



中国认可
检测
TESTING
CNAS L0748



220014349552



NO.1123020431

检测报告

Test Report

样品名称： 二次锂电池 APP00386 3.85Vdc 2660mAh 10.24Wh

Name of Sample: Rechargeable Li-ion Battery pack APP00386 3.85Vdc
2660mAh 10.24Wh

委托单位： 典晖科技股份有限公司

Consignor: APack Technology Co., Ltd.



上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd.

上海化工院检测有限公司
检测报告

Shanghai Institute of Chemical Industry
Testing Co., Ltd. Test Report

NO. 1123020431

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样品名称 Name of Sample	中文 Chinese	二次锂电池 APP00386 3.85Vdc 2660mAh 10.24Wh	
	英文 English	Rechargeable Li-ion Battery pack APP00386 3.85Vdc 2660mAh 10.24Wh	
样品编号 Sample No.	1123020431		
委托单位 Consignor	典晖科技股份有限公司 APack Technology Co., Ltd.		
生产单位 Manufacturer	东莞市丰晖电子有限公司 Dongguan Funpack Elec Co., LTD.		
检测方法 Test method	联合国《试验和标准手册》 ST/SG/AC.10/11/Rev.7 38.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3		
判定标准 Criterion	联合国《试验和标准手册》 ST/SG/AC.10/11/Rev.7 38.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3		
样品外观 Appearance	黑色, 银色, 黄色三色 铝塑外壳 Black, silvery and yellow Aluminum-plastics shell		
样品接受日期 Accepted Date	2023-02-20	检测起迄日期 Test Date	2023-03-02 ~ 2023-04-01
检测项目 Test Items	高度模拟; 热测试; 振动; 冲击; 外短路; 挤压; 过充电; 强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Crush, Overcharge, Forced discharge		
检测结论 Conclusion	经检测, 该样品符合联合国《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 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 生效日期(Date): 2023-04-03		
备注 Comment	可充电单电芯电池 Rechargeable Single Cell Battery. /		
委托单位地址 Consignor Address	/		邮政编码 Post Code /

批准
Approver:
职务
Title:

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审核
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电化学测试部部长 (Head of Electrochemical Testing Department)



上海化工院检测有限公司 检测报告

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序号 No.	检测项目名称 Name of Test Items	标准要求或标准条款号 Standard requirement or The Clause Number of Standard	检测结果 Test Result	本项结论 Conclusion	备注 Remark	
1	高度模拟 Altitude simulation	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.1 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.1	见附表 1 See Appendix 1	合格 Passed	/	
2	热测试 Thermal test	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.2 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.2	见附表 2 See Appendix 2	合格 Passed	/	
3	振动 Vibration	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.3	见附表 3 See Appendix 3	合格 Passed	/	
4	冲击 Shock	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.4 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.4	见附表 4 See Appendix 4	合格 Passed	/	
5	外短路 External short circuit	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.5 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.5	见附表 5 See Appendix 5	合格 Passed	/	
6	挤压 Crush	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.6 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.6	见附表 6 See Appendix 6	合格 Passed	/	
7	过充电 Overcharge	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.7 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.7	见附表 7 See Appendix 7	合格 Passed	/	
8	强制放电 Forced discharge	联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7 38.3 试验T.8 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7 Section 38.3 Test T.8	见附表 8 See Appendix 8	合格 Passed	/	
检测环境条件 Test Environment Condition		环境温度:18℃-20℃;环境湿度:/% Ambient temperature:18℃-20℃;Ambient humidity:/%				
分包检验情况 Subcontracted Test Condition		检测项目 Test Item	/			
		分包实验室 Subcontracted Laboratory	名称 Name	/	邮编 Post Code	/
			地址 Address	/	电话 Tel	/

上海化工院检测有限公司 检测报告-附表1

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Testing Co., Ltd. Test Report — Appendix 1

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序号 No.	1	检测项目名称 Name of Test Items		高度模拟 Altitude simulation				
		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 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V			
样品 编号 Sample No.	样品状态 Sample Status							
001	1CYC完全充电 1CYC Fully charged	36.8179	4.37	36.8148	4.37	0.01	100.00	O
002	1CYC完全充电 1CYC Fully charged	37.1715	4.37	37.1685	4.37	0.01	100.00	O
003	1CYC完全充电 1CYC Fully charged	37.1240	4.37	37.1209	4.37	0.01	100.00	O
004	1CYC完全充电 1CYC Fully charged	37.2484	4.37	37.2457	4.37	0.01	100.00	O
005	1CYC完全充电 1CYC Fully charged	36.9550	4.37	36.9519	4.37	0.01	100.00	O
006	25CYC完全充电 25CYC Fully charged	36.9810	4.37	37.0136	4.37	0.00	100.00	O
007	25CYC完全充电 25CYC Fully charged	37.0562	4.37	37.0527	4.37	0.01	100.00	O
008	25CYC完全充电 25CYC Fully charged	36.9029	4.37	36.8997	4.37	0.01	100.00	O
009	25CYC完全充电 25CYC Fully charged	37.0043	4.37	37.0010	4.37	0.01	100.00	O
010	25CYC完全充电 25CYC Fully charged	37.2131	4.37	37.2101	4.37	0.01	100.00	O
以下空白	This space intentionally left blank							

备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、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.

上海化工院检测有限公司
检测报告-附表2

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序号 No.	2	检测项目名称 Name of Test Items		热测试 Thermal test				
		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
样品 编号 Sample No.	样品状态 Sample Status	质量 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V			
001	1CYC完全充电 1CYC Fully charged	36.8148	4.37	36.8026	4.30	0.03	98.40	O
002	1CYC完全充电 1CYC Fully charged	37.1685	4.37	37.1571	4.30	0.03	98.40	O
003	1CYC完全充电 1CYC Fully charged	37.1209	4.37	37.1088	4.31	0.03	98.63	O
004	1CYC完全充电 1CYC Fully charged	37.2457	4.37	37.2333	4.31	0.03	98.63	O
005	1CYC完全充电 1CYC Fully charged	36.9519	4.37	36.9403	4.30	0.03	98.40	O
006	25CYC完全充电 25CYC Fully charged	37.0136	4.37	37.0013	4.30	0.03	98.40	O
007	25CYC完全充电 25CYC Fully charged	37.0527	4.37	37.0412	4.30	0.03	98.40	O
008	25CYC完全充电 25CYC Fully charged	36.8997	4.37	36.8872	4.30	0.03	98.40	O
009	25CYC完全充电 25CYC Fully charged	37.0010	4.37	36.9888	4.30	0.03	98.40	O
010	25CYC完全充电 25CYC Fully charged	37.2101	4.37	37.1979	4.30	0.03	98.40	O
以下空白	This space intentionally left blank							

备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、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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检测报告-附表3

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序号 No.	3	检测项目名称 Name of Test Items		振动 Vibration				
		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 Mass	开路电压 OCV	质量 Mass	开路电压 OCV			
样品 编号 Sample No.	样品状态 Sample Status	/g	/V	/g	/V	%	%	
001	1CYC完全充电 1CYC Fully charged	36.8026	4.30	36.8021	4.30	0.00	100.00	○
002	1CYC完全充电 1CYC Fully charged	37.1571	4.30	37.1566	4.30	0.00	100.00	○
003	1CYC完全充电 1CYC Fully charged	37.1088	4.31	37.1084	4.30	0.00	99.77	○
004	1CYC完全充电 1CYC Fully charged	37.2333	4.31	37.2326	4.31	0.00	100.00	○
005	1CYC完全充电 1CYC Fully charged	36.9403	4.30	36.9395	4.29	0.00	99.77	○
006	25CYC完全充电 25CYC Fully charged	37.0013	4.30	37.0008	4.29	0.00	99.77	○
007	25CYC完全充电 25CYC Fully charged	37.0412	4.30	37.0406	4.29	0.00	99.77	○
008	25CYC完全充电 25CYC Fully charged	36.8872	4.30	36.8865	4.30	0.00	100.00	○
009	25CYC完全充电 25CYC Fully charged	36.9888	4.30	36.9883	4.30	0.00	100.00	○
010	25CYC完全充电 25CYC Fully charged	37.1979	4.30	37.1975	4.30	0.00	100.00	○
以下空白	This space intentionally left blank							

备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、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.

上海化工院检测有限公司
检测报告-附表4
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序号 No.	4	检测项目名称 Name of Test Items		冲击 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 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V			
001	1CYC完全充电 1CYC Fully charged	36.8021	4.30	36.8015	4.30	0.00	100.00	○
002	1CYC完全充电 1CYC Fully charged	37.1566	4.30	37.1562	4.29	0.00	99.77	○
003	1CYC完全充电 1CYC Fully charged	37.1084	4.30	37.1081	4.30	0.00	100.00	○
004	1CYC完全充电 1CYC Fully charged	37.2326	4.31	37.2320	4.30	0.00	99.77	○
005	1CYC完全充电 1CYC Fully charged	36.9395	4.29	36.9391	4.28	0.00	99.77	○
006	25CYC完全充电 25CYC Fully charged	37.0008	4.29	37.0004	4.29	0.00	100.00	○
007	25CYC完全充电 25CYC Fully charged	37.0406	4.29	37.0402	4.29	0.00	100.00	○
008	25CYC完全充电 25CYC Fully charged	36.8865	4.30	36.8861	4.30	0.00	100.00	○
009	25CYC完全充电 25CYC Fully charged	36.9883	4.30	36.9876	4.29	0.00	99.77	○
010	25CYC完全充电 25CYC Fully charged	37.1975	4.30	37.1970	4.30	0.00	100.00	○
以下空白	This space intentionally left blank							
备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、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.								

上海化工院检测有限公司

检测报告 - 附表5

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序号 No.	5	检测项目名称 Name of Test Items	外短路 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 /°C	其他现象 Other Event
001	1CYC完全充电 1CYC Fully charged	56.6	O
002	1CYC完全充电 1CYC Fully charged	57.4	O
003	1CYC完全充电 1CYC Fully charged	57.2	O
004	1CYC完全充电 1CYC Fully charged	57.2	O
005	1CYC完全充电 1CYC Fully charged	57.3	O
006	25CYC完全充电 25CYC Fully charged	57.0	O
007	25CYC完全充电 25CYC Fully charged	57.5	O
008	25CYC完全充电 25CYC Fully charged	56.9	O
009	25CYC完全充电 25CYC Fully charged	57.5	O
010	25CYC完全充电 25CYC Fully charged	57.0	O
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备注: D-解体 R-破裂 F-起火 O-无解体、无起火、无破裂。 Note: D-Disassembly R-Ruptur F-Fire O-No Disassembly, No Fire & No Rupture.			

上海化工院检测有限公司

检测报告-附表6

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序号 No.	6	检测项目名称 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	其他现象 Other Event
011	1CYC 50%容量 1CYC 50% Capacity	18.6	O
012	1CYC 50%容量 1CYC 50% Capacity	18.3	O
013	1CYC 50%容量 1CYC 50% Capacity	19.3	O
014	1CYC 50%容量 1CYC 50% Capacity	18.9	O
015	1CYC 50%容量 1CYC 50% Capacity	18.3	O
016	25CYC 50%容量 25CYC 50% Capacity	18.6	O
017	25CYC 50%容量 25CYC 50% Capacity	18.4	O
018	25CYC 50%容量 25CYC 50% Capacity	18.4	O
019	25CYC 50%容量 25CYC 50% Capacity	18.7	O
020	25CYC 50%容量 25CYC 50% Capacity	18.9	O
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备注: D-解体 F-起火 O-无解体、无起火。 Note: D-Disassembly F-Fire O-No Disassembly & No Fire.			

上海化工院检测有限公司
检测报告-附表7
Shanghai Institute of Chemical Industry
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序号 No.	7	检测项目名称 Name of Test Items	过充电 Overcharge
样品编号 Sample No.	样品状态 Sample Status	其他现象 Other Event	
021	1CYC完全充电 1CYC Fully charged	O	
022	1CYC完全充电 1CYC Fully charged	O	
023	1CYC完全充电 1CYC Fully charged	O	
024	1CYC完全充电 1CYC Fully charged	O	
025	25CYC完全充电 25CYC Fully charged	O	
026	25CYC完全充电 25CYC Fully charged	O	
027	25CYC完全充电 25CYC Fully charged	O	
028	25CYC完全充电 25CYC Fully charged	O	
以下空白	This space intentionally left blank		
备注：D-解体 F-起火 0-无解体、无起火。 Note: D-Disassembly F-Fire O-No Disassembly & No Fire.			

上海化工院检测有限公司

检测报告 - 附表8

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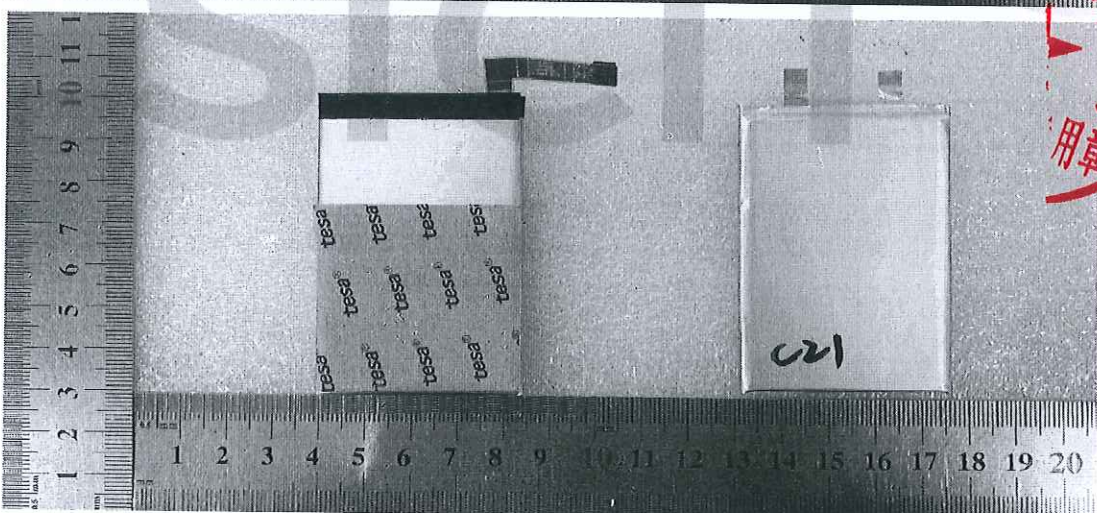
序号 No.	8	检测项目名称 Name of Test Items	强制放电 Forced discharge
样品编号 Sample No.	样品状态 Sample Status	其他现象 Other Event	
029	1CYC完全放电 1CYC Fully discharged		O
030	1CYC完全放电 1CYC Fully discharged		O
031	1CYC完全放电 1CYC Fully discharged		O
032	1CYC完全放电 1CYC Fully discharged		O
033	1CYC完全放电 1CYC Fully discharged		O
034	1CYC完全放电 1CYC Fully discharged		O
035	1CYC完全放电 1CYC Fully discharged		O
036	1CYC完全放电 1CYC Fully discharged		O
037	1CYC完全放电 1CYC Fully discharged		O
038	1CYC完全放电 1CYC Fully discharged		O
039	25CYC完全放电 25CYC Fully discharged		O
040	25CYC完全放电 25CYC Fully discharged		O
041	25CYC完全放电 25CYC Fully discharged		O
042	25CYC完全放电 25CYC Fully discharged		O
043	25CYC完全放电 25CYC Fully discharged		O
044	25CYC完全放电 25CYC Fully discharged		O
045	25CYC完全放电 25CYC Fully discharged		O
046	25CYC完全放电 25CYC Fully discharged		O
047	25CYC完全放电 25CYC Fully discharged		O
048	25CYC完全放电 25CYC Fully discharged		O

备注: D-解体 F-起火 O-无解体、无起火。
Note: D-Disassembly F-Fire O-No Disassembly & No Fire.

上海化工院检测有限公司
 检测报告-附图
 Shanghai Institute of Chemical Industry
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Rechargeable Li-ion Battery pack Model: APP00386 Nominal voltage: 3.85 Vdc Limited charging voltage: 4.4 Vdc Rated Capacity: 2660 mAh 10.24 Wh Made in China Factory : Dongguan Furpack Elec Co., Ltd.	Use of another battery may present a risk of explosion. Please refer to user manual or follow local ordinances and/or regulations for disposal. Risk of Fire and Burns. Do Not Open, Crush, Heat Above 60°C/140°F or Incinerate. If there is a serious swelling, please do not continue using. The battery is prohibited to use after soaking. IEC: 11CP5/45/69.
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报告结束