UN38.3 测试报告

UN38.3 Test Report

申请商 APPLICANT	:	深圳市天珑移动技术有限公司 Shenzhen Tinno Mobile Technology Corp.
产品名称 PRODUCT NAME	:	可充电锂离子聚合物电池 Rechargeable Li-ion Polymer Battery
型号/MODEL NAME	:	V730
商标/TRADE NAME	:	N/A
品牌/BRAND NAME	:	N/A
额定值/RATING	:	3.85 V, 3900 mAh, 15.015 Wh
接收日期 RECEIPT DATE	:	2020-09-10
测试日期 TEST DATE	:	2020-09-10 to 2020-11-10
签发日期 ISSUE DATE	:	2020-11-23

编制
Edited by: 陈碧莲

陈碧莲

签发
Approved by: 李冬

李冬

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MORLAB
SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China
Tel: 86-755-36698555 Fax: 86-755-36698525
Http://www.morlab.cn E-mail: service@morlab.cn

测试报告声明
Test Report Declaration

申请商/Applicant	深圳市天珑移动技术有限公司 Shenzhen Tinno Mobile Technology Corp.	
申请商地址 Applicant Address	深圳市南山区华侨城东部工业区 H-3 栋 4 楼 4/F, H-3 Building, OCT Eastern Industrial Park. NO.1 XiangShan East Road, Nan Shan District, Shenzhen, P.R. China	
产品名称/ Product Name	可充电锂离子聚合物电池 Rechargeable Li-ion Polymer Battery	
型号/ Model Name	V730	
额定值/ Rating	3.85 V, 3900 mAh, 15.015 Wh	
制造商信息 Manufacturer information	制造商 Manufacturer	广东风华新能源股份有限公司 Guangdong Fenghua New Energy Co., Ltd.
	制造商地址 Manufacturer Address	中国广东省肇庆市端州区睦岗镇太和路 2 号 No.2 Taihe Road, Mugang Town, Duanzhou District, Zhaoqing, Guangdong Province, China
尺寸/Size	3.95×67.05×88.40 mm	
电池信息 Battery information	内含电芯数量/Cells number	1pcs(1S1P)
	电芯型号/Cell model	FHPV386786P
	物理特性/Physical description	棱形/Prismatic
检验方法及判定标准 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》第六版修正1第38.3节 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS, Manual of Tests and Criteria"ST/SG/AC.10/11/Rev.6/Amend.1, section 38.3	
测试项目 Test Items	高度模拟试验；温度试验；振动试验；冲击试验；外短路试验；挤压试验；过充电试验；强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Crush, Overcharge, Force discharge	
测试结论 Conclusion	受检样品通过 UN 38.3 各项检测，检测结果合格 The sample has passed the test items of UN38.3	
备注/ Remarks	无/ None	

摩尔实验室检验报告

Morlab Test Report

序号 No.	检验项目名称 Name of test items	标准要求或标准款号 Standard Requirement or the Clause Number of Standard	检测结果 Test Result	本项结论 Test Conclusion	备注 Remarks
1	高度模拟试验 Altitude simulation	联合国《关于危险货物运输的建议书 试验和标准手册》(以下简称: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	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	振动试验 Vibration	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	冲击试验 Shock	试验和标准手册 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6, 38.3 试验 T.4 Test T.4	见附表 4 See Appendix 4	合格 Passed	/
5	外短路试验 External short circuit	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	挤压试验 Crush	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	过充电试验 Overcharge	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.7 Test T.7	见附表 7 See Appendix 7	合格 Passed	/
8	强制放电 Force discharge	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 8 See Appendix 8	合格 Passed	/
检验环境条件 Test Environment Condition		环境温度: 15~25℃ Ambient Temperature: 15~25℃			

Change History		
Version	**Date**	**Reason for change**
1.0	2020-11-23	First edition

检验报告-附件 1

Test Report-Appendix 1

序号 No.	1	检测项目名称 Name of test items		高度模拟试验 Altitude simulation				
样品编号 Sample No	样品状态 Sample Status	试验前 Before		试验后 After		质量损失 Mass Loss/%	剩余电压 Residual OCV/%	其他现象 Other Event
		质量 Weight/g	开路电压 OCV/V	质量 Weight/g	开路电压 OCV/V			
1	首次充满 Fully charged at first cycle	53.1120	4.373	53.1117	4.372	0.0006	99.98	O
2	首次充满 Fully charged at first cycle	53.2227	4.391	53.2224	4.390	0.0006	99.98	O
3	首次充满 Fully charged at first cycle	53.3808	4.375	53.3806	4.374	0.0004	99.98	O
4	首次充满 Fully charged at first cycle	53.4952	4.374	53.4949	4.373	0.0006	99.98	O
5	首次充满 Fully charged at first cycle	53.3769	4.386	53.3766	4.386	0.0006	100.00	O
6	25 次循环后充满 Fully charged after 25 cycles	53.0969	4.376	53.0967	4.375	0.0004	99.98	O
7	25 次循环后充满 Fully charged after 25 cycles	53.2756	4.364	53.2754	4.363	0.0004	99.98	O
8	25 次循环后充满 Fully charged after 25 cycles	53.3468	4.381	53.3467	4.380	0.0002	99.98	O
9	25 次循环后充满 Fully charged after 25 cycles	53.2547	4.371	53.2546	4.370	0.0002	99.98	O
10	25 次循环后充满 Fully charged after 25 cycles	53.1964	4.372	53.1961	4.371	0.0006	99.98	O

备注: L-漏液，V-漏气，D-解体， R-破裂，F-起火，O-无漏液，无解体，无破裂，无起火；

Remark: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No Leakage, No Venting, No Disassembly, No Rupture, No Fire

检验报告-附件 2

Test Report-Appendix 2

序号 No.	2	检测项目名称 Name of test items		热测试 Thermal Test				
样品编号 Sample No	样品状态 Sample Status	试验前 Before		试验后 After		质量损失 Mass Loss/%	剩余电压 Residual OCV/%	其他现象 Other Event
		质量 Weight/g	开路电压 OCV/V	质量 Weight/g	开路电压 OCV/V			
1	首次充满 Fully charged at first cycle	53.1117	4.372	53.1025	4.289	0.0173	98.10	O
2	首次充满 Fully charged at first cycle	53.2224	4.390	53.2146	4.296	0.0147	97.86	O
3	首次充满 Fully charged at first cycle	53.3806	4.374	53.3719	4.291	0.0163	98.10	O
4	首次充满 Fully charged at first cycle	53.4949	4.373	53.4837	4.287	0.0209	98.03	O
5	首次充满 Fully charged at first cycle	53.3766	4.386	53.3659	4.293	0.0200	97.88	O
6	25 次循环后充满 Fully charged after 25 cycles	53.0967	4.375	53.0877	4.288	0.0170	98.01	O
7	25 次循环后充满 Fully charged after 25 cycles	53.2754	4.363	53.2681	4.276	0.0137	98.01	O
8	25 次循环后充满 Fully charged after 25 cycles	53.3467	4.380	53.3378	4.287	0.0167	97.88	O
9	25 次循环后充满 Fully charged after 25 cycles	53.2546	4.370	53.2463	4.273	0.0156	97.78	O
10	25 次循环后充满 Fully charged after 25 cycles	53.1961	4.371	53.1879	4.275	0.0154	97.80	O

备注: L-漏液，V-漏气，D-解体， R-破裂，F-起火，O-无漏液，无解体，无破裂，无起火；

Remark: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No Leakage, No Venting, No Disassembly, No Rupture, No Fire

检验报告-附件 3

Test Report-Appendix 3

序号 No.	3	检测项目名称 Name of test items		振动试验 Vibration				
样品编号 Sample No	样品状态 Sample Status	试验前 Before		试验后 After		质量损失 Mass Loss/%	剩余电压 Residual OCV/%	其他现象 Other Event
		质量 Weight/g	开路电压 OCV/V	质量 Weight/g	开路电压 OCV/V			
1	首次充满 Fully charged at first cycle	53.1025	4.289	53.1023	4.288	0.0004	99.98	O
2	首次充满 Fully charged at first cycle	53.2146	4.296	53.2144	4.295	0.0004	99.98	O
3	首次充满 Fully charged at first cycle	53.3719	4.291	53.3716	4.290	0.0006	99.98	O
4	首次充满 Fully charged at first cycle	53.4837	4.287	53.4834	4.286	0.0006	99.98	O
5	首次充满 Fully charged at first cycle	53.3659	4.293	53.3657	4.292	0.0004	99.98	O
6	25 次循环后充满 Fully charged after 25 cycles	53.0877	4.288	53.0875	4.287	0.0004	99.98	O
7	25 次循环后充满 Fully charged after 25 cycles	53.2681	4.276	53.2679	4.275	0.0004	99.98	O
8	25 次循环后充满 Fully charged after 25 cycles	53.3378	4.287	53.3375	4.286	0.0006	99.98	O
9	25 次循环后充满 Fully charged after 25 cycles	53.2463	4.273	53.2461	4.272	0.0004	99.98	O
10	25 次循环后充满 Fully charged after 25 cycles	53.1879	4.275	53.1877	4.274	0.0004	99.98	O
备注: L-漏液，V-漏气，D-解体， R-破裂，F-起火，O-无漏液，无解体，无破裂，无起火； Remark: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No Leakage, No Venting, No Disassembly, No Rupture, No Fire								

检验报告-附件 4

Test Report-Appendix 4

序号 No.	4	检测项目名称 Name of test items		冲击试验 Shock				
样品编号 Sample No	样品状态 Sample Status	试验前 Before		试验后 After		质量损失 Mass Loss/%	剩余电压 Residual OCV/%	其他现象 Other Event
		质量 Weight/g	开路电压 OCV/V	质量 Weight/g	开路电压 OCV/V			
1	首次充满 Fully charged at first cycle	53.1023	4.288	53.1020	4.287	0.0006	99.98	O
2	首次充满 Fully charged at first cycle	53.2144	4.295	53.2141	4.294	0.0006	99.98	O
3	首次充满 Fully charged at first cycle	53.3716	4.290	53.3715	4.289	0.0002	99.98	O
4	首次充满 Fully charged at first cycle	53.4834	4.286	53.4831	4.285	0.0006	99.98	O
5	首次充满 Fully charged at first cycle	53.3657	4.292	53.3655	4.291	0.0004	99.98	O
6	25 次循环后充满 Fully charged after 25 cycles	53.0875	4.287	53.0871	4.286	0.0008	99.98	O
7	25 次循环后充满 Fully charged after 25 cycles	53.2679	4.275	53.2677	4.274	0.0004	99.98	O
8	25 次循环后充满 Fully charged after 25 cycles	53.3375	4.286	53.3373	4.285	0.0004	99.98	O
9	25 次循环后充满 Fully charged after 25 cycles	53.2461	4.272	53.2458	4.271	0.0006	99.98	O
10	25 次循环后充满 Fully charged after 25 cycles	53.1877	4.274	53.1875	4.273	0.0004	99.98	O

备注: L-漏液，V-漏气，D-解体， R-破裂，F-起火，O-无漏液，无解体，无破裂，无起火；

Remark: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire, O-No Leakage, No Venting, No Disassembly, No Rupture, No Fire

检验报告-附件 5

Test Report-Appendix 5

序号 No.	5	检测项目名称 Name of test items	外短路试验 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 Test Items / ℃	其他现象 Other Event
1	首次充满 Fully charged at first cycle	57.3	O
2	首次充满 Fully charged at first cycle	56.9	O
3	首次充满 Fully charged at first cycle	57.7	O
4	首次充满 Fully charged at first cycle	57.8	O
5	首次充满 Fully charged at first cycle	57.4	O
6	25 次循环后充满 Fully charged after 25 cycles	57.1	O
7	25 次循环后充满 Fully charged after 25 cycles	56.6	O
8	25 次循环后充满 Fully charged after 25 cycles	56.9	O
9	25 次循环后充满 Fully charged after 25 cycles	57.3	O
10	25 次循环后充满 Fully charged after 25 cycles	57.1	O
备注: D-解体， R-破裂，F-起火，O-无解体，无破裂，无起火； Remark: D-Disassembly, R-Rupture, F-Fire, O-No Disassembly, No Rupture, No Fire			

检验报告-附件 6

Test Report-Appendix 6

序号 No.	6	检测项目名称 Name of test items	挤压试验 Crush
样品编号 Sample No.	样品状态 Sample status	样品表面最高温度 Max. External Test Items/ ℃	其他现象 Other Event
11	首次 50%容量 50% of capacity at first cycle	22.6	O
12	首次 50%容量 50% of capacity at first cycle	22.6	O
13	首次 50%容量 50% of capacity at first cycle	22.7	O
14	首次 50%容量 50% of capacity at first cycle	22.5	O
15	首次 50%容量 50% of capacity at first cycle	22.7	O
16	25 次循环后 50%容量 50% of capacity after25 cycles	22.7	O
17	25 次循环后 50%容量 50% of capacity after25 cycles	22.6	O
18	25 次循环后 50%容量 50% of capacity after25 cycles	22.7	O
19	25 次循环后 50%容量 50% of capacity after25 cycles	22.8	O
20	25 次循环后 50%容量 50% of capacity after25 cycles	22.7	O
备注: D-解体，F-起火，O-无解体，无起火； Remark: D-Disassembly, F-Fire, O-No Disassembly, No Fire			

检验报告-附件 7

Test Report-Appendix 7

序号 No.	7	检测项目名称 Name of test items	过充电试验 Overcharge
样品编号 Sample No.	样品状态 Sample status	其他现象 Other Event	
21	首次充满 Fully charged at first cycle	O	
22	首次充满 Fully charged at first cycle	O	
23	首次充满 Fully charged at first cycle	O	
24	首次充满 Fully charged at first cycle	O	
25	25 次循环后充满 Fully charged after 25 cycles	O	
26	25 次循环后充满 Fully charged after 25 cycles	O	
27	25 次循环后充满 Fully charged after 25 cycles	O	
28	25 次循环后充满 Fully charged after 25 cycles	O	
备注: D-解体， F-起火，O-无解体，无起火； Remark: D-Disassembly, F-Fire, O-No Disassembly, No Fire			

检验报告-附件 8
Test Report-Appendix 8

序号 No.	8	检测项目名称 Name of test items	强制放电 Force discharge
样品编号 Sample No.	样品状态 Sample status	放电时间（H） Discharge time	其他现象 Other Event
29	首次完全放电 Fully discharged at first cycle	0.995	O
30	首次完全放电 Fully discharged at first cycle	0.995	O
31	首次完全放电 Fully discharged at first cycle	0.995	O
32	首次完全放电 Fully discharged at first cycle	0.995	O
33	首次完全放电 Fully discharged at first cycle	0.995	O
34	首次完全放电 Fully discharged at first cycle	0.995	O
35	首次完全放电 Fully discharged at first cycle	0.995	O
36	首次完全放电 Fully discharged at first cycle	0.995	O
37	首次完全放电 Fully discharged at first cycle	0.995	O
38	首次完全放电 Fully discharged at first cycle	0.995	O
39	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
40	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O

41	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
42	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
43	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
44	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
45	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
46	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
47	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O
48	25 次循环后完全放电 Fully discharged after 25 cycles	0.995	O

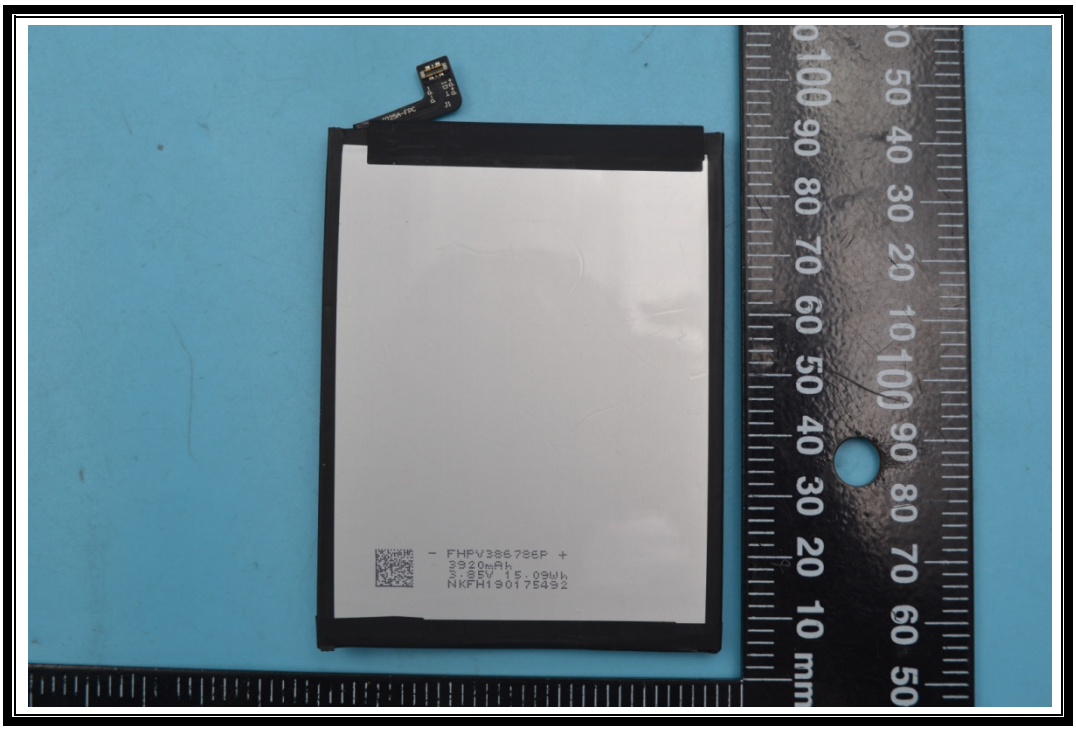
备注: D-解体， F-起火，O-无解体，无起火；
Remark: D-Disassembly, F-Fire, O-No Disassembly, No Fire
最大放电电流/ Max Continuous Discharge Current: 3920 mA

样品图片 Photographs of the EUT

1



2



3



4



5



6



Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Laboratory Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525
E-mail:	service@morlab.cn
Website	www.morlab.cn

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

***** END OF REPORT *****