and made a lot of smoke under the forced bending and short-circuit condition, so it should be properly used and placed in a cool environment and Avoid placing the battery package under heat,



pressure and direct sunlight. In the event of fire, wear gas masks and cool the adjacent batteries and control the spread of fire with water or extinguishers, separate the fire batteries with other batteries as conditions permit, let the fire naturally extinguished, otherwise put out the fire with lots of water. In normal condition the fire is not extinguished until the reactions that between the chemicals contained in the battery are completed. In the event of a big fire, report the fire immediately and evacuate to a safe place.

6. 泄漏应急处理 Accidental release measures

将溢漏物与电池清扫, 并放进干燥可密闭的金属容器或材质不易燃的容器中, 交由电池回收企业进行环保处理。避免电池弃扔到自然环境中。

Clean the spills and batteries, place them in a dry sealed metal container or nonflammable material container, and bring them to battery recycling companies to deal with environmental protection. Do not throw away the damaged batteries or waste batteries.

7. 操作处置与储存 Handling and storage

操作 Handling

不能擅自组装拆解电池或短路, 不能让电池接近火源。运输电池应避免暴力装卸电池货物、避免电池受到挤压或剧烈振动。

Do not assemble and disassemble a battery, battery short-circuit is not allowed too. Keep the battery away from the fire. When transporting these batteries, the battery should be careful handling to avoid the battery being squeezed or excessive vibration.

储存 Storage

长时间存储前先充满电。电池应储存于阴凉环境中。

The battery should be fully charged before long term storage. The battery should be stored in a cool environment.

8. 接触控制和个体防护 Exposure controls/Personal Protection

工程控制 Engineering control

选择合理的通风设备, 足够量的防毒面具灭火器及水源, 配备存放泄漏电池的金属容器。配备洗浴设备。Choose the suitable ventilation equipment; provide sufficient quantity of fire extinguishers, gas mask and water; equip with metal storage containers and bathing equipments.

呼吸系统防护 Respiratory protection

正常情况下无必要作防护 Normally there is no need to do protection.

眼睛防护 Eye protection

正常情况下无必要作防护 Normally there is no need to do protection.

身体和皮肤防护 The body and skin protection

正常情况下无必要作防护 Normally there is no need to do protection.



9. 理化特性 Physical and chemical properties

物品外观与形状 Object appearance and shape

棱形 Prismatic

气味 Odour

无 None

10. 稳定性和反应性 Stability and reactivity

稳定性 Stability

正常环境下稳定。 Stable under the regular environment.

应避免的条件 Should avoid conditions

高温或过湿环境, 撞击震动或受挤压, 正负极反接使用。

High temperature, wet environment, mechanical shock, vibration, crush, reverse polarity used should be avoided.

不相容物质 Incompatible materials

无 None

危险的分解产物 Hazardous decomposition products

在起火时会释放出刺鼻的浓烟雾。

When the battery catches fire, it will release pungent thick smoke.

11. 毒理学信息 Toxicological information

正常情况下接触电池无毒性作用。

In normal condition, contact with the battery is non-toxic.

12. 生态学信息 Ecological information

正常处理电池不会对生态环境产生影响。

Proper disposal of battery does not present ecological hazard.

13. 废弃处置 Disposal considerations

交由电池回收企业进行回收处置, 不能随意丢弃于环境中。具体参照有关国家相关法规。

It needs to be referred to the waste battery recycling companies for recycling disposal, cannot arbitrarily discarded in the environment. Specific conditions reference to the relevant national laws and regulations.

14. 运输信息 Transport information

这份报告适用于海运, 空运和陆运;

This report applies to by sea, by air and by land;

该电池样品为聚合物锂离子电芯,该电池型号已通过 UN38.3 测试。

This battery sample is Polymer lithium ion cell and This battery type is proved to meet the Requirements tests in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3.

聚合物锂离子电芯应满足 2022 国际航空运输协会《危险品规则》(63 版)的 3.9.2.6.1(e) 规定进行包装空运;可按 IATA《危险品规则》中包装说明 PI965 IB、PI966 II 和 PI 967 II 章节相关规定进行包装空运。

Can be transport by air according to the Packing Instructions PI965 IB、PI966 II and PI 967 II Section of IATA

聚合物锂离子电芯必须加以保护防止短路, 包括防止与同一包装件内可能导致短路的导电材料接触;

Polymer lithium ion cell was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

聚合物锂离子电芯必须放置于可将其完全封闭的内包装中, 再放入外包装。为防止电池损坏和被挤压, 内包装必须放电坚固硬质外包装中;

Polymer lithium ion cell offered for transport must be packed in inner packaging's that completely enclose the cell or battery; to provide protection from damage or compression to the batteries, the inner packaging's must be placed in a strong rigid outer packaging;

聚合物锂离子电芯依据 PI 965 IB 章节运输时, 必须在荷电状态(SoC)不超过其额定容量的 30%状态下进行运输;

Lithium-ion batteries according to the PI 965 Section IB transport listed in this report must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated capacity.

可按 IMO IMDG CODE(2020 版)《国际海运危险货物规则》特殊规定第 188 条相关规定进行包装海运。

Can be transport by sea according to the special provision 188 of IMO *International Maritime Dangerous Goods Code relevant regulations*.

According to 2.9.4.7 of IMO IMDG Code (2020 Edition), Manufacturers and subsequent distributors of batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5;

根据 IMO IMDG CODE(2020 版) 的 2.9.4.7, 锂电池或电池组的制造商和生厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要;

According to 2.9.4.7 of IMO IMDG Code (2020 Edition), Manufacturers and subsequent distributors of batteries manufactured shall make available the test summary as specified in the manual of tests and criteria, Part III, sub-section 38.3, paragraph 38.3.5;

根据 RID/ADR(2019 版) 的 2.2.9.1.7(g), 锂电池组的制造商和和生厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要;

According to 2.2.9.1.7(g) of RID/ADR (2019 Edition), Manufacturers and subsequent distributors of batteries manufactured shall make available the test summary as specified in the manual of tests and criteria, Part III, sub-section 38.3, paragraph 38.3.5;

15. 法规信息 Regulatory Information

《危险品规则》Dangerous Goods Regulations

《国际海运危险货物规则》IMO International Maritime Dangerous Goods Code relevant regulations.

参照联合国, 国家, 地方性法规。

Refer to U. N., national, local regulations.

16. 其他信息 Other information

上述信息是基于现有的数据信息,是我们目前所掌握的最佳资料。然而,不对此类信息做出适当性担保或任何其他明示或默示担保,我们也不承担使用此类信息所产生的任何责任。用户应自行调查,以确定信息是否适合其特定目的。虽然在编制本报告所载的数据时采取了合理的预防措施,但仅供你参考、考虑和调查。这份材料安全数据表为安全处理和使用本产品提供了指导方针;它没有也不能就所有可能的情况提出建议;因此,应该评估你对本产品的具体使用情况,以确定是否需要采取额外的预防措施。

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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.



编号 No.: ZKS210100028-2

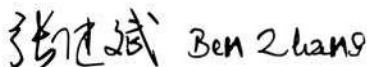
UN38.3 测试概要 UN38.3 Test Summary**电池信息 Battery information**

产品名称 Product Name	聚合物锂离子电池 Polymer lithium ion Cell	型号规格 Model And Specification	TN 502030 3.7V, 250mAh
额定能量 Watt-hour	0.925Wh	锂含量 Lithium Content	-
产品质量 Mass	5.249g	产品形状 Shape	棱柱形 Prismatic
UN38.3 编号 UN38.3 NO.	ZKS210100028-1	签发日期 Issue date	2021-01-05
产品类型 Type	☒ 锂离子电池或电池 Lithium ion cell or battery ☐ 锂金属电芯或电池 Lithium metal cell or battery		

单位信息 Company information

委托单位信息 Consignor Information	名称 Name	深圳市天能通科技有限公司 Shenzhen TNT New Energy Technology Co.,Ltd.				
	地址 Address	深圳市光明区浩谷工业园办公大楼二楼 A 区 Area A, 2nd Floor, Office Building, Haogu Industrial Park, Guangming District, Shenzhen				
	电话 Phone number	18606619371	邮箱地址 Email address	1162842272@qq.com	网址 Website	http://59419586.czvv.com/
工厂信息 Factory Information	名称 Name	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.				
	地址 Address	安徽省淮北经济开发区新区一期创业园 2 号厂房 NO.2Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.				
	电话 Phone number	18606619371	邮箱地址 Email address	3456924117@qq.com	网址 Website	http://59419586.czvv.com/
测试单位 Test lab	名称 Name	东莞市中认联科检测技术有限公司 Dongguan ZRLK Testing Technology Co., Ltd.				
	地址 Address	广东省东莞市松山湖高新技术产业开发区工业西路 18 号锦裕源大厦 2 号楼 D 栋 Building D, No.2, Jinyuyuan Mansion, No.18, Industrial West Road, Songshan Lake High-tech Industrial Development Zone, Dongguan, Guangdong, China				
	电话 Phone number	+86-769-26621775	邮箱地址 Email address	Marketing@zrlklab.com	网址 Website	www.zrlklab.com

测试信息 Test information

T1 高度模拟 Altitude simulation	合格 Passed	T2 温度试验 Thermal test	合格 Passed	T3 振动 Vibration	合格 Passed	T4 冲击 Shock	合格 Passed
T5 外部短路 External short-circuit	合格 Passed	T6 挤压 Crush	合格 Passed	T7 过度充电 Overcharge	不适用 N/A	T8 强制放电 Forced discharge	合格 Passed
UN38.3.3 (f)		不适用 N/A		UN38.3.3 (g)		不适用 N/A	
测试方法 和判定标准 Test method and criterion		联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.6/Amend 1, 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend 1, 38.3					
		编制(职位) Compiler: (Position) 孙纤 Jacky Sun (Test Engineer) 				 东莞市中认联科检测技术有限公司 Dongguan ZRLK Testing Technology Co., Ltd.	
		审核(职位) Checker: (Position) 张健斌 Ben Zhang (Item Engineer) 					
		批准(职位) Approver: (Position) 马孝琴 Ailis Ma (Approved by) 					





中国认可
国际互认
检测
TESTING
CNAS L9291

编号 No.: ZKS210100028-1

UN38.3 测试报告

UN38.3 Test Report

样 品 名 称 : 聚合物锂离子电芯
3.7V, 250mAh, 0.925Wh

Sample name : Polymer lithium ion Cell
3.7V, 250mAh, 0.925Wh

型 号 Model : TN 502030

委 托 单 位 : 深圳市天能通科技有限公司

Consignor : Shenzhen TNT New Energy Technology Co.,Ltd.



检测单位: 东莞市中认联科检测技术有限公司

Laboratory: Dongguan ZRLK Testing Technology Co., Ltd.

地址: 广东省东莞市松山湖高新技术产业开发区工业西路 18 号锦裕源大厦 2 号楼 D 栋

Address: Building D, No.2, Jinyuyuan Mansion, No.18, Industrial West Road, Songshan Lake High-tech Industrial Development Zone, Dongguan, Guangdong, China

电话(Tel): +86-769-26621775

邮政编码(Post Code): 523808

Email: Marketing@zrlklab.com

Web: www.zrlklab.com





编号 No.: ZKS210100028-1

委托单位信息 Consignor information	名称 Name	深圳市天能通科技有限公司 Shenzhen TNT New Energy Technology Co.,Ltd.
	地址 Address	深圳市光明区浩谷工业园办公大楼二楼 A 区 Area A, 2nd Floor, Office Building, Haogu Industrial Park, Guangming District, Shenzhen
制造商信息 Manufacturer information	名称 Name	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
	地址 Address	安徽省淮北经济开发区新区一期创业园 2 号厂房 NO.2Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.
	电话 Phone number	18606619371
	邮箱地址 Email address	3456924117@qq.com
	网址 Website	http://59419586.czvv.com/
工厂信息 Factory information	名称 Name	淮北天能通新能源科技有限公司 HUAI BEI TIAN NENG TONG New Energy Technology Co., Ltd.
	地址 Address	安徽省淮北经济开发区新区一期创业园 2 号厂房 NO.2Plant, Pioneering Park, New District One, Huaibei Economic Development Zone, Anhui Province.
	电话 Phone number	18606619371
	邮箱地址 Email address	3456924117@qq.com
	网址 Website	http://59419586.czvv.com/



编号 No.: ZKS210100028-1

样品描述及说明 General product information			
样品类型(是否可充电) Sample Type(Rechargeable or not)		☒ 是/Yes	☐ 否/No
样品信息 Sample information:			
产品名称 Product Name	聚合物锂离子电池 Polymer lithium ion Cell	型号 Model	TN 502030
商标 Trade mark	无 N/A	样品编号 Sample No.	C01#~C40#
标称电压 Nominal Voltage	3.7V	额定容量 Rated Capacity	250mAh
额定能量 Rated Energy	0.925Wh	充电截止电压 Charge Cut-off Voltage	4.2V
最大充电电流 Max. Charging Current	250mA	标准充电电流 Standard Charging Current	50mA
充电截止电流 Charge Cut-off Current	5mA	放电终止电压 Discharge Cut-off Voltage	3.0V
最大放电电流 Max. Discharging Current	250mA	标准放电电流 Standard Discharging Current	50mA
形状 Shape	棱柱型 Prismatic	尺寸 Size	30.0*20.0*5.0mm
样品质量 Sample Mass	5.249g		



编号 No.: ZKS210100028-1

样品接收日期 Accepted date	2020-12-24	测试起讫日期 Test date	2020-12-24 ~ 2021-01-05
测试方法 和判定标准 Test method and criterion	联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.6/Amend 1, 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend 1, 38.3		
测试项目 Test items	高度模拟、温度试验、振动、冲击、外部短路、挤压、强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Crush, Forced discharge.		
测试结论 Conclusion	经测试, 该样品符合联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.6/Amend 1, 38.3 标准要求。 The sample has passed the test items of UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend 1, 38.3 签发日期(Issue date): 2021-01-05		
备注 Remark	----		
编制(职位) Compiler: (Position)	孙纤 Jacky Sun (Test Engineer)		东莞市中认联科检测技术有限公司 Dongguan ZRLK Testing Technology Co., Ltd.
审核(职位) Checker: (Position)	张健斌 Ben Zhang (Item Engineer)		
批准(职位) Approver: (Position)	马孝琴 Ailis Ma (Approved by)		



编号 No.: ZKS210100028-1

序号 No.	测试项目名称 Name of test	标准要求或标准条款号 Standard requirement or the clause number of standard	测试结果 Test result	本项结论 Test conclusion	备注 Remarks
1	高度模拟 Altitude simulation	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.1 Test T.1	见附表 1 See Appendix 1	合格 Passed	/
2	温度试验 Thermal test	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.2 Test T.2	见附表 2 See Appendix 2	合格 Passed	/
3	振动 Vibration	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.3 Test T.3	见附表 3 See Appendix 3	合格 Passed	/
4	冲击 Shock	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.4 Test T.4	见附表 4 See Appendix 4	合格 Passed	/
5	外部短路 External short-circuit	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.5 Test T.5	见附表 5 See Appendix 5	合格 Passed	/
6	挤压 Crush	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.6 Test T.6	见附表 6 See Appendix 6	合格 Passed	/
7	强制放电 Forced discharge	联合国《关于危险货物运输的建议书 试验和标准手册》UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6/Amend.1, 38.3 试验 T.8 Test T.8	见附表 7 See Appendix 7	合格 Passed	/
测试环境条件 Test environment condition		环境温度: 20℃ - 25℃; 环境湿度: 45% - 75% Ambient temperature: 20℃ - 25℃, Ambient humidity: 45% - 75%			



Procedure 说明

Test T.1 to test T.5 must be conducted in sequence on the same cell or battery. Test T.6 and test T.8 shall be conducted using not otherwise tested cells or batteries.

必须用相同的电芯或电池按顺序进行试验 1 到试验 5。试验 6 和试验 8 须用没进行过其它试验的电芯或电池。

Cells of C01#~C05# are full charged after one cycle;

电芯 C01#~C05#为 1 次循环满电状态;

Cells of C06#~C10# are full charged after 25th cycle;

电池 C06#~C10#为 25 次循环满电状态;

Cells of C11#~C15# are 50% charged after one cycle;

电芯 C11#~C15#为 1 次循环后 50%充电状态;

Cells of C16#~C20# are 50% charged after 25th cycle;

电芯 C16#~C20#为 25 次循环后 50%充电状态;

Cells of C21#~C30# are full discharged after one cycle;

电芯 C21#~C30#为 1 次循环完全放电状态;

Cells of C31#~C40# are full discharged after 25th cycle.

电芯 C31#~C40#为 25 次循环后完全放电状态。

Remark: Circular preprocessing is provided by customers

备注: 循环预处理由客户提供



编号 No.: ZKS210100028-1

附 表 1
Appendix 1

序号 No.	1	测试项目名称 Name of Test Items		高度模拟 Altitude simulation				
样品编号 Sample No.	样品状态 Sample status	测试前 Before		测试后 After		质量损失 Mass loss (%)	剩余电压 Residual OCV (%)	测试结 果 Test result
		电池质量 m_1 (g)	开路电压 V_1 (V)	电池质量 m_2 (g)	开路电压 V_2 (V)			
C01#	首次完全充电 1 CYC Fully Charged	5.242	4.191	5.241	4.188	0.02	99.9	O
C02#	首次完全充电 1 CYC Fully Charged	5.232	4.188	5.232	4.185	0.00	99.9	O
C03#	首次完全充电 1 CYC Fully Charged	5.220	4.197	5.220	4.190	0.00	99.8	O
C04#	首次完全充电 1 CYC Fully Charged	5.211	4.186	5.211	4.183	0.00	99.9	O
C05#	首次完全充电 1 CYC Fully Charged	5.219	4.189	5.218	4.186	0.02	99.9	O
C06#	25 完全充电 25 CYC Fully Charged	5.237	4.191	5.236	4.188	0.02	99.9	O
C07#	25 完全充电 25 CYC Fully Charged	5.208	4.185	5.208	4.182	0.00	99.9	O
C08#	25 完全充电 25 CYC Fully Charged	5.249	4.193	5.249	4.190	0.00	99.9	O
C09#	25 完全充电 25 CYC Fully Charged	5.223	4.184	5.223	4.180	0.00	99.9	O
C10#	25 完全充电 25 CYC Fully Charged	5.208	4.187	5.208	4.184	0.00	99.9	O
以下空白								
注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。 Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire								



编号 No.: ZKS210100028-1

附表 2
Appendix 2

序号 No.	2	测试项目名称 Name of Test Items	温度试验 Thermal test					
样品编号 Sample No.	样品状态 Sample status	测试前 Before		测试后 After		质量损失 Mass loss (%)	剩余电压 Residual OCV (%)	测试结果 Test result
		电池质量 m_1 (g)	开路电压 V_1 (V)	电池质量 m_2 (g)	开路电压 V_2 (V)			
C01#	首次完全充电 1 CYC Fully Charged	5.241	4.188	5.238	4.121	0.06	98.4	O
C02#	首次完全充电 1 CYC Fully Charged	5.232	4.185	5.229	4.114	0.06	98.3	O
C03#	首次完全充电 1 CYC Fully Charged	5.220	4.190	5.216	4.108	0.08	98.0	O
C04#	首次完全充电 1 CYC Fully Charged	5.211	4.183	5.207	4.117	0.08	98.4	O
C05#	首次完全充电 1 CYC Fully Charged	5.218	4.186	5.215	4.111	0.06	98.2	O
C06#	25 完全充电 25 CYC Fully Charged	5.236	4.188	5.232	4.116	0.08	98.3	O
C07#	25 完全充电 25 CYC Fully Charged	5.208	4.182	5.201	4.105	0.13	98.2	O
C08#	25 完全充电 25 CYC Fully Charged	5.249	4.190	5.243	4.119	0.11	98.3	O
C09#	25 完全充电 25 CYC Fully Charged	5.223	4.180	5.218	4.114	0.10	98.4	O
C10#	25 完全充电 25 CYC Fully Charged	5.208	4.184	5.205	4.113	0.06	98.3	O
以下空白								
注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。 Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire								



编号 No.: ZKS210100028-1

附表 3
Appendix 3

序号 No.	3	测试项目名称 Name of Test Items	振动 Vibration					
样品编号 Sample No.	样品状态 Sample status	测试前 Before		测试后 After		质量损失 Mass loss (%)	剩余电压 Residual OCV (%)	测试结果 Test result
		电池质量 m_1 (g)	开路电压 V_1 (V)	电池质量 m_2 (g)	开路电压 V_2 (V)			
C01#	首次完全充电 1 CYC Fully Charged	5.238	4.121	5.237	4.118	0.02	99.9	O
C02#	首次完全充电 1 CYC Fully Charged	5.229	4.114	5.228	4.111	0.02	99.9	O
C03#	首次完全充电 1 CYC Fully Charged	5.216	4.108	5.215	4.105	0.02	99.9	O
C04#	首次完全充电 1 CYC Fully Charged	5.207	4.117	5.206	4.114	0.02	99.9	O
C05#	首次完全充电 1 CYC Fully Charged	5.215	4.111	5.215	4.108	0.00	99.9	O
C06#	25 完全充电 25 CYC Fully Charged	5.232	4.116	5.231	4.113	0.02	99.9	O
C07#	25 完全充电 25 CYC Fully Charged	5.201	4.105	5.201	4.102	0.00	99.9	O
C08#	25 完全充电 25 CYC Fully Charged	5.243	4.119	5.243	4.116	0.00	99.9	O
C09#	25 完全充电 25 CYC Fully Charged	5.218	4.114	5.217	4.111	0.02	99.9	O
C10#	25 完全充电 25 CYC Fully Charged	5.205	4.113	5.204	4.110	0.02	99.9	O
以下空白								
注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。 Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire								



编号 No.: ZKS210100028-1

附 表 4
Appendix 4

序号 No.	4	测试项目名称 Name of Test Items		冲击 Shock				
样品编号 Sample No.	样品状态 Sample status	测试前 Before		测试后 After		质量损失 Mass loss (%)	剩余电压 Residual OCV (%)	测试结 果 Test result
		电池质量 m_1 (g)	开路电压 V_1 (V)	电池质量 m_2 (g)	开路电压 V_2 (V)			
C01#	首次完全充电 1 CYC Fully Charged	5.237	4.118	5.237	4.117	0.00	100.0	O
C02#	首次完全充电 1 CYC Fully Charged	5.228	4.111	5.228	4.110	0.00	100.0	O
C03#	首次完全充电 1 CYC Fully Charged	5.215	4.105	5.215	4.105	0.00	100.0	O
C04#	首次完全充电 1 CYC Fully Charged	5.206	4.114	5.206	4.114	0.00	100.0	O
C05#	首次完全充电 1 CYC Fully Charged	5.215	4.108	5.214	4.108	0.02	100.0	O
C06#	25 完全充电 25 CYC Fully Charged	5.231	4.113	5.231	4.113	0.00	100.0	O
C07#	25 完全充电 25 CYC Fully Charged	5.201	4.102	5.200	4.102	0.02	100.0	O
C08#	25 完全充电 25 CYC Fully Charged	5.243	4.116	5.242	4.115	0.02	100.0	O
C09#	25 完全充电 25 CYC Fully Charged	5.217	4.111	5.217	4.111	0.00	100.0	O
C10#	25 完全充电 25 CYC Fully Charged	5.204	4.110	5.204	4.110	0.00	100.0	O
以下空白								
注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火。 Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No leakage, no venting, no disassembly, no rupture & no fire								



编号 No.: ZKS210100028-1

附表 5
Appendix 5

序号 No.	5	测试项目名称 Name of Test Items	外部短路 External short circuit		
样品编号 Sample No.	样品状态 Sample status	样品表面最高温度 Max. External Temperature (℃)	测试结果 Test result	备注 Remark	
C01#	首次完全充电 1 CYC Fully Charged	102.4	O	/	
C02#	首次完全充电 1 CYC Fully Charged	108.5	O	/	
C03#	首次完全充电 1 CYC Fully Charged	108.6	O	/	
C04#	首次完全充电 1 CYC Fully Charged	115.8	O	/	
C05#	首次完全充电 1 CYC Fully Charged	104.0	O	/	
C06#	25 完全充电 25 CYC Fully Charged	120.4	O	/	
C07#	25 完全充电 25 CYC Fully Charged	113.1	O	/	
C08#	25 完全充电 25 CYC Fully Charged	113.8	O	/	
C09#	25 完全充电 25 CYC Fully Charged	112.8	O	/	
C10#	25 完全充电 25 CYC Fully Charged	120.5	O	/	
以下空白					
注： D-解体； R-破裂； F-起火； O-无解体、无破裂、无起火。 Note: D-Disassembly, R-Rupture, F-Fire, O-No disassembly, no rupture & no fire					



编号 No.: ZKS210100028-1

附表 6
Appendix 6

序号 No.	6	测试项目名称 Name of Test Items	挤压 Crush		
样品编号 Sample No.	样品状态 Sample status	样品表面最高温度 Max. External Temperature (°C)	测试结果 Test result	备注 Remark	
C11#	首次 50%容量 1 CYC 50% Capacity	23.4	O	/	
C12#	首次 50%容量 1 CYC 50% Capacity	23.3	O	/	
C13#	首次 50%容量 1 CYC 50% Capacity	23.2	O	/	
C14#	首次 50%容量 1 CYC 50% Capacity	23.1	O	/	
C15#	首次 50%容量 1 CYC 50% Capacity	23.0	O	/	
C16#	25 次 50%容量 25 CYC 50% Capacity	23.1	O	/	
C17#	25 次 50%容量 25 CYC 50% Capacity	22.9	O	/	
C18#	25 次 50%容量 25 CYC 50% Capacity	23.1	O	/	
C19#	25 次 50%容量 25 CYC 50% Capacity	23.2	O	/	
C20#	25 次 50%容量 25 CYC 50% Capacity	23.1	O	/	
以下空白					
注: D-解体; F-起火; O-无解体、无起火。 Note: D-Disassembly, F-Fire, O-No disassembly & no fire					

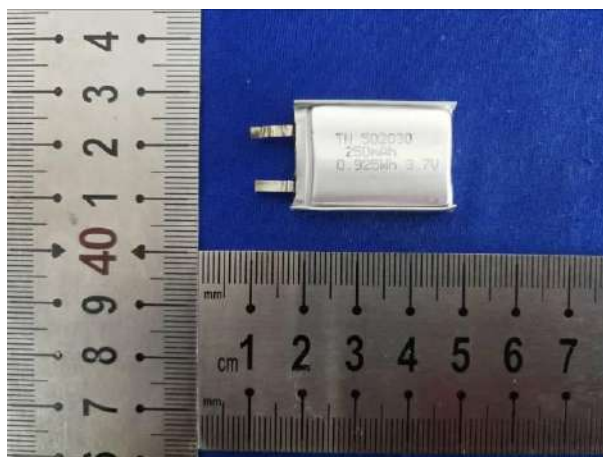


编号 No.: ZKS210100028-1

附表 7
Appendix 7

序号 No.	7	测试项目名称 Name of Test Items	强制放电 Forced discharge
样品编号 Sample No.	样品状态 Sample status	测试结果 Test result	备注 Remark
C21#	首次完全放电 1 CYC Fully Discharged	O	/
C22#	首次完全放电 1 CYC Fully Discharged	O	/
C23#	首次完全放电 1 CYC Fully Discharged	O	/
C24#	首次完全放电 1 CYC Fully Discharged	O	/
C25#	首次完全放电 1 CYC Fully Discharged	O	/
C26#	首次完全放电 1 CYC Fully Discharged	O	/
C27#	首次完全放电 1 CYC Fully Discharged	O	/
C28#	首次完全放电 1 CYC Fully Discharged	O	/
C29#	首次完全放电 1 CYC Fully Discharged	O	/
C30#	首次完全放电 1 CYC Fully Discharged	O	/
C31#	25 次完全放电 25 CYC Fully Discharged	O	/
C32#	25 次完全放电 25 CYC Fully Discharged	O	/
C33#	25 次完全放电 25 CYC Fully Discharged	O	/
C34#	25 次完全放电 25 CYC Fully Discharged	O	/
C35#	25 次完全放电 25 CYC Fully Discharged	O	/
C36#	25 次完全放电 25 CYC Fully Discharged	O	/
C37#	25 次完全放电 25 CYC Fully Discharged	O	/
C38#	25 次完全放电 25 CYC Fully Discharged	O	/
C39#	25 次完全放电 25 CYC Fully Discharged	O	/
C40#	25 次完全放电 25 CYC Fully Discharged	O	/
注: D-解体; F-起火; O-无解体、无起火。 Note: D-Disassembly, F-Fire, O-No disassembly & no fire			

样品照片
Sample photo



***** The end *****



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The test report is invalid without the official stamp of ZRLK.
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The client should provide samples and relevant data, at the same time, they should guarantee the consistence of the product's name the declared, the samples they provided and the goods to be transported. Otherwise we will not bear any relevant responsibilities.
5. 本报告涂改无效。
The test report is invalid if altered.
6. 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。
Objection to the test report must be submitted to ZRLK within 15 days.
7. 本报告仅对送检样品负责。
The test report is valid for the tested samples only.
8. 任何情况下检测单位的赔偿责任都不会超过检测单位就本次检测所收取的检测费用。
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