

检测概要
Test Summary

报告编号 Report No.	T8-20220823-M247	报告签发日期 Date of test report	2022 年 9 月 22 日	样品名称 Sample name	可充式锂离子电池组 Rechargeable Li-ion Battery
样品型号 Sample model	361-00162-00	样品规格 Specification	3.87V 0.85Wh 220mAh	质量 (g) mass (g)	3.5
样品外观 Appearance	银色尼龙/铝/聚丙烯复合膜, 包裹黄色高温胶带 Silver nylon/Al/PP compound film, bag yellow high temperature tape				
制造商信息 Manufacturer Information	制造商名称 Manufacturer Name	东莞新能源科技有限公司 Dongguan Amperex Technology Limited			
	制造商地址 Manufacturer address	中国广东省东莞市松山湖科技园工业西路 1 号 West Industrial Road 1#, Songshan Lake Industry Park, Dongguan City, Guangdong Province, P. R. China			
	电话号码 Telephone Number	+86-(0)769-8898 9338	电子邮箱 E-mail	SSL-Reception@ATLBattery.com	
	网址 Website	www.atlbattery.com			
实验室信息 Lab Information	实验室名称 Lab Name	东莞新能源科技有限公司中心实验室 Dongguan Amperex Technology Limited Central Lab			
	实验室地址 Lab address	中国广东省东莞市松山湖科技园工业西路 1 号 West Industrial Road 1#, Songshan Lake Industry Park, Dongguan City, Guangdong Province, P. R. China			
	电话号码 Telephone Number	+86-0769-88989149	电子邮箱 E-mail	Lab-Service@ATLBattery.com	
	网址 Website	www.atlbattery.com			
序号 No.	测试项目名称 Name of test items	检测结果(合格/不合格) Test result (Pass/Fail)		备注 Remark	
T.1	高度模拟 Altitude simulation	合格 Passed		/	
T.2	温度试验 Thermal test	合格 Passed		/	
T.3	振动 Vibration	合格 Passed		/	
T.4	冲击 Shock	合格 Passed		/	
T.5	外部短路 External short-circuit	合格 Passed		/	
T.6	挤压 Crush	合格 Passed		/	
T.7	过度充电 Overcharge	合格 Passed		/	
T.8	强制放电 Forced discharge	合格 Passed		/	
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/Amend 1, 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11 Rev.7/Amend 1, 38.3			东莞新能源科技有限公司中心实验室 Dongguan Amperex Technology Limited Central Lab (签章) (signature)	
签名 Signature		李作为: 技术负责人 Li Zuo Wei: Technical Director 郭佳丽: 中心主任 Guo Jiali: Center Director		签发日期: 2022 年 9 月 22 日	



中国认可
国际互认
检测
TESTING
CNAS L3767

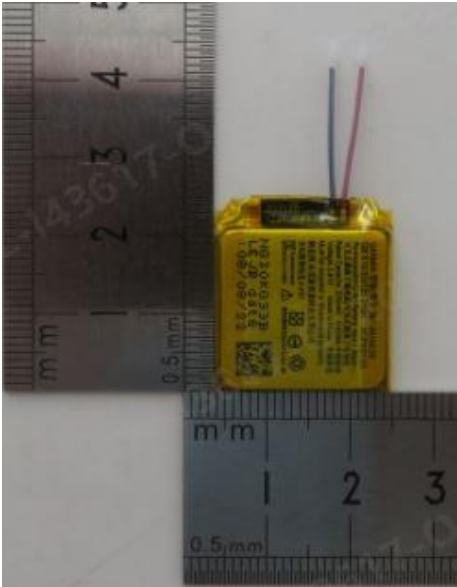
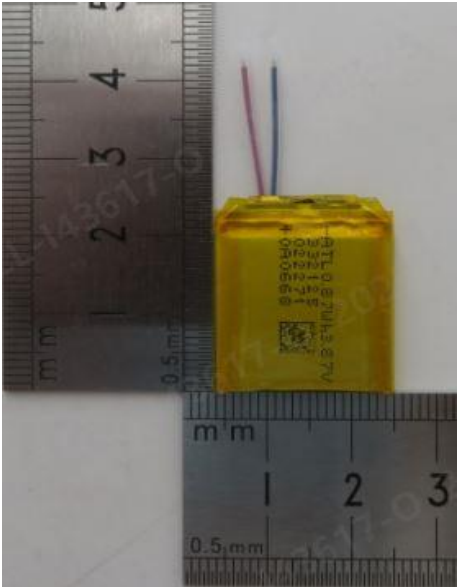
UN38.3 检测报告

UN38.3 Test Report

样品名称:	可充式锂离子电池组
Sample Name:	Rechargeable Li-ion Battery
样品型号:	361-00162-00
Sample Model:	361-00162-00
委托单位:	东莞新能源科技有限公司
Consignor:	Dongguan Amperex Technology Limited

东莞新能源科技有限公司中心实验室
Dongguan Amperex Technology Limited Central Lab

样品名称 Sample name	可充式锂离子电池组 Rechargeable Li-ion Battery	测试类别 Test category	委托检测 After testing		
样品型号 Sample model	361-00162-00	样品接收日期 Accepted date	2022-08-25		
样品规格 Sample specification	3.87V 0.85Wh 220mAh	测试开始日期 Test start date	2022-08-30		
样品数量(个) Sample quantity (pcs.)	48	测试结束日期 Test end date	2022-09-15		
委托单位信息 Consignor Information	委托单位 Consignor	东莞新能源科技有限公司 Dongguan Amperex Technology Limited			
	委托单位地址 Consignor address	中国广东省东莞市松山湖科技园工业西路 1 号 West Industrial Road 1#, Songshan Lake Industry Park, Dongguan City, Guangdong Province, P. R. China			
制造商信息 Manufacturer Information	制造商名称 Manufacturer Name	东莞新能源科技有限公司 Dongguan Amperex Technology Limited			
	制造商地址 Manufacturer address	中国广东省东莞市松山湖科技园工业西路 1 号 West Industrial Road 1#, Songshan Lake Industry Park, Dongguan City, Guangdong Province, P. R. China			
	电话号码 Telephone Number	+86-(0)769-8898 9338	电子邮箱 E-mail SSL-Reception@ATLBattery.com		
	网址 Website	www.atlbattery.com			
测试环境条件 Test environment condition	环境温度: 15℃ - 25℃; 环境湿度: ≤ 75% RH Ambient temperature: 15℃ - 25℃; Ambient humidity: ≤ 75% RH				
样品外观 Appearance	银色尼龙/铝/聚丙烯复合膜, 包裹黄色高温胶带 Silver nylon/Al/PP compound film, bag yellow high temperature tape				
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/Amend 1, 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11 Rev.7/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、过度充电、强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Crush, Overcharge, 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.7/Amend 1,38.3 标准的要求 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.7/Amend 1,38.3				
测试人员 Testers	肖亮 孙凯旋		东莞新能源科技有限公司中心 实验室 Dongguan Amperex Technology Limited Central Lab (签章) (signature) 签发日期: 2022 年 9 月 22 日		
审核 Checker	李作为				
批准 Approval	郭佳丽				
	李作为: 技术负责人 Li Zuo Wei: Technical Director 郭佳丽: 中心主任 Guo Jiali: Center Director				

样品描述及说明 Sample description	
化学组分 Chemical composition	钴酸锂-石墨
测试用充电程序 Test charge program	按照制造商推荐的充电程序进行 (220mA CC to 4.45V ,CV to 4.4mA)
测试用放电程序 Test discharge program	按照制造商推荐的放电程序进行 (440mA DC to 3.0V)
测试样品图片 Test sample image	
	
图 1：正面 Figure 1: Front side	图 2：反面 Figure 2: Back side
	
图 3：标识 Figure 3: Logo	

序号 No	测试项目名称 Name of test	标准要求或标准号条款 Standard requirement or the clause number of standard	测试现象 Phenomenon	本项结论 Test conclusion	备注 Remarks
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.1 UN Manual of Test and Criteria ST/SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.1	见附表 1 See Appendix 1	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.2 UN Manual of Test and Criteria ST/SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.2	见附表 2 See Appendix 2	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.3 UN Manual of Test and Criteria ST/SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.3	见附表 3 See Appendix 3	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.4 UN Manual of Test and Criteria ST/SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.4	见附表 4 See Appendix 4	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.5 UN Manual of Test and Criteria ST/ SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.5	见附表 5 See Appendix 5	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.6 UN Manual of Test and Criteria ST/ SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.6	见附表 6 See Appendix 6	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.7 UN Manual of Test and Criteria ST/ SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.7	见附表 7 See Appendix 7	合格 Passed	/
T.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》ST/SG/AC.10/11/ Rev.7/Amend 1, 38.3.4.8 UN Manual of Test and Criteria ST/ SG/ AC.10/11/Rev.7/Amend 1, 38.3.4.8	见附表 8 See Appendix 8	合格 Passed	/

附表 1
Appendix 1

序号 No.	T.1	测试项目名称 Name of test items		高度模拟 Altitude simulation				
样品组别 Group	样品信息 Sample information (如 Barcode)	样品质量 Sample mass(g)		质量损失 Mass loss (%)	开路电压 OCV (V)		剩余电压 Residual OCV (%)	测试现象 Phenomenon
		M1 (before test)	M2 (after test)		OCV1 (before test)	OCV2 (after test)		
1cycle fully charged	0222710A0668	3.5401	3.5388	0.04	4.426	4.425	99.98	O
1cycle fully charged	0222710A0510	3.5491	3.5477	0.04	4.425	4.423	99.95	O
1cycle fully charged	0222710A0286	3.5591	3.5578	0.04	4.426	4.424	99.95	O
1cycle fully charged	0222710A0511	3.5326	3.5312	0.04	4.423	4.422	99.98	O
1cycle fully charged	0222710A1028	3.5353	3.5338	0.04	4.424	4.422	99.95	O
25cycles fully charged	0222710A1465	3.5246	3.5232	0.04	4.432	4.431	99.98	O
25cycles fully charged	0222710A1004	3.5190	3.5176	0.04	4.429	4.428	99.98	O
25cycles fully charged	0222710A1263	3.5281	3.5266	0.04	4.431	4.430	99.98	O
25cycles fully charged	0222710A1162	3.5184	3.5173	0.03	4.431	4.431	100.00	O
25cycles fully charged	0222710A0367	3.5324	3.5313	0.03	4.431	4.430	99.98	O
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.								

附表 2
Appendix 2

序号 No.	T.2	测试项目名称 Name of test items		温度试验 Thermal test				
样品组别 Group	样品信息 Sample information (如 Barcode)	样品质量 Sample mass(g)		质量损失 Mass loss (%)	开路电压 OCV (V)		剩余电压 Residual OCV (%)	测试现象 Phenomenon
		M1 (before test)	M2 (after test)		OCV1 (before test)	OCV2 (after test)		
1cycle fully charged	0222710A0668	3.5388	3.5401	-0.04	4.425	4.326	97.76	O
1cycle fully charged	0222710A0510	3.5477	3.5496	-0.05	4.423	4.326	97.81	O
1cycle fully charged	0222710A0286	3.5578	3.5595	-0.05	4.424	4.326	97.78	O
1cycle fully charged	0222710A0511	3.5312	3.5325	-0.04	4.422	4.325	97.81	O
1cycle fully charged	0222710A1028	3.5338	3.5351	-0.04	4.422	4.327	97.85	O
25cycles fully charged	0222710A1465	3.5232	3.5246	-0.04	4.431	4.340	97.95	O
25cycles fully charged	0222710A1004	3.5176	3.5187	-0.03	4.428	4.336	97.92	O
25cycles fully charged	0222710A1263	3.5266	3.5280	-0.04	4.430	4.339	97.95	O
25cycles fully charged	0222710A1162	3.5173	3.5183	-0.03	4.431	4.341	97.97	O
25cycles fully charged	0222710A0367	3.5313	3.5327	-0.04	4.430	4.340	97.97	O
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.								

附表 3
Appendix 3

序号 No.	T.3	测试项目名称 Name of test items		振动 Vibration				
样品组别 Group	样品信息 Sample information (如 Barcode)	样品质量 Sample mass(g)		质量损失 Mass loss (%)	开路电压 OCV (V)		剩余电压 Residual OCV (%)	测试现象 Phenomenon
		M1 (before test)	M2 (after test)		OCV1 (before test)	OCV2 (after test)		
1cycle fully charged	0222710A0668	3.5401	3.5397	0.01	4.326	4.323	99.93	O
1cycle fully charged	0222710A0510	3.5496	3.5485	0.03	4.326	4.323	99.93	O
1cycle fully charged	0222710A0286	3.5595	3.5587	0.02	4.326	4.323	99.93	O
1cycle fully charged	0222710A0511	3.5325	3.5319	0.02	4.325	4.321	99.91	O
1cycle fully charged	0222710A1028	3.5351	3.5346	0.01	4.327	4.323	99.91	O
25cycles fully charged	0222710A1465	3.5246	3.5238	0.02	4.340	4.336	99.91	O
25cycles fully charged	0222710A1004	3.5187	3.5177	0.03	4.336	4.333	99.93	O
25cycles fully charged	0222710A1263	3.5280	3.5272	0.02	4.339	4.336	99.93	O
25cycles fully charged	0222710A1162	3.5183	3.5181	0.01	4.341	4.338	99.93	O
25cycles fully charged	0222710A0367	3.5327	3.5322	0.01	4.340	4.337	99.93	O

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.

附表 4
Appendix 4

序号 No.	T.4	测试项目名称 Name of test items		冲击 Shock				
样品组别 Group	样品信息 Sample information (如 Barcode)	样品质量 Sample mass(g)		质量损失 Mass loss (%)	开路电压 OCV (V)		剩余电压 Residual OCV (%)	测试现象 Phenomenon
		M1 (before test)	M2 (after test)		OCV1 (before test)	OCV2 (after test)		
1cycle fully charged	0222710A0668	3.5397	3.5395	0.01	4.323	4.323	100.00	O
1cycle fully charged	0222710A0510	3.5485	3.5481	0.01	4.323	4.323	100.00	O
1cycle fully charged	0222710A0286	3.5587	3.5582	0.01	4.323	4.323	100.00	O
1cycle fully charged	0222710A0511	3.5319	3.5313	0.02	4.321	4.321	100.00	O
1cycle fully charged	0222710A1028	3.5346	3.5343	0.01	4.323	4.323	100.00	O
25cycles fully charged	0222710A1465	3.5238	3.5233	0.01	4.336	4.336	100.00	O
25cycles fully charged	0222710A1004	3.5177	3.5170	0.02	4.333	4.333	100.00	O
25cycles fully charged	0222710A1263	3.5272	3.5268	0.01	4.336	4.336	100.00	O
25cycles fully charged	0222710A1162	3.5181	3.5179	0.01	4.338	4.338	100.00	O
25cycles fully charged	0222710A0367	3.5322	3.5321	0.00	4.337	4.337	100.00	O

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.

附表 5
Appendix 5

序号 NO.	T.5	测试项目名称 Name of test items	外部短路 External short circuit		
样品组别 Group		样品信息 Sample information (如 Barcode)	样品表面最高温度 Max. External temperature (°C)	测试现象 Phenomenon	备注 Remark
1 cycle fully charged		0222710A0668	55.5	O	/
1 cycle fully charged		0222710A0510	56.6	O	/
1 cycle fully charged		0222710A0286	55.9	O	/
1 cycle fully charged		0222710A0511	56.9	O	/
1 cycle fully charged		0222710A1028	56.4	O	/
25cycles fully charged		0222710A1465	55.5	O	/
25cycles fully charged		0222710A1004	56.5	O	/
25cycles fully charged		0222710A1263	55.7	O	/
25cycles fully charged		0222710A1162	56.4	O	/
25cycles fully charged		0222710A0367	56.0	O	/
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.					

附表 6
Appendix 6

序号 NO.	T.6	测试项目名称 Name of test items	挤压 Crush		
样品组别 Group		样品信息 Sample information (如 Barcode)	样品表面最高温度 Max. External temperature (°C)	测试现象 Phenomenon	备注 Remark
1cycle 50% capacity		0222710A1229	22.9	O	/
1cycle 50% capacity		0222710A1172	22.6	O	/
1cycle 50% capacity		0222710A1243	22.9	O	/
1cycle 50% capacity		0222710A0053	24.0	O	/
1cycle 50% capacity		0222710A2302	23.0	O	/
25cycles 50% capacity		0222710A1443	24.8	O	/
25cycles 50% capacity		0222710A2047	23.9	O	/
25cycles 50% capacity		0222710A0045	24.1	O	/
25cycles 50% capacity		0222710A0051	23.4	O	/
25cycles 50% capacity		0222710A1220	23.9	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.					

附表 7
Appendix 7

序号 No.	T.7	测试项目名称 Name of test items	过度充电 Overcharge	
样品组别 Group		样品信息 Sample Information (如 Barcode)	测试现象 Phenomenon	备注 Remark
1cycle fully charged		0222710A1227	O	/
1cycle fully charged		0222710A0290	O	/
1cycle fully charged		0222710A0420	O	/
1cycle fully charged		0222710A2299	O	/
25cycles fully charged		0222710A2071	O	/
25cycles fully charged		0222710A1457	O	/
25cycles fully charged		0222710A0994	O	/
25cycles fully charged		0222710A1066	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.				

附表 8
Appendix 8

序号 NO.	T.8	测试项目名称 Name of test items	强制放电 Forced discharge	
样品组别 Group		样品信息 Sample information (如 Barcode)	测试现象 Phenomenon	备注 Remark
1cycle fully discharged		0222710A1044	O	/
1cycle fully discharged		0222710A1226	O	/
1cycle fully discharged		0222710A0981	O	/
1cycle fully discharged		0222710A1452	O	/
1cycle fully discharged		0222710A1216	O	/
1cycle fully discharged		0222710A1356	O	/
1cycle fully discharged		0222710A1347	O	/
1cycle fully discharged		0222710A2268	O	/
1cycle fully discharged		0222710A1030	O	/
1cycle fully discharged		0222710A0969	O	/
25cycles fully discharged		0222710A2252	O	/
25cycles fully discharged		0222710A1207	O	/
25cycles fully discharged		0222710A0060	O	/
25cycles fully discharged		0222710A1023	O	/
25cycles fully discharged		0222710A1568	O	/
25cycles fully discharged		0222710A2181	O	/
25cycles fully discharged		0222710A1393	O	/
25cycles fully discharged		0222710A1294	O	/
25cycles fully discharged		0222710A0970	O	/
25cycles fully discharged		0222710A2124	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.				

声 明

Statement

1. 检测报告无本实验室公章无效。

The test report is invalid if not affixed the official seal of the laboratory to it.

2. 检测报告涂改无效。

The test report is invalid if it is blotted out.

3. 送样委托检测结果，仅对所送样品有效。

The conclusion of the consignment test is only valid for the provided sample.

4. 对检测报告若有异议，应于收到报告之日起十五天内向检测单位提出。

Objections to the test report must be submitted to ATL Central Lab within 15 days.

5. 本报告未经本实验室书面许可，不可部分复制。

This report cannot be partial copied, without the written permission of Amperex Technology Limited Central Lab.

东莞新能源科技有限公司中心实验室

Dongguan Amperex Technology Limited Central Lab

地址: 中国广东省东莞市松山湖科技园工业西路 1 号

Addr.: West Industrial Road 1#, Songshan Lake Industry Park, Dongguan City,
Guangdong Province, P. R. China

电话 Tel. : +86-0769-88989149

邮箱 E-mail: Lab-Service@ATLBattery.com

网址 Website : www.atlbattery.com