







01112200001863-1(E)

### GUANGZHOU CUSTOMS DISTRICT TECHNOLOGY CENTER

地址:中国广东省广州市天河区珠江新城花城大道66号B座 邮编Postcode: 510623

Date: 2022-07-27 Page: 1 of 14

# UN38.3 报告 UN38.3 Test Report

样品名称: 纳米钛酸锂电池

Sample Name: Lithium Titanate Cell

委托单位: 格力钛新能源股份有限公司

**Applicant:** GREE Altairnano New Energy Inc.



AO4VI0IR1X



<sup>1.</sup> 本报告结果仅对测试样品负责。The results in this report are relevant only to the sample(s) tested.

<sup>4.</sup> 주사합의자(자)에서(학교및 를 The results in this report are relevant only to the sample(s) tested. 2. 未经签文机构书面同意。不得神주引述或复制本报告。Without written permission of IQTC, this report shall not be quoted or reproduced except in full.



# 一州 海 关 技 术





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Page: 2 of 14 电话Tel: 020-22131000 邮箱Email: ppdc@iqtcnet.cn 网址Website: https://www.iqtcnet.cn

## 检测证书

### **TEST REPORT**

70	TESTREPORT
样品名称 Sample Name	纳米钛酸锂电池 Lithium Titanate Cell
型号 Model	LTO71130205
委托单位 Applicant	格力钛新能源股份有限公司 GREE Altairnano New Energy Inc .
委托单位地址 Applicant Address	中国广东省珠海市金湾区三灶镇金湖路 16 号 No.16, Jinhu Road, Sanzao Town, Jinwan District, Zhuhai City, Guangdong Province,P.R.China
生产单位 Manufacture	格力钛新能源股份有限公司 GREE Altairnano New Energy Inc .
生产单位地址 Manufacture Address	中国广东省珠海市金湾区三灶镇金湖路 16 号 No.16, Jinhu Road, Sanzao Town, Jinwan District, Zhuhai City, Guangdong Province,P.R.China
样品外观与性状 Appearance & Odor	蓝色近长方体 Blue Approximate Cuboid
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.7, 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS", Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7, 38.3
接样时间 Accepted date	2022-06-25 测试日期 Test date
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 forcul. Crush, Forced discharge.
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.7, 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 6) Fest, and Criteria ST/SG/AC.10/11/Rev.7, 38.3.
备注 Remark	1.随附 UN38.3 试验概要(编号: 01112200001863-2(E) )。 Attached with UN38.3 test summary (No.: 01112200001863-2(E)).
+11, 1/4	☆ <del>☆</del> ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

Approver:

PAG强 Fré Checker:



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### 电池信息:

### The battery information:

	~ ~		/ A -
电池类型 Battery type	锂离子电池 Lithium ion batteries	标称电压 Nominal Voltage	2.3V
额定容量 Rated Capacity	155Ah	总能量 Total Energy	356.5Wh
充电限制电压 Limited Charge Voltage	2.9V	标准充电电流 Standard Charge Current	155A LINETHOO
最大充电电流 Maximum Charge Current	450A	充电截止电流 Charge Cut-off Current	TO THE I MADE A CETY
标准放电电流 Standard discharge Current	155A	最大放电电流 Maximum Discharge Current	450A
放电截止电压 Discharge Cut-off Voltage	1.5V	物理形状说明 Physical description	蓝色近长方体 Blue Approximate Cuboid
重量 Mass	$4150 \pm 50 \mathrm{g}$	电芯生产单位 Manufacturer of cell	格力钛新能源股份有限公司 GREE Altairnano New Energy Inc.

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# 广州海关技术





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序号 No.	测试项目名称 Name of test	标准要求或标准条款号 Stand requirement or the clause number of standard	测试结果 Test result	本项结论 Test conclusion	备注 Remark
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.7, 38.3 试验T.1 Test T.1	见附表 1 See Appendix 1	合格 Passed	/Heolikol <sup>©</sup>
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.7, 38.3 试验T.2 Test T.2	见附表 2 See Appendix 2	合格 Passed	1 05
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.7, 38.3 试验T.3 Test T.3	见附表 3 See Appendix 3	合格 Passed	Keltho.
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.7, 38.3 试验T.4 Test T.4	见附表 4 See Appendix 4	合格 Passed	OCTOBER
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.7, 38.3 试验 T.5 Test T.5	见附表 5 See Appendix 5	合格 Passed	I DIE
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.7, 38.3 试验 T.6 Test T.6	见附表 6 See Appendix 6	合格 Passed	
7	过度充电 Overcharge	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.7, 38.3 试验T.7 Test T.7	见附表 7 See Appendix 7	不适用 Not applicable	(P /
8	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.7, 38.3 试验T.8 Test T.8	见附表 8 See Appendix 8	合格 Passed	1750
SIT	测试环境 est environment condition	环境温度:20℃-25℃; Ambient temperature: 20℃-25℃			5

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序号 测试项目名称 附表 1 高度模拟 Name of test No. Appendix 1 Altitude simulation 试验电池或电池组在压力等于或低于 11.6kPa 和环境温度 20±5℃下存放至少 6h。试验电池或电 池组应无重量损失、无渗漏、无排气、无解体、无破裂和无燃烧,并且每个试验电池或电池组 在试验后的开路电压不少于其在进行这一试验前电压的90%(完全放电状态的试验电池或电池 标准要求 Requirement Test cells and batteries shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient of Standard temperature 20 ± 5 °C. Cells and batteries meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states. C1#~C5#: 第一个循环完全充电的电池; 样品状态 C1#~C5#: first cycle in fully charged states. Sample C6#~C10#: 第二十五个循环完全充电的电池。 status C6#~C10#: after 25 cycles ending in fully charged states 测试前 Before 测试后 After 质量损失 剩余电压 样品编号 测试结果 Mass loss Residual 电池质量 开路电压 电池质量 开路电压 Test result Sample No. OCV(%) (%)  $m_1(kg)$  $v_1(V)$  $m_2(kg)$  $v_2(V)$ C1# 4.120 2.55 4.120 2.55 0.00 O 100.00 C2# 4.119 2.55 4.119 2.55 0.00 100.00 0 C3# 4.120 2.54 4.120 2.54 0.00 100.00 O C4# 4.130 2.55 4.130 2.55 0.00 100.00 O 99.61 4.119 4.119 2.55 0.00 C5# 2.56 0 4.120 2.55 4.120 0.00 100.00 O C6# 2.55 C7# 4.123 2.54 4.123 2.54 0.00 100.00 0 C8# 4.118 2.55 4.118 2.55 0.00 100.00 O C9# 4.128 2.56 4.128 2.56 0.00 100.00 O C10# 4.127 2.55 4.127 2.55 0.00 100.00 0

注: L-泄漏; V-排气; D-解体; R-破裂; F-起火; O-无泄漏、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.

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序号 No.		附表 2 Appendix 2			HOICO	温度试 Thermal	
标准要求 Requirement of Standard 样品状态 Sample status	至少 6h (大型最大时间间隔 24h。试验电池或电池或验电池或时的试验电池或验电池或验明的试验电池或验明的证明的 12 hours. Celdisassembly, testing is not to voltage is not 12 hours. Celdisassembly, testing is not 15 to voltage is not 16 to voltage is n	型电池或电池线扇为 30min。重为 30min。重为 30min。重为 这里也组在试验后时,但是他们的 40min。 1 batteries are to torage for at leasen test cells and latteries than 90% of applicable to 1 cycle in full 第二十五个循	且暴露于极端,更复 10 次,更是 10 次,更是 是更是 最大的 是 是 是 是 是 是 是 是 是 是 是 是 是 是 是 是 是 是 是	式验温度的时 将所有试验电 无渗漏、无排 不少于其在进 at least six ho a test temperat is 30 minutes be stored for 2 exposure to the irement if ther the open circ mediately price batteries at full es. 电池。	间至少为 12h) 已池或电池组在 气、无解体、 行这一试验前的 urs at a test ter ture equal to - 4 This procedure the test temperature is no mass loo uit voltage of cort to this procedure to the test temperature is no mass loo uit voltage of cort of the test temperature is no mass loo uit voltage of cort of the test temperature is no mass loose uit voltage of cort of this procedure is no	太验温度等于-4。两个极端试验 。两个极端试验 医环境温度 20% 无破裂和无燃烧 包压的 90% (多 mperature equal 0 ± 2°C. The name is to be repeation temperature re extremes shows, no leakage,	金温度之间的 C±5℃下存放 浇,并且每个 完全放电状态 to 72 ± 2°C. naximum times ated 10 times e (20 ± 5°C.) ould be at leasi no venting, no r battery after
样品编号	C6#~C10#: after 25 cycles ending 测试前 Before			ng in runy charged states.  测试后 After 质量损失		剩余电压	测试结果
子四编号 Sample No.	电池质量 m <sub>l</sub> (kg)	开路电压 V <sub>1</sub> (V)	电池质量 m <sub>2</sub> (kg)	开路电压 v <sub>2</sub> (V)	Mass loss (%)	Residual OCV(%)	人 Test result
C1#	4.120	2.55	4.120	2.53	0.00	99.22	o O
C2#	4.119	2.55	4.119	2.55	0.00	100.00	О
C3#	4.120	2.54	4.120	2.54	0.00	100.00	О
C4#	4.130	2.55	4.130	2.54	0.00	99.61	O
C5#	4.119	2.55	4.119	2.55	0.00	100.00	0
C6#	4.120	2.55	4.120	2.54	0.00	99.61	O
C7#	4.123	2.54	4.122	2.53	0.02	99.61	0
C8#	4.118	2.55	4.116	2.54	0.05	99.61	О
C9#	4.128	2.56	4.128	2.54	0.00	99.22	O.CL
C10#	4.127	2.55	4.127	2.54	0.00	99.61	0

注: L-泄漏; V-排气; D-解体; R-破裂; F-起火; O-无泄漏、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.





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Date: 2022-07-27

序号 No.		附表 3 pendix 3	25	测试项目名称 Name of test		振动 Vibrati	
标准要求 Requirement of Standard	之间摆动再门重复进行 12 破裂和无燃》 压的 90%(Cells and bat cells in such waveform wiminutes. This perpendicular to the terminal venting, no contact battery after	回到 7Hz 的对次,一共振动次,一共振动绕,并且每个i完全放电状态iteries are firml a manner as ith a logarithm is cycle shall be mounting posical face. Cells are lisassembly, not testing is not	数扫频 15min 3h。试验电池式验电池或电池或电池或电池或的试验电池或y secured to the faithfully tric sweep betwee repeated 12 itions of the cend batteries mean rupture and ruless than 90%	,对三个互相: 或电池组应无 地组在试验后的 电池组除外)。 te platform of to transmit the vibuser 7 Hz and times for a to till. One of the do tet this requirem no fire and if the	垂直的电池或重量损失、无的开路电压不知由 vibration The vibration The vibration of 3 hours irections of vibration if there is the open circuit immediately	玄波,频率在 7 电池组安装方成 渗漏、无排气。 沙于其在进行立 nachine without bration shall be tack to 7 Hz tra for each of the pration must be no mass loss, no t voltage of each prior to this pro at fully discharge	的每个方向、无解体、无这一试验前电 distorting the e a sinusoidal aversed in 15 hree mutually perpendicular to leakage, no ch test cell or rocedure. The
样品状态 Sample status	C1#~C5#: 1 C6#~C10#:	第一个循环完全 first cycle in ful 第二十五个循 after 25 cycles	ly charged stat 环完全充电的			CELNIER	TOPOG CELL
样品编号 Sample No.	测试前 电池质量	Before  开路电压	测试后 电池质量	After 开路电压	质量损失 Mass loss (%)	剩余电压 Residual OCV(%)	测试结果 Test result
C1#	m <sub>1</sub> (kg) 4.120	v <sub>1</sub> (V) 2.53	m <sub>2</sub> (kg) 4.120	v <sub>2</sub> (V) 2.52	0.00	99.60	CUS O
C2#	4.119	2.55	4.119	2.55	0.00	100.00	0
C3#	4.120	2.54	4.120	2.54	0.00	100.00	0
C4#	4.130	2.54	4.130	2.54	0.00	100.00	O
C5#	4.119	2.55	4.119	2.54	0.00	99.61	0 ,0
C6#	4.120	2.54	4.120	2.53	0.00	99.61	o
C7#	4.122	2.53	4.122	2.53	0.00	100.00	o o
C8#	4.116	2.54	4.116	2.54	0.00	100.00	0
C9#	4.128	2.54	4.128	2.54	0.00	100.00	O
C10#	4.127	2.54	4.127	2.54	0.00	100.00	О

注: L-泄漏; V-排气; D-解体; R-破裂; F-起火; O-无泄漏、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.

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测试项目名称

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No.		ppendix 4	SUST	Name of test		Shoc	
标准要求 Requirement of Standard	gn=√(100850 其正负极各; 解体、无破 试验前电压 Test cells and support all m shock of pea milliseconds. by three shock or battery for leakage, no v cell or battery requirement	/ mass) 中較小沖击 3 次,共次製和无燃烧, 製和无燃烧, 的 90%(完全 d batteries shall counting surface k acceleration Each cell or be eat total of 18 shall centing, no disally y after testing is relating to vo	架紧固在试验者的正弦波冲,中击 18次。各并且每个试验的放现的 be secured to es of each test be of 150gn or acceptances. Cells and seembly, no rups not less than 9 ltage is not appears of in kilogram	去,脉冲持续 试验电池或电池 验电池或电池 che testing man attery. Each sn celeration (gn) subjected to the three mutually batteries meet of the course of the batteries to the policable to the	时间 6ms,按 池组应无重量 在试验后的开始 组除外)。 chine by means nall batteries sh $=\sqrt{(100850/m}$ ree shocks in the perpendicular of this requirement e and if the op- age immediatel	三个相互垂直的损失、无渗漏路电压不少于的 sof a rigid mouall be subjected ass) and pulse ne positive direction if there is no en circuit voltagy prior to this p	的轴向分别对 、无排气、无 其在进行这一 unt which will to a half-sine duration of ( ction followed ons of the cel mass loss, no ge of each tes procedure. The
样品状态 Sample status	C1#~C5#:	first cycle in fu 第二十五个循	全充电的电池; lly charged state 环完全充电的 s ending in fully	es. 电池。	00	CENTE	HNOTOG
样品编号 Sample No.	测试前 电池质量 m <sub>l</sub> (kg)	T Before  开路电压  v <sub>1</sub> (V)	测试后 电池质量 m <sub>2</sub> (kg)	开路电压 v <sub>2</sub> (V)	质量损失 Mass loss (%)	剩余电压 Residual OCV(%)	测试结果 Test result
	1(8)	. 1( . /	2(8)	12(1)	_	100	
C1#	4.120	2.52	4.120	2.55	0.00	100.00	0
C1#	4.120 4.119	2.52 2.55	4.120 4.119	2.55	0.00	100.00	0
	00	, CC	7610	118	92	ax	
C2#	4.119	2.55	4.119	2.54	0.00	100.00	О
C2# C3#	4.119	2.55	4.119 4.120	2.54	0.00	100.00	0
C2# C3# C4#	4.119 4.120 4.130	2.55 2.54 2.54	4.119 4.120 4.129	2.54 2.53 2.54	0.00 0.00 0.02	100.00 100.00 99.61	0 0
C2# C3# C4# C5#	4.119 4.120 4.130 4.119	2.55 2.54 2.54 2.54	4.119 4.120 4.129 4.119	2.54 2.53 2.54 2.53	0.00 0.00 0.02 0.00	100.00 100.00 99.61 100.00	0 0 0
C2# C3# C4# C5# C6#	4.119 4.120 4.130 4.119 4.120	2.55 2.54 2.54 2.54 2.53	4.119 4.120 4.129 4.119 4.120	2.54 2.53 2.54 2.53 2.53	0.00 0.00 0.02 0.00	100.00 100.00 99.61 100.00	0 0 0 0
C2# C3# C4# C5# C6# C7#	4.119 4.120 4.130 4.119 4.120 4.122	2.55 2.54 2.54 2.54 2.53 2.53	4.119 4.120 4.129 4.119 4.120 4.121	2.54 2.53 2.54 2.53 2.53 2.54	0.00 0.00 0.02 0.00 0.00 0.02	100.00 100.00 99.61 100.00 100.00	0 0 0 0 0

注: L-泄漏; V-排气; D-解体; R-破裂; F-起火; O-无泄漏、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.

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# 广州海关技术





No:



01112200001863-1(E)

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序号 No.	附表 5 Appendix 5	测试项目名称 Name of test	外部短路 External short circuit
标准要求 Requirement of Standard	小于 0.1Ω 的短路条件, 当电池 再观察电池或电池组 6h 才结束 6h 内应无解体、无破裂和无燃料 The cell or battery to be tested s reaches 57±4℃ and then the cell external resistance of less than 0 least one hour after the cell or ba battery must be observed for a fur this requirement if their external t rupture and no fire within six hour	或电池组外壳温度回到 57±4℃ 记试验。电池或电池组的外壳温 烧。 hall be temperature stabilized so or battery shall be subjected to a .1 ohm at 57±4℃. This short ci ttery external case temperature h rther six hours for the test to be of the semperature does not exceed 170 rs of this test	下使电池或电池组经受总外电阻后继续至少 1h,然后短路断开,度应不超过 170℃,并且试验后 that its external case temperature short circuit condition with a total reuit condition is continued for at as returned to 57±4℃. The cell or concluded. Cells and batteries meet ℃ and there is no disassembly, no
样品状态 Sample status	C1#~C5#: 第一个循环完全充电 C1#~C5#: first cycle in fully cha C6#~C10#: 第二十五个循环完 C6#~C10#: after 25 cycles ending	arged states.	DARCTHIC CITY
样品编号 Sample No.	样品表面最高温度 Max External Temperatur	测试结则 e(℃) Test resu	A / Remark
C1#	57.6	0	or actific to
C2#	58.7	o Carlo	SOFTE / STONE
C3#	57.7	o spirit	SUSTOMA THOU
C4#	59.3	O	JANA /
C5#	57.7	Chippe O	A CONTRACTOR OF THE PARTY OF TH
C6#	58.3	0	ALLEY JOST /
C7#	58.4	0	THE THE THEFT
C8#	59.1	Open Thering O	E. P. C. SHEP
C9#	59.3	06	DUST / NCT
C10#	57.7	Men Men O	"HETHIN I GUIN

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.

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序号 No.	附表 6 Appendix	6 SUSTRIC	~US	测试项目名称 Name of test	Honor	挤压 Crush	6
ci <sup>n</sup> ucusion	适用于棱柱形、袋装将电池或元件电池成为 1.5cm/s。挤压持(a)施加的力量达到	效在两个平i 续进行,直 13kN±0.78k	面之间挤压 到出现以 N;	压,挤压力度;	逐渐加大,在第-		1速度大约
	(b)电池的电压下降。 (c)电池变形达原始是 棱柱形或袋装电池及	厚度的 <b>50</b> % 立从最宽的-	或以上。 -面施压。			面施压。圆柱形	(电池应从
标准要求 Requirement of Standard	与纵轴垂直的方向方 试验电池或电池组的 无解体、无破裂、为 Crush(applicable to	为组成电芯9 5起火。	外部温度不	、超过 170℃,	并且在试验过程		
Standard	diameter):A cell or c gradual with a speed continued until the 13kN±0.78kN; (b)The voltage of the (c)The cell is deform Once the maximum	omponent conditions of approximation of the cell drops bed by 50% of the cell drops by 50% of the cell drops bed by 50% of the cell drops by 50% of the cell	ell is to be imately 1.5 e three of y at least 1 or more of i	c crushed betw 5cm/s at the financial crushed betions below 00mV;or its original thic	een two flat surfarst point of contais reached. (a)T	ces. The crushing the applied force	ng is to be ag is to be be reaches
GUA.	deformed by at least: Each test cell or com this requirement if th no fire during the test	50% of its or aponent cell eir external tand within	riginal thic is to be su temperatur six hours a	kness, the presbjected to one does not except the excep	sure shall be releaterush only. Cells	sed. and component	cells mee
样品状态 Sample status	C11#~C15#: 第一个 C11#~C15#: first c C16#~C20#: 第二十 C16#~C20#: after 2	ycle at 50% -五个循环:	of the desi 50%的额定	gn rated capac 已容量的电芯。	11/07	ENWETHO	
样品编号 Sample No.	样品表面最高温度 Max External Temperature(℃)	测试结果 Test result	备注	样品编号。 Sample No.	样品表面最高温 Max External Temperature(°C	测试结果	备注 Remark
C11#	25.3	0	/	C16#	26.0	0	/ <
C12#	26.1	EP-O	1,0	C17#	26.1	О	SEP/
C13#	25.5	0	MOLO!	C18#	26.3	O	/
C14#	24.4	0.460	/	C19#	25.4	THO O	SUPAC!
C15#	25.0	o Silvo	112 OM	C20#	25.0	О	/

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.

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序号 No.	附表 7 Appendix 7	测试项目名称 Name of test	过度充电 Overcharge
标准要求 Requirement of Standard	倍或 22V 两者中的较少者。 (b)制造商建议的充电电压力可再充电电池组在环境温度 The charge current shall be twick current. The minimum voltage of (a) When the manufacturer's recovoltage of the test shall be the le 22V. (b) When the manufacturer's recovoltage of the test shall be 1.2 times are to be conducted at an	大于 18V 时, 试验的最小电压大于 18V 时, 试验的最小电压下试验 24h。 试样在试验后 7 e the manufacturer's recommend of the test shall be as follows: commended charge voltage is not sser of two times the maximum commended charge voltage is momes the maximum charge voltage mbient temperature. The duration	E 应是电池组最大充电电压的两应是最大充电电压的 1.2 倍。 天内应无解体和无燃烧。 led maximum continuous charge more than 18V, the minimum charge voltage of the battery or ore than 18V, the minimum
样品状态 Sample status	HOICIEST CHARCINO	GUA" ENTER	OET CENTE CHINOLOGY
样品编号 Sample No.	测试结果 Test result	. Cordon	备注 Remark
/ / / / / / / / / / / / / / / / / / /	57 EERICH 1	能用在另 池组或设	度充电保护装置、按设计要求只 一个带过度充电保护装置的电 备中的电池组或单一电池电池 满足本项试验的要求。
/ / / / / / / / / / / / / / / / / / /	CHECTHOLOUS /	Batteries equipped v that are component equipment are not su	or single cell batteries not with battery overcharge protection designed for use only as a t in another battery or in t, which affords such protection, bject to the requirements of this
1, 55	- Herry	test.	SOISTRIV MOUGUSTOMS MAKE

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.

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序号 No.	附表 8测试项目名称强Appendix 8Name of testForced				
标准要求 Requirement of Standard	定的最大放电电流的燃烧。 Each cell shall be force D.C. power supply at manufacturer. The speappropriate size and rainterval (in hours) equi	条件下强制放电 ced discharged at an initial current cified discharge c ating in series with al to its rated cap	。原电池或可再 ambient temperate equal to the max urrent is to be obt to the test cell. Eacl acity divided by the	流电源串联,在起始的充电电池在试验后 7 元 电电池在试验后 7 元 cimum discharge currerained by connecting a racell shall be forced discher initial test current (ir disassembly and no fire	E内应无解体和无 series with a 12 V nt specified by the esistive load of the scharged for a time n Ampere).Primary
样品状态 Sample status	C29#~C38#: 第一个 C29#~C38#: first cy C39#~C48#: 第二十 C39#~C48#: after 25 c	cle in fully discha 五个循环完全放	rged states; 电的电芯。	OWR CHARGTHON CO.	
样品编号 Sample No.	测试结果 Test result	备注 Remark	样品编号 Sample No.	测试结果 Test result	备注 Remark
C29#	THOU O CHAI	/	C39#	064	HO HAY
C30#	0		C40#	CHINO O	ici / me
C31#	o a	5° /	C41#	o medie	Eustin
C32#	OCA O HICKING	1 Alici	C42#	NCO TO	NGTHOO!
C33#	o o	(ONS D)	C43#	Metho o	1
C34#	TONE D. O	5 / West	C44#	0	1 CHANGE
C35#	ONETHO	Bull	C45#	200 O	0100 /
C36#	0	8 /	C46#	o steri	15th
C37#	& 0 40th	1,401.00	C47#	0	STONE!
C38#	0	TE,	C48#	STONE O NO!	CO / JANE

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.

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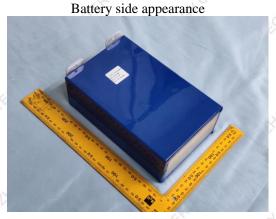
## 样品图片

## Photo of the sample

电池正面外观 Battery front appearance



电池侧面外观



电池侧面外观 Battery side appearance



电池铭牌

Battery nameplate

产品型号LT071130205 额定容量 155Ah 额定电压 2.3V 额定电量 356.5Wh

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1.本报告无检测单位公章无效。

The test report is invalid without the official stamp of IQTC.

2本报告无批准人、审核人及主检人签名无效。

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7. 检测地址:广东省广州市科学城南翔支路 1 号 C102 房(汽车与装备检测研究所科学城)

Test Address: Room C102, No.1 Nanxiangzhi Road, Science City, Guangzhou, Guangdong, China (Institute of Automobile and Equipment Testing in Science City)

电话(Tel): 020-38669019-811

电子邮箱(E-mail): battery@iqtcnet.cn

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